

Policy Implementation in Federal and Unitary Systems

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Policy Implementation in Federal and Unitary Systems

Questions of Analysis and Design

edited by

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EDITORS' INTRODUCTION

APPROACHES TO IMPLEMENTATION ANALYSIS

The beginning of 'traditional implementation studies' lies in the growing awareness of political reformers that it is not sufficient for the realization of policy goals to try to make planning and programme development more rational and to concentrate available financial resources more effectively. In the train of the frustrating experiences with recurrent shortfalls between programme objectives and results, the attention of policy analysis has been focused on the implementation process itself. This resulted in a search for the factors that 'interfere' with effective implementation.

Implementation research has tended to view things more from the perspective of central decision-makers than that of, for example, the target group or the affected societal environment. The degree of realization of central policy goals became the primary measure of effective implementation. This 'top-down' perspective both reflected and was reinforced by the models of public administration used by analysis. Implementation tended to be viewed in terms of hierarchical structures and management processes. From this perspective policy is introduced at the 'top' and transmitted 'down' the hierarchy. Such a model places questions of 'steering' (the relationships between superiors and subordinates) and compliance (the relation between administration and target groups) at the centre of attention.

The 'top-down' perspective continues to guide many implementation studies. Recent research challenges the hierarchical view. Fritz Scharpf has observed that 'in many areas policy implementation

is not the concern of a single hierarchically integrated organization, but depends rather on the collaboration of a number of independent organizational units from the public and private sectors'. He goes on to stress that in light of this state of affairs, implementation research should reconstruct the patterns of interaction and interrelationships among those actors through which information is communicated, co-operation established and conflicts resolved 1). In a similar vein, the summary of a recent ECPR Workshop notes that implementation is frequently a more differentiated process - with more relevant actors and policy activities, and more complex behaviors - than is allowed for in a 'top-down' perspective.

Many public programmes are carried out in multi-organizational settings in which national and local objectives, public and private interests, are simultaneously advanced by the representatives of a variety of organizational actors. Under such conditions, practitioners seldom encounter situations of straightforward 'execution'. More likely they will confront the highly complex task of mobilizing and coordinating the resources controlled by a variety of actors in order to put a programme into effect. Models emphasizing control and steering from above will inevitably discover implementation problems in the form of goal displacement, uncontrolled discretion, inadequate coordination and other instances of 'sub-optimalization'. These implementation problems are a function of the organizational models employed in the analysis. These models prevent us for example from coming to terms with the need for (and weighing the consequences of) a strong element of 'local presence' in the administration of many public programmes. More in general one could assert that if the observed complexity of implementation situations is inherent in the conditions under which programmes are carried out, models must be developed which capture this reality rather than faulting it for not living up to the assumptions of the traditional top-down perspective.

The most familiar mode of analysis in public administration and in political science more generally is to use a decision structure (e.g. Congress), an organization (e.g. the Corps of Engineers), or a government (e.g. the U.S. government) as the basic unit of analysis. Discrete boundaries are established and analysis proceeds with reference to an isolatable system that has specific linkages with its environment. This focus upon a unit of government, organization or decision structure is apt to be accompanied by a normative bias that there should be some single center of authority that can have the last say and thus apply an integrated system of management control to any set of governmental relations. From this perspective fragmentation of authority and overlapping jurisdiction are viewed as pathological, or at the very least, problematic.

The American system of government was quite explicitly designed to be what Vincent Ostrom has called a 'compound republic', characterized by multiple decision structures in particular units of government and with multiple levels of government that operate with substantial autonomy from one another. Byt even in relatively unitary systems of government such as France, The Netherlands or Great Britain, the complexity of modern life requires recourse to a wide variety of organizations to render the large configuration of public goods and services required. Under such conditions only a limited degree of coordination can be attained through hierarchic-ally-structured management systems. A large portion of the coordination necessary in their public economy must be achieved through interorganizational and intergovernmental structures that cross conventional jurisdictional boundaries and lend themselves poorly to hierarchical control and direction.

ANALYTICAL MODELS FOR INTERORGANIZATION SYSTEMS

To the extent that advanced industrial societies increasingly come to depend upon a vast range of organized efforts to undertake joint activities, concepts and methodologies appropriate to the study of isolated organizations - or even single organizations interacting with their environments - are seriously deficient when it comes to examining the complex networks of interorganizational arrangements through which important areas of public policy are implemented. In light of the realities of multi-level and multi-organizational formulation and implementation of public policies serious attention needs to be given to units and levels of analysis that are explicitly interorganizational (and intergovernmental) in order to capture the complex patterns of organization that have developed to respond to the great diversities of demands for public goods and services. It is assumed that the particular pattern of interorganizational relations will have an important bearing on the performace of the numerous agencies and organizations involved.

The appropriate unit of analysis in the study of implementation is formed by teh set of interactions among the various public and private actors through which a governmental programme is implemented, or public goods and services are provided in a given specific locality. By focusing on the institutional arrangements through which national policy is implemented in a given time and place, these programmes are disaggregated to the concrete operational level defined by teh interface of general policy instruments and concrete 'consuming' citizens.

In the course of the last decade or so increasing attention has, in fact, been given to research that explicitly focuses on this level of analysis. For example, the industry concept has been applied to the organization of the public sector. Public sector agencies often coordinate their activities with one another

to supply closely related types of public services much in the same way as private firms do. Different agencies at all different levels of government together with various 'private' actors acting jointly to produce and provide educational services, police services or water services. The relevant structures analytically can be treated as educational, police and water industries respectively 2).

Another approach to the analysis of interorganizational relations in public policy is the implementation structure approach 3). Here it is argued that the multi-organizational character of governmental programmes developed in the setting of the 'mixed economy'. This means that single organizations can no longer assume sole responsibility for the implementation of governmental programmes. Implementation structures, involving the more or less voluntary participation of actors from many different private and public organizations from various levels, play the major role in programme implementation. From this perspective the basic analytical task is to identify particular implementation structures and their participants and to assess the implications that follow from a reliance on such multi-organizational arrangements.

The work of most of the scholars participating in the workshop departs from the prevalence and increasing significance of such interorganizational systems. Interorganizational systems are seen as institutional arrangements having a multiplicity of actors drawn from both public and private organizations as well as from different jurisdictional level and functional areas. The inter-relationships among the actors are not, in the first instance, shaped by relations of hierarchical authority or subordination. Building upon the evidence and experience in different policy areas and national contexts it is hoped to generate some insights for a systematic comparative analysis of the impact of different institutional arrangements on the behavior of the various actors involved and on the performance of implementation systems as a whole. An empirically based understanding of the structure and dynamics of policy implementation might serve as the point of departure for considering the normative implications of these arrangements and both the need and possibilities for designing more effective delivery systems.

BACKGROUND TO ROTTERDAM WORKSHOP

Against this background the workshop was part of a continuing collaboration among a number of scholars from the United States and Europe who were actively engaged in research on the delivery of public goods and services (or the implementation of public policies) through intergovernmental and interorganizational arrangements. As such, it represents the third meeting of a group of researchers sharing both a common interest in problems of

effective policy implementation and the desire to develop an appropriate mode of analysis for describing, evaluating and, ultimately, improving the design of such interorganizational arrangements.

Earlier contacts among the members of this group had provided a forum for the exchange of ideas and experience on both theory and empirical research with regard to this set of political phenomena. At the Indiana University in May of 1981, and again at the Berlin Science Center's International Institute of Management in July 1982 scholars met to discuss appropriate concepts and methodologies for the analysis of such institutional arrangements and the factors that affect the performance of these structures in both federal and unitary states 4).

FOCUS OF WORKSHOP

The purpose of the workshop was, therefore, to bring together scholars who had been actively engaged in work at the interorganizational level of analysis to develop appropriate conceptual and methodological tools for systematic inquiry into the structures and processes of such arrangements in the public sector. A number of different approaches to this set of issues were included in the hope that a continuing exchange of ideas and research experiences would help distill out common viewpoints while the remaining differences would prove to be stimulating to the further development of the various perspectives.

Building on the results of previous meetings (during which it had been possible to define the set of problems of common interest and to work through both the differences and similarities in approach to the analysis of these issues) and the continuing research activities of the members of the group the 'work program' of the workshop was designed to focus on the following set of activities:

- the further elaboration of the distinctive mode of interorganizational analysis and the development of indicators for describing and measuring variations in structural conditions and performance in order to work out typologies of institutional arrangements as a basis for generalizing about the relationship between structure and behavior;
- the examination of a number of traditional 'normative' questions - such as the accountability and responsibility of public organizations, and the relationships among different communities of interests in the collective decision-making process of the polity - in the context and against the background of inter-organizational implementation systems. This involves a critical consideration of both the possibility and desirability of 'top-down' steering and direction (control).

- the development of a perspective (or set of criteria) for evaluating the performance of such systems and, on the basis of an empirically-founded understanding of the factors shaping the behavior of the actors constituting such arrangements, considering the need for and the possibility of (re-)designing more 'effective' systems.

It was hoped that these discussions would contribute to theory building in this area by providing a stimulus and point of departure for the design of research projects both for testing this mode of analysis and for gathering empirical data for further generalizations. Such projects would involve the comparative analysis of interregional (local) variations within a given country and/or policy area, as well as across national boundaries and types of policy instruments. Both the conceptualization and research activities, therefore, were to serve as the basis for constructing empirically grounded models of interorganizational implementation systems.

As the papers (and comments from some of the co-referents) in this volume testify, a good part of this program was in fact realized. On the other hand, with the exception of a couple of papers (for example, that of Vincent Ostrom and Theo Toonen's including chapter) there was little direct comparison between federal and unitary states. This comparison runs, however (implicitly at least) through the proceedings like a conceptual red thread. Although these types of countries will differ in institutional context as a result of differences in their formal legal-constitutional orders, the general phenomena regarding the conditions under which policies are implemented and public goods supplied seem to be similar. Likewise, the interest in the design implications of these realities of government in the mixed economy also remains implicit. There are few explicit recommendations for redesigning institutional arrangements provided in the following pages. Still, the central theme in this regard is clear: institutional reforms - indeed the diagnosis of the institutional problems that must precede the prescription of remedies - must be based on a clear understanding of the interorganizational nature of the arrangements through which public policies are formulated and implemented. This includes, in particular, a recognition of both the political and administrative limits to the hierarchical steering and control with which more traditional reforms seem so much enamoured.

Such conferences as this one depend on the cooperation of a large number of people and institutions. First of all, without the support of the Scientific Affairs Division of NATO, the meeting would never have gotten off the ground. We would like to thank Dr. Mario di Lullo, its director, for his help in organizing this NATO Advanced Research Workshop. Our thanks also go to the Sub-Faculty of Social and Cultural Sciences of the Erasmus

University for their assistance in helping us fit our workshop into the institutional framework of the university and in opening doors that made the time in Rotterdam both pleasant and productive for all participants. Special thanks go to the members of another institutional actor: the reproduction department of the university, who always found time in the midst of their busy schedule to copy yet one more paper. On the important personal level many thanks go to Sonja Balsem and Menno van Duin performed organizational and interpersonal tasks. Without their administrative assistance the whole effort would ultimately have been far less effective. We thank Vicky Balsem and Sonja Balsem for typing and preparing the manuscript of these proceedings.

Rotterdam, summer 1984

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MULTIORGANIZATIONAL ARRANGEMENTS IN THE GOVERNANCE OF UNITARY AND FEDERAL POLITICAL SYSTEMS

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The longer-term agenda of the core participants in this conference has focused upon the problem of addressing multiorganizational and interorganizational arrangements as a level of analysis. At recent meetings in Bloomington (1981) and in Berlin (1982), we were concerned with efforts to identify the multiplicity of both public and private organizations that interact with one another to organize: (1) the demand and supply aspects of public-service delivery systems and (2) the implementation of public policies. Modern developed societies rely upon complexly organized networks of multiorganizational arrangements to accomplish social tasks and this requires a self-conscious effort to address such arrangements as distinct levels of analysis and to develop analytical methods that are appropriate for that level of analysis. Primary attention was given to the use of "industry structures" and "implementation structures" as modes of analysis developed by colleagues at the Workshop in Political Theory and Policy Analysis (Bloomington) and the International Institute of Management (Berlin).

As we turn attention more generally to the comparative study of public institutions implicated in federal and unitary systems of government, I propose to explore how a division of labor in the organization of political processes requires recourse to multiple organizational arrangements in all modern democracies. Human societies involve an extraordinary array of complexity. Individual beings, as the components parts of organizations, each have a mind of their own and are capable of acting with independence: each piece on the chess board of human societies is capable of moving by its own motions. In turn, the fruits of nature and of human invention can be best developed and used to advantage through collaborative teamwork that involves complexity structured networks of teams,

teams of teams, and exchange relationships bound together by those who perform specialized functions of making, applying, and enforcing rules.

In exploring the nature of order in human societies, I shall focus upon those aspects that refer particularly to the specialized functions of making, applying and enforcing rules and the way that such prerogatives are used to undertake the provision of services that depends upon the exercise of specialized prerogatives of government. Even this limited view of human societies requires recourse to multiple levels and foci of analysis. The organization of something that is frequently referred to as "the government" is a complex configuration of interorganizational arrangements. The ease with which allusions to "the government" mask the complexity of the structures of interorganizational arrangements may give rise to illusions of simplicity.

What we refer to as unitary and federal political systems among Western democracies is the simplification which derives from the use of language where particular attributes are being used for definitional purposes. A standard definition of a unitary system of government is one in which some single center of authority exercises the ultimate prerogatives of government. Thus, the presumption is that parliament in most Western democracies exercises the ultimate powers of government. Closely associated with this presumption is the further presumption that the essential structure of government in these democracies has reference to parliamentary institutions of representative government and bureaucratic administration. These conceptions are then consistent with a definition of the state as a monopoly of the legitimate use of force in a society and to presume that the state rules over a society from a single center of ultimate authority: i.e., the parliament. From these same perspectives federal systems of government are defined as those in which authority to govern is divided between a national government and regional instrumentalities of government such as states, provinces, cantons or Länder.

These simplifying conceptions usually presume that all societies are characterized by a monopoly of the legitimate use of force in a society without any critical effort to determine whether such a monopoly (a single source of supply) exists. Parliament is assumed to be sovereign without ascertaining whether parliaments are dependent upon other decision structures in a society and what that dependency means. In the purely nominal use of language the term democracy implies that the people (demos) rule (cratia). How do people rule, if parliament is sovereign? Rather than parliament exercising unlimited power, parliaments in Western democracies are subject to commonly understood limits that pertain to the prerogatives exercised by people to maintain an open public realm for deliberation about public affairs, for the election of those who

serve in parliament and to assess the performance of parliament and the conduct of the government in accordance with basic constitutional standards whether formulated in a constitution or in some other form of fundamental law.

The general course of historical debate with reference to the constitution of governments among the societies comprising the Atlantic Community indicates that complexly reasoned considerations entered into choices pertaining to the organization of systems of government. In this analysis I shall proceed first to indicate the nature of the rule-rules-ruled relationship as specifying the general task of government. I shall then indicate the characteristics of the true monopoly model as articulated in Hobbes's theory of sovereignty. Then I shall indicate how other models have been expounded for dividing and sharing authority among multiple decision structures that rely more upon equilibrating processes by using power to check power rather than straightforward superior-subordinate relationships that are implied by concepts of Herrschaft, Macht and Obrigkeit. Montesquieu's formulation is used as a point of departure. The American model is a variant on Montesquieu's formulation as are various European efforts to fashion constraints upon Absolutism. We confront the circumstances in conclusion that the simplifying models of parliamentary government and bureaucratic administrative are not very useful in understanding how Western democracies work in reaching collective decisions and taking collective action. Much more complex structures are implied, requiring recourse to presupposition that a complex division of labor has occurred in organizing political processes through multiorganizational arrangements. We must then understand how a distribution of authority to govern has occurred and how multiorganizational arrangements are linked together in general systems of governance.

THE RULE-RULER-RULED RELATIONSHIP

Since the sixteenth and seventeenth centuries, there has been an increasing preoccupation among those concerned with the nature of order in human societies to conjecture about principles of design and structural characteristics that apply to the governance of human societies. Law had long been recognized as a critical variable in the organization of human societies. Human beings acquired the capability to use language to specify constraints in ordering their relationships with one another so that some possibilities are proscribed and other possibilities are allowed as the basis for creating stable patterns of expectations and biasing human interactions so as to facilitate beneficial relationships and constrain harmful relationships. The rule-ruler-ruled relationship is the source of some of the most difficult tensions that exist in human societies. An understanding of these tensions is necessary to comprehend the implications that follow from the

different design principles that have been applied to the institutions of human governance that are critically concerned with the rule-ruler-ruled relationships.

At a most basic level, rules are but words used to order human relationships. Words do not act, but depend upon human beings to take words and their meaning into account in ordering relationships. Since opportunities exist for human beings individually to gain an advantage from acting at variance with a rule of law, it becomes necessary to annex a penalty or punishment for failure to adhere to such rules. The power to assess penalties and impose punishment must necessarily be assigned to some who exercise prerogatives of rulership in maintaining rule-ordered relationships. This implies that the rule-ruler-ruled relationships must necessarily involve radical inequalities in human societies. Further, these inequalities necessarily imply that some are vested with a lawful authority to impose deprivations upon others. This gives rise to the possibility that those who are vested with prerogatives of rulership have access to capabilities that enable them to use their prerogatives to exploit others and dominate the allocation of values in human societies. As James Madison has recognized in Federalist 41, "...in every political institution, a power to advance the public happiness involves a discretion that can be misapplied and abused". A lawful order comes at a price that some have a lawful right to use extraordinary prerogatives, including recourse to instruments of coercion, to impose deprivations upon others.

Given that the condition of rule-ruler-ruled relationships involves radical inequalities in human society, a question remains whether such relationships are subject to limits or whether the inequality condition is an unlimited one. If the relationship is an unlimited one, we would expect a pattern of dominance to prevail in a basic asymmetry that would apply to all authority relationships. Such a condition of authority would prevail over all others and would itself not be accountable to any superior authority. If the relationship is one that involves limited inequalities, we might anticipate the possibility that some general pattern of symmetrical relationship exists where no authority is unlimited and the conditions of government represent an equilibrium bounded by multiple limiting conditions. Asymmetries would exist in particular decision structures but the way these structures are linked together yields a more extended structure of symmetrical relationships among instrumentalities of government.

This would appear to be the critical defining condition that pertains to a conception of unitary and federal systems of government. A unitary system would presumably be one where there exists some single center of ultimate authority that has the last say in the governance of society. If such were to exist, it would be

appropriate to view such an authority as exercising a monopoly of the legitimate use of force in society. Whether such a model applies among Western democracies needs to be considered in light of the characteristics of a monopoly model and some of its variants.

THE MONOPOLY MODEL

Much of the language of modern political discourse has reference to government as a monopoly of the legitimate use of force in a society. This language of discourse places strong emphasis upon unity in a commonwealth as deriving from a single source that exercises the ultimate powers of government in a society. A single, ultimate source of authority to make and enforce law and exercise the other prerogatives of government. All of the other members of society are subordinate to that sovereign authority. The instrumentalities of sovereign authority are represented as a structure of relationships that is characterized as a state; and the state rules over society. The state steers society and determines the course of development that occurs in any particular society.

The best exposition of the theory of government based upon a monopoly over the exercise of governmental prerogatives is formulated by Thomas Hobbes. Hobbes argues that the unity of a commonwealth depends upon a unity of those who exercise leadership in the governance of society. Monopoly implies a sole or singular exercise of ultimate authority. So long as the exercise of governmental authority is a monopoly, that exercise of authority has the attributes of being absolute, unlimited, and indivisible. To limit a monopoly or to divide a monopoly is to render it less than a monopoly. A true monopoly is absolute, unlimited and indivisible in its domain.

Hobbes argues that when it comes to creating order in society and making law binding in social relationships, the nature of that service is such as to require a monopoly. A society depends upon having recourse to a single coherent system of law: the source of law regulates subsidiary units in a society without being regulated by a superior unit. The unity of law depends upon there being a single source of law. This logically implies, as Hobbes argues, that the source of law is above the law and cannot be held accountable to law. The explanation entailed in a theory of sovereignty, at that point, turns upon a presupposition that if someone is to judge the sovereign that judge would have to exercise an authority that is higher than that of the sovereign. The judge of the sovereign would then be sovereign. To avoid a problem of infinite regress, Hobbes concludes that there must be some single ultimate center of authority that is absolute, unlimited, and indivisible. So long as relationships in human societies are viewed as higher and lower, superior and subordinate, it logically follows that there must be some ultimate, single center of authority that is

able to dominate the rest. Human societies have the characteristics of being subject to a monopoly over the legitimate use of force in society and so long as that monopoly condition prevails, governments can be viewed as being essentially unitary in character.

So long as human societies historically faced the recurrent problem of warring upon one another, reliance upon a single center of ultimate authority was a proficient way of making decisions characterized by speed and dispatch with capabilities for quickly mobilizing the resources of the whole society either to extend its dominion over others or to defend itself from the aggressions of others. Yet, a puzzle arises under such circumstances. Unitary states attain a proficiency in warfare, but warfare must always remain a threat among unitary states because there is no way for maintaining peace in a community of unitary states except by the imperium of one over the others. Struggles among aspiring empires press onward to world wars of global proportions. The conditions that enhance human capabilities to engage in warfare tend, then, to reinforce continued recourse to warfare. It is only reasonable to expect those who exercise a monopoly over the legitimate use of force in a society to use that most fundamental tool as the basic instrument in their rivalry with other monopolists of a similar character. Monopolists can be expected to use their monopoly powers to engage in rivalry with other monopolists.

Hobbes's formulation of a theory of sovereignty is accompanied by sufficient qualification to indicate that fundamental tensions are inherent in his theory. The exercise of sovereign prerogative requires a high level of enlightenment: "He that is to govern a whole nation must read in himself, not this or that particular man but mankind" (1960: 6). The possibility of a lawful society depends upon moral virtue: "...injustice, ingratitude, arrogance, pride, inequity, acception of persons, and the rest can never be made lawful. For it can never be that war shall preserve life, and peace destroy it" (1960:104). In the end, Hobbes identifies his laws of nature with divine law and holds that a sovereign is accountable not to other men but to God for the proper discharge of his prerogatives of governance. The neglect of God's commandments (i.e., the moral precepts as formulated in Hobbes's laws of nature) will yield a harvest of natural punishment that threaten the peace and stability of commonwealths:

There is no action of man in this life, that is not the beginning of so long a chain of consequences, as no human providence is high enough, to give a man a prospect to the end. And in this chain, there are linked together both pleasing and displeasing events; in such manner, as he that will do anything for his pleasure, must engage himself to suffer all of the pains annexed to it; and these pains, are the

natural punishment of those actions, which are the beginning of more harm than good. And hereby it comes to pass, that intemperance is naturally punished by diseases, rashness, by mischances; injustices, with the violence of enemies; pride, with ruin; cowardice, with oppression; negligent government of princes, with, with rebellion; and rebellion, with slaughter. For seeing punishments are consequent to the breach of laws; natural punishment must be naturally consequent to the breach of the laws of nature; and therefore follow them as their natural, not arbitrary effects (Hobbes, 1960: 240-241).

Sovereigns cannot be held accountable to their fellow men without denying a monopoly of the prerogatives of governance. An improper discharge of that monopoly will yield a harvest of natural punishments where peace gives way to war. A monopoly of the prerogatives government is clearly an insufficient grounds for peace.

EQUILIBRATING MODELS OF GOVERNANCE IN MULTIORGANIZATIONAL STRUCTURES

The unitary of monopoly solution to the problem of governance in human societies may not be the "only way" (1960:112) of constituting commonwealths as Hobbes asserts. Montesquieu conceptualized an alternative way that depended upon using power to check power as he expressed it. Montesquieu's conceptions were consciously used and modified in the constitution of the American political system as an equilibrating structure that made use of the principle of "opposite and rival interests" (Federalist 51) to constitute a federal system of government with checks and balances. In turn, European efforts to check Absolutism introduced constraints that involved multiorganizational arrangements into the essential structure of governance. Questions remain as to how we construe these modes of governance.

MONTESQUIEU'S FORMULATION

In The Spirit of Laws, Montesquieu's advances different conceptions that apply to the constitution of democratic republics that imply a fundamentally different resolution than that advanced by Hobbes in his theory of sovereignty. One conception pertains to a Confederate Republic. Another conception pertains to a separation of powers in a constitution of liberty.

Hobbes explicitly recognizes a form of government where sovereign prerogative resides in an assembly of all citizens who will come together and exercise the prerogatives of government. The condition that frames a democracy, then, is a perpetual rule of assemblies. A problem that Hobbes does not consider is that, if a multitude is to govern, the process of governing depends upon

a shared mutual understanding of the terms and conditions for doing so: rule by an assembly depends upon rules of assembly. A multitude cannot conduct the business of governing a society without having established and accepted rules for doing so. The rules that specify the terms and conditions that apply to the conduct of an assembly are constitutional in character since they are rules that specify the terms and conditions of government. Ordinary law, by contrast, would be those rules adopted by such an assembly to apply to the ordinary exigencies in life among individuals in a society.

If an assembly of all citizens is to exercise the basic authority of government, they can do so only through a division of labor that involves the assignment of specialized prerogatives to some who act on its behalf. These prerogatives involve the enforcement of law as distinguishable from the enactment of law. If potential conflicts over the meaning and application of law are to be resolved, special judicial processes for rendering independent judgements are also implied.

The governance of a direct democracy is vulnerable to factors that pertain to size. If all citizens are to participate in an assembly, a democracy would be confined to a limited territorial domain. In addition, all assemblies are subject to the severe constraint that only one speaker can be heard at a time. Beyond a very small group, deliberation in an assembly is subject to strong oligarchical tendencies in which it is necessary to assign leadership responsibility for setting the agenda and ordering the proceedings. The larger an assembly becomes the greater the dominance of the leadership and the proportionately less voice will be exercised by each ordinary member of such an assembly. As James Madison has indicated, a very large assembly may make meaningful communication difficult if not impossible (Federalist 55 and 58).

Under these circumstances, a direct democracy then becomes vulnerable to the usurpation of prerogatives by those who direct its proceedings and discharge those essential prerogatives that have to do with defense. If a people acquiesce in the usurpation of governmental prerogatives by those who perform leadership functions, the death of democracy has occurred and a new form of governance has been instituted.

It is these circumstances that led Montesquieu to observe: "If a republic is small, it is destroyed by a foreign force, if it be large, it is ruined by an internal imperfection" (Bk, IX, Ch.1). When both small and large republics are destined to failure, the viability of democratic republics is seriously constrained. Montesquieu proposes a resolution of this problem by having recourse to the organization of Confederate Republics where several small republics might join together in the formation of a confederate

republic of sufficient size to resist external aggression. The small republics continue to exist and govern affairs pertaining to smaller communities of interest and associate together as a united body to act on behalf of the joint community of interests created by the several republics constituting a Confederate Republic. In his analysis, Montesquieu indicates that the concurrent structure of governments in a Confederate Republic means that advantage can be gained from diverse size contingencies. The advantage of small republics can be realized in each separate republic and the advantage that normally accrue to large monarchies can be gained through confederation. Should abuse creep into one part, Confederate Republics offer the prospect of being reformed by those other parts that remain sound.

In his discussion of the constitution of liberty in Book XI of The Spirit of Laws, Montesquieu characterizes political liberty as existing when there is a tranquility of mind where no man need, for his own safety, be afraid of another. If each individual is to be responsible for the governance of his or her own affairs, then law must have a publicly knowable meaning so that each can be judged by reference to the same standards of meaning. This cannot be done, Montesquieu argues, if those who enforce the rules are the same as those who make the rules and judge their application. Formulating rules, implementing and following rules, and judging the application of rules are best performed in relation to different methods of inquiry conducted in different types of decision structures. The integrity and unity of law is enhanced when basic terms specified in the language of law acquire a public meaning that withstands scrutiny by multiple authorities who act independently of one another in formulating, enforcing, and judging the application of law.

Montesquieu's formulation contradicts Hobbes's basic presumption that the unity of law depends upon a single source of law that is above law and cannot be held accountable to law. Rather, all exercises of prerogative with respect to law must be subject to limits so that all exercises of the prerogatives of governance are subject to the limits of commonly understood standards of meaning. It is on this basis that Montesquieu formulates his general principle:

To prevent the abuse of power, it is necessary that by the very disposition of things, power should be a check upon power. A government may be so constituted, as no man shall be compelled to do things to which the law does not oblige him, nor forced to abstain from things which the law permits (Bk, XI, Ch. 4).

Law becomes an appropriate medium for the ordering of human relationships when those who exercise special prerogatives in

formulating law, enforcing law, and judging the application of law do so, not by dominance, but by reasoned considerations that pertain to publicly shared understanding of the basic grammar or logic that applies to the language of law. Law cannot be arbitrarily determined if liberty is to prevail. Rather, it is developed and perfected through contestable arguments in processes of inquiry among separable decision structures that bound human discourse and action.

Contestation and discourse shape a community of understanding in which law functions as a medium for equilibrating relationships among those who are first their own governors and who know how to use the language of law to order mutually productive communities of relationships.

THE AMERICAN MODEL OF FEDERALISM: REITERATING CONSTITUTIONAL RULE

Montesquieu's conception of a Confederate Republic and separation of powers both played a critical role in the formulation of the American experiments in constitutional choice. The first national constitution, the Articles of Confederation and Perpetual Union, had been explicitly organized as a Confederate Republic. By 1785, this constitution was widely recognized as being subject to serious problems; the Philadelphia Convention was called to come to terms with these problems of institutional failure and to undertake the task of constitutional revision.

Alexander Hamilton, especially in Federalist 15 and 16, addresses himself critically to the failure of the American confederation. If confederation is viewed as a form where a confederate government governs other governments, Hamilton alleges that such a conception is a fundamental error. The defining characteristics of a government is the capacity to enforce its resolutions as rules of law. The American confederation depended upon the states to execute the resolution of Congress. If sanctions were to be mobilized by the confederation to enforce its resolutions in such circumstances, states would be the object of sanctions. Wherever sanctions are mobilized against collectivities, those sanctions apply indiscriminately to innocent parties as well as those who may have been culpable of wrong doing. This leads Hamilton to conclude that any "government" that presumes to govern other governments cannot render justice. As a result, the conception of a Confederate Republic must be fashioned on different grounds. His resolution is that each government in a system of governments must reach to the person of the individual as the foundation of its jurisdiction rather than to the intermediate jurisdiction of another unit of government.

The American conception of a federal republic retains

Montesquieu's conception of a system of governments that has reference to multiple units of government of varying domains. But, each unit of government reaches to the person of the individual. Thus each individual has standing in multiple units of government that enables him or her to relate to concurrent communities of interest of varying scope and domain. Instead of relating to one government that exercises a monopoly over the prerogatives for taking collective action in a society, each individual faces multiple units of government when one also takes account of the system of government within each state as a unit of government.

Since the new conception of a federal or compound republic depended upon the fashioning of a limited national government, proportionally greater attention in the Constitution of 1787 was given to Montesquieu's formulation of a separation of powers as a necessary condition for the maintenance of liberty. The legislative, executive, and judicial powers were assigned to separable decision structures where each was designed to preserve its independence of the others and where the exercise of authority by any one decision structure was limited by veto powers that could be exercised by the other decision structures. All exercises of governmental authority were subjects to limits and no governmental authority could exercise unlimited authority. Correlatively, general exercise of governmental authority required the concurrence of multiple decision structures that afforded citizens with access to legislative, executive, and judicial remedies in relation to potential miscarriages of justice. Governmental prerogatives were exercised through a structure of multiorganizational arrangements requiring the concurrence of different authorities functioning in diverse organizations bounded by potential veto positions.

Alexander Hamilton makes explicit reference to the way that people can use the equilibrating structure of a federal republic to defend themselves against the usurpation of authority by those who exercise the prerogatives of government:

Power always being the rival of power; the General Government will at all times stand ready to check the usurpations of state governments; and these will have the same disposition towards the General Government. The people, by throwing themselves into either scale, will infallibly make it predominate. If their rights are invaded by either, they can make use of the other, as the instrument of redress (Federalist 28).

MODELS FOR CONSTRAINING ABSOLUTISM

With the development of monarchies in which Kings were making claims to an absolute monopoly of governing prerogatives, Europe also undertook a variety of efforts to interpose limits upon absolute prerogative. These efforts took three different forms. One

required explicit formulation of general rules of law by legislative authority as establishing the condition for executive action. Another required the establishment of a judiciary that was independent of royal prerogative and whose concurrence was necessary for the exercise of criminal sanctions. Criminal sanctions are those especially involved in the imposition of penalties or sanctions for the violation of law. In the English case, this meant the termination of the authority of the Court of the Star Chamber and the establishment of an independent judiciary for judging guilt or innocence in the interposition of governmental sanctions. A third form of autonomy applied to prerogatives of local government.

The formulation of the doctrine of the Rechtstaat implied that the absolute authority of the monarch was constrained by law through an independent exercise of legislative authority as established the ground for the exercise of executive prerogative, through judicial authority as establishing limits to the proper application of executive authority, and by local administration in applying general rules of law to local affairs. While monarchs continued to claim sovereign authority, that authority was bounded by the concurrent exercise of authority by independent legislative, judicial, and local governing bodies. Sovereigns were no longer absolute. Authority had been divided and limited. Monopoly in the use of force no longer prevailed.

Contrary arguments have been advanced where unity of power in a democratic republic is said to exist when the sovereign prerogative is vested with a representative assembly elected by the people. Large deliberative assemblies cannot jointly do all things or jointly oversee the exercise of all authority, but must depend upon substantial specialization in the discharge of governmental prerogatives. Complex patterns of multiorganizational arrangements will occur in the organization of any such system of government where critical issues pertain to the patterns of dominance, independence, and interdependence that can be expected to occur in any system of government organized on republican principles.

The usual reference to a unitary structure of government among modern democracies is to circumstances where the national legislative assembly is assumed to exercise the supreme prerogatives of government. This presumption applies to most parliamentary systems where the control of executive functions resides with a cabinet as an executive committee of parliament selected from the majority coalition and able to sustain a majority in support of its measures. The members of such legislative assemblies always find themselves bound by their participation in multiple decision structures. The process of election requires all representatives to face an electoral process organized by particular types of balloting arrangements. Those who are successfully elected become representative members of a legislative body. Elections always

provide linkages between those who do the electing and the exercise of prerogatives in the legislative bodies to which representatives are elected. Political parties perform specialized roles in the slating of candidates, the canvassing of voters, the organization of legislative coalitions, and in the case of the majority party of coalition assume leadership prerogatives in the formulation of the legislative program and the direction of executive agencies.

The complex structure of linkages means that multiple organization arrangements are operative in a series of simultaneous and sequential decision processes. Western democracies typically maintain substantial independence on the part of a judiciary that is bound by procedural constraints designed to assure a fair hearing and impartial judgement. This is especially the case in the working of the criminal law where coercive measures are brought to bear upon violations of law that threaten peaceful order in society. The citizen faces something other than a monopoly in the dispensation of justice.

In addition, basic constitutional principles reflected in the status of ministers as privy counsellors implies substantial autonomy on the part of executive instrumentalities. Privy counsellors are bound by oaths of secrecy not to reveal confidential deliberations within the executive instrumentalities of government and criminal sanctions for the violation of the confidentiality of executive deliberation is usually specified in Official Secrets Acts. Principles of secrecy in executive deliberation establish limits to legislative authority and define the scope of independent executive authority.

The operational characteristics of parliamentary democracies turn critically upon the way that multiple-organizational arrangements are linked together. What is ostensibly alluded to as parliamentary supremacy may manifest itself as executive dominance by the way that party discipline works its way through in differing types of electoral systems based upon single-member constituencies or proportional representation. The critical consideration is how multiorganizational structures of governance become linked together in patterns reflecting independence, dependence, and interdependence in decision-making arrangements.

All modern democracies are organized to reflect a variety of different decision-making processes in the conduct of government. This implies a substantial division of labor in the organization of decision-making arrangements that pertain to rule-ruler-ruled relationships. Some processes involve substantial elements of dominance in a superior-subordinate relationship, but the way these processes are linked together establish such fundamental patterns of interdependence that it is not possible to identify a

single center of authority that is absolute, indivisible and unlimited.

PROBLEMS IN THE CONTEMPORARY LANGUAGE OF POLITICAL DISCOURSE

Much of contemporary political discourse refers to something called the "State" that exercises a monopoly of the legitimate use of force in "society". The State in this use of language is presumed to rule over society. If the terminology of "government" is used, much the same reference is implied. There is a presumption that the government exercises control over the legitimate use of force in society and governs over society. The essential relationship is presumed to be a monopoly and if that relationship is in some fundamental sense a monopoly then it is, as Hobbes has indicated, absolute, unlimited, and indivisible.

Yet, the experience of Western democracies is contrary to language that is used in political discourse. No Western democracy vests all of the prerogatives of government in a single hand or with a single entity. Processes of governance are mediated through multiple decision structures. Legislatures exist apart from executive instrumentalities and these exist apart from judicial instrumentalities that are uniquely concerned with the imposition of penalties and punishment for legally proscribed acts that are defined as crimes.

Given these circumstances, all Western democracies have recourse to systems of governance that always imply multiorganizational arrangements. Something called "the government" or "the state" is either a misnomer or is being used as a proper name to identify some particular entity in a more complex configuration of rulership that exists in such societies.

Reliance upon an overly simplified language places those who participate in political discourse in the difficult position that meaning cannot be discriminated to clarify essential distinctions that pertain to the governance of human societies. Hobbes's analysis has remarkable clarity to it. Montesquieu and the American authors of The Federalist were conceptualizing alternative ways to constitute systems of governance in human societies. And so one can go to different European traditions of political discourse and find arguments being advanced about how variable conditions in the constitution of human societies can be expected to yield variable consequences.

A minimal step toward coherence in the language of political discourse would be to treat the monopoly conjecture as hypothetical and to assume that governance in human societies might occur under variable conditions. Can we specify what these are and how variable conditions might be expected to affect the ways that

human beings relate to one another? We might then concern ourselves with the multiorganizational milieu and how organizational structures are linked in relation to one another. Hypothetically, such linkages might be characterized by variable patterns of independence, dependence, and interdependence. Whether these structures and linkages drive to a monopoly solution or to an equilibrating relationship bounded by multiple constraints might be subject to determination.

Further coherence in the use of language can occur when the basic inadequacy of standard dictionary definitions for political discourse are recognized. Most standard dictionary definitions specify and use some special quality of what is being referred to as the criterion for meaning. That quality is likely to refer to a distinguishing isolable attribute that imperfectly reflects the conceptual referent in the case of relatively complex conceptions such as democracy, or unitary and federal systems of government. Ernst Cassirer recognized this problem when he observed:

But a definition is not adequate as long as it contents itself with designating a special quality of the subject. Time definitions must be "genetic" or "causal" definitions. They not only have to answer the question of what a thing is, but why it is. In this way alone we come to a true insight. (Cassirer, 1946: 173-174).

If we are to gain "true insight" into the meaning and use of language relevant to political discourse, we must come to terms with the theoretical explanations used to inform the design of institutions of government in circumstances where people confront basic problems of constitutional choice. Every democratic society confronts such circumstances when decisions are taken specifying and modifying the terms and conditions of government. We need to understand the calculations that are taken into account in designing institutions of government and how those calculations can be used to assess performance in considering how a system of government works.

We can come to a better understanding of Western democracies if we view them as experiments in constitutional choice. The theory used to design the experiments provides us with essential conjectures about the relationship of conditions and consequences. Once we understand how diverse experiments in the design of institutions of government have worked out, we have the basis for fashioning political theory that can both be used to design experiments in constitutional choice and to test the warrantability of such theories in relation to human experience. It is doubtful that scholars and persons occupying positions of political authority would rely upon a language based upon standard dictionary definitions of terms, if they had mastered the theoretical considerations

that were appropriate to constituting democratic republics where people can achieve self-governing capabilities in conduct of their political experiments.

If the essential structure of authority relationships in human societies can only be a monopoly, we are left with the circumstance that NATO and European Community are not viable undertakings. If monopoly must prevail, there is only one solution to efforts to address multinational problems: empire. Alternative solutions depend upon conceptualizing multiorganizational arrangements that constrain or foreclose a monopoly solution. But to understand the possibility of systems of human governance organized on principles other than monopoly necessarily requires recourse to levels of analysis that focus upon multiorganizational arrangements and how these are linked together in simultaneous and sequential patterns of relationships.

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BEYOND ORGANIZATIONAL DESIGN: CONTEXTUALITY AND THE POLITICAL THEORY OF PUBLIC POLICY

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THE COMING OF AGE OF IMPLEMENTATION ANALYSIS

Since its emergence in the early 1970's, implementation research has gone through an intellectual life cycle which seems uncomfortably familiar. Pioneering efforts blazed a trail to fields of burgeoning research activities. Schools of thought started to form around points of controversy which were made easily visible through conspicuous tags such as "up/down", "inter/intra", "formal/informal". Genuinely original scholarships thrived alongside fairly repetitious and eclectic studies. We now seem to face a situation where implementation research is well and alive but where it might also run the risk of becoming the victim of its own success. True enough most of the original societal impetus for this type of inquiry is still there. Even in the age of large budgetary deficits and slow growth economies public programs are as big as ever, and politicians face as substantial problems now as they did ten years ago in translating policy commitments and societal aspirations into real world effects. Of course there is wide-spread disillusionment after a decade and a half of extensive exercises in knowledge utilization for public policy. But little or nothing suggests that politicians should be less prone to draw upon whatever policy relevant studies they might feel are of use to them in political and administrative battles or that social scientists now should be more inclined than in the early 1970's to withdraw into academic ivory towers. If anything, most of the evidence is to the contrary. Thus there is no real reason to expect that interest in implementation analysis is about to fade. However, by virtue of its very vitality implementation research has tended to be used as a catch-all phrase in wide circles. We can also witness the growth of a subdiscipline within the subdiscipline, namely a

growing body of overviews, sometimes enlightening analyses, sometimes just compilations, of the field of implementation research. The very title of this symposium volume entails a scholarly plea: We are asked to be both institutional and interorganizational, analytic and policy relevant. This requires that we try to take stock of some major issues in implementation studies without getting bogged down in purely terminological issues.

Implementation analysis has to a large extent evolved around an on-going controversy between advocates of two different analytic perspectives conveniently identified as "top-down" and bottom-up". The former approach originally started out from a basically hierarchical and rationalistic conception of the policy process. Hence it tended to stress the need for a careful breakdown of policy objectives into manageable and clearly defined elements, unambiguously assigned to administrative units which guarantee the smooth passing on of public policy intentions into public policy effects. The bottom-up perspective on the other hand emphasized the actual discretion of "street-level bureaucrats". Main factors which determine policy impact "are outside the sphere of direct government control" and have to do with transactions between public programs and environments often dominated by private markets. Thus implementation analysis must yield an understanding of the structure of linkages between public and private sectors in the different "bargaining arenas". It also has to focus on those public institutions which are most proximate to crucial transactions and then trace the real workings of an implementation process from this bottom level upwards (e.g., Elmore, 1980; see also Berman, 1980).

The bottom-up perspective tended to be joined by interorganizational analysis (e.g., Hanf and Scharf, 1978). This feature highlighted the methodological problem of delineating proper units of analysis. The idea of an implementation structure as a new type of unit of analysis was developed as a response to this challenge by a group of researchers at the International Institute of Management, Berlin (see Hjern and Porter, 1981). Such structures were defined in terms of commitment to a programme rationale. Consequently they did not coincide with given administrative and organizational hierarchies but rather had the character of self-selected clusters of parts of organizations, some public, some private.

There can be little doubt that the controversy between a top-down versus bottom-up perspective on implementation has served as a stimulus to research efforts in the field. However, it seems also fair to state that today we witness a certain convergence of views. Both "top-downers" and "bottom-uppers" appear willing to view the different perspectives as complementary rather than mutually exclusive. Richard Elmore's term "reversible logic"

neatly captures the idea of a matching of the "forward" and "backward" mapping phases of a process of policy analysis (Elmore in this volume). Members of both traditions seem prepared to grant that some types of informal networks or policy subsystems are of crucial importance but that these subsystems or networks cannot be seen in total isolation from formal administrative and organizational apparatuses. Actually, the very concept of an implementation structure rests implicitly on an assumption that such, often hierarchical, organizations exist and serve as pools from which elements of the structures are drawn; if everything were just interaction among informal conglomerates, then the idea of an implementation structure becomes highly elusive.

Furthermore, there is nothing like a consensus among either grouping as to the analytical problems of ascribing action-like properties to structures, networks or subsystems. Some scholars view this just as a convenient shorthand way of describing social reality. Others argue that it involves an illegitimate imputation of capacities of strategic deliberation to entities which simply do not possess such capacities.

Thus in some respects the border line between a bottom-up and a top-down perspective is no clear-cut one, and a certain convergence of views can be observed around some of the traditional points of controversy. However, this fact should not give rise to a sense of complacency among implementation researchers. Instead it should permit a re-examination of some of the fundamental theoretical issues which are implicit in much implementation analysis but rarely are faced head on. Starting out from the contextual nature of policy analysis in general and implementation research in particular, this article will outline three such problems and indicate something of their linkages, namely the problems of actors and structure, time and discontinuities, and finally systemic asymmetries in policy evolution and change.

CONTEXTUALITY AND POLICY ANALYSIS

Policy analysis is not only seeking to understand and explain various courses of action and their effects. It is also concerned with policy design and policy improvement (cf. e.g., Barrett and Fudge, 1981: 6; Benson in this volume). Thus some version of an actor oriented social choice perspective is inherent in policy analysis. However, such a general observation is compatible with fairly different interpretations of the proper role of policy-oriented scholarship. Three broad traditions can be discerned.

Firstly, policy analysis has sometimes been construed as basically a management science, characterized within this strand by an ambition to take a relatively broad look at problems of political feasibility and at the range of available alternatives.

Secondly, policy analysis has been assigned a more grandiose role as "a new supradiscipline" which is "concerned with the contributions of systematic knowledge, structured rationality and organized creativity to better policymaking" (Dror, 1971). What is required in this perspective is a science of meta-control which will supply "knowledge about the direction of the controls themselves, that is, about meta-control" (Dror, 1979: 284). Policy analysis should then not only be concerned with minor tinkering to achieve improved efficiency in the delivery of public services. It should lay the foundations for "governance redesign for handling the future" (Dror, 1983). Whether it involves risks for bureaucratic hegemony is of less relevance to the proponents of this tradition than the fact that in the absence of this kind of policy analysis Western Governments are seen to be threatened by "capacity deficits" on such a scale that their future viability might be at risk.

But, thirdly, when Harold Lasswell originally outlined the field of the policy sciences he spelt out a program which transcended the managerial and control perspectives. This third tradition emphasizes the role of policy analysis as problem-oriented scholarship (Lasswell, 1951; Lasswell, 1971). This problem-orientation demanded a focus on "the basic conflicts in our civilization...the fundamental problems of man in society, rather than upon the topical issues of the moment" (Lasswell, 1951: 8). It required that the analysis was open to the contribution of a diversity of methods and that it was based upon a contextual understanding of the larger social setting of the events studied as well as of their evolution over time. Hence the policy-oriented scholar must consciously "cultivate the practice of thinking of the past and of the future as parts of one context". Although this challenging legacy is still very much alive, it still largely waits to be carried out (cf. Brewer and deLeon, 1983; Brunner, 1983; deLeon, 1981; Wittrock, 1983). If policy scientists are to take the notion of contextuality seriously, then it is necessary to link up studies of policy processes to political and societal micro-analysis. True enough, such a program faces formidable obstacles (see e.g., Mayntz, 1982: 79). But the pervasive and encompassing nature of contemporary policy problems might well demand such an effort, intellectually arduous though it might be. The rest of this article will briefly take up three of the analytical problems involved in such a program.

ACTORS AND STRUCTURE

Policy analysis, including interorganizational implementation analysis, has always been concerned with policy options and strategic choice. This does certainly not preclude an awareness of elements of the institutional underpinning of policy-making whether in the guise of constitutional rules or a more or less class based

system of corporatist or pluralist representation and mediation (cf. Burns, 1984; Scharpf, 1983). However, efforts to combine an actor-oriented perspective with a structural one characteristically tend to come up against very substantial difficulties. In particular, the border line between actors and institutional environment, between strategic choice and strategic constraints, tends to get blurred.

The way in which this difficulty surfaces depends largely on the - to borrow a term from Kiser and Ostrom (1982) - metatheoretical framework of the given inquiry. If it is microinstitutional and individualistic, it will seek to trace back all assumptions about collective actors to statements about the behavior and properties of individual human beings. Such an approach tends to allow for accounts of the role of actors and that significant class of institutional and systemic constraints which can be unambiguously derived from statements about individuals. Many social scientists, not least political economists in a Marxian and macro-institutional tradition, would however argue that important structural barriers to human action are thereby unduly neglected (cf. Benson, 1982, and in this volume; Jessop, 1978). Furthermore, many scholars hold that there are no compelling reasons for policy analysts to deeply commit themselves to any particular viewpoint in the highly complex and prolonged discussion of methodological individualism, its different meanings and implications. They would rather concur with the more agnostic position of a recent overview:

"Organizations do not have brains, but they have cognitive systems and memories. As individuals develop their personalities, personal habits, and beliefs over time, organizations develop world views and ideologies. Members come and go, and leadership changes, but organizations' memories preserve certain behaviors, mental maps, norms and values over time". (Hedberg, 1981).

But if this kind of agnostic stance is granted, what about the counter-claim that abandoning strict individualism paves the way for "theoretical models with social forces beyond the influence of individuals" (Kiser and Ostrom, 1982: 183)? Obviously, this is a risk which should not be lightly dismissed. (Cf. Scharpf's point about the limitations of a corporatist perspective in Scharpf, 1983). Conversely, however, there appear to be neither empirical nor theoretical grounds for believing that this risk could not be avoided (Cf. Offe, 1983; Wollman, 1983; see also Olsen, 1981). In order to assess claims like these and also to take seriously the notion of temporal contextuality inherent in the legacy of policy analysis as problem-oriented scholarship, a long-range perspective on policy evolution should be adopted, and some assumptions about choice and constraints in the shaping of - to quote

Lasswell (1951) - "the flow of events in time" spelt out.

TIME AND DISCONTINUITIES

Much of implementation analysis evolved out of a reaction to a simplistic hierarchical account of policy processes. Policies were not just centrally and unambiguously decided and then passed on for due execution on the local level. But however critical, few implementation researchers were prepared to go all the way towards embracing an anarchic conception of the policy process. Maybe the radical rationalism of early systems and policy analysis did not hold, but surely there is some rationale in implementing the objectives and plans inherent in policies. The search for implementation structures defined in terms of a commitment to a program rationale constituted one candidate for a solution of the problem of rationality beyond hierarchy. However, once the time perspective gets sufficiently long it is quite possible in some policy fields to find informal networks which are active both before and during the implementation of some particular program.

Thus during this entire century informal networks of researchers, technicians, and groups in industry as well as in public administration have played a key role in maintaining interest and competence in energy policy in Sweden. On several occasions the existence of these networks have been of crucial importance in the drafting and launching as well as the swift implementation of public programs for energy and energy research and development policies. However, these programs have not emerged and developed through processes of smooth and consensus-like evolution or as a result of gradually converging policy theories of different advocacy coalitions (cf. Sabatier and Hanf in this volume). Instead in this field we can witness an interesting interplay between actors' perceptions and policies and structural characteristics and conditions of policy-making and policy implementation.

Swedish energy policy has throughout the 1900's been based on a surprisingly consistent perception of the nation's energy problem. Time and again efforts have been made to promote energy technologies which reduce dependence on foreign and finite energy sources and involve a more secure supply from domestic sources. At the turn of the century growing imports of coal were seen as an immediate source of difficulty, in the 1950's and 1970s oil was seen to play a similar role. A bill presented at the parliamentary session of 1900 succinctly summarized the situation: "The whole independence and economy of the nation has by virtue of this fact constantly a sword of Damocles hanging over itself". Removing this sword is basically what Swedish energy policy has been about at least since the 1890s onwards. Ambitious efforts were made to promote peat and hydroelectric power - "the white coal", the "patriotic fuel" - around the turn of the century and

the following decades.

Some of these efforts have met with success, most notably in the case of the break-through of hydro-electric power, where pioneering technological developments occurred in the wake of a socio-political battle, essentially between the old agro-conservative forces and an alliance between the political left and the new industrial interests, extending over several decades (Lundgren, 1980 and 1982; Wittrock and Lindström, 1982 and 1984; Wittrock, Lindström and Zetterberg, 1982). This process involved deep-seated changes in societal organization, including definitions of property rights, and also affected concepts of economic feasibility on an energy market. In the case of most other technologies, however, e.g., those for the production of peat, no similar developments occurred and despite quite wide-spread political support most of these efforts proved abortive.

In the era after the Second World War energy policy programs on a much larger scale have been launched, but their basic objective has been quite similar. This very much goes for the government's decision in 1956 to launch a major technology programme to develop and introduce domestic heavy-water nuclear reactors so as to fend off increasing imports of oil and to keep the whole nuclear fuel cycle within the country. This program, the so-called Swedish line, was technologically ambitious and actually eased the way for a build-up of competence when Swedish light-water reactors were later built and introduced. However, like so many other efforts the "Swedish line" was launched under the impression of a crisis-like situation, in this case caused both by rapidly rising imports of oil and the release of large amounts of previously classified material about nuclear technology in connection with the Geneva conference of 1955. The program also envisaged far-reaching government direction and intervention to secure the success of the program. Though no formal state monopoly in the nuclear field was suggested, there was no doubt that the government intended to take on the main responsibility for the development of the technology and for overseeing all non-state activities.

The way in which this large program gradually disintegrated and succumbed to the combined onslaught of available American as well as domestic light-water reactors and in which the policy objectives of the crisis period wore off and got blurred, is as good a case as any of what Peter Hall terms a "great planning disaster" (Hall, 1980). But the disaster was not caused by simple miscalculation or by a process lacking in broad participation; in fact, reports were widely circulated for comments and one of the problems of the program was not its lack of participation but its excessive efforts to drag fairly divergent public and private interests into one and the same development corporation. Hence Hall's prescriptions for remedying and avoiding planning disasters

in this perspective stand out as simplistic; he calls for a still further look into the future by forecasters, for still more participative effort to draw on all conceivable opinions in the planning process. What he does not face and what so much of planning and implementation analysis disregards is the fact that there may be significant structural asymmetries between conditions of policy making in periods of crisis and in more normal periods where established market-like forces are assumed to operate as usual.

Discontinuities in policy evolution are then not just accidental. They occur not just because policies have been erroneously conceived or because anarchic implementation processes can derail even the best planned policy. They also occur because structural constraints do not remain stable over time. And some of their changes are systemic and can neither be handled through a more thoroughly pre-programmed policy process, nor just by way of allowing for an ever widening degree of discretion in the implementation process.

SYSTEMIC ASYMMETRIES AND POLICY DRIFT

Policies travel, we are told. They "are continuously transformed by implementing actions that simultaneously alter resources and objectives" (Majone and Wildavsky, 1978: 109). Most policies have multiple objectives and even move across different policy areas. Swedish energy and energy research policy is a good case in point. These public programs have always been considered as means of solving problems in other policy areas as well. Thus hydroelectric power development would not only limit coal imports but also create job opportunities, be an important element in regional policy, and secure industrial expansion. Similarly, there have been many motives behind nuclear power policy - motives connected with trade policy, industrial policy, labor market policy, and environmental policy. Basically, the same instrumental arguments have been used to justify investments in domestic fuels such as peat, shale and wood.

Three broad classes of objectives have been relevant in the formulation of Swedish energy policy. Firstly, there have been objectives reflecting a desire to promote national self-reliance and to avoid negative effects of disturbance on international energy markets. These objectives have translated into efforts to increase the use of domestic energy sources. Secondly, another group of objectives has concerned trade and industrial policy. These objectives have also tended to result in demands for a decrease in energy imports which cause a strain on the balance of payments. Conversely, one rationale for the development of domestic energy technologies has been the desirability of supporting industry, employment and exports. Finally, a third class of

goals have converged in efforts to see to it that the energy system is developed according to principles of economic feasibility and marked-defined profitability.

Naturally, these three types of objectives and their concomitant public measures have had an impact on "implementation by defining the arena in which the process takes place, the identity and role of the principal actors, the range of permissible tools for action" (Majone and Wildavsky, 1978: 112). But the range of objectives has often been sufficiently wide to permit an adaptation of programs to changing situations and contexts. To a certain extent significant aspects of policies can survive even substantial changes in their environments through a process which could be termed policy drift; a gradual shift in the emphasis of various objectives occurs, some programmatic components are toned down or even discarded, but the program itself is able to survive at least as defined in a step-by-step fashion. The outer limits of policy survival can even - some observers argue - be stretched still further if policy-makers resort to symbolic policy-making (of Gustafsson, 1983; Barrett and Fudge, 1981: 276). However, at some point policies no longer travel, they go astray, or rather, get sidetracked by a changing set of structural constraints.

In the case of Swedish energy policy the outlines of a cyclical pattern can be discerned. During periods of great uncertainty and crisis-like events, the government has launched ambitious programs which have entailed fairly far-reaching control and intervention in the process of technology development and innovation. The main objectives emphasized have concerned national self-reliance and trade policy. The programs have typically involved substantial efforts to stimulate technologies which might tap domestic energy sources. These research and development programs have often had a long-range orientation and have rested upon assumption of the future profitability in market terms of technologies under development. The state has also taken on a main responsibility in financial terms. However, the periods of crisis have tended to be of fairly short duration. When the immediate sense of uncertainty has waned, the political feasibility of far-reaching state intervention and control has also subsided. Such interventions have then both seemed uncalled for and their potential incompatibility with the basic operating mode of private industry has been highlighted at precisely the moment when results from research and development work have reached a stage where their entry into the market has been put on the agenda.

Thus shifts from periods of crisis to normalcy seem to occur and tend to present different sets of structural constraints. The radically rationalistic policy analysis in a narrow management tradition appears singularly ill-prepared to account for such shifts. However, even more sophisticated forms of policy analysis

and implementation research, which essentially restrict their attention to the workings of policy processes proper, probably do not suffice to explain different types of systemic asymmetries. In these cases policy does not clearly determine implementation, nor is it uniquely shaped through interactions of implementation processes. Instead, both these types of "policy-internal" workings are deeply affected by shifting constraints external to the policy process proper. If this is so, what is needed is a marriage between policy analysis and social theory. This was, after all, one of the basic ideas in the tradition of policy analysis as problem-oriented scholarship.

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CREATIVE IMAGINATION AND APPROPRIATE ASSEMBLIES
Comment on Björn Wittrock's "Beyond Organizational Design:
Contextuality and the Political Theory of Public Policy"

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It must be quite a thrill to inter-organizational theorists and bottom-up-ers to be confronted with nothing less than Lasswellian contextuality. Björn Wittrock's suggestion to recover the mood of the policy sciences may come right on time, when policy analysis seems to have lost some of its original pretensions of bridging the gap between empirical and normative orientations to politics and policy (Dahl, 1970). The restatement of the relevance of the policy sciences and their demand for macro-analyses of the fundamental issues of society may be even more important, since presently the mainstream of political science appears to be content with a neat division of labor between empirical and normative themes, as well as between intra- and international political questions. Lasswell's notion of contextuality may be a fruitful way, indeed, to broaden our scope and our frame of reference to more comprehensive social settings and to more encompassing time-spans.

However, there is a wide gap between Lasswellian contextuality and the less pretentious claims - and possibly the lesser demands - of inter-organizational theory and implementation structure analysis. As Wittrock stresses, Lasswell did have something in mind far beyond the bottom-up perspective on administrative discretion or the implementation structure analysts' redefinition of the proper unit of analysis. We should be very careful, then, in linking the grandiose design of the founding fathers of the policy sciences with the middle-range or sub-systems concerns of contemporary policy students.

This having been said, we may follow Wittrock's argument and welcome his attempt to use contextuality as a yard-stick for inter-

organizational theory, and for theory and research with regard to implementation structures. Firstly, if inter-organizational theory and the concept of implementation structure emphasize the dynamics of the policy process, Lasswell's tentative paradigm tends to push this perspective as far as to include Elmore's promising notion of a reversible logic of backward mapping (Elmore, 1980). One may only guess if Lasswell would have accepted our habit of talking "policy dynamics" and "policy process" without going through a fundamental conceptual discussion of time (cf. Hogwood and Peters, 1983). What is striking to the newcomer in the inter-organizational and bottom-up community is that it embraces the idea of on-going change, yet treats time as a primitive term. It should actually be one of the first priorities on this community's agenda to increase its understanding of such concepts as time, short-term and long-term processes, and - without falling into policy tactics - timing. O'Toole's example of a forty-year policy experiment makes one think about the relativity of time. How should we compare forty years of poliocentric rule and forty years of monocentric rule? Which are the time-based criteria for long-range versus short-range perspectives on policy evolution? How should we compare a one-year political process in a densely populated policy space and a twenty-year process in a nearly empty policy area (Wildavsky, 1979)? Is there a difference between four years of regulatory policy-making and four years of redistributive policy?

Secondly, whereas Wittrock underscores the permeability of the public-private boundaries and the continuing change in public-private linkages, Lasswell might ask for an effort to search for more relevant systems than those based on that perennial dichotomy between the public and private domain. Here Wittrock could have gone a bit further, joining recent efforts to get a clearer understanding of systems, boundaries and boundary-control.

Of course, there is something paradoxical in inter-organizational theory and in implementation structure analyses. They dissociate themselves from apparently superficial institutional concepts which remind us of the old Staatswissenschaft; yet they do not really reach beyond institutional answers to the old questions of who gets what, when and how, or of the authoritative allocation of values. It amounts to a shift in boundary-setting rather than in the conceptualization of policy. Inter-organizational theory does run the risk of self-indulgence, substituting one type of institutional analysis for another. That would be a pity. For inter-organizational theory seems to have the potential to pursue a more satisfactory answer to questions arising from the public-private issue.

In this context, cross-national analyses of inter-organizational policy structures and processes may be particularly rewarding. They could show the intricate differences in the way both

citizens and policy-makers, if not policy analysts, handle the theory and practice of the relations between the public and the private domain, between the state and the individual, between the center and the periphery, between the government and society. There may be huge differences between meaningful categories of organization in state-oriented France versus government-oriented Britain (cp. Coughlin, 1980).

The call for contextuality, creative imagination and speculative modelling sounds exiting. Wittrock puts an emphasis on the value of design. Elsewhere, he stresses the possibilities of choice (Wittrock, 1983), as well as of unleashing potentials stored in the social and political structure (Wittrock, 1982). In a slightly different setting, however, one may face proposals to focus upon feasible solutions and to search for the "missing link".

This causes us to ponder the pro's and con's of simple versus complex approaches to social and political problems. Here we may, then, accept Herbert Simon's proposition that we should try for appropriate assemblies rather than for single factors (Simon, 1969). This would mean that we should be happy about rather complex coordinating structures (which would keep open the possibility of re-arranging the policy process). We might then be less unhappy about external factors which seemingly ruin our carefully designed policy experiments, but which would, in fact, prevent us from engaging in fruitless undertakings. We might set out to use instead of to reduce uncertainty. What we should pursue is serendipity - the happy use of good fortune, or the happy coincidence of circumstances. Possibility and necessity are primitive notions; we should enter the field of "iterated and mixed modalities" (Elster, 1978, p. 52).

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FORWARD AND BACKWARD MAPPING: REVERSIBLE LOGIC IN THE ANALYSIS
OF PUBLIC POLICY

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"Cheshire Puss", Alice began, rather timidly, ... "Would you tell me, please, which way I go from here?"

"That depends a good deal on where you want to get to", said the Cat.

"I don't much care where...", said Alice.

"Then it doesn't matter which way you walk", said the Cat.

"...so long as I get somewhere", Alice added as an explanation.

"Oh you're sure to do that", said the Cat, "if only you walk long enough".

---Lewis Carroll, Alice in Wonderland.

If I were planning a trip by automobile from Seattle to Boston, I could choose a route in at least a two ways. One way would be to start in Seattle and trace a path east on I-90, the major interstate highway. I could follow that highway on my map until I reached a point where it became clear that I would miss my destination if I stayed on the highway. Then I could adjust my route north or south to arrive in Boston. Another way would be to start in Boston, look at the alternative routes heading west, choose the route that seemed most closely to approximate the rough latitude of Seattle, follow it west, and as I approached Seattle, adjust it north or south. In fact, if I were interested in finding the most efficient route, the most scenic route, or the one that

would take my closest to my sister in Denver, I would probably use both techniques.

Decision trees are a commonly-used technique for analyzing sequential decisions affected by chance. To construct a decision tree, we first break a complex problem into a series of choices (decision nodes) and uncertain events (chance nodes). We then arrange those choices and events in sequence from the first possible choice to all possible outcomes or end values. The branches of the decision tree describe alternative paths to a variety of end values. In this form a decision tree is a useful descriptive model, but it is utterly useless as a normative model -- that is, as a model for deciding which path to take. To use a decision tree for this purpose, we must assign values to the pay-offs associated with each node on each path. We do this by "folding-back" or "flipping" the tree. Folding-back or flipping involves using the values at the ends of various branches to assign values to specific nodes along each path. The model works, first, by laying out sequences of choices and events, and then by using end results to assign values along each path 1).

Physicists and astronomers are currently converging on a theory of the origin of the universe. The theory began in the 1920's with the discovery by astronomers that other bodies in our galaxy are receding from us. This discovery led to the "big bang" theory, which hypothesizes that the universe had its origins in a single large explosion of enormously dense matter some 10 to 20 billion years ago. In search of a way to test this theory, physicists have hit upon an ingenious idea. If the big bang did occur, they reason, the universe must have been an undifferentiated mass just prior to the event. But research on sub-atomic particles shows a variety of elementary particles and forces. The process of getting from an undifferentiated state to a differentiated one, they reason, must of have consisted of a kind of "cooling out". At the earliest stages of this process, elementary particles and forces, as we know them, did not exist because the energy produced by the concentration of matter was so extraordinary high that they could not form or operate. As the concentration of matter decreased, elementary particles collided to form more complex combinations, held together by more diverse forces. One can reconstruct the formation of the universe, in other words, by examining the energy necessary to break apart or combine sub-atomic particles. And one can infer the behavior of sub-atomic particles by examining the behavior of the universe 2).

Alice's problem was that she didn't know either where she was or where she wanted to go. In the three examples that follow Alice's problem, it is clear that even if you know where you are and where you want to go the process of getting there is often

more complex than it seems. The examples all share the same logic, a logic so commonplace that we often don't recognize it, much less exploit it. The logic is essentially this: To get from a starting point (Seattle, the first choice in a decision tree, sub-atomic particles) to a result (Boston, the best outcome, a theory of the universe), we don't just set an objective and go there. We begin at either end and reason both ways, back and forth, until we discover a satisfactory connection. In some instances, decision trees, for example, this logic is explicit and orderly; in others, my cross-country driving, for example, it is intuitive and disorderly. In both cases, it is "reversible" 3). That is, we can't get from a starting point to a result until the logic works both ways, forward and backward. If I were to leave Seattle, heading east, intending to end up in Boston, I might never get there, because it happens that the interstate highway from Seattle doesn't go there. But if I mentally plan my trip by starting in both Boston and Seattle, searching for a satisfactory connection between them, my chances of getting from Seattle to Boston are markedly improved, though by no means certain. For analytic purposes, it doesn't matter whether I start in Boston or Seattle, so long as I do both at some point and make sure that the route I choose from either end connects somewhere in the middle.

POLICY ANALYSIS AND REVERSIBLE LOGIC

Policy analysis, whether practiced by academics, professional analysts, or policy makers, consists essentially of specifying alternatives, values, and outcomes for policy decisions. The utility of analysis lies not so much in thinking of proposals that no one has thought of before, but of disaggregating choices into their constituent parts and assessing one alternative against another. The main rationale for policy analysis is that decisionmakers, hence the public, are better served if their judgments are informed by a thoughtful evaluation of alternatives.

This view of policy analysis contains a number of questionable assumptions, many of which we will examine in due course. For the moment, let's focus on the notion that analysis consists of evaluating policy options in terms of their expected effects. Say, for example, we were interested in finding ways to reduce energy consumption. The range of tools, or implements, available to policymakers might include (1) a purely voluntary program designed to demonstrate the costs of certain kinds of energy consumption and the benefits of reduced consumption; (2) a program based on graduated utility rates designed to increase the unit costs of energy as consumption increases; and (3) a program of mandatory building code regulations designed to force property owners to make changes that reduce energy consumption. These implements could be treated as alternatives by themselves or they could be combined in various ways to frame alternatives. The value of

policy analysis lies in its ability to specify what each implement consists of, what it might cost, and what its likely effect on energy consumption would be. Once this specification is done, a policymaker could make an informed choice.

The alert reader will see a flaw in this logic. What exactly is this policymaker choosing? He or she is choosing a hypothetical cause-and-effect relationship between an implement, or a bundle of implements, and an expected effect. If the specification is carried to the point of saying, for example, that "graduated rate schedule 'x' can be expected to produce energy savings 'y' ", we have established a hypothetical relationship between rates and consumption. What we have not done is to reverse the logic and assess the cause-and-effect relationship from the point of view of the energy consumers or the implementing agencies, asking what options they face. We would find, if we did this, that the population of consumers is heterogeneous. Some will respond rationally by making capital investments in energy conservation up to the point where the marginal returns in reduced consumption equal marginal costs of modernization. Some will be unable to respond rationally for lack of access to capital, and will simply pay a premium for energy. Some will disconnect their utility meters. And some will organize a coalition of energy consumers to modify the rate schedule 4). These responses to energy conservation policy will present certain problems to the implementing agencies. They will produce an aggregate effect on energy consumption that may or may not be consistent with the effect that policymakers expected when they chose the graduated rate schedule. If the actual effects were consistent with policymakers' expectations, it might not matter in the short run whether our analysis had accounted for the possible responses consumers and implementing agencies. But the effects of policies are seldom exactly what we expect them to be. When the effects are not consistent with our expectations, we are in deep trouble if we haven't accurately portrayed possible responses to the policy, because we have no systematic way of knowing what went wrong.

Specifying alternatives and assessing their expected effects is only part of the analytic problem, in other words. It is like the first stage of constructing a decision tree, where decisions, chance events, and expected outcomes are arrayed in logical sequence. The analysis is not complete until we have reversed the reasoning, starting at the outcome end and reasoning back to the first choice. Reversing the logic has two effects on our analysis. First, it provides insurance against unanticipated effects, so that if things start to go wrong in the implementing process we have an intelligent response. But second, and more importantly, it changes the content of the policy options we recommend.

Policy analysts use terms like "iterative" 5) to describe

this process of reasoning back and forth between first choices and expected effects. Regardless of what you call it, reversible logic carries an important message for both analysts and policymakers: Specifying the expected relationship between implements and their effects is only half the analytic process -- the forward mapping half, if you will. The other half consists starting with the choices confronting people at the "outcome" end and playing the consequences of those choices back through the sequence of decisions to first choices -- the backward mapping half, if you will.

POLICY CONTENT AND REVERSIBLE LOGIC

When I presented the first version 6) of this argument about reversible logic, in the form of a plea for backward mapping, friendly critics responded in at least two ways. One group made what might be called the "codified common sense" response. They would say (usually with a slightly defensive edge to their voice), "That is exactly how I think about problems..., been doing it for years..., nothing very original there". Another response was "nice idea, but no practical utility". "It makes a certain amount of sense", these critics would say sympathetically, "but you could never get a state legislator to think that way" 7). Leaving aside the question of whether the idea is original (I went to some pains to explain not only that it wasn't original but that I had stolen it outright from Mark Moore), these two responses are revealing. One response says essentially that the idea is so commonplace it is hardly worth belaboring, the other says it's so novel ordinary people would never use it. Both responses have an element of truth, and therein lies the analytic utility of reversible logic. It is useful precisely because it captures a common pattern of thought. But it also raises problems of feasibility, since regardless of how common the pattern of thought, it is not used systematically either by policymakers or policy analysts.

Faced with a problem, policymakers frame solutions using implements over which they exercise the greatest control 3). Actors at different political and administrative levels control different implements. Each set of implements has a limited range of effectiveness. The content of policy at any given level of the system is a function of the implements people control at that level and the effects they are trying to produce at other levels. The outcomes of policy are a function of how well implements at different levels mesh together to produce a result.

At any given political or administrative level, people have strong incentives to view the success of policy mainly, or entirely, in terms of the implements they control, disregarding the fact that the overall success of the policy depends not on their implements alone but on the relationship between their implements and those at other levels. The result of these incentives is that

people at different levels tend to focus on "parochial" solutions -- solutions that are narrow in their effects and limited by the incentives that operate at that level. There is no guarantee that this interlocking system of parochial solutions will produce a result that anyone would regard as a "success". Nor is there a universal principle ordaining that any result which emerges from this system of interlocking solutions is a "good" result. The system, in fact, produces many failures.

Reversible logic provides an explicit way to anticipate the effect of parochial solutions on the outcomes of policy. People at different political and administrative levels may or may not recognize that they operate in a system of interlocking parochial solutions. Their long-term success depends, to a large degree, however, on their ability to anticipate the actions and responses of people at other levels. This strategic sense is relatively rare, even though it is in everyone's self-interest to have it. This explains why reversible logic is both extraordinary and commonplace. When we see someone operating with a relatively sophisticated command of reversible logic, we think of that person as extraordinary. But the notion that people should learn to adjust their actions to the expected actions of others is so embarrassingly simple it seems trivial.

We would expect reversible logic, the more it is used, to increase the likelihood that a policy will "succeed", from the standpoint of both parochial and external criteria. In mundane terms, using reversible logic means deliberately building into one's parochial solution an anticipation of others' parochial solutions.

Seen in these terms, policymaking and implementation are specialized forms of bargaining; policy analysis is the formulation of bargaining strategies. The characteristic features of bargaining are that (1) no actor controls sufficient resources to determine another's actions with certainty; (2) the interests of the actors are not identical, so that conflict over ends and means is, to some degree, inevitable; (3) the actors have something of value to gain from staying engaged with each other, so that to some degree, they depend on each other; hence, (4) solutions to bargaining problems require "the formation of mutually consistent expectations" among people with a stake in the outcome 9). A good bargaining strategy provides a way of maximizing one's own interests, but is also provides a way of anticipating the actions of others.

A policy is both an authoritative statement of what should happen and a calculated judgments about what will happen. Like any bargaining strategy, policies must have sufficient flexibility to allow for the difference between what should and what will

happen. Policymakers make strategic errors when they confuse their aspirations about what should happen with their calculated judgments about what will happen. Policy analysis works best when it puts calculated judgments in the service of aspirations. The more careful the calculations that precede the construction of a policy (up to the point, of course, where the calculations begin to interfere with the likelihood of getting something done), the more likely it is that policymakers will anticipate the responses of other actors and factor them into the content of the policy. The more likely it is, in other words, that they will explicitly use reversible logic.

ENERGY CONSERVATION: A "SIMPLE" EXAMPLE

To demonstrate how reversible logic works, let's turn to the energy conservation example. Energy conservation is a relatively simple case, first, because it can be handled as a problem of relationships among levels within a single governmental jurisdiction, and second, because it has a relatively clear outcome, that is, reduced consumption or a reduced rate of increase in consumption.

Assume that a municipally-owned utility delivers energy to all consumers in a city. The city also has a Building Department, one function of which is to enforce the city's building code. The City Council makes policy for all city departments, including rates for the utility and modifications in the building code. The energy conservation issue comes before the Council when the Utility proposes to invest in new electrical generating capacity to meet a projected increase in energy demand. Members of the Council reply that, before the City invest in new generating capacity, it should attempt to reduce consumption through energy conservation measures. The Council, and its analytic staff, undertake a review of options for reducing or controlling energy consumption.

Table 1A shows a set of implements and their corresponding streams of action. The problem confronting the Council and its staff is how to construct a policy, composed of one or more implements, that reduces energy consumption or, at least, slows its rate of growth.

Reading Table 1A from left to right, we see a common policy analysis problem: a choice of voluntary, incentive-based, and regulatory implements. The effects of these implements depend on a number of parameters 10). The voluntary approach depends mainly on consumers' preferences for energy relative to other goods, captured in part by the relative price of energy. If we expect information on how to conserve energy to affect energy consumption, then we must assume that present demand for energy is not an accurate reflection of consumer preferences -- that is, people would voluntarily consume less energy and more of something else if they

TABLE IA:
Forward Mapping: Energy Conservation

| Implementa | Parameters | Implementing Agencies | Targets | Outcomes |
|--|--|--|---|---|
| <p>What implements does the Council have to affect energy conservation?</p> | <p>What external factors influence these implements?</p> | <p>What agencies are responsible and what actions required?</p> | <p>To whom is the implementation addressed?</p> | <p>... with what expected effect?</p> |
| <p>Voluntary Approach >Information</p> | <p>>Relative Price of Energy</p> | <p>Agency: Options: >New agency >Bldg. Dept. >Utility Action: >Inform consumers of conservation measures</p> | <p>>All energy consumers</p> | <p>>Information allows consumers to act on preferences; results in reduced consumption</p> |
| <p>Incentive-Based Approach >Rate Structure >"Gradient" exceptions?</p> | <p>>Price Elasticity of Demand</p> | <p>Agency: >Utility Action: >Bills consumers</p> | <p>>All energy consumers</p> | <p>>Price increases as consumption increases; direct economic incentive to conserve</p> |
| <p>Regulatory Approach >Building Code >Coverage: new construction, renovation? >inspection/construction ratio</p> | <p>>Rate of Construction/Renovation >Marginal Cost of Compliance</p> | <p>Agency: >Bldg. Dept. Action: >Inspects, enforces</p> | <p>>Building permit applicants</p> | <p>>Code requires conservation measures; inspection and enforcement lead to compliance; compliance leads to conservation</p> |

understood how to conserve. The incentive-based approach consists of a "gradient", in which the unit price of energy rises as consumption increases. It might also contain exceptions for particular classes of individuals or firms. Its effect on consumption depends on the price elasticity of demand for energy. Changes in the rate structure will affect energy consumption to the degree that consumption is sensitive to changes in price and to the degree that the gradient or slope of the rate structure introduces incentives to conserve. The regulatory approach is based on building code requirements that are designed to reduce energy consumption. These requirements might be applied to new structures only, or to all structures that undergo changes significant enough to require a building permit. This approach also requires a decision, explicit or implicit, on how much inspection is necessary for each unit of new construction in order to enforce the code. The effect of the regulatory approach depends on the rate at which new construction occurs and the marginal cost of compliance with code provisions. Building code regulation will reduce energy consumption, in other words, if buildings are renovated or constructed at a rate sufficient to affect the aggregate demand for energy, if the Building Department can enforce the requirements reliably, and if the marginal cost of compliance with the energy conservation requirements is at least equal to the returns in reduced energy consumption.

Evaluating these options as mutually exclusive alternatives, based on a quick assessment of their features and the parameters affecting their performance, we get something like the following results: The voluntary approach is likely to produce the lowest pay-off in reduced consumption of the three options, since it contains no incentives to conserve other than free information. It has a higher likelihood of being implemented than the regulatory approach but a lower likelihood than the incentive-based approach. The voluntary approach can be implemented by disseminating information, while the regulatory approach requires inspection and enforcement. But the incentive-based approach reaches energy consumers more directly than the voluntary approach, through the rate structure, rather than depending upon consumers to use information. The incentive-based approach is likely to produce the highest returns in reduced consumption as well as having the highest probability of being implemented. The regulatory approach probably produces a greater reduction in consumption than the voluntary approach but less than the incentive-based approach, with the lowest likelihood of being implemented. The exact order of the options depends, of course, on the composition of the policies and the values of the parameters. But we can get a rough sense of the stakes from this quick analysis.

If we were choosing among these options, as mutually exclusive alternatives, based strictly on this analysis, we would probably choose the incentive-based approach. There are uncertainties

TABLE 1B:
Backward Mapping: Energy Conservation

| Targets | Outcomes | Parameters | Implementing Agencies | Implementa |
|---|--|--|---|--|
| <p>What decisions have the most immediate effect on energy consumption?</p> | <p>What outcomes would the Council want to follow from these decisions?</p> | <p>What external conditions influence these outcomes?</p> | <p>What must implementing agencies do to promote conservation and minimize its effects on their internal operations?</p> | <p>What implements are available to the Council to affect energy consumption?</p> |
| <p>Real Estate Developers</p> | <p>>Purchasers demand lower energy costs; operating costs reflect energy savings</p> | <p>>Cost of new construction technology</p> | <p>Utility: >Capital investment, replacement increase efficiency of energy production</p> | <p>>Restrict total capacity; authorize capital investments that increase efficiency within that limit</p> |
| <p>>Renovation</p> | <p>>Operating costs of existing bldgs. reflect energy savings; return on investment increases</p> | <p>>Condition of existing stock; rate of replacement; cost of financing</p> | <p>>Load management responds to effects of conservation</p> | <p>>Returns from sales of excess energy earmarked to increase productive efficiency of to reduce rates</p> |
| <p>Industrial Consumers</p> | <p>>Existing production remains; operating costs reflect energy savings</p> | <p>>Relative cost of energy as a factor production</p> | <p>Building Department: >New regulatory requirements minimize displacement of existing functions</p> | <p>>Require disclosure of easily-measured energy performance features: insulation, windows, walls, etc.</p> |
| <p>>Capital Investment</p> | <p>>New investments in plant, technology; energy savings increase return on investment</p> | <p>>Cost of new production technology; cost of financing</p> | <p>New Agency(ies): >Focus information on investment, production, consumption decisions with high economic return to consumers</p> | <p>>Provide evaluations of returns from reduced consumption on new production, construction technology</p> |
| <p>Residential Consumers</p> | <p>>Purchasers demand lower energy costs</p> | <p>>Cost of new construction technology; cost of financing</p> | <p>>Condition of existing stock; cost of financing</p> | <p>>Cost of reduced consumption</p> |
| <p>>New Housing Construction</p> | <p>>Operating costs of existing housing reflect energy savings</p> | <p>>Condition of existing stock; cost of financing</p> | <p>>Cost of reduced consumption decreases without change in living standard</p> | <p>>Household consumption decreases without change in living standard</p> |
| <p>>Renovation</p> | <p>>Purchasers demand lower energy costs</p> | <p>>Condition of existing stock; cost of financing</p> | <p>>Condition of existing stock; cost of financing</p> | <p>>Household consumption decreases without change in living standard</p> |
| <p>>Consumption</p> | <p>>Household consumption decreases without change in living standard</p> | <p>>Condition of existing stock; cost of financing</p> | <p>>Condition of existing stock; cost of financing</p> | <p>>Household consumption decreases without change in living standard</p> |

about the price elasticity of demand and the correct slope for the rate structure, but these uncertainties are a good deal less than those confronted in either the voluntary or the regulatory approach. Furthermore, the incentive-based approach appears to maximize the degree of control the City Council exercises over rates and consumption. Rather than deferring to the tastes of individual consumers, or to the regulatory skill of the Building Department and the vicissitudes of the real estate market, the Council can directly alter the choices of consumers by manipulating the price of energy.

Up to this point, we've done a relatively conventional analysis of policy alternatives, with perhaps a bit more attention to estimates of implementation than is usually the case. The analysis has a kind of appealing common-sense logic. Saying that the best way to get consumers to conserve energy is to give them a financial incentive to do so is a lot like saying that the shortest distance between two points is a straight line.

Now let's reverse the logic, turning to Table 1B. Instead of starting with policy alternatives, specifying the parameters that effects their performance, and predicting their effects, let's examine energy consumption from the point of view of consumers and producers.

Taking consumers as a point of departure, the first thing that's evident is that they are not a homogeneous group. There are large industrial consumers, for whom the decision to conserve initially means either reduced consumption or increased capital investment; there are large property owners and developers, for whom conservation initially means increased construction and renovation costs; and there are residential consumers, for whom conservation initially means increased prices for new housing, increased costs for renovation, and decreased consumption, with its attendant effects on living standards. Each type of consumer has somewhat different stakes in energy conservation; their behavior in response to any policy will be a function of how they perceive those stakes. Furthermore, energy conservation policies set up choices for consumers. Different consumers face different choices. And their individual choices have collective consequences that are important to policymakers.

From the consumer's point of view, the decision to conserve is based on the price of energy relative to other consumption goods or factors of production, the costs associated with conservation, and the likelihood of future returns on conservation. As the price of energy rises, the decision of whether to conserve becomes more apparent to consumers. But there are any number of reasons why they might not choose to conserve. They might not have access to the technology necessary to conserve, the cost of capital may sufficiently high to raise doubts about the long-run returns on

energy conservation, they might not believe that the price of energy will continue to rise, they might pass the increased costs of energy on to someone else, or they might alter consumption patterns and factors of production so that they consume the same amount of energy but less of something else.

In order for energy conservation policy to work it must exert a marginal influence on a myriad of consumption and production decisions. If we view the policy from the consumer's perspective, we must ask what policy implements would cause consumers to "tip" their decisions, on the margin, in favor of conservation. In order to answer this question, we have to think in terms of the value of consumption and conservation to various types of consumers and the ways in which policy can affect consumption decisions. Taking this perspective, gives us somewhat different results than we got by looking at the problem from the perspective of the Council. We see immediately that if we can't influence certain key decisions (new construction, renovation, location, capital investment, etc.), we cannot expect energy conservation policy to have an effect. But we can also see that there might be incentives to conserve independent of any new energy conservation measures the Council might undertake. If, for example, purchasers of new commercial buildings and residences were to calculate energy costs in determining the real price of the structure, then they would probably demand lower energy costs. This, in turn, would mean that builders would compete, not just on sales price, but also on long-run energy costs -- just as automobile manufacturers compete on gasoline mileage. If commercial real estate owners and industrial firms were to calculate the return on their investment that could be captured from reduced operating costs due to energy conservation, then they might be willing to invest in conservation. If household consumers could see how reduced energy consumption could result in the same or a better living standards, then they might be willing to alter their consumption behavior. All these conditional propositions depend, of course, on the present and future prices of energy, relative to other goods and factors of production, and on the availability of information about the future consequences of present decisions. The Council can, to some degree, control these implements.

Based on this analysis, the role of information appears to be more powerful than it was when we took the "forward mapping" perspective; but it is only powerful, we have learned, when it can be targeted on key consumption and investment decisions. General information about the value of conservation is not likely to have much effect; specific information targeted on specific consumers facing specific decisions may have a much larger effect.

We can also see from this analysis that the presumed advantages of the incentive-based system may not be what they seem. If

there is an incentive built into the existing rate structure for conservation, why might the Council want to adopt a graduated rate structure? Industrial consumers face production, capital investment, and plant location decisions, in which the cost of energy is a major factor. Large industrial consumers pay city taxes. The proportion of their business they choose to locate in the city is their decision, not the City Council's. The graduated rate structure might have the perverse effect of reducing total energy consumption by reducing the number of industrial consumers, hence the city's tax base. The same argument applies to commercial real estate developers.

Building code regulations also look different from the consumers' end. The effect of building code regulations, from this perspective, is to impose a mandatory increase in building construction and renovation costs, without regard for future returns on reduced consumption. If the regulations are based on accurate assumptions about the price of energy, consumer preferences, and returns on investment in conservation, then they will result in reduced consumption exactly equal to that which would have been produced without regulation. But these returns will be offset by the costs of enforcement and inspection. If the regulations are based on inaccurate assumptions about price, preferences, and returns on investment, then they will result either in too much conservation or the same amount of conservation that would occur without regulation (again offset by inspection and enforcement costs). Too much conservation means essentially that the marginal costs of conservation exceed the returns gained from increased efficiency.

This doesn't mean that regulation has no potential role in the Council's energy conservation strategy. There will always be uncertainties about the rate of return on building technologies that result in conservation. There will likewise always be unscrupulous developers who will attempt to exploit consumers' lack of awareness of energy costs as a factor of the real price of housing by building shoddy housing or doing shoddy renovations. Taking the energy consumer's perspective, however, suggests that regulation, if it is to be effective, can't be the sole implement of conservation policy, since it carries a high risk of perverse effects. The role of regulation, it seems, is to set "threshold conditions", below which building standards should not fall, but to avoid imposing costs that have no future returns.

Now let's look at energy conservation from the perspective of implementing agencies. The Utility, recall, initiated the discussion of energy conservation by requesting permission to seek financing for mor generating capacity. The Council responded by suggesting conservation as an alternative to new capacity. The Utility and the Council clearly have different views on the matter of energy consumption.

The Utility is a major public enterprise. Its performance is evaluated by how well it meets demand for energy, and at what price. Its ability to meet these performance expectations depends, in turn, on how well it maintains and replaces its capital stock. From the Utility's point of view, requests for additional generating capacity are not just pleas for more energy, they are major capital investment decisions. These decisions are made by balancing the revenues produced by the existing rate structure against current operating expenses and future plans for replacing or updating generating and distribution facilities. A proposal to substitute conservation for capital investment presents the Utility with a major management problem. If the overall effect of conservation is to reduce consumption, holding rates constant, as might happen with the voluntary or regulatory approaches, then the Utility faces lower revenues. If the effect of conservation is to reduce overall consumption, but to increase rates for certain levels of consumption, as might happen with the incentive-based proposal, then the Utility might face stable or increased revenues. Either way, conservation introduces uncertainties into the Utility's revenue-expenditure calculations. We would expect it to respond to any conservation policy by trying to minimize these uncertainties.

Furthermore, reduced energy consumption presents certain logistical, or "load management", problems for the Utility. Utilities typically meet their demand and price expectations by supplying energy from a number of different sources. A single utility might meet its demand for electrical energy by juggling nuclear, fossil fuel, and hydroelectric sources, as well as by contracting with other utilities to buy and sell energy. Determining the right mix of energy sources, at any given level of demand, is a tricky management problem. The problem is even trickier when demand shifts -- as it would if conservation were working. It might involve reallocating demand among energy sources, renegotiating contracts with sellers of energy, or attempting to sell excess capacity to other utilities.

None of these problems is insurmountable, but taken together they suggest that the Utility will respond to energy conservation policies by attempting to minimize their effect on capital investment and load management. These responses must be anticipated in any conservation policy the Council formulates.

A smart Council member, no matter how committed he or she is to energy conservation as an alternative to capital investment, would want to examine the consequences of reduced demand for the internal operations of the utility. Failing to do so could mean that conservation might be labelled "unsuccessful", even if it wasn't. Suppose, for example, that energy conservation, by the

graduated rate method, creates a surplus of energy, which the Utility then sells at a handsome "profit" to a neighboring utility. Large industrial consumers, now paying higher rates, inquire during the Utility's next rate hearing before the Council why these "profits" have not been passed on to rate-payers in the form of lower rates. The answer, from the Utility and from pro-conservation Council members, would have to be, "because we're promoting conservation, not lower utility rates". Is this where you would like to be if you were a pro-conservation Council member? Probably not. What would happen if the Utility were forced to take a loss on its sale of surplus power?

Or suppose the utility is engaged in a long-term capital investment program, gradually phasing out inefficient fossil fuel generating plants and substituting more efficient energy sources. One effect of reduced demand projections, the utility argues after the conservation plan has gone into effect, has been to slow down the rate of capital replacement, effectively depriving rate-payers of the benefits of more efficient generating plants. How would you reply to this if you were a pro-conservation Council member?

The point is not that the Utility, or its large industrial clients, will inevitably oppose energy conservation or try to sabotage it, though they might. The point is rather that conservation policies create certain internal management problems for the Utility, given the incentive structure within which it works. If a Council member is really interested in conservation as a policy objective, these difficulties will have to be anticipated, or the chances of a successful conservation policy will be severely reduced. Among the implements that the Council could use to address the Utility's capital investment problem is to limit total capacity temporarily, but to authorize capital investments that would increase the efficiency of production within that limit. This would give the Utility an incentive to focus its capital investment decisions on projects that promote conservation and that have direct returns to consumers, rather than on those that simply augment capacity on the assumption that increased capacity creates its own demand. The Council might address the issue of "profits" from the sale of excess energy by stipulating that the proceeds from these sales be used either for investments that increase efficiency within existing capacity, or for reduced rates to consumers.

Now consider the Building Department. The Department, unlike the utility, is a regulatory agency. Its performance is evaluated by how well it enforces structural and zoning requirements. Its ability to meet these performance expectations is predicated, in large part, on how well it allocates inspectors to building sites, and how effective those inspectors are at spotting potential violations. An important characteristic of such agencies is that they

control their workload by "rationing" services 11). They respond to "cases" which are generated by external forces and frequently the supply of cases exceeds the resources necessary to manage them 12). When this happens, front-line managers confront important discretionary choices. Do they allow bottlenecks and queues to develop, do they speed up their processing of cases (with reduced inspection time), or do they ask for additional resources? The actual effect of enforcement, then depends heavily on how front-line managers and inspectors respond to new demands and variations in workload.

For the Building Department, an energy conservation code simply means an increase in workload. If it comes with additional resources, it means hiring new inspectors as well as training existing inspectors and front-line managers in the requirements of the new code. If it does not come with additional resources, it means adding new functions to existing workloads, training inspectors and front-line managers in how to handle the additional work. In any event, changes in the building code present inspectors and front-line managers with a more complex array of activities to perform and, hence, with additional discretionary choices.

A smart Council member, then, would want to have a clear picture, before the fact, of how the Building Department would allocate its new enforcement responsibilities under the conservation code, what effect these responsibilities would have on existing workloads, and how future workloads could be expected to change as a function of both the new policy and the real estate market. Failing to ask these questions might mean that the code could subsequently turn out to be unenforceable. The point is not that the Building Department is inherently resistant to energy conservation, though it may be. The point is rather that conservation is one of many functions that have to be integrated into a common inspection and enforcement system. The incentive structure of the Building Department emphasizes the orderly handling of cases. One option available to the department, confronted with a new charge, is simply to produce the same orderly flow of cases at a lower level of actual inspection and enforcement. This response would well defeat the purpose of the conservation code.

If the conservation code increases costs to consumers, without regard for returns from conservation, and if it creates additional administrative workload, without necessarily producing a proportional
a relatively limited implement for accomplishing the Council's purposes. The main utility of regulation would seem to lie in establishing certain minimum conditions which prevent real estate developers and builders from misrepresenting the energy costs of new structures. This function has less to do with building code requirements than with information, since one can require that

certain performance characteristics of structure be accurately reported without necessarily requiring that buildings be designed according to certain standards. In other words, the "regulatory" problem for the Council is more a problem of information than one of setting building standards.

Notice, in Table 1A, that the voluntary alternative has no implementing agency attached to it. This presents a common implementation problem -- where to put a function when no existing agency has a presumptive claim to it. The options facing the Council are to create an entirely new agency or to give the function to an existing agency, like the Utility or the Building Department, that has complementary functions. The approach one would use to address this problem is an extension of predicting how an existing organization will respond to changes in policy. We would want to know how the information function would fit into the incentive structure of whatever organization we were considering, we would want to examine the policy in terms of competing or complementary functions within the organization, and we would want to anticipate implementation failures that might result from conflicts with the incentive structure and existing functions. In the Utility, how compatible would a voluntary program be with the organization's dominant function, the production and distribution of energy? In the Building Department how compatible would the program be with the inspection and enforcement function? If we were to create a new agency to administer the program, how much influence would we expect that agency to have on the consumption of energy if it were isolated from the production-distribution or inspection-enforcement functions?

The importance of these questions only really becomes apparent when we take the backward mapping view. Information, when it is highly targeted, is potentially more effective than it appeared to be in the forward mapping view because we can see its effect as a "tipping" device in the consumption, production, and investment decisions of energy consumers. But the question of where to locate the information function administratively is fairly subtle. It requires some specification of what we mean by "information" and "targeting". If by information we mean technical data on building and production technology, and economic analyses of their effects on energy consumption, then it is highly unlikely that a city agency would be a producer of such information. It might, however, be a disseminator of the information if it existed already and could be assembled in a form that was useful to commercial consumers. If by targeting we mean affecting specific capital investment decisions, then the process of using information has to be initiated by the consumer, since there is no way an administrative agency can tackle day-to-day investment decisions by firms. These definitions of information and targeting would seem to point to a modest technical assistance activity, underwritten by the City and

focused on a few conspicuous cases, to demonstrate the returns from adopting certain energy-saving technologies of broad applicability. The rationale for public involvement is not to subsidize the technology itself, since the returns on conservation accrue mainly to private firms and individuals, but to subsidize information in order to create a short-term competitive advantage for a few firms that can in turn be used to tip other firms into energy-saving investments. Since the Utility has no direct incentive to encourage conservation, it would seem sensible to locate this function in a small free-standing organization, staffed by people with technical and economic expertise sufficient to evaluate the effects of energy-saving technology. The performance of such an organization could be evaluated directly by its ability to sell commercial clients on more efficient ways to use energy.

Information can also mean data on the energy costs of new residences and on energy savings to owners of existing residences from renovation and changes in consumption. In this instance, targeting means affecting the purchasing decisions of new-home buyers by providing estimates of energy costs and affecting renovation and consumption decisions by providing estimates of energy savings from specific changes. Neither the Building Department nor the Utility has a strong incentive to encourage conservation by these means. But it is possible to think of ways to attach energy conservation information to the purchase and building permit processes, without adding significantly to the costs of inspection and enforcement. Where there are standardized measures of energy efficiency, as for example in the performance characteristics of insulation, multi-paned windows, and heating systems, this information can be easily conveyed to prospective buyers of new residences and to applicants for building permits to renovate existing residences. Builders could be required to report dwelling characteristics that affect energy consumption as part of the permit process, and this information could be routinely made available to prospective purchasers. Applicants for permits to renovate existing residences could be given information on energy savings attributable to specific changes in dwellings. These tasks would seem to be quite compatible with the incentive structure of the Building Department. Neither of these measures could be expected to have a strong short-term effect on energy consumption, since energy costs are one of many attributes that people consider in purchasing or renovating a home. The rationale for this type of intervention is the same as that for subsidizing information to private firms -- to tip the decisions of residential consumers in the direction of energy conservation by providing home builders with an incentive to compete on energy efficiency and individuals with an incentive to include energy consumption in the calculation of costs of renovation.

REVERSIBLE LOGIC: REPRISE

We've now done both the forward and backward legs of the energy conservation analysis. Recall that the value of reversible logic is not just that it helps us anticipate implementation problems, but more importantly that it affects the way we frame and evaluate alternatives. On the forward leg, we started with a standard set of implements; we then asked what external conditions would affect those implements, how implementing agencies would be expected to respond to the implements, to whom the implements were addressed, with what expected effect. On the backward leg, we started with a set of decisions that policy would have to affect in order to influence energy consumption; we then asked what outcomes would have to follow from those decisions in order to sustain a policy of energy conservation, what external conditions would affect those decisions, how implementing agencies would have to adapt to conservation, and finally what implements the Council could use to affect the decisions of consumers and implementors.

On the forward leg, the incentive-based alternative seemed both more likely to be implemented and more likely to produce the desired effects than the regulatory alternative; either the incentive-based or regulatory alternatives seemed more likely to be effective than the voluntary alternative. On the backward leg we got almost the opposite result. Information seemed a more powerful device, and one more likely to produce the desired effect, when we looked at conservation from the standpoint of key decisions affecting energy consumption.

Giving consumers a direct economic incentive to conserve through graduated rates turns out to be just as problematical, in its own way, as regulation. Regulations create problems for conservation because they set uniform standards, without regard for the economic returns from conservation; under the best of circumstances, they codify what energy consumers would do anyway if they were acting consistently with their own interests; under the worst circumstances, they levy economic penalties by requiring investment in conservation in excess of that which produces economic returns to consumers. Graduated rates, on the other hand, create disincentives for consumption above a certain level, even if the consumer is efficient, and they overlook the incentives for conservation that are built into any rate structure. In addition, neither the regulatory nor the incentive-based approaches accounts for the administrative uncertainties that conservation imposes on the Utility and Building Department.

What we learned on the backward leg was that energy conservation, in the aggregate, is composed of a myriad of decisions, taken by different types of consumers. These decisions are affected by the availability of new construction and production

technology, the relative cost of energy as a factor of production, the rate of replacement, and the condition of existing housing stock, among other external factors. Policy works on the margin of energy consumption decisions, by "tipping" them in the direction of conservation. Information, if it is the right kind and if it is targeted on the right decisions, can be a more effective tipping mechanism than regulation or economic penalties for consumption, because it increases returns to consumers. Hence, targeted information on how to capture the economic returns from energy conservation is an important implement in any conservation strategy.

Does this analysis mean that the Council should choose information over regulation and economic incentives? Not exactly. What it suggests is that the Council, if it decides to pursue the regulatory or incentive-based approaches, should do so with the knowledge that these approaches contain perverse incentives that could defeat the purpose of conservation. The analysis also suggests that these approaches can be designed to anticipate perverse incentives.

There are at least two ways to anticipate perverse incentives. One is to modify the implements themselves. We found, for example, that regulation could play an effective role in energy conservation if it focused more on disclosure of energy consumption characteristics of buildings and less on specifying the attributes of the buildings themselves. We also found that any implement had to anticipate the effects of conservation on administrative agencies -- capital investment and load management in the Utility; workload and discretionary enforcement in the Building Department. In other words, we can increase the likelihood that any implement will work better by adapting it to what we know about the choices confronting individuals and organizations when they respond to that implement.

Another way to anticipate perverse incentives is to "hedge". Instead of viewing regulation, incentives, and information as mutually exclusive alternatives, one can think of combinations of these implements, each compensating for weaknesses in the others. Some variant of the graduated rate scheme might, for example, result in decreased consumption, while at the same time resulting in increased or stable revenues for the Utility. The danger of this approach, from the point of view of the Council, is that it contains disincentives for firms to locate energy-intensive production in the city. A sensible response to this problem would be to focus information on those firms with the highest likelihood of relocating, demonstrating how they could reduce consumption to compensate for the effects of increased rates. In other words, information can be used to anticipate the defects of graduated rates.

Whether the Council chooses to pursue an energy conservation policy, and what form that policy will take if they do, is not necessarily a function of what formal analysis tells them is the "correct" solution. If we were able to abstract the energy conservation decision from the Council's political environment, then we could posit a correct decision, based largely on normative economic theory. That solution might involve recommending no energy conservation measures at all. But we can't abstract the decision from its political environment. So the analytic problem is not so much recommending the "correct" solution as it is providing the Council with as sensible an assessment as possible of the stakes in choosing various implements to accomplish conservation. This assessment requires that analysts understand not only the formal characteristics of various implements, but also how individuals and organizations will respond to those implements.

The Council's problem, in a nutshell, is that it can only affect energy consumption by manipulating utility rates, building code requirements, and information. These implements are not sufficient, by themselves, to produce the effect the Council would like. In this sense, these implements are parochial solutions to the energy conservation problem. In order to affect energy consumption, they have to be linked with administrative implements -- capital stock, energy supply, and load management, for the Utility; inspection and enforcement, for the Building Department -- and they have to tip certain choices by energy consumers in the right direction. The success of energy conservation policy depends on how skillfully the Council can create a structure of incentives and controls that, on balance, reduces or limits consumption. Constructing a policy, then, is like constructing a bargaining strategy. It involves a series of calculated judgments about how organizations and individuals will respond to the choices presented to them by a policy.

YOUTH EMPLOYMENT: A COMPLEX EXAMPLE

The energy conservation example was "simple" because it involved a single jurisdiction and it was designed to produce a single outcome. Most public policy problems are not so simple. They involve relationships among multiple jurisdictions and they are designed to produce multiple outcomes. Multiple jurisdictions and multiple outcomes increase the complexity of implementation problems substantially. One task of analysis is finding ways to make this complexity more manageable.

Employment is a good example of a multiple-jurisdiction, multiple-outcome policy. All levels of government have a stake in employment, but no single level can affect employment without some assistance from the others. Each level controls something the others need. Policies initiated at the national level are elaborated

and administered at the state and local level. Local labor markets have a substantial effect on national policies. Policies initiated by states and localities are constrained by those established at the national level. Economic policies set at the national level limit the effect of state and local policies.

Employment policy has many purposes, only one of which is to assure that people find jobs. Some policies -- child labor laws, for example -- are intended to restrict access to the labor market for certain classes of people in order to protect them or to reduce competition with other classes of people. Other policies -- regulation of wages, hours, and working conditions, for example -- are designed to affect the treatment of people who are already employed, rather than to make employment available to those who are not. Some policies -- unemployment insurance and income support, for example -- are designed to soften the effects of unemployment. Other policies -- labor exchanges and public employment, for example -- are explicitly designed to assure that people find jobs. Still others -- vocational education, for example -- are designed to prepare people for work but those who deliver these services are not themselves directly responsible for assuring that recipients get jobs.

Finally, employment policies have different target groups. They address the "cyclically" unemployed, or those temporarily out of work because of adverse economic conditions; the "structurally" unemployed, or those chronically out of work for lack of education and experience; and the "frictionally" unemployed, or those having difficulty either entering the labor market or moving from one skill level to another for lack of access to training and experience.

Taken together, these features -- multiple jurisdictions, multiple implements, multiple objectives, and multiple target groups -- make employment policy difficult to analyze. These features are also shared by a broad class of policies, making employment a good example for illustrating the utility of reversible logic with complex policies.

For purposes of this example, let's focus on federal policies addressed to the employment problems of young people, aged 16 to 24. As Table 2A shows, the main implements the federal government has to deal with youth employment are (1) grants to states and localities, used to finance education, training, work experience, and public employment; (2) regulation of wages, hours, and working conditions, designed to limit the type and amount of work young people can do; and (3) incentives for private employers, in the form of wage subsidies or tax credits, designed to provide subsidized private employment. These implements are targeted in variety of ways. Some grants carry conditions limiting participation to

TABLE 2A:
Forward Mapping: Youth Employment

| Implementers | Parameters | Implementing Agencies | Targets | Outcomes |
|--|--|---|--|---|
| What implements does the federal gov. control to affect youth employment? | What external factors influence these implements? | What public and private organizations implement policies directed at youth employment? | To whom are the implements addressed? | ... with what expected effect? |
| <p>Conditional Grants</p> <ul style="list-style-type: none"> >Type of activity: education, vocational training, work experience, public employment >Population: targeted by age, income <p>Regulations</p> <ul style="list-style-type: none"> >Minimum wage >Hours working conditions >Population: targeted by age, covered occupations <p>Employer Incentives</p> <ul style="list-style-type: none"> >Direct subsidies: reduced wages for on-the-job training >Tax credits: reduced taxes for employing targeted workers >Population: targeted by age, income, duration of subsidy | <ul style="list-style-type: none"> >Labor force participation; preference for school, work >Structure of local labor markets; availability of low-wage, low-experience jobs >Structure of local education, training institutions; availability of entry-level skill training >Structure of income support; unemployment benefits | <p>Education/Training:</p> <ul style="list-style-type: none"> >Elementary, secondary schools (locally-funded, locally-administered) >Vocational programs provide specialized skills (federal, state, local funding; locally administered) >Employment training system provides basic skills, work experience, specialized skills, public employment for low-income population (federal, state, local funding; locally administered by separate jurisdiction from education) <p>Wages, Hours, Working Conditions:</p> <ul style="list-style-type: none"> >State employment security inspectors enforces (federally-mandated, state-enforced) <p>Employer Subsidies:</p> <ul style="list-style-type: none"> >Employment training system administers wage subsidies for on-the-job training (federally-funded, locally-administered) >Employment security/ability for credit subsidy (federally-funded, state-administered) | <ul style="list-style-type: none"> >Basic skills untargeted >Vocational training untargeted >Employment training targeted by income, age | <ul style="list-style-type: none"> >Basic education provides skills needed for specialized training >Grants for vocational training produce entry skills; young people compete for jobs >Employment training provides remedial services for low-income population |
| | | | <ul style="list-style-type: none"> >Enforcement targeted by covered occupation >Wage subsidies targeted by income >Tax credits targeted by income, age | <ul style="list-style-type: none"> >Enforcement limits entry, set lower limits on wages, restricts hours; limits displacement of adult workers >Employers train workers, hire them full-time after subsidy expires >Employers hire subsidized workers; workers gain experience; employer hires them after subsidy expires |

low-income youth and prescribing the type of activities for which funds can be used; others carry only limits on the type of activity. Employer incentives carry income conditions and limits on duration of subsidized employment. Regulations typically apply uniformly to all young people in a given age interval, with exceptions based on the size of the employer and the type of industry.

The major features of youth employment policy are readily apparent from a cursory reading of Table 2A. The feature that is most apparent is that the purpose of federal policy cannot be described solely as reducing unemployment among young people, although that would be a tempting simplification. To be sure, a large amount of employment occurs as a result of federal policy, and it is likely that the rate of unemployment among young people would be higher if it weren't for federal policy. But it is also true that the largest determinants of youth employment are the mix of jobs in the economy and the overall rate of unemployment, not federal policy. When there is an abundance of jobs at relatively low skill levels and the supply of labor is tight relative to demand, youth unemployment will be relatively low, regardless of what federal policy does. In addition, many federal policies are designed not so much to reduce unemployment as to limit the conditions under which young people are employed, redistribute employment opportunities, and increase the quality of labor force entrants. Wage, hour, and working condition regulations, for example, set limits on youth employment in the interests of protecting young people from exploitation and protecting adult workers from displacement. These policies may actually increase unemployment among young people. Income-conditioned grants and incentives don't necessarily reduce unemployment when the supply of labor is abundant relative to demand, but they may make low-income youth more competitive for the limited number of jobs that exist. Grants that are conditioned only on the type of activity, and not the income of the participants, don't necessarily reduce unemployment or redistribute opportunities, but they do raise the quality of labor force entrants.

Unlike the energy conservation example, where we could be relatively confident that the policy we were analyzing was designed to reduce or control energy consumption, we cannot say with the same assurance that the purpose of federal policy toward youth employment is to reduce unemployment. In fact, federal youth employment policy has several purposes: reducing unemployment, limiting employment conditions, redistributing opportunities, and increasing the quality of entrants to the labor force. These objectives are more or less difficult to achieve, depending on labor market conditions. They often contradict each other, again depending on labor market conditions. It is easy to say that, because these objectives are sensitive to external conditions and often contradictory in their effects, the policies themselves don't make

sense. Having concluded that the policies don't make sense, it is equally easy to say that we should not expect them to be well-implemented.

Such an analysis misses the significance of multiple policy objectives. Taken by themselves, all the objectives of federal youth employment policy are plausible. They can all be "implemented", in the sense that a single implement can be manifested in decisions and organization. But success in implementation cannot be judged simply in terms of how well each objective is achieved. To do so would produce results that no one would regard as acceptable. If the overall supply of labor were abundant relative to demand, for example, then increasing young peoples' access to employment without increasing the supply of jobs would mean forcing adults out of the labor market. No reasonable person would regard that as a "success", even if it resulted in lower youth unemployment. But if we could contrive a way to decrease youth unemployment by holding young people out of the labor force, or by expanding the supply of jobs, then we might regard the policy as successful. The point is that successful implementation consists of trading multiple objectives against one another to achieve desired outcomes. The fact that the objectives often contradict each other is, by itself, unimportant; what's important is whether the aggregate effect of policy addressed to different objectives is in accord with what policy-makers are trying to achieve at any given time.

"Trading" objectives, one against the other, is done both politically and administratively. For example, when market conditions shift, leaving the overall supply of labor abundant relative to demand, policymakers might deliberately choose to protect the adult labor market by de-emphasizing programs designed to provide immediate access to private jobs for young people and emphasizing programs designed to hold young people out of the labor force (regulation, vocational education, public jobs). They might willingly accept the risk of higher short-term youth unemployment in the interest of limiting the impact of new entrants on the adult labor market. If labor market conditions shift the other way, they might choose the opposite strategy. In both instances, policymakers are emphasizing some objectives and de-emphasizing others in the interests of producing an aggregate effect.

Trading is also done administratively through the use of discretion in the allocation of resources to activities. Federal administrators, for example, might choose to emphasize or de-emphasize enforcement of wage, hour and working condition regulations, depending on how seriously they perceive the problem of youth displacement of adult workers. Or they might focus additional administrative attention on programs designed to hold young people in school during periods of relatively high unemployment. State

and local administrators, facing unfavorable labor market conditions, might focus more attention on programs designed to slow down the rate of entry by young people into the labor market. In these instances, administrators are using their authority, within existing policies directed at multiple objectives, to achieve outcomes consistent with their perception of existing labor market conditions.

The question is not whether trading occurs among multiple policy objectives, but how skillfully it is done, with what kind of calculation, and with what aggregate effect. If policymakers and administrators misjudge changes in the parameters that affect policy or fail to understand how certain implements work, trading among objectives creates confusion and failure. This presents an important role for policy analysts. A collection of policies directed at a complex problem is like a stock portfolio. It is a set of implements, the relative value of which rises or falls in response to changing external conditions. Just as the management of a stock portfolio consists of adjusting the contents of the portfolio to maximize return, the management of multiple-objective policies consists of adjusting the relative value of different policy implements to produce an aggregate effect. If we were required to make employment policy from scratch in response to every shift in the labor market, for example, the result would be chaos. The entire range of labor market policy objectives would be open to renegotiation every time the economy changed. What policymakers do instead is to allow policies to accumulate around a problem over time, and then make marginal adjustments in those policies in response to shifts in the environment. Sometimes shifts in the environment require more than marginal changes, and substantial pieces of the portfolio are opened up for reexamination. Most of the time, adjustment occurs by adapting existing implements. Policy analysts can play a role in this process, first, by focusing policymakers' attention on the whole portfolio, rather than on individual implements, and second, by anticipating the aggregate effects of changes in the relative importance of implements.

This role for analysis is especially important in light of the strong political and administrative incentives working against treating policies as portfolios and in favor of focusing on individual implements. Federal policymakers and administrators are inclined, for example, to define the purpose of grants to states and localities for vocational education, training and work experience as the production of employment for young people, without regard for other policies or labor market conditions. These programs are administered by two separate systems -- the public education system and the employment and training system -- which are structurally distinct from the federal to the state and local levels. They are evaluated mainly on the basis of how many young people they place in jobs. Whether suitable jobs are available in

local labor markets, whether young people are displacing low-wage adult workers, or whether vocational training is actually what young people need before they enter the labor market are questions left for others to grapple with. Incentives to private employers are administered as part of the income support and employment security system, a separate structure from the one that administers training and education. This policy is evaluated mainly on the basis of how many young people take unsubsidized employment after the tax credit or wage subsidy expires. Whether young people are filling jobs that unemployed adults could hold, whether employers are providing real training in return for the subsidy, and whether a young person's failure to take unsubsidized employment simply means that he or she has made a rational choice to search for other employment are questions left for others to answer. The regulation of wages, hours, and working conditions is administered by yet another system -- the employment security system -- which is a federally-mandated activity that is administered by state agencies. These policies are evaluated mainly on the basis of how well employers comply. Whether the minimum wage structure inhibits or encourages employers to hire and train young workers, whether limits on hours and working conditions adversely affect access to promising jobs, or whether existing regulations actually protect young workers from exploitation by employers are questions left for others to answer. In other words, the structural separation of policies and administrative systems creates strong incentives to overlook aggregate effects. A useful role for policy analysis is to knit the pieces back together and call attention to their separate effects on aggregate results.

The forward leg of the analysis, represented in Table 2A, then, looks not just at implements, parameters, and implementing organizations, but also at the range of objectives and outcomes represented by separate policies. The effect of this kind of analysis is to direct policymakers' attention beyond the question of how well separate pieces of the system are working and toward the question of whether the aggregate effect of the whole portfolio is in line with their expectations.

Trading among multiple policy objectives to achieve aggregate effects is more than just an analytic problem, however. It is fundamentally a political process. Policy adjusts to changes in the environment and to variations among regions through the exercise of political and administrative control. At any given level of government, elected officials and administrators adapt to changes in the environment by emphasizing some implements and objectives and de-emphasizing others. In employment policy, for example, different political jurisdictions are characterized by different unemployment rates, labor force characteristics, industrial bases, and labor market structures. Every implement of national employment policy relies, to one degree or another, on lower-level

political jurisdictions to "adjust" national policy to local conditions. This adjustment is more than a rational adaptation of policy to different regional or local conditions. It is a deliberate engagement of the political incentives of lower-level jurisdictions in the service of national objectives. So, again in the language of employment policy, the federal government is not simply contracting with states and localities for administrative services when it delegates authority to administer education, training, regulation, and private incentives. It is also making policymakers and administrators at the state and local level, in part, responsible for trading among objectives and producing outcomes.

On the forward leg of the analysis we treated states and localities essentially as administrative extensions of the federal government. This was a convenient way of specifying the connections between implements, parameters, implementing agencies, and outcomes. It is exactly what we did in the energy conservation example when we initially treated the utility and the building department as if their sole function were to implement energy conservation. This view of implementation is a useful analytic device, but it should not be confused with an accurate portrayal of how implementation actually occurs. It represents, at best, only half the process of implementing policy. The other half consists of the adaptive responses of implementing agencies and lower-level jurisdictions to changes in policy. In the case of multiple-objective, multiple-jurisdiction policies these adaptations are much more complex than they are in single-objective, single-jurisdiction policies.

In the single-objective, single-jurisdiction case, we approached the backward leg of the analysis by focusing first on specific decisions that could be the targets of policy, and then playing out the consequences of these decisions for implementing agencies and policymakers. In the multiple-jurisdiction, multiple-objective case, we are presented with at least two additional sources of complexity. First, implementing organizations are nested within political jurisdictions, so we're not just analyzing how organizations might respond; we are also analyzing how political jurisdictions will respond. Second, the parameters that influence policy differ from one jurisdiction to another. So we would expect responses to vary from one jurisdiction to another.

In the youth employment case, then, we must account not only for how young people, school systems, employment training organizations, regulatory agencies, and employers will respond to policies initiated from the federal level. We must also account for how state and local governments will affect the responses of these implementing organizations. Furthermore, we must take account of variations among states and localities in the parameters that

influence policy: unemployment, labor force characteristics, industrial mix, and labor market structure.

As in the energy conservation case, turning the problem around forces a more detailed specification of precisely who youth employment policy is intended to reach, and with what effect. One group might be labelled the "high risk" population, or young people distinguished by high unemployment and low participation in education and training. For this group, choices are limited; their limited involvement in both education and work means that they enter the labor market with limited skills and experience relative to other people their age. Another group might be labelled the "transitional" population, or young people distinguished by a high rate of joint participation in school and work, a high rate of job turnover, and a gradual stabilizing of labor market participation with increasing age. For this group, choices are abundant, but they are likely to make those choices in a serial fashion, moving from one job to another, and from one education or training program to another, taking frequent spells of voluntary unemployment, until they find a stable career. A final group might be called the "low risk" population, or young people for whom school is their main activity up to the point where they enter the labor market with a skill that provides them a relatively stable career path. This group has most of the choices available to the transitional population but doesn't exercise them, moving instead from schooling as a primary activity to work as a primary activity.

Labor market data suggest that the high risk population accounts for a relatively small portion of youth unemployment 14), while the largest proportion is accounted for by the transitional population. Furthermore, labor force participation has been rising consistently over the past two decades for all portions of the youth population, except minority males, for whom labor force participation has declined significantly 15). These trends mean, in effect, that the transitional population has become the predominant group, the low risk population has declined in size, and the high risk population, while it has not increased dramatically in size, has become increasingly male and minority.

Seeing the problem in this way suggests that youth employment and unemployment mean significantly different things for different populations. The high risk group comes substantially from minority, low income families. For this group, the income foregone by participating in education and training is a significant fraction of family income, the returns from young peoples' work are likely to be a substantial fraction of family income, and hence, the costs of both education and unemployment among young family members are likely to be high. At the same time, the long-run returns from participation in education and training for this population are

TABLE 2B:
Backward Mapping: Youth Employment

| Issues | Outcomes | Parameters | Implementing Agencies | Implements |
|---|--|---|--|---|
| <p>What decisions have the most immediate effect on youth employment?</p> | <p>What outcomes would federal policymakers like to follow from those decisions?</p> | <p>What external conditions influence those outcomes?</p> | <p>What must implementing agencies do to affect those outcomes?</p> | <p>What implements are available to federal policymakers to affect youth employment?</p> |
| <p>High Risk Youth (low-income, low school attainment, declining labor force participation) >Education, training</p> | <p>>Opportunity costs of education, training equal to those for low-risk population >Entry with basic and specialized skills adequate for stable employment</p> | <p>>Family income, income support policies >Structure of local labor market</p> | <p>Education/Training: >Decrease incentives for low-risk participation for high-risk transitional population Employment Training: >Decrease incentives for high risk population to substitute low-wage low-skill work for investment in basic skills, specialized training</p> | <p>>Require increased access for high-risk group to vocational programs >Increase requirements at secondary level >Condition work experience, employer subsidies, public employment on academic progress</p> |
| <p>Transitional Population (all income groups, average school attainment, high labor force participation) >Education, training</p> | <p>>Preference for schooling greater than for discretionary income from work >Entry reduced in younger years, increased with acquisition of specialized skills</p> | <p>>Prevailing wages for low-skill jobs >Structure of local labor markets</p> | <p>Employment Security/Income Support: >Increase the opportunity cost of education/training for low-income families</p> | <p>>Subsidize academic, vocational education with competition for foregone income</p> |
| <p>Low Risk Population (predominantly middle, upper income, low labor force participation) >Education, training >Labor force participation</p> | <p>>Preference for schooling stable >Entry patterns stable</p> | <p>>Prevailing wages for low-skill jobs >Structure of local labor markets</p> | | |

likely to be significant, both for the individuals themselves (in increased income) and for society at large (in decreased dependency). These conflicting incentives help to explain why unemployment is such a serious problem for this population. The immediate returns from work are a strong incentive both to enter the labor market and to underinvest in education and training. Hence, participation in the labor force means high unemployment, weak attachment to school, and a gradual "cooling out" of expectations that results in a decline in labor force participation for some. Unemployment, or non-participation in the labor force, become chronic. But because the high risk population constitutes a relatively small fraction of the total youth population, reducing unemployment for this group does not significantly decrease the overall youth unemployment rate 16).

The transitional group comes from all income levels, but it is largely made up of young people for whom work is a matter of preference rather than economic necessity. For the largest portion of this group, the income foregone by participating in education and training is a relatively small fraction of family income; the returns from young peoples' work significantly increase their discretionary income, but constitute a relatively small share of family income; hence, the costs of both education and unemployment are likely to be low. For the transitional group, labor force participation is explained less by family income and more by the relative value of school and work, as perceived by the young person at any given point in time. Schooling is partly a consumption good, valued for its immediate appeal relative to the income from work, and partly a longer-term investment in human capital. Hence, unemployment is likely to be much more affected by the perceived short-run and long-run value of education and training. Young people in the transitional group are much more likely to take themselves out of the labor market, or to reduce the amount of time they spend working, if they perceive education to be valuable in producing future income. The costs to them and their families, in foregone income, are lower than for the high risk group. Because the transitional population constitutes a relatively large share of the total youth population, reducing unemployment for this group is likely to significantly decrease the overall youth unemployment rate. Unemployment can be reduced in this group by increasing the proportion of young people who prefer schooling to work, by increasing the proportion of labor market participants who are employed, or both.

Increasing the proportion of young people who prefer schooling to work means, essentially, increasing the low risk population. For the low risk population, the income foregone by participating in education and training is perceived to be small relative to the immediate and long run value of education and training. This might be true regardless of family income, but the proportional burden

of foregone income is higher for low income families than for middle and upper income families. In order for young people to withdraw altogether from the labor force and pursue education and training exclusively, the value of education and training -- both as consumption goods and as investments in human capital -- must be perceived to be high. Part of the shift in the youth population from the low risk group to the transitional group can be explained by a decline in the perceived value of education and training.

Seen from the perspective of young people, the stakes of youth employment policy are different than they were from the perspective of policymakers. Work, in itself, is not necessarily the solution to the problems of the high risk population; reducing the opportunity costs of education and training appears to be a more plausible solution. This can be done by increasing family income, by increasing the short-run value of schooling, or by providing opportunities for joint pursuit of school and work. By the same token, unemployment in the transitional population is not necessarily a serious problem, if it results in greater incentives for young people to shift their preferences from work to schooling and if schooling has a long-term pay-off. In order to affect the preferences of the transitional population, however, schooling first has to be made attractive as a consumption good and then effective as an investment in human capital. Otherwise, this population has no incentive to forego the discretionary income that work produces in favor of more time in school.

In the energy conservation case, the problem was how to tip investment, production, and consumption decisions for various types of consumers in favor of conservation. In the youth employment case, the problem is how to tip the labor force participation, education, and training decisions for various types of young people toward employment prospects that have a high likelihood of success. For the high risk group, solving the employment problem involves reducing the opportunity costs of schooling, so that young people in this group have the same options to pursue education and training as those in the low risk group. For the transitional population, solutions involve making education more attractive as a consumption and investment good, so that young people in this group resolve the trade-off between discretionary income gained from work and time spent in schooling in favor of reduced labor force participation. For the low risk population, solutions involve not increasing the incentives to trade time in school for discretionary income until prospects of employment are relatively high. For the high risk group, unemployment is a serious problem, but it is not necessarily one that can be solved by employment; it is more likely to be solved by decreasing the opportunity costs of education and training. For the transitional and low risk groups, unemployment may be a positive incentive to reduce labor force participation, but the longer term solution is to make schooling

more attractive.

In other words, youth employment is a significantly different policy problem from adult employment. For the youth population the trade-off between work and schooling is the key decision. For the adult population this trade-off is less important, although still present. Consequently, institutional structures play a more immediate role in determining the outcomes of youth employment policy than they do for adults. Young peoples' preferences for work and schooling are shaped to a large degree by how effective schools are in communicating their value to young people. For adults, schooling is an alternative to work but a less important factor in labor market decisions. This means that a significant portion of the youth employment problems lies in the institutional forces that shape young peoples' preference for work over school. This portion of the problem cannot be solved by making jobs available to young people or by making it easier for young people to enter the labor force. In fact, these measures probably aggravate the problem to some degree by making labor market entry easier for the transitional population and by removing pressure from schools to respond to that population.

As in the energy conservation case, the outcomes that one would expect to follow from youth employment policy vary by the target group. For the high risk group, it seems plausible to expect that policy should reduce the opportunity costs of education and training to at least the level of those for the middle income population, so that young people have an equal incentive to pursue schooling as an alternative to work. For the transitional population, it seems plausible to expect that policy should offer no direct incentives to substitute discretionary income for education, and that it should strengthen investment. For the low-risk population, it is plausible to expect that policy should offer no direct incentive to substitute discretionary income for education. Nor should policy offer any direct incentive to displace adult workers with young workers from any population.

Moving back one level, to implementing organizations, the full effect of multiple jurisdictions and multiple objectives becomes clear. While it is possible to say, from the national level, what the important target groups are, what the key decisions are, and what plausible outcomes one might expect to follow from national policy, virtually all the capacity for identifying these groups and influencing their decisions resides at the local level. So the implementation problem, from the national level, is how to mobilize the capacity of states and localities in the service of national objectives. This problem is more complex than the single-jurisdiction problem in three respects: First, states and localities have independent authority and different political incentives than the federal government. Hence, they cannot be expected to view the

preferred outcomes of employment policy in the same way as the federal government. Second, the parameters affecting employment policy vary substantially from one setting to another, making a reasonable expectation in one setting an unreasonable one in another. Settings that have high rates of cyclical adult employment, for example, should not be expected to address youth employment problems with the same level of intensity as those that have lower rates. Third, the institutional capacity within jurisdictions -- schools, training organizations, community colleges, employers, etc. -- varies widely. In the single-jurisdiction case, the problem was how to get an organization to respond to a policy, while at the same time minimizing the effects of the policy on its internal operations. In the multiple-jurisdiction, multiple-objective case, the problem is how to get lower level jurisdictions to trade one policy objective against another in a way that produces aggregate effects consistent with national policy. Notice that we assume lower-level jurisdictions will trade objectives, rather than assuming that all jurisdictions will treat all national objectives as equally binding. Failing to do so means that we make the conceptual error of treating separate political jurisdictions as if they were extensions of a single jurisdiction.

If we characterize implementation as trading among objectives, then it makes sense to think of the responses of implementing organizations in terms of performance on the outcomes that policymakers regard as important, rather than compliance with specific provisions of national policy. Focusing on compliance, to the exclusion of performance, could result, as noted earlier, in a number of perverse consequences that undermine the overall effect of policy. For youth employment policy, it is especially important that implementing organizations reflect the trade-offs between youth and adult employment and between schooling and work for the youth population in their operating decisions. Decisions that result in young people displacing adult workers, regardless of how effective they are in their own right, don't increase aggregate employment. Decisions that result in more opportunities for young people to trade participation in school for discretionary income, regardless of whether they produce more youth employment, don't necessarily increase the long-term employment prospects for young people. Left to their own devices, separate organizations charged with education, training, job placement, and enforcement of employment standards, will go on producing (or not producing) whatever is required to keep the flow of resources going, regardless of its aggregate consequences. The incentives that make these organizations work in accord with some larger design reside in the political structure at the local, state, and federal level. Successful implementation of national policy requires that lower level political jurisdictions exercise sufficient authority to make the aggregate consequences of separate implements in separate organizations correspond to national objectives. Hence, it is in

the interests of the federal government to use its influence to create stronger lateral control at lower levels, cutting across multiple implements and implementing organizations, and to get lower level governments to commit themselves publicly to aggregate results. But in creating stronger lateral control at lower levels, the federal government gives up a degree of vertical control over compliance with the specific requirements of separate implements.

From the federal level, then, the important strategic decision is how much vertical control to exercise on what subjects and how much lateral control to create at lower levels. The main feature of federal policy toward youth employment, which is clear from Table 2A, is that it is composed almost exclusively of vertical lines of authority, each with a separate organizational base at the state and local level, and very little lateral control. Vocational education policy, addressed primarily to the transitional and low risk populations, creates a vertical structure from the federal to the state and local levels. This structure is distinct not only from the employment security and employment training systems, but it is also structurally distinct from the educational system in which it nominally resides. Employment security policy, which addresses all youth populations through the labor exchange, unemployment compensation, and regulatory systems, follows a different vertical structure from the federal to the state level. Employment training policy, which deals exclusively with the high risk population, follows yet another vertical structure, this one based largely on direct federal-local relations. In this structure, there are virtually no incentives for lateral control at the state or local level, hence, no incentives to view the outcomes produced by separate structures in relation to each other. Vocational schools and community colleges produce large numbers of people trained in skilled occupations without regard for their effect on the adult labor market. The employment training and employment security systems administer special programs designed to place high risk young people in long-term jobs, but maintain only a marginal relationship to the vocational schools. The employment training system administers a large number of programs designed to provide high school equivalency training to high risk youth, but maintains only a marginal relationship to the educational system. Viewed from the top, or from the forward mapping perspective, this seems to be a plausible portfolio of implements and organizations. Viewed from the bottom, or backward mapping perspective, the system as a whole appears to be less than the sum of its parts. There are few mechanisms at any level of the system to make explicit trade-offs among competing objectives or to make organizations with different missions orchestrate their decisions around a common set of outcomes. Hence, there is no way to judge, from the federal level, whether the aggregate effect of federal policy bears any relationship to what policymakers would like to achieve.

One way for the federal government to address this problem of lateral control is to introduce incentives for states and localities to make trade-offs among key objectives explicit, public and politically binding. Some portion of federal grants for vocational education could be conditioned on meeting locally-defined occupational targets, justified in terms of local labor market demands, the output of competing programs, and entry level skill requirements. Work experience and summer employment programs for high risk youth could be conditioned on contracts between the school system and the young person to maintain some level of academic progress, and on contracts between employment training system and the vocational education system to move a certain number of high risk youth into vocational programs. Incentives to employers to hire high risk youth could be predicated on a three-way contract between the schools, the employer, and the young person, tying the subsidy to some level of academic performance. In each case, the expected effect of these implements is to get one part of a complex delivery system to acknowledge explicitly its relationship to other parts, and to make that relationship work for some individual. These may not be the best implements, but they illustrate how one level of government can use conditional grants and subsidies to generate incentives for lateral control within another level.

REVERSIBLE LOGIC: REPRISE

The difference between the simple and the complex case, then, is the introduction of multiple jurisdictions and trading among multiple objectives. On the forward leg, implements translate into distinct organizational paths extending across jurisdictional boundaries, producing outcomes at some level. But there is nothing in this analytic view to suggest how these various implements produce aggregate effects, or what policymakers can do to influence those effects. In order to address this question, we had to turn the system around and ask, first, what decisions policy must influence in order to have any effect, second, what the stakes of those decisions are for various target groups, third, how policy affects those decisions, fourth, which jurisdictional level has the closest proximity to those decisions, and finally, how policymakers can maneuver political jurisdictions into making explicit trade-offs among objectives and with variable local conditions.

From the forward mapping perspective, the problem is finding a collection of implements that is likely to produce the effect that policymakers want. From the backward mapping perspective, the problem is finding a set of decisions that policy can influence and specifying how policy can tip those decisions in the desired direction. Forward mapping stresses what policymakers control; backward mapping stresses the marginal influence that policy exercises over decisions by individuals and organizations. If we were

to look at policy decisions only from the forward mapping perspective, we would consistently overestimate the degree of control policymakers exercise. Policymakers tend to see the world through the lens of the implements they control; they solve problems by applying parochial solutions. But the success of policy depends on more than choosing the correct combination of implements; it depends as well on conditions outside the control of policymakers and on decisions over which policy exercises only a marginal influence. In order to be good strategists, policymakers have to calculate the consequences of their actions from the point of view of the decisions they are trying to influence. This is the perspective of backward mapping.

FOOTNOTES

1. Edith Stokey and Richard Zeckhauser, *A Primer for Policy Analysis*, (New York: Norton, 1978), 211ff.
2. James Trefil, "Closing in on Creation", *Smithsonian Magazine*, May, 1983, 33-51.
3. This is equivalent to the property of symmetry in mathematics, in which if $a+b=c+d$, then $c+d=a+b$. In the language of policy analysis, reversible relationships might be characterized as follows: If some policy implement 'x' is thought to produce outcome 'y', then one ought to be able to begin with 'y' and reconstruct the process by which 'x' produces it.
4. "...people pursue their self-interests not only within given rules but also by investing resources to change the rules to their own benefit". Giandomenico Majone, "Choice Among Policy Instruments for Pollution Control", *Policy Analysis*, Vol. 2, no. 4, (1976), 590.
5. For example,

As usually presented, analysis (no matter what the approach or technique) appears to be linearly deductive rather than dynamically iterative. The analytical tool is introduced as a recipe -- clear, sequential, mechanical -- with the assumptions necessary to use the tool provided in a convenient, checklist form... But the concepts need to be applied simultaneously and iteratively...

6. Robert Behn, *Quick Analysis for Busy Decisionmakers*, (New York: Basic Books, 1982), 56.
6. Richard Elmore, "Backward Mapping: Implementation Research and Policy Decisions", *Political Science Quarterly*, Vol. 94, no. 4 (Winter 1979-80), 601-616.

7. Alan Rosenthal suggest that, for legislators, individual incentives work against attention to implementation, because legislators must maximize credit in the short term, deliver concrete results, and avoid becoming embroiled in complexities they can't resolve. But the institutional incentives of legislatures relative to other parts of government work in favor of attention to implementation. Hence, he finds, legislatures dedicate more time and energy to oversight of administration than one would predict solely on the basis of the incentives under which individual members work. Alan Rosenthal, "Legislative Behavior and Legislative Oversight", *Legislative Studies Quarterly*, Vol. 6, no. 1, (February 1981), 115-131.
8. This line of reasoning summarizes another paper entitled, "Policy Analysis as the Choice of Implements".
9. Thomas Schelling, *The Strategy of Conflict*, (New York and London: Oxford University Press, 1960), 84.
10. I use the term "parameter" consistently with one of its meanings, which is a constant in a particular calculation that can be varied in other calculations. The term can also be used to mean any measurable factor that helps to define a system of relationships. The former meaning helps to distinguish in policy analysis between those factors considered "constant" for purposes of a particular analysis, but not necessarily immune to influence by policy.
11. Michael Lipsky, *Street-Level Bureaucracy*, (New York: Russell Sage, 1980).
12. Stephen Rosenthal, *Managing Government Operations*, (Glenview, Ill: Scott, Foresman, 1982), Chapter 11, "Case Management and Policy Implementation", 210-232.
13. This section draws extensively on another paper entitled, "Youth Employment: Defining the Policy Problem".
14. Richard Freeman and David Wise, "The Youth Labor Market Problem: Its Nature, Causes, and Consequences", in Freeman and Wise, (eds.), *The Youth Labor Market Problem*, (Chicago: University of Chicago Press, 1978), 1-16; Martin Feldstein and David Ellwood, "Teenage Unemployment: What is the Problem?", *ibid.*, 17-33.
15. Labor force participation for 18-19 year-old minority males, for example, declined from 71.2% in 1960 to 57.8% in 1979. The relationships holds for all minority males in the 16-24 age bracket. *Handbook of Labor Statistics*, U.S. Department of Labor, 1980, Table 4.
16. One study based on 1975 data estimates, for example, that "since nonwhites are a relatively small fraction of the teenage population, ...lowering the unemployment rate of the nonwhite group to (that of) the white group...would only lower the unemployment rate for all out-of-school male teenagers from 19% to 16%. Feldstein and Ellwood, *op.cit.*, 26.

POLICY SUBSYSTEMS AS A UNIT OF ANALYSIS IN IMPLEMENTATION STUDIES:
A STRUGGLE FOR THEORETICAL SYNTHESIS

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INTRODUCTION

At a general level this paper is concerned with the paucity of efforts in, and intellectual poverty of, what we shall call "black box" theory building. At another level we seek to develop greater clarity and specificity for the concept of policy subsystem. Toward this end we shall demonstrate the efficacy of a political economy framework in analyzing policy subsystems.

Greater attention to clarity and care in the language we use to conceptualize policy subsystems is especially important given the variety of disciplines and intellectual traditions brought to bear on the subject. Hasty theorizing and incautious language only extend the already bewildering array of terms and concepts utilized. Premature applications of these to such endeavours as policy implementation will result in little more than additional frustration.

We think it is important, therefore, to note some of the obstacles presented by multi-disciplinary contributions that have slowed development of cogent theories about policy subsystems and which continue to hamper our efforts. We will draw upon the diverse and scattered bodies of literature which exist in an attempt to ferret out a basis for analysis and develop a synthesis of policy subsystem characteristics. A political economy framework will be proposed here to conceptualize policy subsystems. We will then apply this framework to selected examples of policy subsystems in order to elucidate the relevant concepts.

We feel the failure to develop "black box" theory is largely

a result of failure to recognize or to come to grips with the most fruitful unit of analysis: policy subsystems (PS's), also known variously as policy milieus, interorganizational policy networks, iron triangles, subgovernments, or cozy triangles. Political science, political sociology, political economy and public administration have contributed to an understanding of the phenomenon. Yet each has failed to establish a sound analytic explanation by the failure to treat the policy subsystem as the primary unit of analysis.

Political science has traditionally concentrated on the input side of Easton's systems diagram (parties, voters, socialization, interest groups) 1) and more recently on the output side (implementation, policy outputs or outcomes) 2). However, Easton's "black box" where "conversions" take place remains undeveloped theoretically. Political science has demystified some of the key institutions, described them in detail and exhaustively quantified some manifestations of behavior within them 3). Unfortunately, how the vast bulk of policy is made undramatically and adjusted routinely (in Easton's terms - rules formulated, applied and adjudicated) has attracted little interest. Political science has eschewed a focus on institutions, yet cannot escape the necessity of dealing with them, somehow trying to analyze them without being accused of being "institutional" in approach. It has shown how each of these key institutions in the "black box" does not operate as civics texts of earlier generations led us to believe; but for the most part it has not shown how policy is made, applied and adjudicated. Small wonder "black box theory" has been rather anemic so far.

Political sociology has enriched our knowledge of non-governmental elites and their power and influence in society, but has seldom crossed the "black box" threshold where non-governmental and governmental elites created "authoritative allocations of values" 4). The field of political economy has pointed up the centrality of economic power, the systemic power of non-governmental elites, and the ancillary role of government in sustaining that power 5). Yet, in similar fashion, it has stopped at the boundary of the "black box" and not addressed specifics of how the more "routine" policy is made which sustains the existing pattern of power.

In the field of public administration where one might expect a concern for "black box" theory, very little progress has been made. Public administration has tended to view the larger political process as an environment for administration, or it has studied bureaucratic politics without systematic conceptualization of how bureaucracies are part of the political, policy making and implementing process 6). Perhaps the closest thing to such conceptualization can be found in the works of Allison 7) and Rourke 8).

The "black box" -- the governmental process -- where the great majority of policies are formulated, implemented and adjudicated, remains as opaque as ever largely for lack of the right theoretical tool. Such a tool may be at hand, however, in the form of policy subsystems.

SEARCHING FOR CONCEPTS

Despite political science's lack of interest in the "black box", the concept of policy subsystems has a surprisingly long, but obscure existence in the literature of the discipline. In 1939 Ernest S. Griffith wrote that political scientists should study the "whirlpools of interest" rather than governmental institutions" 9). Since then sporadic case studies have appeared which have dealt with the relationships between interest groups, legislative committees, and executive branch agencies. Arthur Maass, Leiper Freeman, Douglas Cater, Lee Fritschler, and Emmette Redford all contributed to the development of the variously named policy subsystem concept through very rich, if nomothetic, case studies on policy formulation 10). In these case studies, one point was well made: policy subsystems differ markedly and can range from the very large, heterogeneous and loosely organized to the very small and cohesive. Thus the existence and the variety of policy subsystems were well established. How to analyze them, hypothesize about them fruitfully, and explain them better remained problematic.

A few widely scattered works have offered alternative ways of conceptualizing the American political system that are consistent with the concepts of policy subsystems developed here. Foremost among these fragments of conceptualization was the prescient work of Norton Long entitled "The Local Community As An Ecology Of Games" 11). Although Long did not extend the implications of his analysis beyond the realm of local government, in it can be seen the basis for an analytical framework for policy subsystems.

Long pointed out that we "readily conceive the massive task of feeding New York City to be achieved through the unplanned, historically developed cooperation of thousands of actors largely unconscious of their collaboration to this individually unsought end" 12). We could scarcely duplicate such a system by planned and conscious direction if we tried. Yet it is not accidental or non-rational. Rationality however is to be found in the functioning of its parts rather than the whole. As Long put it:

Particular structures working for their own ends within the whole may provide their members with goals, strategies, and rules that support rational actions 13).

He was not however slipping into the assumption of the pluralists's invisible and beneficent hand. He acknowledged his debt

to Adam Smith but added that "one need accept no more of the doctrine of beneficence than that an unplanned economy can function" (14).

Long pointed to the irony in the fact that such a view is accepted for the economy but rejected for the polity. For a variety of reasons we feel we must see political institutions as "different, superior, inclusive" and capable of coordinating a polity as a central nervous system would a body (15). Long, of course, was suggesting that such is not the case and yet he told us that the polity can be conceived of as a system without reducing or eliminating the rich complexity, autonomy and interactions of component parts to some single, monocentric whole. This notion of a "pilotless" polity, as we shall see, is fundamental to understanding policy subsystems and the American political system today.

Long set forth a much richer and more complex picture of power than heretofore enunciated. He suggested a variety of games that are semi-autonomous, delicately balanced, regularly interacting, differentially structured, somewhat interdependent, internally rational, somewhat competitive, and each of which has established a carefully defined and interdependent niche. This ecology of games is also central to understanding policy subsystems.

Another work which did not receive the attention it deserved was by Philip Gregg (16). Gregg, like Long, did not derive his conceptualization from a case study or a probe into some particular policy. Instead, he approached it as a problem in understanding the complexity of federalism or intergovernmental relations. More specifically, he lamented the inability to conceptualize policy problems and solutions in terms of the relevant interorganizational relations.

Gregg critiqued most policy analysis as "monocentric", i.e., based on the assumption of a central source of power. Drawing upon the work of Vincent and Elinor Ostrom he offered interorganizational analysis as the best path for advancement of policy analysis. This approach assumed that the decisions of organizations "are interrelated by structures and processes within the larger organizational (interorganizational) entity". Here "decisions" are regulated by the exercise of concurrent powers among semi-autonomous officials rather than by the exercise of hierarchical powers conferred by a single encompassing government or department". Gregg noted that their activities "are coordinated to the extent officials calculate mutual interdependencies in their decisionmaking" (17).

Gregg's primary analytic unit was the "public service industry", ---"the enterprises, both public and private, whose decisions

interact in the production of services which are available to contiguous populations as close substitutes" 18). In Gregg's work we see the first attention to the governing structure of PS's and to their "public economies". As we shall see, this was a tentative step toward the conceptual framework proposed in this paper. Scholars working in other fields have been developing a conceptually rich literature on interorganizational theory and analysis. Most of these contributors have been trained in organizational sociology, a field with a venerable interest in the environments of organizations which has grown into an interest in interorganizational phenomena. Scholars in this tradition have applied their training to complex organization theory and analysis, interorganizational theory and analysis and to urban sociology. They have moved steadily forward in conceptualizing and empirically operationalizing interorganizational networks as a unit of analysis. However, they are developing competing concepts and terminology at such a rapid pace that it seems the field is close to becoming a conceptual quagmire. Space permits only mention of their works, but we have drawn upon them wherever possible in developing our conceptualization of policy subsystems.

Howard Aldrich developed and applied a "population ecology" model to the study of networks. Herman Turk and Roland Warren, Stephen Rose and Ann F. Bergunder studied the interaction of networks in an urban setting. Moreover, Warren, et. al., Crozier, and J. Kenneth Benson attempted to connect the interorganizational phenomena with social choice and the structure of power in society, thus giving the networks a political as well as an organizational focus. Friend, Power, and Yewlett; Crozier and Thoenig; and Hjern and Porter captured the vertical dimension of subsystem interaction between semi-autonomous actors and different levels of government. All of these works have been marked by efforts to conceptualize interorganizational phenomena as the primary units of analysis without a focal organization as the center of analysis, as did earlier works like Wamsley and Zald 19).

Although these works in the sociological tradition have manifested conceptual explicitness, rigor and ability to deal with complexity, they have differed from that literature relevant to policy subsystems written in the political science tradition. They have not shared political science's concern for Harold Lasswell's classic question of politics ---"who gets what, when and how?" Much of the work is interested in simply mapping decision networks in urban planning or politics; or are satisfied to trace networks of individuals so as to reveal interlocking elite memberships on key institutions, or the way that local elites hold key social, economic and political positions in the urban setting. All of this is of course relevant to "who gets what, when and how?" but at one or more steps removed. In other words, these works successfully describe the power elites of urban areas, i.e., the persons which

set the general political parameters within which governmental officials must operate. The literature also captures the impact of power elites upon major or direction-setting policy decisions. But these works have paid little attention to the "normal", "day to day" or "routine" governmental processes----where contracts are let, services increased or cutback, permits issued or denied and regulations enforced vigorously or casually.

IMPEDIMENTS TO UNDERSTANDING

Despite the contributions of the literature reviewed, impediments to our understanding parallel the contributions. Most serious of these is the popularization by journalists and textbook writers of the simplistic "iron triangle". This popularization has resulted in a serious and tenacious conceptual diversion. The concept has reached such a level of popularization that serious scholars have felt compelled to critique it and expose its inadequacies.

The "iron triangle" identifies three typically important actors in a policy subsystem, but this small benefit is far outweighed by heavy costs because it conveys an image of rigidity, exclusivity and simplicity that is far from reality in all but a few cases. Most of the studies cited above, however, made it clear enough that there are other actors who are equally important outside the triangle and that their relationships are complex. Cater, for example, had expressed the dynamism quite clearly: "The subgovernments (policy subsystems) are not to be confused with factions. Within them, factions contend to a greater or lesser degree. The power balance may be in stable or highly unstable equilibrium. But the tendency is to strive to become self-sustaining in control of power in its (the subgovernmental) own sphere" (20). And Freeman clearly says, "...the influence of groups expressing certain orientations waxes and wanes and shifts its focus from one part of the subsystem to another" (21).

The earliest writings on policy subsystems did not unduly emphasize a tendency toward closure and staticism, rather readers imputed these characteristics to them. What seems likely is that the natural tendency in all human behavior to maximize autonomy was the first thing to catch the attention of readers. Since anything smacking of insularity was incongruent with democratic ideals it naturally attracted undue attention.

The popularization of the iron triangle and the resulting diversion of scholarly energy are not trivial matters. The metaphorical base for the concept of iron triangle is powerful enough to thwart effort at more sophisticated conceptualization. Metaphors are an important aspect of conceptualization and theory development. According to Kaplan, they can result in the recognition of "similarities that have previously escaped us" and

enable us to systematize them 22). Unfortunately, an inappropriate metaphor can be a conceptual trap that becomes inappropriate with changing circumstances and new discoveries. This would seem to be the case with the iron triangle metaphor. Ironically, the rich concept of policy subsystem is in danger of being written off because of the attractive but over simplistic metaphor of the iron triangle.

Valuable as the existing literature has been, most of it stops short or takes a different direction from where we think it should go. Worse yet, some of it is seriously flawed. The case studies, for example, tended either to emphasize the horizontal integration they had discovered (mostly at the national level) or the vertical integration they found if the perspective was that of program implementation or intergovernmental relations. With a few exceptions, analysts seemed unaware that the "vertical functional autocracies" they recognized in program areas were connected to, and an integral part of, horizontally integrative relationships such as the "iron triangles" others had discovered. Seldom were these phenomena conceptually linked so that horizontal integration was seen as a phenomenon related largely to policy formulation, and the vertical integration as a complementary, indeed symbiotic, phenomenon related to implementation and adjustment of policy. What analysts have missed is the point that the relations involving vertical integration generally center on efforts of greater specificity aimed at making that value allocation feasible, accepted as legitimate and adjusted to the particularisms of all levels. In the horizontal relations the interested parties most often struggle over the general parameters of value allocation, striking statutory and even constitutional arrangements, major compromises and bargains or just plain "deals", and resolving the irresolvable with rhetoric and symbol manipulation. In the vertical dimensions of a policy subsystem the struggle of interests continues, but shifts to making marginal adjustments to the effects of allocation in order to maximize gains and minimize losses. The vertical dimension of integration is the realm of "routinized coercion", the writing of administrative policy and regulations, program design and implementation, and adjustment by administrative adjudication. Unfortunately most analysts have failed to see the interrelationship of these two sets of phenomena.

CONCEPTUAL GLEANINGS

The descriptively rich case studies, the works of Long and Gregg and recent works in organizational sociology provide us with a starting point for constructing an analytical framework applicable to policy subsystems. Several characteristics of policy subsystems can be derived from these works. Policy subsystems are numerous and multifarious in nature 23). Each subsystem, regardless of what it is called, is comprised of actors seeking to influence the

authoritative allocation of values, be it rewards (dollars, services, status, benign neglect) or deprivation (regulations, taxation, conscription, punishment, status denigration). They are heterogeneous, have variable cohesion and they exhibit internal complexity. They encompass numerous interests both within and without the government which compete for a "piece of the action". Action frequently takes the form of discrete units called programs. The existing studies have also pointed up how these functionally specialized policy subsystems span both the public and private sectors as well as the branches and the different levels of our government. They include private individuals, groups, and institutions.

Another distinguishing feature seen in this literature has been an unremitting drive for functional autonomy on the part of those interests which are dominant in a subsystem at any given point in time. This autonomy derives from the technical complexity of the issue area but is enhanced by a shared, consistent, proprietary interest in particular programs over a long period of time.

The literature also points to an identifiable core of horizontal integration. Unfortunately, most of the research tended to see this horizontal integration as confined to the agency or agencies with statutory responsibility, interest groups and relevant legislative committees or subcommittees. Thus they gave impetus to the oversimplistic metaphor of the "iron triangle". In contrast, Gregg's work suggested what other studies of intergovernmental relations have illuminated: the vertical integration that is a part of policy subsystems. Interest groups, program managers and program professionals can be found systematically linked through all layers of the federal government into what the Advisory Commission on Intergovernmental Relations called "vertical functional autocracies 24). This phenomenon has also been labelled "picket fence federalism" 25).

We have gone to considerable length to review the disparate sources of ideas that contribute to the concept of policy subsystems for several reasons. It makes clear that not only must we be creative and eclectic in developing ideas, but also careful and craftsmanlike in putting them together. The disciplinary perspectives and concerns from which ideas are drawn are quite different and cannot simply be spliced together. We have tried to show where these literatures have and can contribute to ideas on policy subsystems, but we have also tried to show why the contributions fall off at certain points as a discipline's dynamics take its scholars in a direction different from the one we must pursue in studying policy subsystems.

Finally, we have hopefully shown that there is a rich variety of ideas and examples in the literatures, but that one must have some idea of what it is he is looking for before he plunges

into them. In the hope that we can provide some clearer guidance in what to look for, we now turn to the task of pulling together a theoretical synthesis of policy subsystems by drawing upon the literature reviewed and upon the concept of political economy.

THE POLITICAL ECONOMY FRAMEWORK AND POLICY SUBSYSTEMS

We need to devise a strategy for describing and analyzing subsystems, to develop a "conceptual lever" for opening PS's up to better understanding. Assuming for a moment that we can "map" subsystems, we must still face the fact that this would tell us who is in the subsystem and perhaps how they are behaving but not why they are behaving as they are. We cannot even approach this kind of explanation without greater conceptual leverage.

We feel such conceptual leverage is at hand in the political economy approach. It has generally been applied to organizations rather than interorganizational or multifarious phenomena, or it has emerged piecemeal as different writers discover aspects of it. Wamsley and Zald developed a political economy approach for analyzing focal organizations in a surrounding, multifarious policy milieu 26), and Benson developed a similar but somewhat less tightly conceptualized approach which was also applied to a focal organization but in an interorganizational network 27). To this point we are only seeing the beginning of efforts to apply such an approach to the analytical construct we refer to here as a policy subsystem with its multiform actors 28). With few exceptions writers have been analyzing purely interorganizational (rather than multiform) phenomena, and doing so from a standpoint that may be implicitly "political" or "economic" but without recognition that those variables which are political have a symbiotic relationship with those that are economic and vice versa. For example, analyzing the structure of incentives (economic) in a PS is of rather limited utility without attention to who in the PS can control or alter that structure and why (politics).

It may be helpful to sketch out the political economy framework we have adapted from Wamsley and Zald and are applying here to policy subsystems. The framework enables us to view policy subsystems as having both external and internal political economies, or to analytically distinguish phenomena as falling into one of four areas: the political environment; the economic environment; the internal polity, and the internal economy.

It scarcely needs to be said that policy subsystems operate in a political environment that affects them. Each subsystem exists in an ecological niche comprised of other policy subsystems, and events in each impinge upon the others. Additionally, major actors and institutions within the "black box" (but outside the PS in question) can impact upon a policy subsystem. President Carter's

need to signal his displeasure with the Soviet invasion of Afghanistan led him to seize upon reinstating draft registration: an external political impingement of galvanizing significance for the internal political economy of the military manpower policy subsystem.

Similarly policy subsystems exist within a larger economy which impinges upon them. The recession of the early 1980's has had dramatic external economic impact on a large variety of definable policy subsystems. Changes in an economy directly impact on the allocation of values in a political system: unemployment compensation rises, programs viewed as important in prosperous economic times are seen as a luxury in recession. Thus policy subsystems are affected by the larger political economy and have external political and economic environments which impinge upon them and directly affect their internal relations.

The relationships among the actors within a PS vary from formal to informal, frequent to sporadic, friendly to hostile. Power and influence is unequally distributed among them. One can find, therefore, the rudiments of an internal polity: (1) a dominant coalition 29) which "gets the larger share of what there is to get" from the allocation of values, and those in opposition or acquiescence who "get the lesser share", and (2) dynamics resulting from the non-dominant actors seeking to upset the equilibrium of the PS and alter significantly the pattern of value allocation while the dominant actors seek to maintain the status quo.

Although the world of a policy subsystem is one of constant conflict, a PS like any polity could not long exist if there were constant major conflicts over the allocation of values. Conflict most of the time must be at a lower pitch and for lesser stakes lest the subsystem self-destruct. Consequently we can discern an internal economy in which conflict operates within the major parameters of value allocation and is directed at making marginal, rather than major, adjustments. Most fascinating is the volatility of this low level conflict. It can suddenly escalate into an internal polity struggle if an actor or faction sees what is believed to be an opportunity to make a major change in the allocation of values.

We have attempted to categorize the perspectives and phenomena of a policy subsystem into the four cells of the political economy framework.

THE POLITICAL ECONOMY FRAMEWORK APPLIED TO POLICY SUBSYSTEMS

| | External | Internal |
|-------|---|--|
| P | *Other major governmental actors outside of a sub- | *Distribution of power and authority among the actors of a policy sub- |
| O | system but in the executive, legislative or judicial | system including: (1) |
| L | branches which may have the power to impinge on the PS. | dominant coalition of PS actors; (2) opposition |
| I | *Other major political actors in interest groups or parties | factions; and (3) acquiescent factions. |
| T | with the power to impinge on the PS. | *Shared Normative Structure, including: norms, values, symbols, special |
| I | *Efficacy of claims by coalitions in other major | languages, and rules of conflict engagement. |
| C | policy subsystems. | *Changes in the major parameters of value allocation i.e., incentive |
| A | *Media-communication entrepreneurs. | structure. |
| L | *Perceptions of interested or potentially mobilizable citizens as to the legitimacy of policy subsystem claims on values. | *What members view as non-routine impingements, claims or conflict aimed at altering significantly the allocation of values. |
| <hr/> | | |
| E | *Macro-economic effects including: availability of, and trends in revenues; effects upon; impacts on existence and operations of various organizations in a PS--- | *Differentiated functions of PS members in authoritative allocation of values. |
| C | | *Identifiable patterns of effects resulting from value allocation. |
| O | costs of aspects of production, impacts on demands for goods of services produced. | *Marginal adjustments in value allocations and established incentive structure in order to make particularistic adjustments and maintain legitimacy. |
| N | | *What members view as routine impingements, claims or conflict aimed at marginal adjustments in the value allocation patterns as members strive to maximize gains and minimize losses. |
| O | | |
| M | | |
| I | | |
| C | | |

Out of the disparate literature we have cited earlier and out of the political economy framework we have tried to distill the major points about which a conceptual consensus can be built.

1. PS's are in at least one sense an analytical construct imposed by the observer (i.e., in mapping a subsystem one must impose some artificial boundaries starting somewhere and ending somewhere). They may also be self-conscious social entities but, if so, this will be coincidental. Actors in subsystems will readily affirm the existence of a subsystem when one is suggested but often are not conscious of it otherwise (or at least the phenomenon is not labeled).
2. PS's are systems in the sense that the variables that comprise them are interrelated so that a change in one variable results in a change in others 30). Members of PS's are thus functionally interdependent or interrelated; though this interdependence may range from loosely linked" to "tightly coupled" 31). In some, members have close symbiotic relationships, in others members have worked out guarded truces, while in still others members are engaged in open competition or imperialistic interaction.
3. PS's are subsystems of the larger political system and are related to it in varying degrees of intensity and richness. Their dominant faction or coalition of factions strive for and most have established and seek to maintain some degree of autonomy from the larger system 32).
4. PS's in the American system cut across the conventional divisions of power (legislative, executive, and judicial), institutions, and levels of government 33).
5. Although ultimately behavior is individual in nature, the level of analysis with the most payoff is one which treats PS's as composed of multifarious actors: institutions, organizations, groups, and individuals (public and private sector) linked on the basis of shared and salient interests in effecting the allocation of particular values, i.e., a particular public policy, a reward or deprivation in the name of the state 34).
6. PS's are of baffling complexity and can reach awesome size, encompassing hundreds or even thousands of actors. Assuming that the level of analysis is not allowed to retreat to individualism, these actors might include bureaucratic agencies from all levels of government, interest groups, legislative committees and subcommittees, professional associations, powerful individuals, intellectuals with ideas in good currency, or relevant others 35).
7. The linkages between components of a subsystem are vertical as well as horizontal 36). A PS may consist of horizontal clusters at different levels which are linked to one another vertically to form the overall network. For example, there can be horizontal linkages among health agencies in a city as well as each agency being linked vertically to separate

- state and federal agencies. If PS's could be represented graphically it might best be done by complex molecular models used in teaching chemistry. The model would require horizontal clusters of varying configurations at each level and these horizontal clusters would be connected vertically in a variety of ways. Moreover, the whole model would have to be dynamic, changing, in motion 37).
8. The configuration of power within PS's varies widely from oligarchy to anarchy with varying states of quiescence and dissent. But usually a dominant coalition of actors emerges to bring some structure, if not direction, to their interaction. They are opposed or acquiesced to by a variety of factions. The dominant coalition of policy subsystems vary widely in their cohesiveness, permeability and homogeneity 38).
 9. PS's can be said to have ecological niches 39). These are claims and expectations with regard to the allocation of values in a functional area of policy, and are based primarily on statutory mandates of various subsystems members to act in the name of the state or to have jurisdiction over certain pertinent matters in a functional area of policy 40). These claims and expectations cover not only the substance or ends involved in the allocation of values but the means or processes as well.
 10. PS's manifest a normative order 41). Some are replete with symbols, myths, rituals, and sometimes a special language which reflects the intersubjective reality of the members or their consensus as to what is important, desirable and right. Referred to by some as a "constitution", it has the effect of legitimating and delegitimizing behaviors, reaffirming intersubjective reality, and of enhancing exclusivity and autonomy 42).
 11. PS's, as a result of members' desire to affect public policy, have embedded in them an opportunity or incentive structure. Functional interaction holds forth the prospect of affecting public policy either in formulation or implementation, i.e., interaction has payoffs which, while by no means certain, nonetheless seem plausible to members 43).
 12. Within the major allocation of values within a policy subsystem there remains room for marginal adjustments necessary to sustain the subsystem's equilibrium. These marginal adjustments sustain or amplify the allocation of values by making adjustments to meet the particularistic or unforeseen needs of certain members. Thus members engage in "lower-level" or "routine" conflict over these marginal adjustments, seeking as best they can to maximize their gains, and minimize their losses. Albeit both gains and losses may be dimly and imperfectly perceived.
 13. The threshold between non-routine conflict over policy subsystem dominance and the major parameters of value allocation

on the one hand and routine or normal conflict over marginal adjustments in the pattern of value allocation is ill-defined and volatile.

14. Policy subsystems exhibit internal rationality without necessarily sharing or manifesting conjoint or overall rationality. The internal rationality is based on the desire of participants to maximize their gains and minimize their losses vis-a-vis the authoritative allocation of values. Thus the internal rationality provides participants (groups, organizations, and individuals) with calculable strategies, norms and roles that are rational for the individual actors within the context of the network and its power and incentive structures 44).
15. The overall effects of PS's and their activities generally do not represent conscious, planned, centrally coordinated macro-rationality at the level of the general political system. This is not to preclude the possibility of such control and direction by constitutional actors at a general systemic level, like a President and a strong party in majority control of Congress, but it is to suggest that this is difficult, and probably unlikely in the American political system 45).

We turn next to an analysis of this internal political economy of a policy subsystem. Once we gain insight into its operation we can elaborate more fully upon external political and economic impingements and their effects.

THE INTERNAL POLITICAL ECONOMY OF A POLICY SUBSYSTEM

A policy subsystem exists because of an authoritative allocation of values that is salient for members. This allocation of values, at the heart of a subsystem, provides the incentive for interaction in which the actors seek to maximize real or potential gains and minimize real or potential losses. The patterned interactive behavior surrounding the allocation of values results in differentiation of functions and in some cases cooperative behavior resembling (yielding?) task accomplishment. This patterned behavior involving the allocation of values and adjustments of their effects can be thought of as the internal political economy of a policy subsystem 46). It is vital to understanding the relationships of actors to be able to distinguish between economic or "routine" relations and political or "non-routine" relations. When analysis enables us to distinguish between these, it will also allow us to see how matters change from routine or economic to non-routine or political and vice versa. We will also see how external impingements or internal dynamics can set in motion such changes.

At the core of most definable subsystems is a fiscal "spine" which runs from the public treasury to the budgets of agencies

charged with rewarding, depriving or regulating directly or indirectly. Rewards and deprivations resulting from the authoritative allocation of values have layers of effects. The budget and jurisdictional turf given an agency as part of a mandate to implement public policy constitutes only a layer of primary effects. A wide variety of means exist for allocating rewards or deprivations and these result in secondary, tertiary, or more layers of effects.

There is more to an internal political economy, however, than simply tracing the ripple effects. Much depends on the means of implementing a particular value allocation. The means of implementation are by no means neutral. They have decidedly differential effects, which is the reason actors struggle so over "mere administrative" matters. As Lester Salamon points out, each means of social intervention has its own distinct characteristics, indeed, each is multifaceted. Whether one chooses to use formula grants, regulations, loan guarantees, insurance subsidies, tax incentives or penalties significantly affects the allocation of values. The recipients of values change and the kind of values and the amounts received are altered. The calculus for thousands of actors in a policy subsystem is altered with a change of "tools" or methods of social intervention.

Let us take the example of the internal political economy of the military manpower policy subsystem (MMPS) 47). Its structure of incentives, was fundamentally altered by a recent change of "tools". Although persons have always entered the armed forces for a variety of reasons, prior to 1971 the primary tool of social intervention shaping the subsystem's internal political economy was conscription. A shift to an all volunteer force drastically altered the structure of incentives for members and their power. With the shift to volunteerism those member actors who had been largely advantaged by conscription suddenly found themselves dis-advantaged. The Army and Marines, who seldom have enough volunteers except in surges of patriotism and economic depression, found they had to recruit desperately until economic recession began to fill their ranks. Until the recession swelled their ranks, both had great difficulty recruiting their quotas. They were racked by recruiting scandals and, for the first time, large advertising firms were drawn into the PS. Recruiting services which had always limped along on meager budgets were suddenly wallowing in budgetary largesse. The changes in the incentive structure were numerous and extensive because this PS like others has clusters of actors and therefore particular political economy configurations at each level of our political system.

Then, to complicate things further, we need to remind the reader that a PS's structure of incentives, its internal political economy is shaped by the relationships which develop vertically

between actors on different levels. For example, state program professionals may use relationships with their federal counterparts to enhance their independence from their state superiors. Or, they may increase their power vis-a-vis other actors in their state-level subsystem cluster by saying certain actions are required by federal officials when they are not. Actors at all levels utilize both horizontal and vertical cluster relationships to help make marginal adjustments in primary, secondary and tertiary effects of value allocations; adjustments that maximize their gains and minimize their losses.

The internal political economy of a PS can be more fully comprehended if analysis of the incentive structure is combined with a functional analysis of the roles played by PS actors. In those PS's that have developed more elaborate structures and stability, analysis may reveal specificity of function among member actors (48). In some cases a functional role may be assigned by statutes or a constitution. In other instances the actor assumes a functional role without, or irrespective of a statutory assignment. Additionally, it often becomes clear that there is a considerable difference between what PS actors say their function is and perhaps what is written in statutes and what their behavior indicates. Network analysis merely tells us who interrelates; not why they interact, on what basis, for what purposes, or their points of agreement and issue. In combining functional analysis with analysis of incentives we can develop an understanding of the on-going instrumental or internal economic relationships of PS members. We see the way they handle matters they view as "routine" or "business as usual". What must be comprehended, however, is that "business as usual" for PS members entails a considerable amount of conflict but conflict that is viewed as "normal" or as the "nature of the business". This "routine" conflict is distinct from "non-routine" conflict, engendered by parties within or without the PS with the intent of reordering power relationships and incentive structures and making more than mere marginal adjustments in value allocations or policy. We classify non-routine kinds of conflict as "political" rather than "economic".

THE POLITICAL DIMENSION

The internal polity of a PS is less familiar to most of us because we are not accustomed to thinking of a multiform phenomenon like a PS as a polity. Yet analysts have found in subsystems the outlines of a miniature political system with a normative structure akin to an unwritten constitution, socialization, patterns of demand and support, interest articulation and aggregation, rule making, rule application and rule adjudication (49). For example, it is hard to imagine a PS without some faction or coalition of factions being dominant, and others in dissent or quiescence. The effects of value allocation do not fall equally on all. Some will

receive positive values, others less positive, and still others negative values. A policy subsystem will be dominated by those who benefit most from the pattern of value allocation. This dominant coalition will seek to maintain the status quo and those who receive less will either challenge it or accept it.

In the military manpower PS the dominant coalition of factions since roughly 1977 has consisted of: The Office of Secretary of Defense (OSD), particularly the Assistant Secretary for Manpower and Reserve Affairs and related staff; certain of the staff and members of the House Armed Services Committee (HASC) and certain members and staff of its Subcommittee on Military Personnel; certain members and staff of the Senate Armed Services Committee (SASC) and certain members and staff of its Subcommittee on Military Manpower and Personnel; certain members and staff of the Subcommittee on Housing and Urban Development and Independent Agencies of the House and Senate Appropriations Committee (which handles the Selective Service's budget); staff in OMB handling the national security parts of the President's budget; certain staff of Coopers and Lybrand, of Johnson and Associates and of the Center for Naval Analysis, (consultant/contractors to DOD on military manpower); and certain academics at the Brookings Institution and the National Defense University.

Outside this dominant coalition are a number of subsystem members who support the dominant coalition on some issues and oppose them on others. Although less powerful their support is needed on some issues and their opposition can create real problems over others. In the MMPS non-dominant actors include: committee members and staff; certain staff of the National Security Council; the leadership of the Selective Service System; certain staff of the Congressional Research Service and the Congressional Budget Office; the ACLU; the American Friends Service Committee; the Fleet Reserve Association; the American Legion; the VFW; certain academics at a variety of universities outside Washington D.C.; and the list could go on.

In this particular PS the dominant coalition is moderately cooperative and cohesive while the actors outside are not. Some of these non-dominant actors will coalesce around certain issues, then dissolve on others. Yet in some PS's and, indeed in this one at earlier points in its history, the non-dominant actors have been well-defined, cohesive, and organized, taking on the form of a "shadow government". The "shadow government" monitors the dominant coalition, preparing actors to assume positions in the event of change. At times the non-dominant actors work to mobilize opposition and recruit allies from outside the PS.

As noted earlier, most PS's will exhibit some form of normative structure. This will take the form of an "institutionalized

thought structure" 50) or constitution. New actors who enter the PS will undergo a rudimentary form of socialization; values and beliefs are shared; perceptions of the world and events fall within a comfortably narrow range of variation; symbols, rituals, special argots may be held in common; the same things "made sense", "seem right", "preposterous", or "wrong" to members of a PS with such highly developed normative structure 51). In some, differences over policy will be so great that only the agreement to disagree and the rules of engagement in acting out that disagreement will be part of the normative structure.

The structure of the internal polity will have to be in some degree of consonance, but by no means perfectly congruent with, the external political and economic environments. Dominant factions will play the leading role in countering external impingements that threaten internal power relations (which incidentally puts them in a position of opposing policy change, something well documented by PS case studies). The stimulus for such external impingements often arises from dissident minorities or opposition actors within who seek to mobilize and obtain support from outside.

Internal polity struggles, in contrast with internal economic conflict, invariably affect policy which in turn restructures the internal polity of the subsystem. The "draft wars" of the late 1960's left the internal polity of the military manpower PS drastically altered. The once powerful Selective Service became a wrecked hulk lying outside the dominant coalition. General Lewis Hershey had skillfully built the Selective Service's political power to a point where it rivaled DOD for leadership of the dominant coalition. Hershey had done so through skillful alliances with congressional committees and interest groups. But the Selective Service lost the "civil war" within the PS and lost it badly. Traditionally powerful actors like the American Legion, the VFW and the National Guard Association also lost. The Office of Secretary of Defense, OMB and new anti-draft and civil libertarian interest groups gained dramatically.

The changes of internal polity produce changes in the internal economy. An internal economy of a PS cannot long function if it is far from consonance (not congruent) with its economic and political environments and its internal polity. To return to an earlier point, the major parameters of value allocation tend to undergo change and then restabilize after a PS has undergone extensive penetration or impingement by external political or economic forces. Major changes in these parameters may also have originated within the PS, but they still would be coincidental with, or in response to, perceived changes in the political or economic environment. Such changes afford an opportunity for a dissident actor within a subsystem to challenge the existing

pattern of power. Such was the case of the Surgeon General seizing upon a new President's clumsy answer to a press conference question, thereby setting off the struggle in the tobacco PS over the labelling of cigarettes as a health hazard. Such major parameter changes have to be worked out by altering the lines of power that represent horizontal integration of a PS and include the familiar, if too simple, iron triangle. As horizontal integration restores a measure of equilibrium, actors shift their attention to the "nitty-gritty" struggle to make self-benefiting or protective marginal adjustments in the effects of value allocations. At that point efforts at vertical integration (often discussed in literature on implementation) intergovernmental relations or administration, come into play in the American federal system. In the "routine" instrumental relations that we label as a PS's internal economy, we see actors struggling over what the naive assume to be "just program details" or the "mere means of administration". The struggles over these "mere details and means" always have the potential to transform into something more.

THE ECONOMIC DIMENSION

The internal economy of a policy subsystem is a nether world largely removed from public attention and certainly from public scrutiny. The issues involved, though viewed as "routine", have real and significant consequence for the member actors because they are part of the struggle to make the marginal adjustments in the layers of effects that ripple outward in the allocation of values: marginal adjustments that maximize gains and minimize losses. The issues and their resolution have real and significant consequences for the public and other persons and organizations outside the subsystem but they will seldom know it.

A thumbnail sketch of the functional roles found in the military manpower subsystem highlights the types of "routine" issues over which members interact. The Department of Defense with input from Congressional committees has performed the functions of defining a key aspect of military manpower policy: the manpower requirements in terms of quantity, quality and timing. The Selective Service, until the late 1960's, performed the function of defining how that manpower could best be withdrawn from the civilian population with minimum economic and political disruption. Suzerainty over that function and that aspect of policy was challenged during the Johnson administration after Selective Service had failed to perform effectively during the later stages of the Viet Nam conflict.

Interest groups like the VFW and American Legion have performed the functions of: (1) supporting requests by the Department of Defense for more manpower principally by means of conscription; and (2) supporting an effective Selective Service which until the

1970's entailed the provision of personnel to staff local boards. Groups like the ACLU and the American Friends Service Committee have served the function of a "loyal opposition". Generally, they have been opposed to conscription, but more specifically have served as "watchdogs" of procedural and religious rights. The National Guard Association and the Reserve Officers Association have performed the function of providing: (1) general support for greater quantity and quality of military manpower; (2) support for conscription (which in turn furnished them with volunteers); and (3) providing a cadre to staff state and national headquarters of the Selective Service.

A typically "routine" basis for interaction in this PS is conflict that grows out of the functional roles and in which the stakes are marginal adjustments in the incentives derived from the allocation of values. For example, a perennial point of conflict is the mobilization requirements issued by DOD 52). This represents the numbers of persons and the level of training needed by certain points in a mobilization schedule. They are the result of elaborate studies and simulations which in turn derive from scenarios which are based on strategic assumptions. Though DOD has a great deal of clout in this matter, its leadership is aware that the requirements are subject to challenge, and that a challenge would be a messy business which might question the assumptions which underly the figures. Assumptions are after all always challengeable. Therefore, DOD, Selective Service, and OMB must come to a compromise between what DOD would like, SSS can deliver, and OMB is willing to support as part of the President's budget.

Conflicts that were more episodic but still considered "routine" have been: (1) struggles over how many category IV's (persons scoring in the bottom quartile on the Armed Forces Qualifications Tests) particular services have been required to accept in a draft or permitted to accept in meeting recruitment quotas 53); (2) disputes over how to measure "quality" of enlistees; (3) debate over how to define "meeting an enlistment quota" or "manpower needs"; and (4) sharp disagreements on how AFQT scores should be "normed", i.e., what population should be used as a reference group against which contemporary scores are compared (at issue was the "real" quality of today's recruits).

These routine conflicts, whether perennial or episodic are the daily grist of a PS's internal economy; the kinds of issues around which members instrumentally and routinely interact. It is a world that only the "initiated", the expert, the "insider" can easily understand or easily enter 54). Yet the outcomes affect both the formulation and implementation of policy. For examples of effects upon policy formulation, take the following: (a) how AFQT scores are normed drastically affects the picture of quality in an all volunteer force, making it look very good or very bad, and

thus fueling policy debate over whether or not we must return to a draft; and (b) how one defines "meeting" recruitment quotas can make recruitment efforts look like a success or failure. For an example of effects upon implementing of policy take the struggle of the services over how many category IV's they must or can accept. This routine conflict is an effort by member actors to make marginal adjustments in the implementation of a value allocation in order to maximize gains and minimize losses.

In the following section we shall see how routine issues can be transformed into the non-routine or political dimension. The key to this transformation is the change in perceptions of members as to what is routine or non-routine. This change in perceptions can be triggered by either external impingements or internal dynamics.

EXTERNAL FACTORS AS PERCEPTUAL IMPINGEMENTS

Policy subsystems, particularly their internal economies, are affected by the general economy. If we look at the Military Manpower PS we see change stemming from the external economy. During the late 1960's an external economic (more specifically a demographic) variable had a dramatic impact on the PS's political economy (55). The number of draft age persons grew to such proportions that draft boards had to make increasingly ludicrous and unfair decisions in order to defer enough persons to keep supply and demand matched. When the controversy over the Viet Nam war heightened the equity concerns, external economic variables merged with external political variables to alter the perceptions of actors in the MMPS and shattered the subsystem's long-standing equilibrium. One of the most powerful actors, DOD, turned to another, Selective Service, and led a struggle (largely within the PS at first) to reorganize Selective Service and install a lottery. Other actors were forced to take positions in a struggle which quickly became decidedly "non-routine". The Congressional Committee sided with Selective Service in resisting any changes but the President created a powerful new PS actor, a presidential commission, and found a prominent congressional ally (and potential critic if the President failed to act with alacrity) in Senator Ted Kennedy. An internal political struggle was in full swing, triggered by external economic and political impingements.

But external economic factors can have quieting and stabilizing effect as well. When major political intervention in the military manpower PS in 1972 drastically altered the political economy by abolishing the draft, it left the actors in the PS in very fractious and tenuous equilibrium. There remained sharp differences and conflicts over whether or not an all volunteer force would "work" (a term subject to much debate). Controversy raged beneath a relatively calm public surface. Actors hurled staff studies and

consultants's reports at one another; leaks to the press challenging or defending the efficacy and viability of a volunteer force were rife; congressional committees investigated; the Congressional Budget Office, GAO and OMB studies probed for some believable "truth" 56). Each month's enlistment figures and their shortfall of their targets were awaited with bated breath. But it all ended abruptly in mid-1981 as economic recession deepened and enlistments soared. The perceptions of the actors were significantly altered as it became clear that a new status quo was now firmly in place. Quiet returned to the PS and dissident groups favoring a draft slunk away to nurse their wounds and await opportunities that might arise with economic recovery and tougher times for recruiting. The internal polity of the military manpower PS was again in equilibrium, if only temporarily. As one member of the PS said with a grin, "things have settled down to a dull roar again".

External political factors are those perceived by a PS's members as conscious efforts by outside actors to alter the subsystem's allocation of values, i.e., change policy 57). This has the effect, intended or not, of changing the political economy of the PS, altering internal power, the parameters of value allocation, the incentive structure, and ultimately the instrumental and functional roles. The Reagan Administration has provided many examples in which the functional myth of a conservative mandate has been the external political impingement permitting the President to make political appointments and budget changes in a key agency that a PS might have served as catalytic ingredients to set in motion changes in the PS, changes that have multiplier effects resulting in major policy changes. There are other examples in which such coalitions have proven necessary but insufficient to change a PS. President Kennedy's efforts to change the tobacco subsystems, described by Fritschler, is a case in point.

CONCLUSION

We have attempted to point toward ways that political science, public administration or other disciplines can begin to fill in "black box theory" by devoting attention to policy subsystems as a unit of analysis. We have tried to specify and describe the characteristics of policy subsystems. We tried to do this with considerable care so as to differentiate a policy subsystem from other kinds of "networks that are being talked about and conceptualized; all too loosely we think. We hope this list of characteristics might become the basis for conceptual consensus on the phenomenon of policy subsystems. It is our feeling that conceptual consensus is sorely needed if we are to get on with the task of understanding the "black box" of the political system. Finally, we have tried to elucidate the model of the policy subsystem and demonstrate the efficacy of a political economy approach to

analyzing them.

We are convinced that we will not begin to fully understand the American (and many other) political systems until we can better analyze the governance process. We believe that the policy subsystem is the unit of analysis that must be used for this task and that a political economy approach is the best possible mode of analysis. If we are right and if this paper has fulfilled any of its tasks, perhaps we can begin to make progress on the task Ernest S. Griffith set before us nearly half a century ago---- "obtain(ing) a better picture of the way things really happen" by "study(ing) these 'whirlpools' of social interest and problems" (58).

FOOTNOTES

1. David Easton, *A Systems Analysis of Political Life* (New York, Wiley, 1965).
2. Implementation studies have burgeoned in the last decade. See for example: Jeffrey L. Pressman and Aaron Wildavsky, *Implementation* (Berkeley: University of California Press, 1973); G.C. Edward and I. Sharkansky, *The Policy Predicament: Making and Implementing Public Policy* (San Francisco: W.H. Freeman & Co., 1978); Thomas R. Dye, *Understanding Public Policy* (Englewood Cliffs, N.J.: Prentice-Hall, 1972); Robert T. Nakamura and Frank Smallwood, *The Politics of Policy Implementation* (New York: St. Martin's Press, 1980); E. Hargrove, *The Missing Link: The Study of Implementation of Social Policy* (Washington, D.C.: The Urban Institute, 1975); Ira Sharkansky, *Public Administration: Policy Making in Government Agencies* (Chicago: Markham, 1975); Paul Sabatier and R. Masmanian, eds., *Special Issue on Implementation, Policy Studies Journal*, (1980); Walter Williams, *The Implementation Perspective* (Berkeley: University of California Press, 1980); James S. Larson, *Why Government Programs Fail* (New York: Praeger, 1980); Carl van Horn, *Policy Implementation*, (Lexington, Mass: Lexington, 1979).
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 8. Francis E. Rourke, *Politics and Public Policy*, 2nd ed. (Boston: Little, Brown & Co., 1976).
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 12. *Ibid.*, p. 251.
 13. *Ibid.*
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 15. *Ibid.*
 16. Phillip Gregg, *Problems of Theory in Policy Analysis* (Lexington, Mass.: D.C. Heath & Co., 1976).
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20. Cater, ch. 2.
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 22. Abraham Kaplan, *The Conduct of Inquiry* (San Francisco: Chandler, 1964), p. 265.
 23. According to Webster's New Collegiate Dictionary---multifarious: having or occurring in great variety; diverse.
 24. See ACIR's Survey Data analyzed by Deil S. Wright in *Understanding Intergovernmental Relations*, North Scituate, Mass.: Duxbury, 1978, p. 306-311.
 25. Deil S. Wright, "Revenue Sharing and Structural Features of American Federalism", *The Annals*, Vol. 419 (May, 1975), p. 115-18.
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 27. Benson.
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 29. The term coalition is used here with reservations. Though it is commonly used in macro organizational theory, I am concerned about clarifying the conceptual differences (if any) between collectivities, coalitions, associations and the like. The matter may be of some importance in grasping the essential nature of the bond between the actors in PS's, i.e., whether or not the bond is primarily about ends, means or both, and what the strength of that bond might be.
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 32. Freeman.
 33. Freeman, Cater, Redford, Griffith.
 34. Fritschler, p. 3; Cater.
 35. Ibid.
 36. Harold Seidman, *Politics, Position, and Power* (New York:

- Oxford University Press, 1970).
37. Larry Keller and Gary Wamsley, "Interorganizational Policy Networks: Up From Ideology" (September 1980, unpublished).
 38. Cater.
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 41. For examples of normative structures at work: For two decades the U.S. Forest Service ignored the mounting evidence that certain forest fires were beneficial and should be allowed to burn themselves out. The evidence was at variance with the normative structure of the Forest Service. Hoover's FBI, in viewing most civil rights workers as communists, is another example of the bias that normative structure builds into organizational and interorganizational decision-making. Sir Geoffery Vickers, *The Art of Judgement* (New York: Basic Books, 1965), p. 67-96.
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 44. Theodore Lowi, *The End of Liberalism*, 2nd ed. (New York: W.W. Norton and Co., 1979).
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 47. See Wamsley and Zald, ch. 4.
 48. J.K. Friend, J.M. Power and C.S.L. Yewlett, *Public Planning: The Interorganizational Dimension* (London: Tavistock, 1974).
 49. Wamsley and Zald, p. 19-22.
 50. Warren, et. al.
 51. Milward.
 52. See especially "The Requirement for an Effective Standby Draft Capability".
 53. Ibid.
 54. Keller, p. 24.
 55. Details drawn primarily from Wamsley, *Selective Service and a Changing America*, and "Selective Service System Reorganization Study: Report of the Study Team".
 56. For a list of studies, see appendix in the "Selective Service System Reorganization Study: Report of the Study Team".
 57. For an elaboration see Wamsley and Zald, and Keller and Wamsley, p. 27-31.
 58. Griffith.

THE UNIT OF ANALYSIS AS A METHODOLOGICAL PROBLEM:

Comments on Wamsley's "Policy Subsystems as a Unit of Analysis in Implementation Studies: A Struggle for Theoretical Synthesis".

Chris Hull

Gary Wamsley's paper makes a bold attempt to pull together theoretical traditions and conceptual elements from several areas of social science - in particular from political science, public administration and organisation theory - in a bid for an analytical framework which might find some measure of consensus among those of us who engage in policy analysis (Wamsley's reference to implementation studies in the title of his paper is surely too narrow for the substantive scope of his undertaking). The crux of Wamsley's argument is that we must subscribe to a more comprehensive unit of analysis than hitherto, viz. policy subsystems, in order to overcome our persistent failure to make any meaningful sense of the crucial links between the input and output sides of the political system.

The general thrust of Wamsley's paper is well received. There can be no doubt that a more realistic and relevant policy analysis does need the kind of multi-actor/multi-resource perspective, built on multi-disciplinary foundations, which Wamsley espouses. This being said, his proposed unit and associated politico-economic mode of analysis prompt some critical comment. The conference discussion of his paper was directed mostly towards the explanatory potential of his framework. In addition, questions were raised about the delimitation of policy subsystems as unit of analysis. I propose to discuss the first of these more briefly and the second at greater length.

The matter of the explanatory potential of Wamsley's framework was raised early in the conference when a participant asked what question the framework is intended to answer. The reply was Laswell's classic "who gets what, when and how?" Much of the

conference discussion was then devoted to considering whether in fact the framework would succeed in providing interesting answers to the Laswellian question (the relevance of which nobody doubted, of course).

Much of the discussion is captured in the observation of one conference participant that a comprehensive explanatory framework, such as proposed by Wamsley, if it is to contribute to a better understanding of complex policy processes, should indeed be addressed to answering the question of who gets what, when and how, but must at the same time be conceived and constructed in such a way that certain variables and the relationships between them are identified and hypothesized as having a central place in the framework in the sense of representing or embodying a "transformational function" linking interactions among participants in the policy process (inputs) and the results of policy as outputs and outcomes. There was something of a sense that the framework was lacking these central variables and relationships. Without this "strategic thrust" and "instrumentality" it was felt that the framework would have difficulty in providing answers to the Laswellian question.

Other doubts expressed during the conference about the explanatory potential of the framework were formulated with respect to its practical policy relevance. There was some feeling that the model and mode of analysis may be an interesting way of analysing "power" relations among actors and institutions in society, but that too little attention was given to explaining specific policy outcomes - and in terms of variables in principle manipulable by the policy maker. To caricature, in this view the Wamsley approach is more policy (where policy is of little more relevance than as the substantive peg upon which the analysis of power relations is hung) than it is (applied) policy analysis.

This is, of course, the old dispute between "pure" and "applied" research in the social sciences (and elsewhere), and not something to be debated here. As a final observation, however, it is perhaps worth recording one conference participant's remark that most policy analysis tends to be of the "academic" variety, the distinguishing feature of which is a predominant concern with how environment affects organisation; in any applied public policy perspective, by contrast, one must surely devote at least as much attention to the question of how organisation affects environment.

At this juncture I wish to leave the issue of the explanatory potential of the Wamsley framework and turn instead to the question of the delimitation of policy subsystems as unit of analysis. Wamsley in his paper poses the unit-of-analysis problem as a conceptual one, but that strikes me as only half the story. The other half is methodological. How do I know a policy subsystem

when I see one? Or rather: how do I go about looking for a policy subsystem and how do I know when I have found it?

The unit of analysis problem in social science research generally is the problem of bounding and structuring complex reality in order to reduce it to humanly manageable proportions for practical purposes of research and understanding. Every exercise in analysis involves a unit of analysis decision, even if that decision is frequently taken implicitly rather than explicitly. The "trick" for the researcher is to include sufficient of complex reality to make for significant findings, but not so much as to risk floundering in an ocean of variables.

Units of analysis are never given. It is for the researcher to decide what ordering of reality seems most likely to yield significant explanation. This is Wamsley's argument, too. He says, that we have failed to make much progress in understanding policy processes because, in focussing our attentions piecemeal on discrete bits of the policy process, we have failed to address the central issue of the crucial linkages between the input and output sides of the political system. Benny Hjern and I have made much the same argument elsewhere (Hjern and Hull, 1982), so that on this point I am in full agreement with Wamsley.

My problem lies fully and purely in the realm of method. While I do not for a moment wish to reify methodology by arguing imperatively for some epistemologically impeccable technique for defining the boundaries of policy subsystems as unit of analysis, it does seem to me necessary that explicit attention be given to at least minimum decision rules for delimiting units of analysis if we are at all serious about wanting to pursue research with any semblance of scientific rigour. If no attention is given to these rules, the memberships of units of analysis risk being more or less random, with all that is then implied for the scientific principles of reliability and falsifiability. It is some statement of the decision rules which he applies that I find missing in Wamsley's paper.

The importance of these rules can be exemplified by reference to Wamsley's paper itself. In the latter part of his contribution, for example, Wamsley provides a list of members of the "military manpower" policy subsystem. Assuming this list to be complete (which it is avowedly not), by the application of what decision rules to what data could Wamsley know that his listed actors are (i) all actors in the military manpower subsystem, but also (ii) all of the actors of the said subsystem? In other words: what are the criteria of inclusion and exclusion? Elsewhere in his paper, Wamsley makes much of "non-routine conflict" and even of "civil war" within subsystems. By what yardsticks can one know when conflict is such in kind and scale that a separate subsystem must be

considered to exist?

In Wamsley's case, the bounding of the unit of analysis would seem to be a doubly important matter because of the stress which his political economy mode of analysis places on the distinction between internal and external factors affecting behaviour in policy subsystems. It is self-evident that any distinction between factors internal and external can only be as good and precise as the boundary between the subsystem and its environment can be drawn validly and reliably. The organisation/environment problem may be old hat, but it remains centrally important. It is still all too commonly assumed in organisation research that, without any particular ado, organisations are distinguishable from their environments and that individuals and other phenomena are readily identifiable as being within or without particular organisations (Cf. Dunbar, 1983).

At several points in his paper Wamsley does in fact allude to techniques for delimitting the unit of analysis, but then tends to dismiss them as not addressing the real issues. At one point, for example, he states that:

"Assuming for a moment that we can "map" subsystems, we must still face the fact that this would tell us who is in the subsystem and perhaps how they are behaving but not why they are behaving as they are".

Elsewhere, he argues that:

"Network analysis merely tells us who interrelates; not why they interact, on what basis, for what purposes, or their points of agreement and issue".

The implication is that to "map" subsystems or to engage in network analysis is to undertake a kind of analysis which is an alternative to the kind of systems analysis centered on questions of process which Wamsley wishes to engage in. I demur to the extent that the two sorts of analysis strike me as not so much alternatives as logically complementary to one another: when once you are clear about who participates (mapping/network analysis), only then can you go on to consider the content and consequences of policy subsystem behaviour.

I am aware, of course, that much network analysis does not get beyond mapping who participates in networks and hence is indeed guilty of the charge which Wamsley levels at it. But that is not my point. My point is that the unit-of-analysis problem in policy analysis is as much methodological as it is conceptual. For all that I admire Wamsley's attempt at theoretical synthesis and conceptual precision, I do fear that policy subsystems as unit

of analysis will almost certainly founder unless given some more explicit methodological underpinning. One promising perspective to this end, it seems to me, are the very network analytic techniques which Wamsley passes over.

The unit-of-analysis problem as a methodological problem and as a central problem of policy analysis is something which has long occupied Benny Hjern and me (Cf. Hjern and Hull, 1982; Hull and Hjern, 1983). Indeed, the research about which we write elsewhere in this volume involved a design which gives particular attention to the unit-of-analysis problem. Since lack of space precluded our enlarging on the matter there, perhaps we may take the opportunity to do so here, for we believe our general approach to have wider application than our current interest in the institutional arrangements through which public and private resources are identified and mobilised by small firms to help them tackle impediments to their growth.

It seemed to us clear from the outset that small firms have before them multiple resources and multiple organisations to which they might turn for assistance. It made no sense to want to peg our analysis on some specific "small firms' policy" or on particular public programmes directed towards small firms; the policy is typically indefinable and small firm programmes are probably only a small part of the public resources utilised by small firms (for example, they presumably also mobilise programme resources from regional policy, technology policy, sectoral policy, and so on). Nor did it make any sense, alternatively, to try to hang the analysis on some particular organisation; the small firms agency does not exist. In short, we found ourselves confronted by a context very similar to what Wamsley describes and in fact probably typical of much "policy activity" in our times: many organisations, some public and some private, some bearing a formal mandate and some having none, are active in identifying and mobilising resources, material and non-material, of their own or of others. The problem is to know what elements in this complexity should be included in analysis and what elements can safely be ignored.

Whether it is policies and programmes directed towards small (or large) firms or other organisations or policies and programmes aimed at individuals - and in policy areas as diverse as, for example, housing, education, health care, social welfare or labour market policy - the research problem is presumably much the same. There are not so much single programmes in sanitised separateness as jumbled bundles of public and private resources sometimes competing with, sometimes complementing one another. And there are rarely single public organisations with formal executive mandates, each operating in splendid isolation from each other - as much as more or less (dis)orderly competition or cooperation between public and private mandatees and non-mandatees. How to sort the

essential from the trivial whilst doing minimum violence to the reality of the situation?

The conclusion to which Benny Hjern and I have come is that there is only one point of access into this complexity which affords the chance of systematically delimiting the unit of analysis while avoiding the need for ultimately arbitrary decisions about whether to include Resource X or Actor Y. This point of access is at the level of policy outcomes. If we are interested in educational policy, it is because we are interested in perhaps pupil achievement levels or perhaps the effect of class size on achievement or perhaps the determinants of school attendance and absenteeism.

If we are able to formulate our policy interest in terms of on-the-ground phenomena which can be construed as potential policy outcomes, whether intended or not, we may have a point of departure for using network analytic techniques for reconstructing the relevant unit of analysis, i.e. the set of actors whose doings culminated in the particular phenomenon.

In our own "Helping Small Firms Grow" project this is how we proceeded. In selected localities (the criteria of selection are of no relevance here) we first constructed representative samples of small firms. We assumed that firms mobilise external resources, if at all, in order to tackle specific problems currently facing them. Hence we interviewed each firm in our samples for the major problem which had confronted it during the previous three years, and then for all of the actors which the firm had contacted in its attempt to find a solution to its major problem. In a second round of interviewing we interviewed the actors named by our firms, and included questions about any further actors they might have contacted in order to assist the firm. By this type of "snowballing" interviewing procedure it is possible to reconstruct systematically the unit of analysis. Actors not mentioned in interviewing can be deemed, on presumably solid empirical grounds, to be not relevant to the analysis. How often, by whom and in what context particular actors are mentioned can provide similarly robust empirical guidance as to which actors deserve what analytical priority. Relevant resources are readily identified through the actors named.

I could imagine this kind of approach being used in many research situations characterized by multiple actors and multiple resources in order to arrive at a more robust delimitation of the unit of analysis. Let me stress that I am concerned here only with the unit-of-analysis issue and have consciously not addressed questions of substantive analytic content. It is hopefully evident, for example, that in our own interviewing of firms and actors our questions were not limited just to those necessary for mapping

who to include in the unit of analysis; the bulk of our interviews were in fact devoted to eliciting data required for substantive analytic purposes.

I have tried here to emphasize that the unit of analysis problem in policy research is as much a methodological problem as a conceptual one. Indeed I would go so far as to argue that what conceptual difficulties there may be are unlikely to be satisfactorily resolved if they are not tackled with an open eye to their methodological implications and requirements.

My purpose, therefore, has not been in any sense to reject Gary Wamsley's framework, but to argue for why it should be given a firmer methodological underpinning. Unless the reader is given some notion of the reasons for why a particular actor qualifies as a member of a policy subsystem and for why another actor does not, he or she will have no chance of assessing the validity and reliability of what the analyst has done. That is the acid test of social science, and it is why the unit-of analysis problem in (not only) policy research is a pre-eminently methodological one.

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POLICY SUBSYSTEMS, NETWORKS AND THE TOOLS OF PUBLIC MANAGEMENT

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A critical point is reached in theoretical development when a concept becomes "conventional wisdom" and finds its way into basic textbooks. At that point the concept is in grave danger of ossification: either it becomes so firmly embedded in thinking that it thwarts new conceptualization or it becomes vulnerable to challenges, which call for its abandonment because of its lack of congruity with reality. This paper will discuss a concept which is at such a critical point: the policy subsystem or "iron triangle" composed of interest group, executive agency and legislative committee.

The policy subsystem has passed into conventional wisdom without the concept ever being fully described, analyzed, or understood; and now calls for its abandonment have emerged without any additional knowledge being added to the rather shaky base that originally undergirded its enshrinement in conventional wisdom (Weaver, 1978; Heclo, 1978). We will review the emergence of the concept and its importance for public policy, chart the work that still so badly needs to be done and put forward a tentative framework to aid in its analysis.

Since Ernest S. Griffith (1939 : 182) wrote that political scientists should study the "whirlpools of interest" rather than governmental institutions, there has been a long series of case studies dealing with the relationship between interest groups, legislative committees and executive branch agencies. Arthur Maass(1951), Leiper Freeman (1955), Douglas Cater (1964),

Lee Fritschler (1975), and Emmette Redford (1969), all contributed to the development of the variously named "iron triangle", subgovernment, or policy subsystem as a unit of analysis in the study of policy formulation through a very rich if nonempirical set of case studies.

As one sifts through this descriptively rich literature two things appear to be common to each of the studies. Each "triangle", "subsystem" or "subgovernment" has a pipeline to the federal treasury and the authority to franchise public policy in the name of the state. Davidson (1974) has captured the essence of the phenomenon in his study of manpower training programs. He notes that internal complexity is one hallmark. Those numerous interests both within and without the government compete for a piece of the action, which comes in the form of discrete units called programs.

The second distinguishing feature is functional autonomy. Their autonomy comes from technical complexity of the issue area together with a shared, consistent, proprietary interest in the program over a long period of time.

Another distinguishing feature is vertical integration. This means that government programs bind the program professionals and their professional associations together through all layers of government into what the Advisory Commission on Intergovernmental Relations called "vertical functional autocracies". This phenomenon helps to explain why coordination is so difficult to achieve at the federal level by either the President or Congress, which itself reflects the myriad of programmatic interests through its committee structure (Davidson, 1974: 105).

These specialized policy subsystems span the public and private sectors, the branches of government and the different levels of the federal system. They cross agency jurisdictions at will and even include private individuals. In the case of policy subsystems, political and organizational self-interest has done what the Planning, Programming, and Budgeting System could not; it has organized those interested in a particular policy along program lines. The difference is that control does not accrue to the chief executive but rests with those most interested in that particular class of policy outcome.

Most of the research in this area has occurred at the national level. A few scholars realized that the "vertical functional autocracies" that they saw in the implementation of housing, transportation, and welfare policy in the cities and states were connected to "iron triangles" at the national level. However, most political scientists viewed these two phenomena as distinct. The connection was not often made that the vertical subsystems was the operational and managerial arm of the horizontal subsystem

whose job it was to set overall policy in the issue area and extract funds from the larger political system. The strength of the vertical alliance depends on the strength of the national level subsystem and vice versa.

Despite the growing richness and complexity of the work in this area and the realization that the degree of cohesion and policy homogeneity among the participants varies significantly from subsystem to subsystem, it was the "iron triangle" with its assumption of exclusivity and interest group, bureau, subcommittee focus in Washington that became the conventional wisdom that has found its way into textbooks and journalistic accounts of policy-making 2).

Metaphors are an important aspect of conceptualization and theory development. According to Kaplan (1964: 265), they can result in the recognition of "similarities that have previously escaped us" and enable us to systematize them. Unfortunately, an inappropriate metaphor can be a conceptual trap, or a concept's metaphorical base can become inappropriate with changing circumstances. This would seem to be the case with the iron triangle metaphor. It identifies three typically important actors in a policy subsystem, but this small benefit is far outweighed by heavy costs. It conveys an image of rigidity, exclusivity and simplicity that is far from reality in all but a few cases.

Whatever the reasons for the popularity of the iron triangle, it is particularly ironic and unfortunate that it is now being debunked as inadequate without ever having been adequately conceptualized.

The iron triangle is under attack for good reasons, but it is probably unfair to include many social scientists in the target area. For it has been largely the journalists and textbook writers who have popularized the simplistic triangle.

It is evident in the descriptive case studies that, while the triangle might encompass some typically important actors, there are other actors who are equally important and their relationships are complex. Some of this multi-dimensionality is captured in the "picket fence federalism" metaphor used by Deil Wright (1975: 115-8): the programs in health, housing, welfare, etc. are the "pickets" which support the fence and extend from Washington to the state and finally to the cities where the programs are delivered. The slats in the picket fence are the levels of general government - federal, state, and local - which hold the programs in place but which are incapable of coordinating the different programs.

It is not clear whether the earliest writings on policy subsystems emphasized a tendency toward closure or whether readers imputed exclusiveness to them. Cater (1974: 17), for example, expressed the dynamism quite clearly: They "are not to be confused with factions. Within them, factions contend to a greater or lesser degree. The power balance may be in stable or highly unstable equilibrium. But the ... tendency is to strive to become self-sustaining in control of power in its own sphere". And Freeman (1955: 60) clearly says, "...the influence of groups expressing certain orientations waxes and wanes and shifts its focus from one part of the subsystem to another".

What seems likely is that the finding of the natural tendency in all human behavior to maximize autonomy was the first thing to catch the attention of readers. Since anything smacking of insularity was incongruent with democratic ideals, it naturally attracted attention. What nonetheless became evident to everyone but the popularizers of "the iron triangle" was the fact that efforts to insulate policy subsystems are often (though many might say not often enough) offset by efforts to penetrate or open up access to them. Policy subsystems might like to quietly become "policy clubs" but they can be found in every conceivable state of accessibility.

Whether congruent with democratic ideals or not, a major reason for the existence of the policy subsystem is that it brings rationality (of an internal variety), stability and reliability to a loosely coupled and fragmented political/administrative system fraught with irrationality. Without policy subsystems there would be chaos.

It also became apparent that these policy subsystems did not operate in distant isolation from one another but indeed that they fitted one against another in a tightly symbiotic ecosystem (Long, 1958). Each attempted to carve out an ecological niche. This process involves interaction with other subsystems. Norton Long described the ecological relations of these subsystems (which he called games) as follows: semi-autonomous yet regularly reciprocal; internally rational but without necessarily sharing a conjoint or overall rationality; somewhat competitive but simultaneously having some mutual interdependencies (Long, 1958: 251).

EXISTING CONCEPTUAL CONSENSUS: SUBSYSTEMS AND NETWORKS

The iron triangle notion notwithstanding, a number of scholars have developed a fairly sophisticated conceptual consensus on the nature of policy subsystems. This consensus has been informed by a growing body of literature from organization theory where there has long been a concern for the organizational environment and from some urban sociologists concerned with tracing interorganizational linkages in urban areas. These two streams of thought

have steadily moved toward efforts at conceptualizing and empirically operationalizing interorganizational networks as a unit of organizational analysis. Space permits only a mention of these works, but their convergence with works from political science using the policy subsystem as a unit of analysis is a vital part of the conceptual consensus that has emerged.

Howard Aldrich developed and applied a "population ecology" model to the study of networks (1978). Herman Turk (1970) and Roland Warren, Stephen Rose and Ann F. Bergunder (1974) studied the interaction of networks in an urban setting. In addition Roland Warren, et. al. (1974), and J. Kenneth Benson (1975) attempted to connect the network phenomenon with social choice and the structure of power in society, thus giving the networks a political as well as organizational focus. Friend, Power and Yewlett (1974); Crozier and Thoenig (1976); and Hjern and Porter (1981) captured the vertical dimension of network interaction between semi-autonomous actors and different levels of government. All of these works have tried to conceptualize interorganizational networks without necessarily having a focal organization at the center of analysis, as did works like Wamsley and Zald (1976).

These works are a rejoinder to the recent writings which have used the appropriately discredited iron triangle as a strawman (Weaver, 1978; Heclo, 1978) or stated that an altogether new phenomenon was emerging in our political system. Hugh Heclo is, however, accurate in saying, "...the iron triangle concept is not so much wrong as it is disastrously incomplete" (Heclo, 1978; 88). What mars an otherwise excellent piece is his assumption (apparently shared by Paul Weaver) that the iron triangle represents the sum of our conceptualization of the political scientists' policy subsystem or the organization theorists's interorganizational network.

Out of the literature we have cited as well as our own work we have tried to identify some common characteristics of policy subsystems (PS's):

1. PS's are primarily an analytical construct imposed by the observer. (i.e., in mapping a subsystem's network you have to start somewhere and end somewhere). They may also be self-conscious social entities but, if so, this will be coincidental.
2. PS's are systems in the sense that the variables that comprise them are interrelated so that a change in one variable results in a change in others. Members of PS's are thus functionally interdependent or interrelated; in some, members have close symbiotic relationships, in others members have worked out guarded truces, while in still others members are engaged in open competition or aggressive interaction.

3. PS's are subsystems of the larger political system; related to it but in varying degrees of intensity and richness. All have established some degree of autonomy from the larger system.
4. PS's in the American system cut across the conventional divisions of power (legislative, executive, and judicial) and levels of government with varied internal distributions of power.
5. The configuration of power within PS's varies widely from one to another. Some are dominated by one or a few very powerful actors but in others power may be relatively diffuse. The structure of task interdependency also varies; in some it is consciously structured and interrelated in complex ways, for others such interdependence will be much less or perhaps unconscious.
6. PS's are composed of institutions, organizations, groups, and individuals linked on the basis of shared and salient interests in a particular policy. In the American policy these might include bureaucratic agencies from all levels of government, interest groups, legislative committees and subcommittees, powerful individuals, or relevant others.
7. The linkages between units of a PS are vertical as well as horizontal so that a PS may consist of horizontal clusters at different levels which are linked to one another vertically to form the overall subsystem. For example there can be linkages among health agencies in a city as well as each agency being linked to separate state and federal agencies.
8. The behavior of individuals within PS's exhibits micro-rationality; i.e., these individuals reflect functional activity of the subsystem and their roles; these roles provide determinate goals, rationales, calculable, strategies, norms, and roles that are rational for the individual actors within the context of the subsystem.
9. The overall effects of PS's and their activities generally do not represent conscious, planned, centrally coordinated, macro-rationality. This is not to preclude the possibility of such control and direction by PS actors, but it is to suggest that this is difficult at best in the American political system.
10. Self perpetuation is the only shared goal of all participants. If program authority and funding are threatened, this will tend to unite all participants.

THE SEARCH FOR AN ORGANIZING FRAMEWORK

Whenever one attempts to classify social objects there is the problem of time. Not only do social objects not stay put, but they change over time.

Should one...follow similar programs and agencies, divergent

or changing programs aimed at the same target group, or efforts - from whatever source - directed toward the same result. (Eyestone, 1980: 10).

One way of easing these doubts as to what is the proper approach to classifying the policy subsystems has been the Lowi (1964) typology of Distributive, Regulative and Redistributive policy outputs. With outputs as the independent variable the differences in patterns of decision-making in each type of policy subsystem would supposedly become clear and the actors, organizations, and institutions could be identified and compared. If this could be done, attempts like Ripley and Franklin's (1980) useful heuristic effort would bear empirical fruit. When one tries to expand beyond a heuristic classification using either the Lowi typology or a variant of it, like Salisbury's (1963) or Ripley and Franklin's (1980) some very real empirical problems develop. Most importantly there is the problem of interorder agreement, where one person's redistributive policy is another person's distributive policy. The time dimension is a true fly in the ointment for policies that began as clearly redistributive (such as impact aid to school districts) but which become distributive over time. Again, social objects don't stay put.

The second reason that Lowi's categories are not appropriate for classifying policy subsystems is that they deal with policy outputs, which is an aggregated concept like health, welfare, housing, etc. Fritschler and Ross (1980) argue that to locate a decision-making system (what we refer to as a policy subsystem) you should begin by carefully indentifying and defining the program or issue you are interested in. These systems are organized around programs which are specifically defined in law. Thus there is no subsystem for welfare, housing or health. They argue that these are abstractions. In any given area policy is the sum of dozens of specific programs that are defined in specific terms in statutes and agency regulations. We must therefore reject the Lowi typology because it is more a resultant condition than a social object. "...Health policy is the sum of hospital construction, cancer research, medical school education, drug licensing, communicable disease control, and dozens of other specific programs" (Fritschler and Ross, 1980: 74).

How does one bound a community of interest? Donald Campbell (1958) has proposed "common fate" as one way to bound social aggregates like subsystems. Here the test is "do objects move together?" The community of interest in regard to public decision-making may well fail this test. In any given policy subsystem there may be many groups (handicapped, aged, blacks, chicanos, elderly) who claim standing and are often granted it in public policy decision-making. Clearly "common fate" does not bind these diverse groups.

While mindful of the injunction that one of the problems with political science is that there are too many loose frameworks, still there is no way to deal with a phenomenon as varied and diverse as policy subsystems without a tentative framework.

However, before we develop the framework we need to further specify what a policy subsystem is. In the policy subsystem there is both a horizontal and vertical pattern of governance. In the "iron triangle" for instance there is no vertical pattern, only the horizontal relations between bureau, committee and interest group. The policy subsystem consists of vertical and horizontal patterns of interactions in a specific area of public policy bounded by the rule structure of the policy. Individuals are not confined to one subsystem. They may hold multiple memberships and be engaged in simultaneous moves in multiple games.

Since work in this area has been done by organization theorists, for whom the interorganizational network is the unit of analysis, and political scientists for whom the policy subsystem has generally been the preferred unit of analysis, we will try to make clear what we feel to be the meaningful distinction between these two units of analysis.

Organization theorists have done more empirical work in this area than political scientists. This has caused organization theorists to focus on aspects of the policy subsystem which were amenable to measurement. This led to their focus on the "network" of relationships between actors and organizations in a given domain of public policy. The empirical linkages in the network includes resource flows, information exchanges, personnel flows between organizations and overlapping memberships. What they created was a "map" of the subsystem.

What the organization theorists did not do was to operationalize the "domain" in which the network operated. It was the context that gave structure and meaning to the network but it was not easily captured by empirical methods.

Political scientists, many of whom were methodologically less sophisticated than the organization theorists, were able to describe and make sense out of the actions of the individuals and organizations they were observing in their case studies. They could explain why changes in laws or in program regulations changed the behavior of the subsystem. They made sense out of why some subsystems had strong normative structures that gave meaning, clarity and coherence to their work and why some subsystems did not.

In the remainder of the paper we will distinguish between the subsystem and the network as follows: The network consists of the empirical links between people and organizations. This includes

resource flows, information exchanges, personnel flows over time, and overlapping memberships. It is the map of the subsystem.

The subsystem consists of the network or map, and the internal political economy created by the incentives surrounding the different tools or programs used by the members of the subsystem. The subsystem also includes the normative structure or shared system of beliefs that allow individuals to make sense out of what they do.

NETWORKS, TOOLS, AND POLICY SUBSYSTEMS

Networks in policy subsystems have empirical referents and can be at least partially mapped. The problem with mapping is that you know who is involved in a given area of policy at one point in time but you don't know why.

To answer the question of why a certain network exists we propose looking at the internal political economy which is the reward structure that surrounds the network. Earlier we stated that grants had done what PPBS had not been able to do and that is to organize the public sector along program lines. At the core of every network there is a fiscal spine which flows from the federal treasury to all those who benefit directly or indirectly from the program. Lester Salamon (1981) has proposed that we reorient research on public organizations and public management away from the behavior of individuals, organizations and institutions to the "tools" of government management 4). A descriptive typology of tools would at a minimum include formula grants, categorical grants, regulations, loan guarantees, insurance, subsidies, and tax incentives. A complete list of these tools would show that a given tool may be multifaceted. Regulation can be either of a single industry, such as banking, or social, such as affirmative action, which would apply to all types of organizations receiving federal funds. The impact of the regulatory tool might be very different in each case.

The central premise...is that different tools of government action have their own distinctive dynamics, their own "political economies", that affect the content of government action. This is so for much the same reasons that particular agencies and bureaus are considered to have their own personalities and styles - because each instrument carries with it a substantial amount of "baggage" in the form of its own characteristic implementing institutions, standard operating procedures, types of expertise and professional cadre, products, degree of visibility, enactment and review processes, and relationships with other societal forces. (Salamon, 1981: 264).

The advantage of bringing "tools" together with "networks" is that you get two levels of analysis - the collective choice level and the operational level (Kiser and Ostrom, 1982: 206-209). The collective choice level of analysis is brought out in the examination of the type of tool chosen to structure a program. The tool connects the network to the social choice mechanism of the state. Thus this level of analysis will include the choice of the terms and conditions of rules that bound the play of the game. The operational level is that of the various networks. This focuses on the play of the game in relation to the rules.

Since there are different levels of social structure, these levels of analysis can apply in either a vertical or horizontal fashion. Thus there can be two sets of rules that those who locally administer a federal program must play by - the federal rules attached to the tool as well as the local rules governing administration of city programs. The play of the game occurs at different levels as well. State program professionals may use their relationship with their federal counterparts to enhance their independence from their superiors in state government by saying that certain actions are required when they are not (Crozier and Thoenig, 1976; Wright, 1978: 306-11).

The reverse can also be the case. People at the top (the iron triangle) and people at the bottom (see the behavior of Community Decision Organizations in Warren, et. al., 1974) are often highly skilled in developing linkages horizontally. The people in the middle can be so overwhelmed with trying to link the top and the bottom that they don't have the time or the skills for constructing a horizontal network themselves; hence coordination in regard to a problem with spillovers is extremely problematic 5). Collectively the "tools" attached to programs constitute the internal political economy of the policy subsystem.

One last dimension of public sector decision-making is its normative structure. This is the affective dimension of policy making which Vickers (1965) terms "appreciation". The normative structure gives meaning to the action of the members of the network and the use to which the "tools" are put. If the social services complex defines its clients as incapable of making choices, then this justifies the use of professional social workers to mediate between the client and the state using in-kind transfer programs (food stamps) rather than cash transfers.

Often what may be billed as "bureaucratic pathology" may be due to the normative structure surrounding a professional or programmatic network. Officials in the former Department of Health, Education and Welfare released data which showed that the distribution of income in the U.S. had not changed in twenty years and used this to call for more redistributive measures. In their

analysis they failed to include the transfer payments to poor people that they themselves administer 6).

The networks, tools (which constitute the internal political economy) and normative structure are termed a "policy subsystem" which we have formally developed as a model elsewhere. (Milward, 1982; Wamsley, 1983). It encompasses the people, rewards and incentives and shared beliefs that constitute a policy subsystem. We believe that these three aspects of the policy subsystem can direct empirical research in such a way as to make sense of a most complex phenomenon.

INTERPRETING THE MAP OF A NETWORK

The network, while shaped by the internal political economy (or tools) and the normative structure (or beliefs) is the most empirically accessible component of the policy subsystem 7). In order to make sense of the map of a network, no matter how it is constructed methodologically, we suggest three nonmutually exclusive categories to help scholars organize their thinking in regard to the participants.

In the map of the network there may be clusters of people who are linked together in the network solely for reasons of personal advancement. This is the stereotypical "old boy network". These individuals may be in one profession or many, one organization or many, one sector (public or private) or both. It is the network of friends who help each other in regard to jobs, information, or covert coordination and negotiation 3). Personal clusters within networks may or may not have any influence on policy-making.

Professional clusters are a step up in complexity from personal clusters in the network. Professions of both the general (law, medicine, engineering and accounting) and specific (criminal justice planning, housing administration, municipal budgeting) types can either hinder or facilitate innovation and implementation of public policy. Their facilitative or blocking activity is usually determined by whether the innovation or program is in the interest of the members of the profession (as they perceive their interest to be) and whether it fits into their professional paradigm.

Since programs are the focus for networks, as well as, for policy subsystems, program clusters are most important for policy making. There are as many types of programmatic clusters as there are bases for organizing.

For example, David Walker (1980-1: 1195-1196) has identified five different kinds of organized interests in the United States that relate to intergovernmental program delivery:

1. Sociomoralistic (Right to Life Groups, Creationists).
2. Demographic (Black, Hispanic, Indian, Women's, Youth and Senior Citizens).
3. Economic (Business, Labour, Farmers, Doctors).
4. Programmatic (Highway Officials, Chief State School Officers).
5. Levels of Government (National Association of Counties, National League of Cities, National Governors Association, National Council of State Legislatures, U.S. Conference of Mayors).

We would also add two additional organized interests that affect program delivery:

6. Regional (Sunbelt, Frostbelt).
7. Politicomoralistic (anti-nuclear groups, environmental and preservationist groups).

In any one policy subsystem there may be program clusters based on any one or more of these interests. Thus program clusters may be linked by multiple membership between groups with different organizational bases and interests in a particular program. So after examining them we can classify them only loosely - by central tendency, recognizing that there are any number of individual and collective rationales for organizing.

Within these programmatic clusters negotiations are mediated by professional and personal clusters as this is the only way to reach agreement in a nonhierarchical situation (O'Toole and O'Toole, 1981). To the degree that networks based on program clusters proliferate in a policy subsystem the negotiations process becomes more complex. Negotiated order becomes more difficult to obtain as there is little shared belief about what should be done; that is to say that the policy subsystem has a weak normative structure.

NETWORK RATIONALE

Within any network, as a further way of interpreting the map of the network or cluster there is some rationale for an individual or group belonging to it. There has to be some factor which tips the contributions/inducements balance in a positive direction for an individual or group to maintain their membership over time. The rationale for involvement can be economic, ideological or professional enhancement. In practice there would probably be a mixture in any given individual member of a network and certainly in the collective membership of the network. However it is possible to speak of central tendency in terms of network rationale.

ECONOMIC RATIONALE

Some networks have a relatively pure economic base. Individuals and groups belonging to it expect something in return. Networks dominated by an economic rationale are those we are most familiar with and which are most likely still to have an iron triangle at their core. The literature has adequately described such networks as air transport, river development, tobacco, and sugar.

The principal rationale in these networks is the prospect of economic or material reward. For corporations or associations of corporations the payoff in affecting tobacco, sugar, or air transport policy is obvious. For the elected politicians or bureaucrats the benefits are somewhat more recondite but no less real. Congressman Jamie Whitten of Mississippi, former Chairman of the House Appropriations Subcommittee for Agriculture and now Chairman of the Appropriations Committee has, of course, reaped political rewards for the preeminence he has gained in agricultural policy, but he has also gained important benefits at the polls (Kotz, 1969). Agribusiness is big business in Mississippi and in the nation. Whitten's work on behalf of this industry has been amply rewarded in both campaign contributions and votes. While not expecting direct monetary rewards from the programs that may be related to a network, most nonelected officials who are part of the network gain a more secure environment and funds for cherished programs, and some may gain career advancement as well.

One must also take into account those members of a network who are not part of a dominant faction or are not congruent with such a faction. Here again, most of them will also be motivated by the prospect of economic or material gain. It merely happens that their views on policy, or the means of implementing it are out of favor, at least temporarily. There may also be some persons or organizations who actively participate but who would seem to be motivated primarily by an ideological rationale. For example, in the field of air transport several economists have written and testified on the benefits of deregulation and been influential in bringing about major changes in that policy subsystem. Unless one could find career enhancement behind their action one would have to say their rationale was not primarily economic.

PROFESSIONAL ENHANCEMENT RATIONALE

Various professions, particularly in their early development, spent considerable time, money and energy enhancing their status, autonomy, and economic position; and those activities and actors involved had a professional enhancement rationale. It seems likely that the professionalization of medicine, dentistry, law, accounting and engineering proceeded in this fashion.

What is new, however, is the incredible proliferation of professionalization efforts in the last decade; many, if not most, involving government funding, sanction and in some instances licensing. Also new and distinctly different is the fact that these professions are all dependent on state power for their existence and status. Like more traditional aspiring professions, they seek autonomy but within the public sector and under the aegis of the state.

The efforts of city managers to professionalize through the formation of the international City Managers Association is an example from an earlier era, but they now serve as a model for an avalanche of governmental assistance in doing so (Walker, 1993). The Municipal Finance Officers Association, the International City Clerks, and the National Association of Criminal Justice Planners are current examples. The latter come into existence largely at the prodding of the Law Enforcement Assistance Agency of the U.S. Department of Justice. LEAA has not only insisted on state planning as a prerequisite for funds, but has also sought to raise the level of planning skills and appreciation of criminal justice planners through funding and training. A policy subsystem for criminal justice naturally evolved from these efforts.

The profession of public administration offers another example. Established and prestigious schools of public administration have long existed, but with the growth of the public sector the demand for trained public administrators outstripped production. Many institutions of higher education entered the field, raising serious questions of quality control, generating unseemly competition, and threatening established institutions. The result was development of the National Association of Schools of Public Affairs and Administration, headquartered in Washington, D.C.; development of guidelines for curricula; development of a peer review process; seeking and acquiring of funds from HEW for curriculum development at selected institutions; and the development and implementation of a program for Presidential Management Interns.

Professions often affect personnel and allocational decisions in public agencies. Several years ago in Kansas the Department of Social and Rehabilitation Services tried to broaden the type of specialists that it hires. This proved to be an impossible task for the director to accomplish, as the lobbying force of the social work profession in the state as well as federal personnel requirements attached to the receipt of federal grants, were sufficient to sustain the requirement for social workers in specialties which the director believed would be better filled by persons holding degrees in public administration or child development (Milward, 1978: 378). Any attempt to change these classifications

requires negotiation with a profession which has a strong constituency within the federal and state civil service.

IDEOLOGICAL RATIONALE

The late 1960's and early 1970's saw a wave of social regulatory policy enacted largely to deal with the negative externalities generated by policy subsystems based on an economic rationale. Thus networks with an ideological rationale developed in the wake of social regulation.

These new networks cut across the more traditional networks based on economic and professional rationales and raise the level of interest aggregation to a higher level than is found in the latter.

The primary rationale that seems to be at work in these new networks is not material and economic gain, but ideological pay-off in the form of implementing values which the members hold dear. This is not to say that the actors involved are all wearing sack cloth and ashes. Most of them are doing well financially while doing good works. But they are able to claim they are acting in the name of the public interest and come closer to being believable than the actors in networks based on an economic rationale who, of course, make the same claim.

The networks based on an ideological rationale typically focus only on certain procedures and processes prescribed by law, rather than on substantive policy. The affirmative action/equal employment opportunity network, for example, will not be as concerned about the number of housing starts in America, as with whether or not housing policy research money was awarded in a non-discriminatory manner or AA/EE0 guidelines were followed by the housing industry or the government in awarding housing contracts. This points up the crosscutting nature of these new networks based on an ideological rationale.

In many instances networks do not simply involve an agency as a more or less unitary actor. Instead, they may pit parts of an agency against one another. Reportedly, the environmental network, badly split into factions, in a case where substantive policy was involved, made a battleground out of the Environmental Protection Agency whose legal staff was virtually at war with its Toxic Chemicals Division. In cases involving the danger to humans of pesticides, such as DDT, Dieldrin and Kepone, the legal staff actually hired outside chemists to testify to the toxicity of these pesticides because they felt they could not trust EPA chemists to support their findings. Conversely, the legal staff, when they felt the agency was delaying action in regard to pulling these pesticides off the market, encouraged environmental interest

groups to sue the agency while at the same time leaking damaging information about the agency's inaction to the press 9).

Networks based on an ideological rationale may also rely heavily on the administrative law process, seeking first to shape the writing of regulations and then holding other networks and actors to them. This kind of network often takes a very narrow or single issue focus and in other instances engages in bitter strife with networks based on economic self interest and professional enhancement.

Networks based on ideology may also go to the courts to reinforce demands or to Congress for statutory change or amplification to enforce what they feel was the original intent of the statute or program.

CAREER ENHANCEMENT RATIONALE

While not mentioned previously because of a lack of importance on determining policy, there are always those in any given network who are primarily acting from a career enhancement rationale. While this rationale could never dominate a policy subsystem, it could, through a strong personal cluster, provide the rationale for action on the part of a dominant coalition who acted to promote each other's interest and careers so that they could become the dominant faction in a network. Bases for solidifying and justifying a network based on a career rationale could be common schooling (Ivy League), common experiences (wartime compatriots) or common social class or ethnic background.

METHODS AND METHODOLOGY

Thus far our paper has been an attempt to bring some order to a very confusing phenomenon - the policy subsystem. We have tried to do this through distilling the literature and then using the results to identify the different types of networks and the elements of them within a policy subsystem which can be studied systematically. While this is the main task of this paper, it is appropriate to discuss problems of method and methodology at some length as they bear on the study of networks.

The Case Study Tradition:

In political science, networks are almost always studied using the case study approach. Redford (1969), Freeman (1955), Cater (1964), Fritschler (1975), and Maass (1951) all operated within this tradition. The cases, while full of rich contextual detail, do not "test" hypotheses (although some studies develop them from conclusions drawn from the case) or specify elements or their relationship to one another. The strength of the ties between members of the network is likewise not explored in any formal

manner.

What this tradition in political science has given us is a rich set of contextual studies of one or several networks at one point in time 10). What we are left with is a useful but largely limited verbal theory of subsystem politics (Culhane, 1978).

Organization and Environment Studies:

Ever since James Thompson's classic work, Organizations in Action, (1967), the environment and its influence has been a topic of study for organization theorists in both sociology and management. In recent years this interest has cumulated in a voluminous literature on organizations and environments (Perrow, 1979; Miles, 1980; Aldrich and Pfeffer, 1976; Aldrich and Whitten, 1981; Scott, 1981; Starbuck, 1976). Unfortunately while much work has been done, the environment has not been carefully described, specified or measured.

Treating environments as a residual category suffices when we wish to focus attention on the organization itself but not when we wish to treat the environment as a causal force influencing the structure or activities of organizations - as a set of independent or interdependent variables. (Scott, 1981: 165).

Concepts like "munificence", which is used to describe a resource environment, are so global that they are not susceptible to precise measurement. Likewise, the ongoing debate over whether uncertainty, which along with resource dependence is a defining concept of studies of the environment, is subjective or objective has not aided the development of orthodoxy in this area. Scott (1981: 178) points out that this lack of orthodoxy is accentuated by two other factors.

1. Every organization relates to a number of different environments, these environments may vary greatly. For example, a state education agency must deal with state level education interest groups and also with the U.S. Department of Education.
2. The operationalization of environmental variables is often difficult and confounding due to the abstract nature of the concepts and the great variability in types of organizations 11).

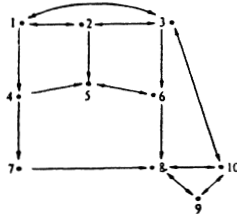
INTERORGANIZATIONAL NETWORKS

Frustration with global concepts like "munificence" and the fact that most studies have focused on the effect of the environment on one organization have led a number of scholars to attempt true network studies where one tries to map and gauge the nature and

Table 1. Adjacency matrix of presence of influence relations among ten organizations. (Aldreich and Whetten, 1981; 398)

| Organization number | to | | | | | | | | | |
|---------------------|----|---|---|---|---|---|---|---|---|----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 1 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | 1 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| 3 | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| 4 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| 5 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 |
| 6 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 |
| 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |
| 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |
| 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 |
| 10 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 1 | 1 | 0 |

Figure 1. Graphic representation of network links given in Table 1. (Aldrich and Whetten, 1981: 398)



strength of the ties among the elements that constitute the network.

In network studies, data are represented by using directed graphs and matrices. Table 1 and Figure 1 illustrate how

a(n) interorganizational network can be represented in the form of a graph, with arrows connecting the points in the population of organizations that have a relationship indicated by the head of the arrow, as shown in Figure 1. An interorganizational network could also be represented in the form of a matrix (Table 1) where the a_{ij} cell contains a one or other number - if organization i reports a relationship with organization j , and a zero if no relationship is reported or observed. Table 1 presents the data in Figure 1 in matrix form. (Aldrich and Whetten, 1981: 397).

Concepts which network scholars use to "capture" the network are: density, reachability and centrality. Density of a network is the extensiveness of the ties between the elements of the network. Reachability refers to the presence of a path between two elements so that the first element can reach the second. Centrality is gauged by two characteristics (1) the total distance from the organization to other organizations, and (2) the total number of other organizations it can reach 12).

PROBLEMS WITH NETWORK ANALYSIS

When mapping networks of great complexity like those concerned with energy policy, or even a network in a smaller policy domain like vocational education where there is federal, state, and local involvement, you confront the "large matrix problem". Before too long you have more cells than observations. This is typically handled by somewhat arbitrarily bounding the network.

A second problem concerns how "observable" and "measurable" interorganizational networks really are (Aldrich and Whetten, 1981: 399-401). It is one thing to study the interaction of tribe and class in a small African town sociometrically; it is quite another to do it in a large federal system. One confronts the problem of what an "interlock" means. Does the fact that two organizations are linked through personnel or resource interchange really mean anything? If so, what?

A third problem is that of time. Trying to map an interorganizational network is like trying to take a snapshot of the Mississippi River. It is very long and it won't stand still. The one thing we know from the few case studies that are longitudinal is that these networks are subject to differentiation just like organizations. Suzanne Farkas (1971) describes how the housing network

broke off from the urban policy network as their interests diverged. This problem is something current methods, other than historical case studies, cannot handle.

While these three problems serve to limit the utility of and our ability to generalize from network studies, they present, in the authors' opinion, no more serious problems of method than other techniques of social research which have recently come under attack 13).

IMPLICATIONS

While methodology always remains a problem in the world of social action, so does the policy subsystem also raise important normative problems regarding the legitimacy of the state. With the growth of the state the classical boundaries between public and private spheres and between politics and administration have been severely eroded both empirically and in a normative sense. This has given rise to a nonelectoral politics centered around the administrative system of the modern democratic state.

Taking the central place as the core unit of the new political economy is the network and its context the policy subsystem. Policy subsystems act on narrow interests rather than broad public mandates, and these narrow interests are then enforced through bureaucratic means. In addition, they often exhibit a tendency to become insulated from the classical mechanisms of broader public accountability - to either the electorate or the nominal beneficiaries of their programs. The interpenetration of the public and private sectors has allowed private organizations and professions to use state power to shelter themselves from the rigors of the competitive marketplace.

Although the prevalence of policy subsystems in the American polity is depressing to those schooled in democratic theory, they present a useful opportunity for empirical researchers in the social sciences. The policy subsystem provides a framework for meaningful empirical research as it is a unit large enough to capture theoretically significant findings that have policy relevance but small enough to permit empirical analysis of resource dependencies between public and private organizations and to connect them through the myriad of social network that emerge from these dependencies.

In addition, the policy subsystem is capable of capturing the diversity of American politics and administration without succumbing to the normative blinders of either the group or elitist models of politics. Scholars can use the policy subsystem as a unit for comparatively analyzing different policies across states or across policy areas. More importantly, the policy subsystem

represents an interdisciplinary approach which can be used by scholars in political science, public administration, and sociology to understand better both the increasing role assumed by public agencies in the policy process and the role of broader social and economic structures in shaping American politics.

CONCLUSION

We set out to show that the policy subsystem concept is at a critical juncture. This has been an attempt to detach it from a misleading metaphorical base (the iron triangle) and thus save the policy subsystem concept from the scrap-heap of social science. We believe that the policy subsystem is a concept vital to our understanding of the American political system. We hope that we have demonstrated its richness and complexity and have at least been suggestive in our efforts to take it a step further by our orienting framework. It is our hope that this chapter serves as a catalyst for further research on this important topic.

FOOTNOTES

1. This chapter is a revision of two papers. One was presented at the 1983 American Society for Public Administration meeting in New York. The second was presented at the 1983 NATO sponsored International Workshop on Interorganizational Implementation Systems in the Public Sector which was held at Erasmus University in Rotterdam, The Netherlands.
2. See the following textbooks: McCurdy (1977); Kramer (1977); Starling (1977); Gordon (1978). Although none of these textbooks used the term iron triangle, some use the term "triple alliance" and all offer descriptions which fit the iron triangle concept. This only enhances, of course, the puzzle as to why writers like Hecllo (1978) and Weaver (1978) have chosen to blame social and political scientists for propagating the iron triangle notion. The journalistic accounts are numerous and most adopt the iron triangle concept and the notion of exclusivity. The following provide good illustrations: Clark (1981); Will (1981); Wall Street Journal (1981).
3. Simply because policy is an aggregated concept does not mean that one program is equivalent to a network. Clearly many networks in health, education, and economic development for example, are bounded by the rule structures of multiple programs.

4. A somewhat similar approach has been proposed by Herzlinger and Kane (1979). While not organizationally oriented a major scholarly work undergirding the tools approach is Mosher (1980). The tools approach was first suggested by Dahl and Lindblom (1953) where they urged political scientists to focus on social choice techniques as a way of reorienting theories of politics. This advice was widely cited but empirically ignored until recently. Charles Lindblom (1977) resurrected this earlier concern. McGregor (1981) attempted to integrate the Salamon-Mosher stream of research with the Dahl and Lindblom approach.
5. We are indebted to John Friend of the Tavistock Institute, London, for this point.
6. Likewise for two decades the U.S. Forest Service ignored the mounting evidence that certain forest fires were beneficial and should be allowed to burn themselves out. The evidence was at variance with the normative structure of the Forest Service. Hoover's F.B.I., in viewing most civil rights workers as communists, is another example of the bias that normative structure builds into organizational and interorganizational decision-making.
7. If the network is very powerful it may well have an influence on the choice of the tool that structures the network.
8. O'Toole and O'Toole (1981: 33-39) argue that without these kinds of personal relationships in networks, negotiations would be close to impossible. The personal clusters allow individuals to build up trust and mutual obligations that allow them to achieve negotiated order despite the existence of very divisive policy issues. A similar point is made by Lewis A. Dexter (1963).
9. Private conversation with a former member of the EPA Legal Staff.
10. Exceptions to this are two excellent longitudinal case studies by Farkas (1971) and Derthick (1979).
11. Some typical variables or dimensions used to characterize environments are: degree of homogeneity-heterogeneity; degree of stability-change; degree of interconnectedness-isolation; degree of organization-nonorganization; degree of munificence-scarcity; degree of concentration-dispersion.
12. Much of this work is unfamiliar to political scientists and public scholars. The best general introduction to network studies is Aldrich and Whetten (1981). In addition the

Journal Social Networks publishes empirical and methodological articles on the topic. There are also four relatively new books which contain all of the major methodological approaches to network analysis together with most of the best empirical and theoretical work in the area: Knoke and Kuklinski (1982); Burt and Minor (1983); Marsden and Lin (1982); and Holland and Leinhardt (1979).

13. Since few results (connections between independent and dependent variables) consistently hold across studies, Mohr (1982) questions whether it is possible to develop an explanatory theory of human behavior.

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SMALL FIRM EMPLOYMENT CREATION:
AN ASSISTANCE STRUCTURE EXPLANATION

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INTRODUCTION

The study reported in this paper concerns two relative topics rarely treated in political science research; the job creation potential of small firms and public policy analysis in mixed economics. Recent studies by Birch (1979 and 1981), in particular, have led to a resurgent interest in the employment creation potential of small firms. For the US, Birch claims that younger and smaller firms create employment at a faster rate than older and larger ones. There is some evidence for the Federal Republic of Germany and Sweden which seems to corroborate his thesis. In all of these studies the emphasis is on attributes of firms per se (e.g. age, size, sectoral affiliation) and their correlation with employment trends. By contrast, the institutional environments in which small firms may thrive and create jobs have been relatively neglected. Firms tend instead to be conceptualized as standing alone on 'market islands' rather than as part of complex networks of organizational relations; they are seen as part of some (neo)-classical rather than the mixed economy of Western nations. The study on which this paper draws was designed to engage in the detailed institutional analysis implied by the concept of 'mixed economy' 1).

What distinguishes mixed economy policy analysis from more conventional modes of policy analysis in political science are the assumptions made about the relative roles of public and private actors and resources in the policy process, and in particular about their roles relative to one another. Much of political science policy analysis is focussed on single public programmes and how they are administered by the mandate public bureaucracy. Private actors, where they figure, tend to be viewed as the sub-ordinate

'targets' or 'clients' of the mandated public bureaucracy. A mixed economy perspective tries to be broader, recognizing that the policy processes of modern society frequently involve an interplay between public resources (programmes) and private resources, sometimes complementing one another (cf. the 'subsidiarity' principle), sometimes displacing one another (e.g. 'windfall gains') and sometimes distorting one another (as when it is argued, for example, that subsidies to prop up declining industries merely postpone the awful day). A mixed economy perspective also recognizes that it may be unrealistic and unnecessary to assume that the public sector uniquely steers the behavior of private actors. Instead, one can proceed from the potential mutuality of public and private interest: the public sector may indeed strive to manipulate the private interest in order to achieve public ends, but this must often go hand in hand with helping the private interest simultaneously achieve its own private purpose.

The central concern of 'mixed economy', therefore, are the institutional arrangements through which resources are allocated in modern society; what actors with what motives and strategies participate in what decisions and influence how particular goods and services are located between individuals and social groups? The importance of 'mixed economy' as an object of research we take to be the concomitant policy need for a positive administrative theory which can provide the basis for practicable macro-coordination strategies for steering resource allocative processes. Policy we define as a set of ideas (goals) and the practical search for institutional arrangements for their realisation. This latter is the object of policy analysis, by which we understand approaches for describing and evaluating institutional arrangements with respect to their contribution to the reliability of policy realization.

Our study of how small firms grow is designed to allow cross-regional comparisons (ultimately between at least 16 localities in four Western European countries) of actual institutional arrangements for helping small firms resolve their major problems of development 2). We postulate that such arrangements ('assistance structures') are the more successful when structured by intermediary actors, i.e. actors who lubricate the interface between firms with problems and actors with resources relevant for the resolution of those problems. We hypothesize that the more developed the local intermediary function, the better firms are able to resolve their problems and, as a consequence, the more employment they tend to create.

ASPECTS OF DESIGN FOR MIXED ECONOMY RESEARCH

The creation of jobs in private firms has become a major aim of public policy in the past two decades or so. So much so, that the total number of public programs - at national, regional and local levels - intended to serve this goal has to be counted in the hundreds rather than tens in many Western Europe countries. A complex array of private and public organizations is engaged in devising and realising job creation strategies with these programs. Thus public policies directed at private firms may serve as exemplary cases for studying institutional arrangements in mixed economies.

In political science, policy analysis has proceeded from governmental to intergovernmental analysis (cf. articles in Hanf and Scharpf, 1978). As the resurgent interest in central-local relations indicates, intergovernmental research is concerned, in the main, with the set of public actors in the interorganizational settings of policy formation and implementation. While there is no logical necessity to restrict analysis of the institutional arrangements of public policies to public organizations, intergovernmental relations may, nevertheless, be an appropriate focus of study in specific policy fields. In other policy areas, however, the intergovernmental relations approach will clearly result in a truncated analysis (cf. Hanf, Hjern and Porter, 1978 and Hull and Hjern, 1983).

In the small firm policy area, the extension from intergovernmental to interorganizational analysis is a necessary first step for making political science research bear on the policy coordination issues involved. Several additional topics need then to be addressed if political science is to contribute to the analysis of institutional arrangements in mixed economies. The central issue, however, is that of how to define the unit of analysis. If, as suggested earlier, we need to give more place to private actors and resources in models of policy processes, then we need to think twice about the wisdom of focussing enquiry so heavily on particular public programmes and the public organizations charged with their administration.

This raises considerable practical difficulties of research, however. As long as one can restrict oneself to particular public programmes and their associated public organizations, the unit of analysis problem more or less resolves itself. When, by contrast, one is bid to accommodate all relevant actors and resources, irrespective of whether public or private, mandated or not, one is confronted with a major problem of identification and selection. Identification is necessary in order to know which actors and resources are at all relevant to the enquiry; selection will probably be necessary because the sheer number of relevant actors and

resources will require some decision as to the ones upon which to concentrate limited research facilities. It is important that both identification and selection be conducted in a systematic (i.e., in principle replicable) fashion. It is usual to define one's unit of analysis deductively, by reference to established theory. The problem for mixed economy research is that it has little established theory to which to refer. In the 'Helping Small Firms' project, in any event, the approach which we chose was inductive rather than deductive. We preferred to make the minimum number of assumptions about the actors and resources relevant for a study of the institutional factors influencing how small firms grow, and decided instead to make their identification and selection part of the research question. In practice, this meant that once we had defined a population of small firms (in the event, the population of legally independent manufacturing firms with between 10 and 200 employees in each research locality) we set about interviewing (locally representative samples of) those firms in order to have them define for us the actors and resources of relevance for the study. In this way it was possible empirically to identify the relevant actors and resources and, by aggregating the namings provided by the firms, to obtain a basis for selecting those upon which to focus enquiry.

JOB CREATION BY SMALL FIRMS IN FOUR GERMAN REGIONS

Our four West German research sites were not selected to provide a representative sample of small, German manufacturing firms. They were selected, rather, to represent different types of local economies in which services to small firms are probably delivered under very different conditions. The selection of these regions, therefore, was not meant as a control for regional factors influencing small firm development; rather, by representing the variety in local economies, it was meant to safeguard against easy conclusions about the German way of assisting small firms. Even with access to identical national programmes, we would still expect regional 'assistance structures' to perform their services to small firms differently. Only on the formal level of programme organization and delivery would we expect, a priori, a German way of helping small firms to exist. But our interest reaches beyond formal organization to actual institutional practice.

There were 729 small, independent manufacturing firms in the four research regions. Of these, 63% (458) completed our written questionnaire. Borken County (83% response rate) is a rural, peripheral area and Paderborn (82% response rate) a free-standing, medium-sized city with 'central place' functions. In both locations small manufacturing firms account for a high proportion of total industrial employment, with Borken having the highest proportion of small firm employment. Oberhausen (76% response rate) belongs to the old industrial agglomeration economy of the Ruhr, where employme

in manufacturing is concentrated traditionally in a small number of very large firms. Hamburg (54% response rate) is a major city with important public and private services and a smaller than average proportion of employment in small, manufacturing firms.

3.1 Employment Change, Investment, Firm Size and Sector

Between 1974 and 1980 employment in 'our' firms, taking all four localities together, grew at a rate of some 3 to 4% per annum. This is shown by Table 1, which also shows that in Borken firms' employment grew consistently faster than elsewhere and that in Hamburg employment grew by less than 3% over the whole six-year period.

Table 1: Aggregate Employment Change (%) 1974-1980

| | 1974/76 | 1976/78 | 1978/80 |
|------------|------------|------------|------------|
| BORKEN | 14.9 (96) | 16.7 (101) | 18.7 (106) |
| PADERBORN | 7.0 (24) | 6.5 (24) | 8.2 (24) |
| OBERHAUSEN | 4.1 (24) | -0.8 (26) | 6.4 (26) |
| HAMBURG | -0.4 (140) | 2.0 (142) | 1.2 (154) |
| ALL SITES | 5.8 (284) | 7.2 (293) | 8.2 (310) |

- Notes:
- a) As noted earlier, 458 firms completed our written questionnaire. In Borken our operational definition of 'small' firm began at 20 employees; in the other three localities the threshold was 10 employees. The analyses reported throughout this paper are limited, for reasons of statistical consistency, to firms with 20 or more employees in 1980, so that the "n's" reported in each table are rather lower than the corresponding numbers of firms which completed the questionnaire.
 - b) The table reports the percentage change in the sum total of employment in the surveyed firms between the years shown.

Because small firms predominate in Borken to a greater extent than elsewhere, it is not impossible that Borken's higher rates of employment growth are a statistical artefact: a firm with ten employees which adds one increases employment by 10%; a firm with 100 employees which adds one increases employment by just 1%. But this is not the explanation for higher employment growth in Borken: Table 2 shows that in Borken both larger and small firms created employment faster than elsewhere.

Table 2: Aggregate Employment Change (%) 1974-1980 by Firm Size (number of employees in 1978)

| Firm Size | 1974/76 | | 1976/78 | | 1978/80 | |
|------------|----------|----------|----------|----------|----------|----------|
| | 20-49 | 50-200 | 20-49 | 50-200 | 20-49 | 50-200 |
| BORKEN | 18.2(43) | 12.3(53) | 21.7(45) | 11.3(56) | 24.7(48) | 13.9(58) |
| PADERBORN | 8.7(15) | 4.0(9) | 6.1(16) | 7.1(8) | 10.3(16) | 4.1(8) |
| OBERHAUSEN | 5.9(10) | 2.8(14) | -0.3(10) | -1.0(16) | 8.1(10) | 5.3(16) |
| HAMBURG | -0.6(77) | -0.3(63) | 0.8(79) | 3.6(63) | -0.2(86) | 2.5(68) |
| ALL SITES | 6.4(145) | 5.1(139) | 7.6(150) | 6.8(143) | 9.1(160) | 7.3(150) |

An alternative explanation for the different rates of employment change could be the varying sector mix in the four regions. Sector mix is usually considered to be important in relation to the ups and downs of the business cycle, so that a region with a certain mix of firms may go relatively unscathed through a down-turn which causes other regions considerable difficulties.

Table 3: Aggregate Employment Change (%) 1974-1980 by Sector

| | 1974/76 | | 1976/78 | | 1978/80 | |
|------------|------------------|----------|------------------|----------|------------------|----------|
| Sector | Capital Consumer | | Capital Consumer | | Capital Consumer | |
| BORKEN | 16.7(39) | 11.3(52) | 23.1(40) | 10.9(54) | 21.7(43) | 16.0(57) |
| PADERBORN | 6.9(16) | 7.4(7) | 5.6(15) | 10.4(8) | 12.9(15) | 1.3(8) |
| OBERHAUSEN | -0.5(15) | 11.8(9) | -3.0(17) | 3.5(9) | 7.7(17) | 3.9(9) |
| HAMBURG | -2.0(86) | 3.2(50) | 1.5(88) | 3.2(50) | 2.2(95) | -0.4(55) |
| ALL SITES | 3.8(156) | 7.7(118) | 6.9(161) | 7.1(121) | 9.1(160) | 7.3(150) |

Note: Our definition of the capital goods sector includes firms engaged in the manufacture of production input goods (e.g., plastics, base chemicals) as well as those engaged in the manufacture of capital goods in the proper sense of the term. The consumer goods sector includes firms engaged in the manufacture of food, drink and tobacco goods.

Sector mix alone cannot explain the higher rate of employment increase in Borken compared to our other research sites. In the period 1974 to 1980, Borken firms, on the whole, created employment faster in both the capital and consumer goods sectors of the economy (Table 3). At the same time, however, Borken firms in the capital goods sector developed faster than those in consumer goods, whereas, until 1978 at least, the opposite was true in the other research sites. On both counts, Borken firms would seem to be out of step with the general trend 3).

In their investment behavior, too, Borken firms differ from those in the other three research sites. On average, they invest more per employee, irrespective of whether smaller or larger firms and of whether in the capital or consumer sector (Table 4). Moreover, our Borken firms seem to invest more than German firms overall (Table 4, bottom line). Whereas the Borken firms outperform the other firms in every column of Table 4, the rank-ordering of the other localities among themselves varies according to whether or not one controls for size of sector.

Table 4: Aggregate Mean Capital Investment (Gross) per Employee
 (in DM)¹⁾ by Firm Size and Sector²⁾ (1978/80)

| | All firms (n) | Firm Size | | Firm Sector | |
|-------------------------|---------------|-------------|------------|-------------|------------|
| | | 20-49 | 50-200 | Capital | Consumer |
| BORKEN | 13.550(101) | 15.590(45) | 11.910(56) | 13.550(40) | 14.150(55) |
| PADERBORN | 6.640(22) | 7.420(15) | 4.975(7) | 8.195(15) | 3.320(7) |
| OBERHAUSEN | 5.130(24) | 6.585(9) | 4.260(15) | 3.720(16) | 7.955(8) |
| HAMBURG | 8.165(148) | 8.585(83) | 7.630(65) | 9.620(88) | 6.285(56) |
| ALL SITES | 9.650(295) | 10.425(152) | 8.820(143) | 9.881(159) | 9.660(126) |
| ALL (FRG) ³⁾ | 5.920 | 6.370 | 5.710 | - | 8.610 |

- Notes:
- 1) Investment is measured as the mean per employee of total (gross) investment in premises, buildings and machinery in 1978-1980.
 - 2) For definitions of firm size and sector, see notes to Tables 2 and 3.
 - 3) Comparable data for the Federal Republic of Germany as a whole is not available. The Institut für Mittelstandsforschung in Bonn collected data for 1978, which come closest. For details, see IfM (1981/82: 106).

To summarize, between 1974 and 1980 the small manufacturing firms of our study increased their employment in all four research sites. In Borken, however, firms grew much faster than in Paderborn and Oberhausen, whose firms, in turn, increased employment more rapidly than happened in Hamburg. This ranking of the localities is not substantially changed when account is taken of the size and sector mix of firms. There is also evidence that Borken firms have progressed against general German business cycle trends and our data show markedly higher levels of capital investment per employee in Borken than elsewhere. How is this superior performance of Borken firms to be explained?

3.2 Locality, Investment and Employment Change

Is there something about the locality of Borken which makes firms respond differently to business cycles, invest more and create more employment? We propose to begin searching for an answer to this question by examining the relationship between investment and employment change. Investment variables are frequently introduced into economic analysis in order to explain employment trends; a recent German analysis confirming such a relationship (for the period 1973-80 on the basis of aggregate, industry-level data) has been undertaken by the Institut der Deutschen Wirtschaft (1983).

A 'model' of the relationship between employment change and investment needs to incorporate controls for plausible, alternative explanations. Other studies of small firm job creation (cf. Birch, 1979 and 1981) indicate that age and size of firm are relevant such controls. Ceteris paribus, the younger and smaller firms are, the more employment they create. Sector would seem to be another relevant factor, but in the Federal Republic of Germany (IfM, 1981: 100), as elsewhere, sector and investment per employee are so closely related that multicollinearity problems follow if both are used concurrently. Other factors, such as market share or sales area 4), fail, in our data, to contribute any substance to the relationship between employment creation and investment.

For our firms, employment change and investment are positively correlated (Table 5). The zero-order correlation is relatively weak for all firms ($r = 0.37$), but differs considerably across research sites. In Borken ($r = 0.61$) and Paderborn ($r = 0.43$), the 'higher-investment/higher-employment-increase' model is more strongly corroborated than in Oberhausen ($r = 0.14$) and Hamburg ($r = 0.00$). In all locations but Oberhausen, the factors introduced as controls (size and age of firm) have the expected sign and, at least in Borken and Paderborn, are correlated strongly enough with employment change to justify their inclusion in the model. The structure of the model with investment as key and age and size of firm as control factors - is confirmed by the minor deviations between the zero-order correlation coefficients for investment with employment change and the corresponding partials controlling for firm size and age. Stepwise regression provides a similar and more explicit rank-ordering of the explanatory factors. In every research site but Hamburg, investment is entered first. In Borken and Paderborn the three factors listed explain 42% and 31% of the variance (R^2) in employment change respectively. In Oberhausen and Hamburg their explanatory value is practically nil.

Table 5: Some Factors Affecting Employment Trends

| | Correlation (r) with Employment Change | | | | Stepwise Regression | | |
|------------|--|-------|-------|-----------------------|----------------------------------|----------------|-----|
| | Investment | Size | Age | Par. Corr. Investment | Order of Factors (Beta) | R ² | (n) |
| BORKEN | 0.61 | -0.28 | -0.23 | 0.58 | Investment (0.57) Size Age | 42% | 98 |
| PADERBORN | 0.43 | -0.39 | -0.17 | 0.40 | Investment (0.37) Size Age | 31% | 22 |
| OBERHAUSEN | 0.14 | 0.02 | 0.06 | 0.15 | Investment (0.16) Size Age | 3% | 25 |
| HAMBURG | 0.00 | -0.05 | -0.03 | 0.00 | Size Age | 1% | 145 |
| ALL SITES | 0.37 | -0.14 | -0.19 | 0.35 | Investment (0.34) Age Size | 16% | 290 |

Note: All computations were made with programmes in the SPSS package. Stepwise regression was computed with forward inclusion.

Operationalizations of variables:

- 1) employment change - per cent change in total employment 1978-1980
- 2) investment - mean annual gross capital investment per employee 1978-1980
- 3) size - absolute number of employees in 1978
- 4) age - age of firm in 1978 (number of years since foundation)

To conclude, comparison of the beta coefficients reported in Table 5 shows that in Borken and Paderborn firms transform markedly more of their investment into employment than is the case in Oberhausen and Hamburg. The following section begins to ask whether there are institutional differences between the localities which may explain this varying investment/employment relationship.

EMPLOYMENT CREATION AND INSTITUTIONAL ENVIRONMENT

A brief digression about our research design and method is in order at this juncture. The findings of earlier studies had led us to conclude that the employment creation potential of small firms was high but likely to be constrained by their frequently poor management. Because of their poor management, we hypothesized, they would tend to perform badly in anticipating, avoiding and tackling all manner of problems which might arise and, because not resolved, curb their growth.

The essence of the intermediary hypothesis introduced at the beginning of the paper is that the more developed the intermediary function in a locality the greater the probability that firms there will better anticipate, avoid and tackle factors constraining their development. This is because intermediaries help firms define problems, identify resources which are available for tackling those problems as well as help mobilize resources.

In terms of research method, this meant that we wished to know what actors external to themselves firms used in order to find solutions to their problems of development. To this end we interviewed in some depth, using a semi-standardized procedure, a representative sample of firms in each of the four localities. Each firm was first interviewed for its main problem of development during the previous three years and was then exhaustively questioned about all of the external actors with which it had had contact in the course of its efforts to resolve its main problem.

Table 6 shows the number of firms interviewed in each locality (28 in Borken, 19 in Paderborn, 17 in Oberhausen and 41 in Hamburg) and the correspondence between interviewed and all surveyed firms with respect to sector, firm size and the main problem of development named by each firm. We assume, in view of the high response rates among all surveyed firms reported earlier 5), that the surveyed firms provide an accurate representation of the corresponding local population of firms; accordingly, we consider Table 6 to demonstrate the overall representativeness of the local samples of interviewed firms.

In the analysis which follows we shall largely but not entirely ignore any differences introduced by varying problems of development and shall focus instead primarily upon differences between localities, if any, in terms of the actors contacted by firms. The basic aim of this fourth section of the paper is to ask whether there is a rank-ordering of the four sites in this institutional sense which correlates with their rank-ordering in respect of employment creation.

Table 6: Profiles of all surveyed (s) and orally interviewed (i) firms by sector, firm size and main problem

Sector

| Sector | Borken | | Paderborn | | Oberhausen | | Hamburg | |
|--------|--------|-------|-----------|-------|------------|-------|---------|-------|
| | (s) | (i) % | (s) | (i) % | (s) | (i) % | (s) | (i) % |
| (1) | 2 | 0 | 7 | 10 | 3 | 6 | 9 | 7 |
| (2) | 12 | 14 | 2 | 5 | 5 | 6 | 6 | 9 |
| (3) | 3 | 4 | 12 | 10 | 8 | - | 5 | - |
| (4) | 8 | 11 | 2 | - | 20 | 23 | 7 | 5 |
| (5) | 13 | 14 | 29 | 30 | 26 | 18 | 20 | 31 |
| (6) | 4 | 4 | 5 | 10 | 8 | 6 | 10 | 10 |
| (7) | 20 | 21 | 22 | 20 | 10 | 12 | 28 | 19 |
| (8) | 5 | 4 | 2 | - | - | - | 3 | 2 |
| (10) | 26 | 25 | 7 | 5 | 5 | - | 4 | 2 |
| (11) | 7 | 4 | 10 | 10 | 15 | 29 | 8 | 14 |
| n = | 117 | 28 | 41 | 19 | 39 | 17 | 259 | 41 |

- Key: (1) chemicals, oil
 (2) plastics, rubber and asbestos products
 (3) ceramics, glass and concrete products
 (4) ferrous and non-ferrous metal products, incl. foundry products
 (5) mechanical engineering
 (6) electrical engineering, precision engineering
 (7) wood, paper and printed products
 (8) other
 (10) leather, textile and clothing products
 (11) food and drink products

Firm size

| Firm size | Borken | | Paderborn | | Oberhausen | | Hamburg | |
|---------------------|--------|-------|-----------|-------|------------|-------|---------|-------|
| | (s) | (i) % | (s) | (i) % | (s) | (i) % | (s) | (i) % |
| 10-19 ¹⁾ | - | - | 32 | 35 | 23 | 23 | 32 | 34 |
| 20-49 | 50 | 46 | 45 | 40 | 36 | 41 | 40 | 39 |
| 50-99 | 25 | 33 | 7 | 10 | 20 | 23 | 19 | 17 |
| 100-199 | 25 | 20 | 15 | 15 | 20 | 12 | 9 | 10 |
| n = | 117 | 28 | 40 | 19 | 39 | 17 | 255 | 41 |

1) in Borken firms with 20-plus employees only

Table 6 - continued

Main problem

| Main problem | Borken | | Paderborn | | Oberhausen | | Hamburg | |
|------------------|--------|-------|-----------|-------|------------|-------|---------|-------|
| | (s) | (i) % | (s) | (i) % | (s) | (i) % | (s) | (i) % |
| No problems | 3 | 4 | 7 | 5 | 5 | - | 0 | - |
| Finance | 27 | 21 | 19 | 20 | 28 | 29 | 20 | 19 |
| Supplies | 6 | 7 | 5 | - | 5 | 6 | 2 | 2 |
| Technical Change | 17 | 11 | 17 | 15 | 8 | 12 | 17 | 12 |
| Personnel | 18 | 21 | 15 | 15 | 28 | 29 | 26 | 22 |
| Sales | 22 | 29 | 24 | 25 | 15 | 18 | 19 | 22 |
| Management | 2 | - | 2 | 5 | - | - | 3 | 7 |
| Premises | 3 | 7 | 7 | 10 | 5 | 6 | 5 | 10 |
| Other | | | 2 | 5 | 5 | - | 7 | 5 |
| n = | 114 | 28 | 41 | 19 | 39 | 17 | 253 | 41 |

2) categories not differentiated in Borken

4.1 Numbers of Firms' Contacts

There are, in fact, substantial differences between the localities with regard to the actors contacted by our interviewed firms, differences which do correlate with the rank-ordering of the localities according to their job creation performance. On the most global level we find, for example, that whereas the 28 Borken firms engaged a total of 99 contacts, representing an average of 3.54 contacts per firm, the corresponding average figure for Paderborn was a lower 2.63 contacts, for Oberhausen just 2.11 and for Hamburg only 1.78. We find similarly that whereas every Borken firm had contact with at least one external actor, in the other three localities sizeable minorities of firms named no contacts at all. Sixteen per cent of firms in Paderborn, 11% in Oberhausen and as many as 22% of firms in Hamburg 'went it alone' in this sense.

These and other data are summarized in Table 7, which shows the cumulated percentage of firms in each locality with at least one, two, three...etc. contacts. The table shows, for example, that virtually one half (49%) of Borken firms had at least four contacts, but only 36% of Paderborn firms and fewer still in Oberhausen (22%) and Hamburg (17%).

Table 7: Cumulative Percentage of Interviewed Firms with at least one, two, three ... etc. Contacts

| NUMBER OF CONTACTS | Borken | Paderborn | Oberhausen | Hamburg |
|------------------------------|--------|-----------|------------|---------|
| One | 100 | 83 | 88 | 78 |
| Two | 81 | 67 | 55 | 51 |
| Three | 56 | 46 | 33 | 19 |
| Four | 49 | 36 | 22 | 17 |
| Five | 28 | 15 | 11 | 12 |
| Six | 21 | 10 | - | - |
| Seven | 14 | - | - | - |
| (Firms with no contacts (%)) | - | 16 | 11 | 22) |

One possible explanation for these cross-regional differences in the numbers of actors contacted by firms is, of course, that the firms in the different localities experienced different problems in differing amounts and that different problems tend to be associated with differing numbers of contacts. Table 8a shows the average number of contacts by locality and problem type. The table suggests a generally higher level of contact in Borken and, to a lesser extent, in Paderborn than in Oberhausen and, especially, Hamburg, more or less irrespective of problem type. Part of the difference is, no doubt, due to some firms in the three localities other than Borken having no contacts. But even when table 8a is recalculated only for firms with at least one contact, the 'gap' between the localities does not disappear (Table 8b).

Table 8a: Average Number of Contacts by Problem Type and Locality - All Interviewed Firms

| | Fin- ance | Pur- chases | Tech. Change | Per- sonnel | Sales | Man- agement | Premi- ses | Other |
|------------|--------------|----------------|-----------------|----------------|-------|-----------------|---------------|-------|
| BORKEN | 4.69 | 3.33 | 3.89 | 2.80 | 2.60 | 2.50 | 5.75 | 2.00 |
| PADERBORN | 3.33 | - | 2.00 | 2.83 | 3.43 | 0.00 | 4.00 | 0.50 |
| OBERHAUSEN | 1.75 | 3.00 | 1.00 | 2.00 | 2.20 | 3.00 | 1.00 | 1.50 |
| HAMBURG | 1.82 | 2.00 | 2.00 | 1.46 | 1.31 | 1.75 | 3.00 | 1.00 |
| ALL SITES | 2.86 | 2.87 | 2.45 | 2.16 | 2.16 | 2.00 | 3.85 | 1.12 |
| (n = | 44 | 8 | 29 | 38 | 38 | 9 | 13 | 8) |

Table 8b: Average Number of Contacts by Problem Type and Locality - Interviewed Firms with Contacts Only

| | Fin- ance | Pur- chases | Tech. Change | Per- sonnel | Sales | Man- agement | Premi- ses | Other |
|------------|--------------|----------------|-----------------|----------------|-------|-----------------|---------------|-------|
| BORKEN | 4.69 | 3.33 | 3.89 | 2.80 | 2.60 | 2.50 | 5.75 | 2.00 |
| PADERBORN | 3.33 | - | 2.40 | 3.40 | 3.43 | 0.00 | 4.00 | 1.00 |
| OBERHAUSEN | 2.33 | 3.00 | 1.33 | 2.57 | 2.20 | 3.00 | 1.00 | 1.50 |
| HAMBURG | 2.07 | 2.00 | 2.86 | 1.90 | 1.91 | 1.75 | 3.00 | 1.50 |
| ALL SITES | 3.17 | 2.87 | 2.96 | 2.56 | 2.48 | 2.25 | 3.85 | 1.50 |
| (n = | 40 | 8 | 24 | 32 | 33 | 8 | 13 | 6) |

4.2 Identifying Intermediary Actors

There are, of course, several possible explanations for the differing inter-regional frequency of contact by firms, such as cross-local variation in the number and/or kind of actors available to firms in the different localities as well as the number and/or kind of resources on offer. Limitations of space preclude our exploring these hypotheses here. We shall proceed, instead, to the intermediary hypothesis introduced earlier in the paper. As a first step to indentifying intermediary actors, we filtered off all actors in each locality which were named by at least 10% of the interviewed firms (in practice this meant that a minimum of three namings were required in Borcken, two in both Paderborn and Oberhausen and four in Hamburg). The choice of the ten-per cent threshold was arbitrary. The logic underlying the stipulation of a threshold is that the very notion of an intermediary implies a number of intermediary actors which is significantly smaller than the number of firms and other actors between which intermediation takes place.

Table 9 shows the percentage of firms in each locality naming the actors which met our 10-per cent criterion. The left-hand column of numbers shows the percentage of all interviewed firms which named each listed actor. In the columns to the right these percentages are then disaggregated according to the five major problem types named by our firms. The extreme cases in the table are clearly Borcken and Hamburg. Whereas in Borcken three separate actors were each named by more than one third of all interviewed firms, just a single actor - the local labor administration - with a score of only 17% qualified for inclusion in Hamburg.

Table 9: Percentages of Firms Naming Selected Actors

| ALL FIRMS | | | FIRMS HAVING AS PROBLEM | | | | |
|------------|---------------|----|-------------------------|--------------|-----------|-------|----------|
| | | | Finance | Tech. Change | Personnel | Sales | Premises |
| BORKEN | WFG | 39 | 67 | 67 | 22 | 25 | 100 |
| | AA | 36 | 31 | 22 | 90 | 20 | 0 |
| | Sparkasse | 36 | 69 | 33 | 40 | 40 | 50 |
| | AIF | 11 | 15 | 33 | 0 | 0 | 0 |
| | IHK | 11 | 15 | 11 | 0 | 0 | 0 |
| | (n = | 28 | 13 | 9 | 10 | 10 | 4) |
| PADERBORN | AA | 21 | 17 | 17 | 50 | 14 | 0 |
| | AIF | 16 | 33 | 33 | 17 | 29 | 0 |
| | Sparkasse | 16 | 33 | 0 | 17 | 14 | 33 |
| | Stadtdirektor | 11 | 17 | 0 | 0 | 0 | 67 |
| | WFG | 11 | 17 | 0 | 0 | 0 | 33 |
| | IHK | 11 | 17 | 0 | 17 | 0 | 0 |
| | (n = | 19 | 6 | 6 | 6 | 7 | 3) |
| OBERHAUSEN | AA | 28 | 0 | 0 | 56 | 0 | 0 |
| | Deutsche Bank | 17 | 37 | 25 | 0 | 20 | 0 |
| | Sparkasse | 17 | 37 | 25 | 0 | 20 | 0 |
| | (n = | 18 | 8 | 4 | 9 | 5 | 1) |
| HAMBURG | AA | 17 | 18 | 10 | 46 | 12 | 0 |
| | (n = | 41 | 17 | 10 | 13 | 16 | 5) |

Key: WFG - Wirtschaftsförderungsgesellschaft - Economic Development Agency
 AA - Arbeitsamt - Labour Administration
 Sparkasse - Savings Bank
 AIF - Arbeitsgemeinschaft industrieller Forschungsvereinigungen
 - Association of Industrial Research Organisations
 IHK - Industrie- und Handelskammer - Chamber of Commerce
 Stadtdirektor - Local Authority Chief Executive

The local labor administration achieved a relatively high frequency of mention in all localities, which reflects in large measure this institution's legal monopoly in job placement for the unemployed. As a consequence of this monopoly, firms seeking labor are often naturally led to approach the labor administration. Not that they are always satisfied with the service they receive, however (as we know from our interview data); this lack of satisfaction is no doubt part of the explanation for percentages of 'only' 46 to 56 per cent in three of the four localities under the heading for labor problems. If one discounts namings of the local labor administration, it is really only in Borken that actors remain who are contacted by sizeable number of firms. Some 60% of Borken firms had contact with the local economic development agency (WFG) and/or the local savings banks (Sparkasse). As the breakdown by problem type shows, significant numbers of firms in all of the major problem categories had contact with either or both of these two actors. Moreover, our interviews confirmed the important intermediary role of these actors vis-a-vis firms and other actors in the Borken assistance structure.

4.3 Contacts and their Functions

Table 10 adds qualitative information about the external assistance obtained by firms in the four localities. Each contact by each firm was classified according to the problem-solving function(s) which the contact was intended to perform for the firm. A distinction was made between problem definition (F_1), resource identification (F_2) and resource mobilization (F_3). The table shows the percentage of firms in each locality with at least one actor in each of the three functional categories. Low percentages indicate that problem identification (F_1) is a function for which firms rarely seek external advice. Indeed most of the incidences of problem definition captured in the table concerned contacts not so

Table 10: Percentages of Firms with at Least One Contact for Problem Definition (F_1), Resource Identification (F_2), Resource Mobilisation (F_3)

| | F_1 | F_2 | F_3 | (n) |
|------------|-------|-------|-------|------|
| BORKEN | 7 | 54 | 68 | (28) |
| PADERBORN | 16 | 21 | 42 | (19) |
| OBERHAUSEN | - | 6 | 50 | (18) |
| HAMBURG | 7 | 15 | 34 | (41) |

much sought by firms as forced upon them. The frequency of F_2 and F_3 contacts again singles out Borken as a positively special case. Over half of the Borken firms had resource identification contacts and almost 70% obtained external assistance in mobilizing resources.

This section of the paper has shown that there is a rank-ordering of the four research sites on institutional factors which broadly parallels their rank-ordering on employment change. Firms in Borken tend to contact more actors, even after controlling for problem type, than do firms in the other three localities. There is rather strong evidence of intermediary actors in Borken, and rather little elsewhere. In addition, more firms in Borken had external help with resource identification and mobilization than in the other three sites.

ASSISTANT STRUCTURES AND EMPLOYMENT CREATION

The rank-orderings of the four research localities presented at the close of section three (employment creation) and section four (firms' contacts) exhibit a broad positive correlation. We take this correlation as a first indication that institutional factors do influence firms' employment-creation performance. In this fifth section of the paper we propose to undertake a more specific analysis of the institutional effect by a corresponding extension of the investment/employment model presented in section three.

The analysis which follows proceeds in two stages. In the first stage we approach the institutional effect indirectly, by introducing 'locality' as an independent variable into the analysis. For this purpose we shall use our data for all surveyed firms. The significance of locality for employment change is estimated in a covariance analysis with locality as the test factor and firms' investment, size and age as coveriates.

Table 11 shows that the locality variable increases noticeably the overall performance of the original model. Table 5 showed that investment, size and age of firm together explain 16% of the variance in employment change between 1978 and 1980. Adding locality increases variance explained to 23%. Locality alone - after controlling for the covariates - explains 11% of the variance (and is statistically significant at the 1% level). This is shown by Table 11, from which it is also evident that the positive impact of the locality variable is heavily dependent on the upward deviation of Borke firms from the employment change mean. Thus we can now approach our more specific question: is there an institutional explanation for why Borke firms perform so well?

Table 11: Multiple Classification Analysis of Employment Change by Locality

| Employment Change 1978-80 by Locality with Firm Size Age of Firm Investment per Employee | | | | | |
|--|-----|-------------------------|--|--|--|
| Grand Mean = 5.55 | | | | | |
| Variable + Category | N | Unadjusted Dev"n Eta | Adjusted for Independents Dev"n Beta | Adjusted for Independents + Covariates Dev"n Beta | |
| Locality | | | | | |
| 1 BORKEN | 99 | 7.52 | 7.52 | 5.94 | |
| 2 PADERBORN | 21 | 1.75 | 1.75 | 2.49 | |
| 3 OBERHAUSEN | 25 | -1.40 | -1.40 | .65 | |
| 4 HAMBURG | 153 | -4.88 | -4.88 | -4.29 | |
| | | | .33 | .27 | |
| Multiple R Squared | | | .108 | .227 | |
| Multiple R | | | .328 | .477 | |

The further analysis uses data for the 28 interviewed Borken firms only. Two Borken actors were identified in conjunction with Table 9 as principal intermediaries (WFG and Sparkasse). We shall use this information to construct a dummy variable for the 'assistance structure' (AS) according to whether or not each firm had contact with either or both of these two actors.

Before we begin the further analysis we shall first replicate the analysis of section 3.2, which was performed for all surveyed firms in each locality, for the interviewed Borken firms only. This is necessary in order to obtain a yardstick against which to measure the explanatory difference made by introducing the AS variable into the model. Table 12 summarizes the essential information. The column 'all firms' reports the original analysis for Borken in the third section.

Table 12: Firm and Assistance Structure Factors (beta coefficients) Influencing the Employment Creation of Small Borken Firms, 1978-1980

| Factor | All firms | Interviewed firms | | |
|----------------|-----------|-------------------|-------|-------|
| | | M1 | M2 | M3 |
| Investment | 0.57 | 0.52 | 0.55 | 0.35 |
| Size | -0.14 | -0.12 | -0.03 | -0.08 |
| Age | -0.13 | -0.21 | -0.25 | -0.24 |
| AS | - | - | 0.16 | - |
| AS & Invest. | - | - | - | 0.30 |
| R ² | 42% | 47% | 49% | 53% |
| n | 98 | 28 | 28 | 28 |

Column M1 shows the corresponding analysis for the 28 interviewed firms only. Comparing the two columns, magnitude and sign of the reported beta coefficients and the values of R^2 match well.

The column headed M2 shows the results when the AS dummy variable is entered into the model. The overall change is as expected; the new term has positive sign and the value of R^2 increases slightly. The final column (M3) of Table 12 shows the coefficients obtained when a modified operationalization of the AS variable is adopted.

This modified operationalization of the institutional variable corresponds to the argument that intermediary actors influence the investment behavior of firms and thereby their job-creation performance. In consequence, the model may be modified with the institutional variable taking the form of an interactive term between the original AS dummy variable and the investment term. When this is done (Table 12, column M3), the coefficients of the model change in the expected ways. The explanatory effect of the institutional variable is almost doubled (to a beta value of +0.30) and the overall R^2 advances to 53%. Although the explanatory weight of the 'clean' investment variable declines, the combined contribution to explanation of both investment-related variables is higher than previously.

The analysis reported here needs to be taken further before any firm conclusions about the effect of institutional arrangements on firms' employment-creation performance can be advanced. If the quantitative impact of the institutional effect seems small, it should be remembered that the corresponding analysis here were restricted to the single research site of Borken; we expect the impact of institutional arrangements to emerge more clearly in the intra- and international analyses which we shall be undertaking in the months ahead. Thus the next major step in our work will be to devise measures for comparative analysis of assistance structure composition and performance which are less dependent than the measures used here on the specific institutions of specific regions. For all the caveats to be attached to the present analysis it does, in our view, demonstrate the usefulness of entertaining an institutional explanation for a phenomenon which otherwise tends to be interpreted in the non-institutional terms of economic market models.

CONCLUSIONS

In this final section of the paper we should like to highlight again certain features of our mixed economy research perspective. Three characteristic features of the 'Helping Small Firms' project, as an exercise in policy analysis, are, first, its choice of a

'problem' rather than a public program as its analytical focus; second, its incorporation, on equal terms, into the analysis of private actors and resources; and, third, the similar inclusion on equal terms of non-mandated actors who participate in program administration. Cross-cutting these three features of the project is its distinctive inductive strategy for defining the unit of analysis.

To take first the issue of analytical focus on a 'problem' rather than a program, a pragmatic and persuasive point is the simple fact that in none of our countries of study is there any single public program encompassing even the major (how to define?) part of the public measures available to small firms. There is no difficulty to identify self-proclaimed 'small firm' programs; but a major part of the public resources used by small firms come from programs with other substantive targets, such as regional development, technical innovation, manpower training, and the like. To have selected any one of these programs as the point of departure would have likely resulted in a research project more about the administration of the particular program than about the wider issues of 'helping small firms grow'.

There is nothing wrong with studying particular public programs and their public administration - provided that is the truly intended objective of study. Often that will not be the case, however. It is our belief that 'helping small firms grow', as an object of public purpose, is typical of many major policy themes in modern society. Whether the theme be 'providing universal health care', 'promoting regional development' or 'securing full employment' - to name but three contemporary examples - the ambitions of public policy are invariably so wide that many of the several programs and other activities typically instituted in the name of each will tend to impinge upon one another - both within and between policy areas. Reality is still more complex, however, because these various public activities will also impinge on (be impinged on by) private actors and resources. To carve out public programs and their public administration as an object of study may, therefore, be an act of amputation.

It is the purpose of mixed economy research, as we understand it, to take a more critical view than hitherto of the nature of the public-private relationship in contemporary policy processes. In its turn, this requires a loosening, and ultimately no doubt a reformulation, of certain key 'steering' assumptions in received models of political science policy analysis (cf. Hull and Hjern, 1983). The consequence of the public-program/public-administration perspective in political science policy analysis has tended to be a reification of the mandated public bureaucracy: private (and non-mandated actors generally) figure mostly as the 'targets' or

'clients' of policy - that is, as objects to be acted upon by program administrators rather than interacted with as (in effect perhaps) co-equal participants in the policy process. The result can be a gross distortion of the reality of policy processes and, hence, totally inappropriate recommendations about how policy processes might be improved.

The major practical problem confronting the researcher wanting to undertake a mixed economy analysis is undoubtedly how to define the unit of analysis. The general character of the problem was outlined at the beginning of this paper and the way in which we tackled the problem briefly described. Our approach was to accept that we had no convincing criteria for determining in advance which are the institutions and resources of most help to small firms. We therefore decided to make their identification a part of the research question. This we did by taking a population of small firms as our point of departure and asking them to define for us the institutions and resources of most relevance to them. It is our hope that this kind of inductive approach to the unit of analysis problem will prove useful beyond the confines of our present research for resolving the unit of analysis problem in mixed economy research.

Even the still preliminary results provided in the paper hopefully serve to give some idea of the substantive benefits which can derive from adopting an inductive, 'bottom-up' design of research. It is doubtful, for example, what role the two intermediary actors in Borken would have had in the analysis had we adopted the more usual 'top-down', program-focussed approach to our research. As it is, we know from extensive interviewing of firms that intermediary actors such as these have a major influence on what firms receive what public assistance in particular regions. Perhaps the most exciting aspect of the project, however, is the possibilities which it provides for measuring directly the effect of institutional arrangements on employment creation. It is only because we are able to piece together the individual firm-actor relationships which together characterize the regional assistance structures that we are able to state with any certainty that particular actors contribute more or less to firms' development. In Borken we were able to show that the two intermediaries explain as much as 30% of employment change. The way is thus open to an analysis which can yield something akin to a job-creation production function for the institutional arrangements which help small firms grow.

FOOTNOTES

1. A lengthier discussion of the mixed economy issues raised in this introduction may be found in Hull and Hjern (1983).
2. The project is described more fully in Finlayson et al. (1980) and Hull and Hjern (1982).
3. Business cycle data for German small firms is lacking. The Institute for Economic Research (IFO, 1978: 22-23) reports that in German manufacturing as a whole, capacity utilization appears to have been shrinking in the capital goods sector in the mid-1970's, but growing in the consumer goods sector. This tends to confirm Borken's progress against the sectoral trend.
4. Which were operationalized respectively as per cent of sales to the largest single customer and per cent of total sales in the home region.
5. The most common case is that of the firm forced to seek new premises because increasingly restrictive environmental protection legislation has made remaining in the old premises impossible or unattractive (cost of abatement measures).

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IMPLEMENTATION STRUCTURES AND THE IMPORTANCE OF LOCAL ACTORS
Comments on Hjern and Hull

Anna R. Minelli

COMMENTS ON HJERN AND HULL

The paper by Benny Hjern and Chris Hull can be read in two ways: first, as a test of a single, well-specified hypothesis and/or, secondly, as part of a complex research project on assistance to small firms, using a "bottom-up" approach to identify the primary actors involved in a case of policy implementation (or, perhaps, better yet: problem solving) in a mixed economy. In this latter sense the data presented are also intended to reinforce the usefulness of the approach itself.

It is quite difficult to raise questions and make comments on this paper from the first point of view: the hypothesis as formulated seems to be confirmed by the data. Moreover, some alternative explanations are formulated, tested and then either eliminated or used to strengthen the main hypothesis. Nevertheless one basic point can be raised with regard to the choice of the amount of employment change realized for a given amount of investment as the dependent variable. This choice tends to favor an assistance structure explanation since it is assumed that small firms frequently suffer from poor management. It also makes it necessary to examine "cross local variation in the number and/or kind of actors available to firms in the different localities as well as the number and/or kind of resources on offer" in order to explain a sort of internal efficiency -or at least effectiveness- of the investment itself. The authors themselves are aware of the likely relevance of these factors, even though limitations of space preclude exploring them in the paper.

The second way of reading the paper, i.e. in terms of a discussion of the data and approach of the project as a whole, shifts our attention from the question of "why Borken firms transform a given amount of investment into more employment" to such other questions as "why do they have more resources to invest" and "why do they invest more?" In other words, the main concern here becomes describing the conditions under which Borken is eligible for assistance and accounting for the level of assistance made available to this area (is it a disadvantaged area? Is it characterized by a production sector worthy of public assistance?) Answers to these questions cannot be derived from the general data presented in Table 3 alone.

Insofar as the assistance structure in Borken seems to explain -in the first instance- the higher availability (and use) of resources for investment (actually, the higher investment per employee in this area) at least two other questions must be addressed in this connection. In the first place, are the same resources provided by the various programs in principle available to each area and to all firms in these areas so that the failure to use them is due to a lack of resource identification and mobilization by local intermediaries? Or, conversely, is the total amount of investment available in Borken due to peculiar conditions of eligibility for public assistance of the area itself, i.e. has it been singled out as an area with a particularly good potential for development?

Since the authors did not consider variations in local resources, it might be useful to explore criteria for allocating national resources. What I have in mind is the situation that arises where the practice of political patronage is quite frequent: a local representative having a prominent position in the national government, or good relationships and access to agencies managing the real allocations of public funds is able to acquire resources for his own region in order to reinforce his credibility with the local constituency, and thus strengthen his position.

It is clear that formulating alternative explanations largely depends on knowledge of national and local contextualities. At the same time, a focus on these factors tends to neglect more general structures conditions. It is also clear that this tempting pars construens is based on only one point of criticism, previously pointed out: the choice of focussing on variations of employment change, avoiding an explanation for different levels of investment.

As the data show -see, for example, Table 10- most contacts in the Borken area pertain to resource identification and resource mobilization. Since "a major part of public resources used by small firms comes from programs with other substantive targets

-such as regional development, technical innovation, manpower training and the like", it is clear that a local assistance structure- with its ability to provide information on several different programs to potential users can be an important factor affecting the actual allocation of available resources and their use.

Finally, a last comment. If it is true that a policy, to be successful, must be known to its potential users, then the explanatory value of the assistance structure is indirectly reinforced. Indeed, the existence of local actors, who are able to perform an intermediary function between firms with problems and other actors managing resources relevant for those problems, represents a plausible explanation both for investment received and for the effective use of these monies.

METROPOLITAN STRUCTURE AND SYSTEMIC PERFORMANCE
THE CASE OF POLICE SERVICE DELIVERY

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Does the organization of systems of agencies for the delivery of public services affect the quantity and quality of services supplied? If so, in what ways? Do different forms of organization lead to differences in costs for the same quantity and quality of service? Can, for example, changes in the current structure of police service delivery arrangements in metropolitan areas be expected to produce changes in police performance or the cost of policing? If so, in what directions?

These are important questions. The production of services by agencies of local governments has been a major growth industry in the twentieth century. At the same time, an increasing awareness of budget constraints in the presence of growing service demands has led to redoubled efforts to determine ways of supplying services more efficiently. Public sector productivity has become a major concern of national commissions, scholars, and public officials.

Many endeavors to improve service delivery or to reduce service delivery costs have focused on the patterns of interorganizational arrangements among agencies that produce public services. Many recommendations for the reform of interorganizational arrangements for the delivery of public services have been made. Advocates of structural change clearly believe that organization influences performance. Those scholars and practitioners who recommend change or who argue for the maintenance of existing structures do so out of their belief that service delivery structures have important performance effects. They argue that interorganizational arrangements influence the performance of the individual agencies which exist within the structures. Often implicit

in these arguments is the possibility of systemic effects. That is, not only is the performance of individual agencies related to the structure in which they operate, but there are system level performance differences as well.

Most conventional analyses of public service delivery, however, employ a unitary model of local governments. In such models, the "government" aggregates consumer preferences, procures and organizes means of service production, and delivers services as a monopoly supplier to constituents. Decisions about output and expenditure levels are assumed to be made by simple referends or by omniscient and benevolent administrators. But few local government service delivery structures are so simple.

Since the early 1960s, scholars have argued for more complex models of public service delivery (e.g., Ostrom, Tiebout and Warren, 1961; Margolis, 1964). Noting that the local public sector is most frequently composed of several layers of enterprises engaging in a wide variety of exchanges, they argued the need to consider the structure of inter-jurisdictional arrangements as influences on service delivery. Margolis, for example, argued that the structure of interorganizational arrangements might make it possible to deal with problems that are less amenable to solution at the level of individual organizations or jurisdictions.

A consideration of the structure of governments gives a new perspective to old questions. We might ask whether some of the insoluble problems posed in the theory of public expenditures are worked out through the behavior of the structure. That is, does the structure have some of the characteristics of an industry and market, so that there is an interaction among governments which leads to desirable results (Margolis, 1964: 236).

Despite the cogency of these arguments by Margolis and others (e.g., McKean, 1964), few analysts of local service outputs and expenditures have taken into account overtly the ways the structure of interorganizational arrangements may affect the performance of local public sector economies. For a number of years my colleagues and I have explored the effects of agency structure on performance and, to a lesser extent, the effects of service delivery structure on individual agency performance (Ostrom and Parks, 1973; Ostrom, Parks and Whitaker, 1973; 1978a; 1978b; Parks, 1979; Parks and Ostrom, 1981; Parks, 1982). We have demonstrated structural effects on performance at the level of individual agencies. We have also presented suggestive results for the effects of service delivery structures on individual agency performance. In this paper I explore more systemic effects. I show that measures of the structure of service delivery arrangements for policing in metropolitan areas are related to the performance of the systems of

agencies as a whole. The relationships shown here provide some recommendations for ways to improve system performance by altering the structure of interorganizational arrangements.

POLICING AS THE SUBSTANTIVE FOCUS

The delivery of police services provides the substantive focus of this research. Policing is an important public service. It deals in part with one of the major concerns of Americans over the past two decades, crime and disorder (1). In fiscal year 1976, an estimated 11 billion dollars were spent for police protection, nearly 8 billion dollars by local governments (U.S. Department of Justice, 1978). The rapid rise in police salaries and pension benefits in recent years suggests that these expenditures will continue to increase at a steady pace. In 1977, more than 450,000 full-time personnel were employed in agencies supplying police services. This places policing second only to education as a public employer at the local level (U.S. Bureau of the Census, 1978:9).

As one of the common services supplied by local governments, policing has been the subject of many studies and recommendations. Much of the debate surrounding the delivery of police services has focused on policy variables that concern the organizational and interorganizational structure of police service delivery. The size of police agencies and the number of- and relations among- agencies in any given area have been frequent subjects for debate. The large number and the diversity of police agencies in America offer a wide range of policy choices from which to draw relevant empirical data. The structure of institutional arrangements for the delivery of police services varies greatly across metropolitan areas in the United States. Police services are highly concentrated in some areas, with only a single large jurisdiction responsible for most service supply. In other areas, police services are highly decentralized, with myriad small and medium-sized agencies responsible for service supply. In between these extremes, examples of the full range of division of service responsibilities may be found (Ostrom, Parks and Whitaker, 1978). This wide range of structural choices makes policing an appropriate case for the analysis of structural effects on performance.

For at least 50 years, critics of American police organization have believed they knew the answers to the questions posed at the start of this paper. Their answers have been that organization does influence performance and costs, and does so in specific directions. Changes could be made to present structures of service delivery arrangements that would lead to improved performance and, often, to reduced costs. The recommended changes have usually been the same; eliminate small police agencies and fragmented policing through consolidation of departments, and reorganize the remaining large departments according to management

principles emphasizing specialization of assignment and hierarchical control. Reformers believed that these changes in industry structure and producer agency organization would result in more effective police agencies, that costs would be reduced through the capture of economies-of-scale in production, and that consolidation would eliminate spillovers of crime from jurisdiction to jurisdiction that were seen as hampering law enforcement 2). Despite these remarkably uniform prescriptions, however, few changes consistent with their thrust have resulted 3).

In recent years some scholars have come to question such prescriptions. Agreeing that organization is likely to influence performance, these scholars have argued that the direction of relationships is different from that advanced by earlier reformers. These scholars suggest that smaller public service jurisdictions organized in less concentrated service delivery arrangements might often be more effective than large consolidated structures for the delivery of some services. Small and medium-sized police jurisdictions can be more responsive to citizen preferences and can offer, through their numbers and diversity, a choice among service mixes and tax costs. Smaller producing agencies might be able to avoid some of the bureaucratic pathologies seen to plague large agencies. Multi-agency police service industries offer the possibility of matching the scale of service supply to the relevant scale of service effects. These multi-agency industries allow for the presence of distinct, specialized suppliers of local, intermediate, and metropolitan or larger scale services. If structures of service delivery arrangements for police service are in need of reform, those reforms might better involve vertical and horizontal differentiation of the more concentrated industry structures. Large jurisdictions might be maintained or even increased for the production of some specialized services, but other services might well benefit by the disaggregation of large production units 4).

SERVICE DELIVERY INDUSTRIES

In order to investigate effects that may extend across and among multiple jurisdictions in the supply of public services, a conceptual framework that can accommodate the diversity of structural arrangements is necessary. One useful framework is that of the "public service industry". Ostrom, Tiebout and Warren (1961) and Ostrom and Ostrom (1965) argued for the utility of conceptualizing public service delivery structures as "industries". Public service industries, they claimed, might be analyzed using many of the same tools as those employed by economists of the industrial organization persuasion (e.g., Bain, 1959). Consideration of service delivery structures in terms of their monopoly, duopoly, oligopoly, or competitive forms might enable behavioral predictions analogous to those made for private firms in market structures. In an early

application of industrial organization concepts to the public sector, Bain, Caves and Margolis studied the water industry in northern California (1966). But little other empirical or theoretical application of industrial organization concepts to the public sector occurred until the middle 1970s. This was due to a lack of conceptual tools for characterizing the structure of service delivery arrangements in the public sector and a consequent lack of theoretically related empirical measures of this structure.

MEASURING INDUSTRY STRUCTURE

As a result of National Science Foundation-supported studies of the organization of service delivery in metropolitan areas, two similar conceptualizations of service delivery arrangements in the public sector have been developed (Ostrom, Parks and Whitaker, 1974; 1978; Savas, 1978). In both conceptualizations, service delivery arrangements are disaggregated by specific types of service (e.g., general area police patrol, investigation of residential burglaries, radio communications, garbage collection, dry trash collection, newspaper recycling). The participants in the service delivery arrangements are separately classified as producers of the service, as consumers of the service, and as providers or collective decision-making units that link producer and consumer.

Once these three types of participants are separated conceptually, they can be identified empirically for any given service in a particular geographic area (e.g., a city, a county, an SMSA). Matrices can be constructed arraying, for example, all of the producers against all of the consumers (or all groups of consumers for services with attributes of public goods). Each cell in the matrix identifies whether a service link exists between a particular producer and a particular consumer (or group) and, if so, the nature of that service link. Matrices can also be constructed for producer and provider linkages, for provider and consumer linkages, and for linkages between producers of one service and producers of other services that are necessary or useful to the former producers. These service structure matrices, together with computation based upon their sizes and the patterns and types of entries, can then be used to characterize the structure of service delivery arrangements for each service of interest in many different geographic areas (see Ostrom, Parks and Whitaker, 1978).

In our study of service delivery arrangements for the supply of police services in U.S. metropolitan areas, my colleagues and I inventoried the agency and interagency structure of police service systems in 85 Standard Metropolitan Statistical Areas (SMSAs) 5). We catalogued all producers of a number of police services (e.g., patrol, burglary investigation, homicide investigation, radio communications, entry-level training, and others).

We recorded the structure of each agency and its relationships with other agencies producing the same or related services. We also recorded the linkages of producing agencies to consumer groupings within each metropolitan area, noting where unique arrangements linked a single producer to a single consumer group and where more complex, multi-agency links were found. We developed mathematical indices to characterize the structure of each of the metropolitan areas. These indices are of two types: compositional and relational.

The compositional indices of metropolitan structure are based on counts of service producers, organized service consumer units (6), and the populations contained within the latter. For services supplied directly to consumers, we measure compositional structure using the following:

Multiplicity - the number of suppliers of a given service in the metropolitan area.

Relative

Multiplicity - the number of suppliers per 100,000 metropolitan inhabitants.

Fragmentation - the number of organized consumer units for a given service in the metropolitan area.

Relative

Fragmentation - the number of organized consumer units per 100,000 metropolitan inhabitants.

Dominance - the proportion of the metropolitan population supplied by the producer with the largest served population for a given service.

Slight variants in the definitions of these indices were made for services such as radio communications, training, or crime lab, which are not supplied directly to consumers but serve as intermediate products (we used the term auxiliary services) in the production of services for consumers.

The relational indices of metropolitan structure take into account the ties or interactions among service suppliers and between suppliers and service consumers in metropolitan areas. Among the relational measures for services supplied directly to consumers are:

- Independence - the proportion of the metropolitan population that receives a given service from an agency of its own local government.
- Autonomy - the proportion of the metropolitan population that receives a given service exclusively from an agency of its own local government.
- Coordination - the proportion of the metropolitan population that receives a given service through the coordinated efforts of two or more producers.
- Alternation - the proportion of the metropolitan population that receives a given service from two or more producers that alternate their service delivery in time or space, or across clientele groups.
- Duplication - the proportion of the metropolitan population that receives a given service from two or more producers that make no effort to coordinate or alternate their activities.
- Assistance - the proportion of the metropolitan population that receives patrol service from producers reporting frequent mutual assistance.

Here, too, variants on these measures were made for auxiliary service relationships.

Tables 1,2 and 3 present data on the range of variation of many of these measures across several services in the 85 metropolitan areas. Table 1 illustrates the variation in compositional measures of service structure for general area patrol, the investigation of alleged burglaries, and the investigation of alleged homicides. The number of suppliers of these services ranges from one supplier for an entire SMSA to approximately 90 suppliers of each service. There is wide variation in numbers of suppliers in relative terms as well. Of the three services, the investigation of alleged homicides tends to be somewhat more concentrated. This results from the presence of integrated investigation teams for serious crimes in many metropolitan areas and from the supply of trained investigators by larger jurisdictions to smaller ones in some areas.

Table 1

Compositional Measures of Direct Service Structure*

| Service and Measure | Low | Median | High | Range of Middle 50 Percent |
|--|------|--------|-------|----------------------------|
| <u>Patrol</u> | | | | |
| Multiplicity | 1 | 13 | 91 | 7-21 |
| Relative Multiplicity | 1.39 | 6.01 | 19.91 | 4.23-7.44 |
| Dominance | 0.11 | 0.52 | 1.00 | 0.39-0.70 |
| <u>Criminal Investigation-Burglary</u> | | | | |
| Multiplicity | 1 | 11 | 87 | 6-18 |
| Relative Multiplicity | 1.15 | 4.97 | 16.87 | 3.59-6.40 |
| Dominance | 0.11 | 0.51 | 1.00 | 0.39-0.71 |
| <u>Criminal Investigation-Homicide</u> | | | | |
| Multiplicity | 1 | 9 | 89 | 5-13 |
| Relative Multiplicity | 0.86 | 4.04 | 15.52 | 3.06-5.58 |
| Dominance | 0.21 | 0.64 | 1.00 | 0.49-0.85 |

*85 Standard Metropolitan Statistical Areas

Table 2 presents the range of variation for several relational measures and the same three direct services. It is of some interest to note that general area patrol, perhaps the most local of all police services, exhibits the most frequent interrelationships among agencies of the three services. This results from two factors. First, local patrol agencies are often found to provide back-up to one another when additional units are needed. This is reflected in the measure of assistance for patrol. Second, patrol agencies whose jurisdictions overlap have typically worked out arrangements to avoid strict duplication of effort, usually through agreements to alternate their patrol efforts in space or over time. This is reflected in the higher values of alternation for this service than for the other two. As a result, the investigation of alleged burglaries is the service which exhibits the highest degree of autonomous supply followed by the investigation of alleged homicides and then, by general area patrol. The extent of mutual agreements for the investigation of more serious crimes is reflected in the measure of coordination for this service. These agreements frequently involve a division of labour. A local jurisdiction provides officers to identify and interview neighbors and other potential witnesses. A multi-agency investigative team or a large department supplies trained investigators to collate information and develop new leads. Common investigation files are maintained in these coordinated arrangements.

The data reported in Tables 1 and 2 reflect the extensive degree of horizontal differentiation in the supply of direct police services in U.S. metropolitan areas. The picture is somewhat different for the supply of auxiliary services. For two of the three auxiliary services displayed in Table 3, a considerable degree of vertical integration is found. The usual pattern is for there to be many fewer suppliers of adult detention and of entry-level training in a metropolitan area than there are direct service suppliers. There is a tendency in the same direction for radio communications, though to a lesser degree. The concentration of the structure for adult detention occurs because this service is often supplied by a single sheriff's agency or county detention center for each county in a metropolitan area. Multiple suppliers of detention are found in some counties, but this is less frequent. The concentration of entry-level training results generally from its supply by either: 1) a single, large city police agency; 2) a state-wide training facility; 3) a multi-jurisdictional, joint training facility; or 4) a combination of two or more of these entities. Vertical integration in the supply of radio communications results from service contracting by larger agencies or from joint dispatch centers operated by consortia of smaller agencies.

By analyzing the relationships between these measures of service delivery structure and measures of the behavior of the

Table 2

Relational Measures of Direct Service Structure*

| Service and Measure | Low | Median | High | Range of Middle 50 Percent |
|--|------|--------|------|----------------------------|
| <u>Patrol</u> | | | | |
| Independence | 0.79 | 1.00 | 1.00 | 1.00-1.00 |
| Autonomy | 0.00 | 0.54 | 1.00 | 0.19-0.77 |
| Alternation | 0.00 | 0.39 | 0.96 | 0.04-0.71 |
| Assistance | 0.00 | 0.86 | 1.00 | 0.67-0.91 |
| <u>Criminal Investigation-Burglary</u> | | | | |
| Independence | 0.77 | 1.00 | 1.00 | 0.98-1.00 |
| Autonomy | 0.00 | 0.91 | 1.00 | 0.67-0.97 |
| Coordination | 0.00 | 0.01 | 0.84 | 0.00-0.06 |
| Alternation | 0.00 | 0.01 | 0.91 | 0.00-0.14 |
| <u>Criminal Investigation-Homicide</u> | | | | |
| Independence | 0.00 | 0.99 | 1.00 | 0.95-1.00 |
| Autonomy | 0.00 | 0.75 | 1.00 | 0.21-0.94 |
| Coordination | 0.00 | 0.07 | 1.00 | 0.02-0.43 |
| Alternation | 0.00 | 0.00 | 0.91 | 0.00-0.07 |

*85 Standard Metropolitan Statistical Areas

Table 3
Measures of Auxiliary Service Structure*

| Service and Measure | Low | Median | High | Range of Middle 50 Percent |
|-----------------------------|------|--------|------|----------------------------|
| <u>Adult Detention</u> | | | | |
| Multiplicity | 1 | 2 | 18 | 1-3 |
| Independence | 0.00 | 0.10 | 0.40 | 0.03-0.16 |
| Dominance | 0.33 | 0.88 | 1.00 | 0.73-1.00 |
| <u>Entry-Level Training</u> | | | | |
| Multiplicity | 1 | 4 | 13 | 2-7 |
| Independence | 0.00 | 0.20 | 0.56 | 0.11-0.27 |
| Dominance | 0.25 | 0.71 | 1.00 | 0.50-0.86 |
| <u>Radio Communications</u> | | | | |
| Multiplicity | 2 | 9 | 84 | 6-17 |
| Independence | 0.29 | 0.82 | 1.00 | 0.64-1.00 |
| Dominance | 0.06 | 0.25 | 0.80 | 0.15-0.43 |

*85 Standard Metropolitan Statistical Areas

system of organizations comprising the structure, improved understanding of interorganizational influences on public sector behavior may result. Unfortunately there are no generally accepted measures of police performance which admit of comparison among large numbers of agencies or across metropolitan areas. For this reason I rely upon several proxy measures based on police activities to demonstrate structural effects.

POLICE PERFORMANCE PROXIES

Two activities comprise the bulk of observable police activities which might be expected to be related to police performance. These are: 1) the deployment of patrol officers to on-street duty assignments in order to make them available to respond to citizens service requests and 2) activities undertaken in the attempt to solve reported crimes. While the police do many additional things (controlling vehicular traffic and behavior at public gatherings are perhaps the major items not included here), the provision of immediate response to service requests and the attempted solution of crimes exhaust the major portion of police resources and encaptures most of what the public expects of their police.

In our study of police agencies in 85 SMSAs, we collected information bearing on both of these activities. For each producer of patrol and investigative services, we obtained the number of sworn officers assigned to patrol duties, the number of patrol officers deployed for street duty at 10 pm, and the number of crimes cleared by arrest in the previous year. For the analyses presented here, these activity measures have been aggregated over all producers in each metropolitan area. Table 4 presents the range in variation of each of these measures, standardized by the total number of officers, total crimes committed in the previous year and by the SMSA population.

Patrol deployment exhibits wide variation over the areas. In some areas, an emphasis on patrol-oriented policing results in a high percentage of officers assigned to patrol, a high proportion of sworn officers deployed for on-street duties, and a high street officer to citizen ratio. In others, the emphasis appears to be placed on task-oriented policing, with higher proportions of officers in specialized units and correspondingly lower deployments for street duties (these differences in "production strategies" were first identified in Ostrom, Parks and Whitaker, 1973). Clearance rates and clearances standardized by population, crimes, and officers also exhibit wide variation across the SMSAs. It remains to be explored, however, as to whether these activity or performance proxy variations are related to structural variations across the metropolitan areas.

Table 4

Proxy Measures of Police PerformanceMeasures of Patrol Deployment*

| Measure | Low | Median | High | Range of Middle 50 Percent |
|---|------|--------|------|-------------------------------|
| Percent of Sworn Officers Assigned to Patrol | 34 | 61 | 78 | 54-66 |
| Percent of Sworn Officers on the Street at 10 pm | 5.5 | 15.0 | 29.4 | 12.1-17.0 |
| Number of Sworn Officers on the Street Per 1,000 Citizens at 10 pm | 0.09 | 0.24 | 0.50 | 0.18-0.30 |

*83 Standard Metropolitan Statistical Areas

Measures of Crime Clearance Activity*

| Measure | Low | Median | High | Range of Middle 50 Percent |
|--|-----|--------|------|-------------------------------|
| Clearance Rate (%) | 8.9 | 21.3 | 40.7 | 16.5-25.8 |
| Clearances Per 1,000 Citizens | 2.2 | 8.8 | 20.8 | 6.1-11.1 |
| Clearances Per Sworn Officer | 1.0 | 5.3 | 13.8 | 3.7-6.8 |
| Clearances Per Street Officer at 10 pm | 6.6 | 36.5 | 89.0 | 23.0-55.0 |

*77 Standard Metropolitan Statistical Areas

RELATING STRUCTURE AND PERFORMANCE

To begin my exploration of relationships between measures of metropolitan structure and these performance proxies, I categorized each SMSA into quartiles on each measure and computed the mean value of each performance proxy for SMSAs in the appropriate quartile. The patterns of relationships revealed by those bivariate comparisons suggest that the factors associated with positive patrol deployment are different from those associated with crime clearance (data not shown). Among the direct service measures, relative multiplicity and autonomy in patrol service delivery are positively related with patrol deployment. Dominance by a single supplier is negatively related to deployment. That is, in SMSAs with relatively more patrol suppliers, each of which serves its own jurisdiction exclusively, more officers are found assigned to patrol duties, more of the sworn officers are actually deployed for street duties, and each officer on the street has fewer citizens to serve. In SMSAs where a high proportion of the population receives patrol service from a single, large supplier, the reverse tends to be found. Fewer officers receive patrol assignments, a smaller proportion are on the street at any one time, and each street officer serves more citizens. Somewhat surprisingly, assistance is negatively related to patrol deployment measures. This results from the supply of assistance by larger agencies to smaller, where the larger agencies choose more task oriented production strategies, de-emphasizing patrol deployment (Ostrom, Parks and Whitaker, 1978b).

Concentration in the supply of auxiliary services is related to higher values on the patrol deployment measures. Those SMSAs which have dominant suppliers of adult detention, entry level training, and radio communications services have more officers assigned to patrol, more on the street, and fewer citizens to serve per street officer. Those where these auxiliary services are supplied independently by a larger number of agencies score lower on these measures.

With respect to crime clearances, relative multiplicity in supply is negatively related to the performance proxies, while dominance is positively related - the reverse of the pattern for patrol. This suggests that there may be economies of scale in the investigation of reported crimes, a finding consistent with that of Skogan with respect to crime clearance among larger cities (1978). Those SMSAs where investigation services are supplied by multi-agency investigation units or by a single, large supplier, tend to score higher on measures of clearance activity.

Concentration in the supply of radiocommunications is positively related to clearance activity, just as it was with patrol deployment. However, the measures for other auxiliary services

show a different relationship for clearances than with patrol deployment. Independence in the supply of entry-level training, for example, is positively related to clearance success. So too is the presence of multiple suppliers of adult detention services.

In order to further explore the relationships of structural measures to the performance proxies, multivariate analyses were undertaken. A selected set of direct service measures, auxiliary service measures, and environmental factors were regressed on each of the patrol deployment and crime clearance activity measures. The particular measures chosen for the regressions were selected after examination of the patterns of intercorrelations among the independent variables and consideration of whether there was any reason to expect a relationship on theoretical grounds. The environmental measures, total crimes and number of sworn officers per 1,000 SMSA population, were chosen to reflect service demands and resource availability in each SMSA.

Table 5 presents the regression results for the patrol deployment measures. Just as with the bivariate measures, strong, positive effects were found for relative multiplicity and autonomy in the supply of patrol services. Less strong, negative effects were present for dominance and assistance in patrol service delivery. The structure of service arrangements for homicide also showed weak effects, with both dominance and autonomy positively related to two out of the three patrol measures. The effects of the auxiliary service structures are clearest for radio communications. Independent supply of this service is negatively related to patrol deployment. This is as expected as this is a service where scale economies ought to be present. However, dominance is negatively related to deployment, suggesting that over concentration in the supply of communications is counterproductive for deployment. The coefficients for detention suggest that concentrated supply of this service is warranted, but that more than a single detention center is called for. The coefficients for the resource availability, with proportionately fewer officers assigned to patrol or available for street duty in higher resource areas. An advantage in resources is shown to translate into only a small increment in on-street availability, measured by the number of officers on the street per 1,000 citizens. The coefficient shows that it takes an increase of 12 officers per 1,000 citizens to result in one more street officer per 1,000.

The coefficients for the clearance measures, shown in Table 6, reveal that auxiliary service structure exerts a stronger influence on clearances than does direct service structure - just the opposite from the patrol pattern. Dominance in radio communications and in the supply of adult detention are positively related to clearance success. The presence of multiple training facilities is also positively related, although the coefficients for

Table 5

Multivariate Relationships -- Patrol Deployment and
Service Delivery Structure*

| | Percent of Sworn Officers Assigned to Patrol | | Percent of Sworn Officers on the Street at 10 pm | | Number of Sworn Officers Per 1,000 Citizens at 10 pm | |
|------------------------------------|--|------|--|------|---|------|
| | b (s.e.) | B | b (s.e.) | B | b (s.e.) | B |
| <u>Direct Service Structure</u> | | | | | | |
| Multiplicity - Patrol | -.07 (.09) | -.12 | -.03 (.04) | -.09 | -.00 (.00) | -.13 |
| Relative Multiplicity - Patrol | .33 (.36) | .12 | .49 ^a (.16) | .37 | .01 ^a (.00) | .30 |
| Dominance - Patrol | -6.42 (8.02) | -.13 | -4.43 (3.63) | -.19 | -.08 (.07) | -.22 |
| Autonomy - Patrol | 7.03 ^a (2.87) | .24 | 3.90 ^a (1.30) | .29 | .07 ^a (.02) | .31 |
| Assistance | -8.02 (4.51) | -.19 | -1.97 (2.04) | -.10 | -.04 (.04) | -.12 |
| Dominance - Homicide | -2.58 (8.17) | -.06 | 5.42 (3.70) | .28 | .10 (.07) | .30 |
| Autonomy - Homicide | -3.11 (3.75) | -.13 | 2.28 (1.70) | .20 | .05 (.03) | .26 |
| <u>Auxiliary Service Structure</u> | | | | | | |
| Multiplicity - Training | -.90 (.50) | -.28 | .18 (.23) | .12 | .00 (.00) | .12 |
| Independence - Training | 6.34 (11.8) | .08 | -6.66 (5.33) | -.19 | -.12 (.10) | -.20 |
| Multiplicity - Detention | 1.30 ^a (.52) | .35 | .05 (.23) | .03 | .00 (.00) | .07 |
| Independence - Detention | -31.5 ^a (11.3) | -.34 | 1.32 (5.13) | .03 | .03 (.09) | .04 |

Table 5 (Continued)
Multivariate Relationships -- Patrol Deployment and
 Service Delivery Structure*

| | Percent of Sworn Officers Assigned to Patrol | | Percent of Sworn Officers on the Street at 10 pm | | Number of Sworn Officers Per 1,000 Citizens at 10 pm | |
|---------------------------------------|--|------|--|------|---|------|
| | b (s.e.) | B | b (s.e.) | B | b (s.e.) | B |
| <u>Direct Service</u> | | | | | | |
| Dominance - Detention | 5.03 (6.18) | .10 | 2.94 (2.80) | .13 | .06 (.05) | .15 |
| Independence - Radio Communication | -17.7 ^a (7.61) | -.38 | -4.90 (3.45) | -.22 | -.08 (.06) | -.23 |
| Dominance - Radio Communication | -17.9 ^a (7.33) | -.38 | -4.12 (3.32) | -.19 | -.09 (.06) | -.24 |
| <u>Environment</u> | | | | | | |
| Crimes Per 1,000 Citizens | .09 (.06) | .18 | .01 (.03) | .03 | .00 (.00) | .08 |
| Sworn Officers Per 1,000 Citizens | -8.67 ^a (2.56) | -.42 | -2.89 ^a (1.16) | -.29 | .08 ^a (.02) | .49 |
| R ² /R ² | .48/.36 | | .53/.41 | | .47/.34 | |

*83 Standard Metropolitan Statistical Areas

^ab coefficient exceeds 2 x s.e.

Table 6

Multivariate Relationships -- Crime Clearances
and Service Delivery Structure*

| | Clearance Rate (%) | | Clearances Per 1,000 Citizens | | Clearances Per Sworn Officer | | Clearances Per Street Officer | |
|------------------------------------|--------------------|------|-------------------------------|------|------------------------------|------|-------------------------------|------|
| | b | B | b | B | b | B | b | B |
| <u>Direct Service Structure</u> | (s.e.) | | (s.e.) | | (s.e.) | | (s.e.) | |
| Multiplicity - Burglary | -0.12 | -.23 | -0.05 | -.15 | -0.02 | -.12 | -.04 | -.03 |
| | (.07) | | (.03) | | (.02) | | (.19) | |
| Relative Multiplicity - Burglary | -.49 | -.19 | -.10 | -.06 | -.12 | -.12 | -1.63 | -.22 |
| | (.32) | | (.13) | | (.09) | | (.82) | |
| Dominance - Burglary | -9.56 | -.30 | -3.21 | -.16 | -3.43 | -.29 | 3.08 | .03 |
| | (6.69) | | (2.82) | | (1.90) | | (17.4) | |
| Autonomy - Burglary | 2.64 | .10 | 2.00 | .12 | 1.34 | .14 | 7.31 | .10 |
| | (3.69) | | (1.55) | | (1.05) | | (9.60) | |
| Dominance - Homicide | 15.7 ^a | .55 | 5.46 | .32 | 5.09 ^a | .48 | 3.33 | .04 |
| | (6.51) | | (2.74) | | (1.84) | | (16.9) | |
| Autonomy - Homicide | 5.19 | .30 | 1.88 | .18 | 1.01 | .15 | -4.70 | -.09 |
| | (3.29) | | (1.38) | | (.93) | | (8.55) | |
| <u>Auxiliary Service Structure</u> | | | | | | | | |
| Multiplicity - Training | 1.34 ^a | .59 | .48 ^a | .35 | .30 ^a | .36 | .81 | .13 |
| | (.35) | | (.15) | | (.10) | | — | |
| Independence - Training | -16.1 | -.30 | -7.66 ^a | -.23 | -3.54 | -.18 | 11.22 | .08 |
| | (8.33) | | (3.50) | | (2.36) | | — | |
| Independence - Detention | 31.9 ^a | .46 | 10.5 ^a | .25 | 6.78 ^a | .26 | 41.6 ^a | .22 |
| | (7.51) | | (3.16) | | (2.13) | | (19.5) | |
| Dominance - Detention | 5.36 | .15 | 1.27 | .06 | .08 | .01 | -3.63 | -.04 |
| | (4.61) | | (1.94) | | (1.30) | | (11.9) | |
| Dominance - Radio Communication | 8.86 ^a | .27 | 3.65 ^a | .19 | 3.30 ^a | .27 | 10.89 | .12 |
| | (3.81) | | (1.60) | | (1.08) | | (9.9) | |

Table 6 (continued)
Multivariate Relationships -- Crime Clearances
and Service Delivery Structure*

| | Clearance Rate (%) | | Clearances Per 1,000 Citizens | | Clearances Per Sworn Officer | | Clearances Per Street Officer | |
|-----------------------------------|--------------------|------------|-------------------------------|-----------|------------------------------|------------|-------------------------------|-------------|
| | b | B (s.e.) | b | B (s.e.) | b | B (s.e.) | b | B (s.e.) |
| <u>Environment</u> | | | | | | | | |
| Crimes Per 1,000 Citizens | -.22 ^a | -.55 (.05) | .15 ^a | .58 (.02) | .08 ^a | .50 (.01) | .55 ^a | .48 (.13) |
| Sworn Officers Per 1,000 Citizens | 3.08 | .21 (1.88) | 1.00 | .11 (.79) | -2.56 ^a | -.46 (.53) | -11.66 ^a | -.28 (4.89) |
| R ² /R ² | .45/.34 | | .74/.68 | | .68/.62 | | .52/.42 | |

*77 Standard Metropolitan Statistical Areas

^ab coefficient greater than 2 x s.e.

independence in training show that some concentration of this service is beneficial. Dominance in the supply of investigation services for reported homicides is the only direct service measure which shows a strong positive relationship with the clearance measures. The environmental measure of crimes per 1,000 citizens shows that relatively more crimes are cleared as the number of crimes is higher, but that the rate of clearance success is lower in such circumstances. The coefficients for resource availability show, as with patrol, that increased resources are more likely to be used to create slack than to improve performance on these measures.

TECHNICAL EFFICIENCY IN SERVICE SUPPLY

In the real world, both patrol activities and clearance activities are supplied simultaneously. Over some range of supply, these activities should complement on another. Increased patrol deployment should increase clearance success as many crime clearances occur as the result of on-street patrol actions. However, at some point tradeoffs must be made. The marginal officer can be employed as a street officer, contributing somewhat to clearance success, or can be employed as a crime specialist, presumably contributing even more to such success.

In a private market economy with a large number of buyers and sellers, conventional economic theory tells us that firms producing goods or services will operate efficiently or will be eliminated from the market by competitors (Alchian, 1950). Each private firm in a competitive industry is thus assumed to be operating at a point on the production possibility frontier. As a result, the industry itself operates at such a point, and the tradeoffs made among products will be efficient ones. Public firms, however, do not usually operate in this situationally-determined environment. Thus, there is less reason to expect them to be operating at the maximum efficiency possible. Some public firms may be operating on their production possibility frontier, but many may not. Likewise, some public service industries may exhibit lower levels of efficient production than others.

To examine the relative efficiency of the public service industries operating in the metropolitan areas considered here, a new methodology based on goal programming is employed. The methodology is named Data Envelopment Analysis by its developers (see Charnes, Cooper and Rhodes, 1978a). It allows the identification of the most efficient among a set of public decision-making units and provides relative ratings of the efficiency of other decision-making units in light of the results obtained by the most efficient.

The measure of technical efficiency available from this

methodology is based upon physical measures of valued inputs and outputs. It is derived empirically from a comparison of the outputs obtained by a set of public decision-making units (DMUs) to the inputs used to produce those outputs. Each DMU is compared to all other DMUs in a given set. The comparison is constrained such that any particular DMU will be rated no better than the DMU (or combination of DMUs) exhibiting the best input/output ratio in the set. Simultaneously, the method yields the highest possible rating for each DMU subject to this constraint. The method involves the computation of weights for inputs and for outputs that satisfy this maximization goal subject to the constraint. Use of the method results in "an empirically determined objective measure of efficiency", based on extremal relations rather than on average expectations" (Bessent and Bessent, 1980: 59, emphasis in the original).

The objective function to be maximized (using the notation of Bessent and Bessent, 1980: 59-60) is:

$$\text{maximize } h_0 = \left(\frac{\sum_{r=1}^s u_r y_{r0}}{\sum_{i=1}^m v_i x_{i0}} \right) \quad (1)$$

$$\text{subject to: } \left(\frac{\sum_{r=1}^s u_r y_{rj}}{\sum_{i=1}^m v_i x_{ij}} \right) \leq 1 \quad (2)$$

for $j = 1, \dots, n$.

where u_r , v_i , y_{rj} , and $x_{ij} > 0$.

The terms in these equations are:

y_{rj} = the value of the r th valued output for decision-making unit j ,

x_{ij} = the value of the i th input for decision-making unit j ,

u_r = the weight for output r calculated in the analysis, and

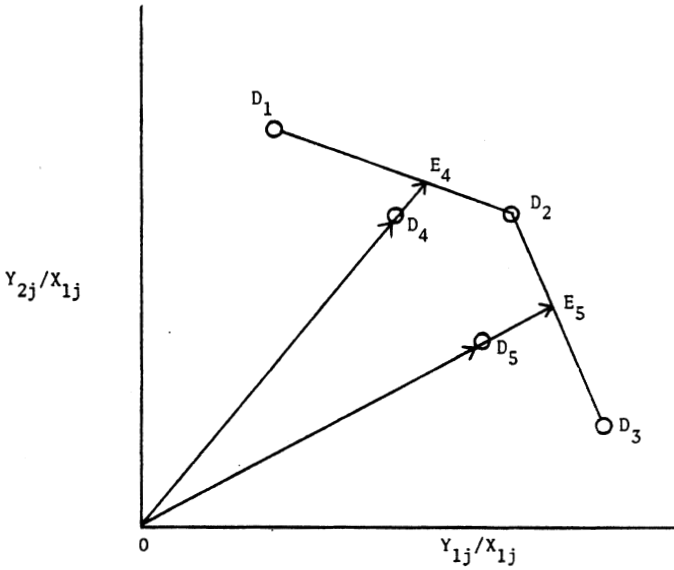
v_i = the weight for input i calculated in the analysis.

The problem as stated is a fractional programming problem. Charnes, Cooper, and Rhodes offer a proof that this can be converted to a standard linear programming problem, solvable by readily available algorithms (1978a).

A graphical representation can give a sense for the method, though not for the details. The reader is directed to publications of Charnes, Cooper and Rhodes (1973a; 1973b) for those details. Assume that each DMU produces two outputs, y_{1j} and y_{2j} , using only a single input, x_{1j} . Dividing each of the outputs by the input and plotting the resulting points, Figure 1 results.

Figure 1

Graphical Representation of Relative Technical Efficiency



The figure shows the plotted results for five DMUs, labelled D1 through D5. Three of those DMUs, D1, D2, D3, define the production possibility frontier in this example. No DMU obtains a higher ratio of output 1 to the input than does D1 without some sacrifice in the ratio of output 2 to the input. In this sense, DMUs D1, D2 and D3 represent Pareto efficient operations. DMUs D4 and D5 are not Pareto efficient, however. D4 is clearly dominated by D2. D2 achieves an equivalent ratio of output 2 to the input factor and a higher ratio of output 1 to the input. D5 is dominated in turn by a combination of DMUs D2 and D3. A mixture of their operations, denoted as point E5, is clearly better than the results obtained by D5.

Having defined the efficient production possibility frontier by DMUs D1, D2 and D3, the computation of their efficiencies and the relative efficiencies of D4 and D5 is straightforward. DMUs D1, D2 and D3 are assigned an efficiency of 1.0. The relative efficiency of DMU D4 is measured by the ratio of the length of line segment OD4 to the length of line segment OE4. The relative efficiency of DMU D5 is measured by the ratio of the length of line segment OD5 to that of line segment OE5. That is, the relative efficiency of a DMU falling below the production possibility frontier is computed relative to the efficiency of a DMU or combination of DMUs that produce outputs in the same proportions. The actual method uses weighted combinations of inputs and of outputs to compute these efficiency values, but the logic is the same.

For purposes of the present analysis, each SMSA is treated as if it were a single decision-making unit. The input factors considered are the total number of sworn officers, the total number of civilians employed, the total number of vehicles available, and the total number of crimes reported in the previous year. The output factors are the number of officers deployed for street duty at 10 pm and the number of reported crimes that were cleared by an arrest in the previous year. The production possibility frontier for these two outputs was computed using a version of Data Envelopment Analysis, relating the weighted sum of the inputs to the weighted sum of outputs, and maximizing the latter with respect to the former 7). Having identified those SMSAs which defined this frontier, relative efficiencies of the remaining SMSAs were computed by solution of a linear programming problem analogous to the graphical presentation in Figure 1. The relative efficiencies derived from these computations can then be used as performance measures for the study of structural effects.

The relative technical efficiencies of the 76 metropolitan areas for which full data were available ranged from 40 to 100 percent. Table 7 shows the full distribution. Fourteen of the 76 SMSAs defined the production possibility frontier. The median

Table 7

Relative Technical Efficiencies of Metropolitan
Service Delivery Structures

| Efficiency Rating | Number of SMSAs with this Rating |
|-------------------|----------------------------------|
| 40-50 | 3 |
| 51-60 | 6 |
| 61-70 | 19 |
| 71-80 | 16 |
| 81-90 | 9 |
| 91-99 | 9 |
| 100 | 14 |

Structural Relationships with Relative Technical Efficiency

efficiency rating across the 76 areas was 77 percent. The wide range of relative efficiencies found is consistent with the earlier argument regarding public sector performance. Unlike ideal competitive market structures, public service industry structures are not compelled toward high levels of efficient production.

To examine the relationship of structural measures of public service industries to their technical efficiencies, SMSAs were categorized according to the values of structural measures which the earlier regression analysis revealed to be related to performance. Patrol service structure was categorized by dichotomizing relative multiplicity and autonomy at their median values. Investigation structure was categorized by dichotomizing dominance in homicide investigation and dominance in radio communications. Table 8 shows some clear structural relationships for the relative efficiencies of the SMSAs. Those metropolitan areas with higher multiplicity and autonomy in their service delivery structures for patrol achieve higher technical efficiency measured by the weighted combination of patrol and clearance activities. Those metropolitan areas with greater dominance in homicide investigation and

Table 8
Relative Efficiency and Industry Structure

Patrol Structure Effects

| | | Relative Multiplicity | |
|----------|-------------|--------------------------------------|------------|
| | | ≤ 6.01 | > 6.01 |
| Autonomy | ≤ 0.54 | 71 ^a (18) ^b | 75 (18) |
| | > 0.54 | 80 (19) | 86 (21) |

Investigation Structure Effects

| | | Dominance - Homicide Investigation | |
|--|-------------|------------------------------------|------------|
| | | ≤ 0.64 | > 0.64 |
| Dominance - Radio Communications | ≤ 0.25 | 70 (26) | 74 (9) |
| | > 0.25 | 83 (28) | 88 (13) |

^aMean Relative Technical Efficiency

^bNumber of SMSAs (total = 76)

radio communication structures also exhibit higher efficiencies for this weighted combination.

Table 9 shows a further breakdown by structural measures that affect both patrol and criminal investigation activities. Although the number of SMSAs in each cell is small in some combinations, the same patterns are found. Relative technical efficiency is higher in SMSAs where patrol services are supplied by relatively higher numbers of autonomous patrol producers, and where homicide investigations and radio communications are supplied in a more concentrated manner. Regression analysis of the effects of a larger set of service delivery structure measures on technical efficiency confirms these patterns (data not shown). The strongest coefficients were found for relative multiplicity and autonomy in patrol and for dominance in homicide investigations and radio communications. No other structural measures exhibit significant coefficients in the regression with relative technical efficiency. In total, these four structural measures explained approximately 30 percent of the variation in relative technical efficiency across the 76 SMSAs.

IMPLICATIONS FOR ORGANIZING POLICE SERVICE INDUSTRIES

The findings reported here suggest that police service delivery can be improved by careful attention to the structure of inter-organizational arrangements among agencies which, jointly, supply these services. Contrary to the recommendations of many who would reform the police by moving toward consolidated service supply by a single agency, the results demonstrate that a mixed approach is more beneficial. In such an approach, patrol services are supplied by a number of autonomous suppliers, each serving a unique jurisdiction. These autonomous patrol suppliers coexist with more centralized suppliers of radio communications and of investigation of reported homicides. Metropolitan areas which exhibit this pattern of mixed arrangements were found to be relatively more efficient at transforming input resources into outputs of patrol presence and crime clearances than were metropolitan areas with more unitary structures for patrol or more diffuse structures for radio communications and homicide investigation.

These results lend empirical support to the theoretical arguments of scholars such as Ostrom, Tiebout and Warren (1961) and Margolis (1964), who argued for structural complexity as a way of avoiding pathologies of overcentralization or excess fragmentation. Consistent with the argument of Vincent Ostrom over the years, services with localized scales of effects, general area patrol, for example, are best supplied by a set of localized suppliers. Those with broader scales of effects, such as radio communication and homicide investigations, benefit from supply by agencies whose jurisdictions are broad enough to capture that

Table 9
Relative Efficiency and Industry Structure

| | | Relative Multiplicity - Patrol | | | |
|-------------------------------------|---|--|---|--|---|
| | | ≤ 6.01 Dominance - Homicide Investigation < 0.64 | > 0.64 Dominance - Homicide Investigation | ≤ 6.01 Dominance - Homicide Investigation < 0.64 | > 0.64 Dominance - Homicide Investigation |
| Autonomy - Patrol ≤ 0.54 | Dominance - Radio Communications ≤ 0.25 | 63 ^a (7) ^b | 53 (2) | 69 (6) | 73 (3) |
| | > 0.25 | 81 (7) | 82 (2) | 81 (6) | 75 (3) |
| Autonomy - Patrol > 0.54 | Dominance - Radio Communications ≤ 0.25 | 72 (9) | 87 (2) | 75 (4) | 82 (2) |
| | > 0.25 | 85 (5) | 88 (3) | 85 (10) | 99 (5) |

^aMean Relative Technical Efficiency

^bNumber of SMSAs (total = 76)

scale. Further exploration of relationships such as these in policing and other public services may contribute to a developing science of institutional analysis and design which can, in turn, contribute to improvements of the organization and performance of public service delivery systems in the United States and elsewhere.

FOOTNOTES

1. Nehnevajsa conducted a secondary analysis of major survey-based studies of crime from 1960 to 1976. These studies, covering some 130,000 Americans showed that, "when specific questions are raised about the extent to which crime may be, or may not be, a major problem of the residential areas of the respondents, some 4 in 10 Americans consistently indicate that it is, indeed, a serious concern" (1977: 87).
2. National commissions since at least 1931 have advanced these arguments. See, for example, National Commission on Law Observance and Enforcement, 1931: 125; President's Commission on Law Enforcement and Administration of Justice, 1967: 68-72; and National Advisory Commission on Criminal Justice Standards and Goals, 1973: 110. Police scholars too have made these same arguments. Prominent among them are MacNamara (1950), Misner (1960), and Callahan (1973).
3. Although no hard data is available, it is likely that the number of police agencies has increased substantially during the years covered by the recommendations. Many new communities have incorporated and established local police agencies and many special purpose forces have been established.
4. Scholars arguing the merits of smaller jurisdictions and fragmented service delivery structures include Tiebout (1956), Banfield and Grodzins (1958), V. Ostrom, Tiebout and Warren (1961), Williams, et al. (1965), E. Ostrom (1971) and Parks (1973), and E. Ostrom, Parks and Whitaker (1978).
5. This study was the first phase of the Police Services Study conducted during 1974 and 1975. Data on police personnel resources, their allocation and deployment, together with extensive data on personnel policies and service delivery arrangements were collected in a series of in-person, mail, and telephone interviews with police administrators in 85 metropolitan areas (Ostrom, Parks and Whitaker, 1978). Data on reported crimes, clearances, officer deployment, and assaults on police officers were made available by the Uniform Crime Reporting Section of the Federal Bureau of Investigation and merged with the organizational data.

6. Organized service consumer units were defined to be any grouping of 100 or more citizens who, collectively, had some regularized decision-making arrangements with a supplier of a given service. Such units were most commonly identified as the jurisdictions of local police agencies, but often included additional entities such as residential college campuses, military bases, and other specialized collectivities.
7. Michael L. Squires of Indiana University modified the available linear programming routines at Indiana to make these computations possible.

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FRAGMENTED POLICY ORGANIZATIONS

A comment

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The central question of Roger Parks' paper is: Does the organization of systems of agencies for the delivery of public services affect the quantity and quality of services supplied?

This very interesting question is one we confront again and again in studies of different administrative and political systems and is relevant for both public services and public goods. The question that Parks poses is also characteristic for what I would refer to as the famous Bloomington School. In the publications of Vincent Ostrom for instance that question is repeatedly raised and options for possible answers offered.

The governmental structure of US metropolitan areas is a complex one. It is hard to find any examples of a state as fragmented as these areas (cf. R. Paddison, *The Fragmented State: The Political Geography of Power*, Oxford 1983, p. 202). To what extent this represents a problem or a desirable state of affairs is another question. Some people speak of the "balkanization of the city", while others are less negative in their characterizations of this situation. In Table 1 we give an impression of the magnitude of the phenomenon.

In 1972 each of the 264 SMSAs encompassed, on an average, more than eighty jurisdictions. In the North East of the United States fragmentation is much more greater than in other parts of the country. Each of the more than 25.000 jurisdictions can be seen as a supplier of public services and the inhabitants of the areas as consumers of these services.

Table 1: Types of governmental units in SMSs, 1962-77

| | 1962 | | 1967 | | 1972 | | 1977 | |
|---------------------|--------|------|--------|------|--------|------|--------|------|
| | No. | % | No. | % | No. | % | No. | % |
| Municipalities | 4.903 | 22,4 | 5.319 | 23,9 | 5.467 | 24,6 | 6.444 | 24,9 |
| Counties | 447 | 2,0 | 447 | 2,0 | 444 | 2,0 | 594 | 2,3 |
| Towns and Townships | 3.282 | 15,0 | 3.485 | 15,7 | 3.462 | 15,6 | 4.031 | 15,6 |
| School districts | 7.072 | 32,4 | 5.421 | 24,4 | 4.758 | 21,4 | 5.220 | 20,2 |
| Special districts | 6.153 | 28,2 | 7.569 | 34,0 | 8.054 | 36,4 | 9.580 | 37,0 |
| Total | 21.857 | | 22.241 | | 22.185 | | 25.869 | |

Source: US Bureau of the Census, Census of Government, Volume 1, 1972 and 1977, US Government Printing Office, Washington, DC.

Parks examines the impact of the organization of systems of agencies for the delivery of police-services in metropolitan areas. This is not an arbitrary selection. The police constitutes an important and essential task of government. This is a task, moreover, that is the focus of discussion in a lot of countries regardless their administration system. In the United States, as well as in The Netherlands, there is such a discussion underway. In the United States one of the topics being discussed is the highly fragmented type of organization of the police. In The Netherlands it is the organization of regional and local police that has been a hotly debated issue for more than forty years. Information from other countries than your own, research from different contexts and different angles can perhaps throw new light on old points of view and old political dilemma's.

Whether this is the case with the insights Parks gives us is a question I will come back to later on. We must keep in mind that his research and analysis concern only one governmental task, notwithstanding its importance. His results can partly be the result of the specific characteristics of this task. Moreover, an interesting problem can be the interplay of different governmental tasks performed by different organizations with different jurisdictions: how are these tasks coordinated in more or less fragmented metropolitan areas?

It is not my intention to fault Parks for having concentrated on one governmental task. The research he had to do to answer his central question is already highly complicated. He had to find measures of the organizational structure of police services, measures of performance in service delivery and adequate data connected with these measures. Perhaps the experiences from doing this kind of research in one governmental field will stimulate research in different fields and lead to the comparison of the insights obtained.

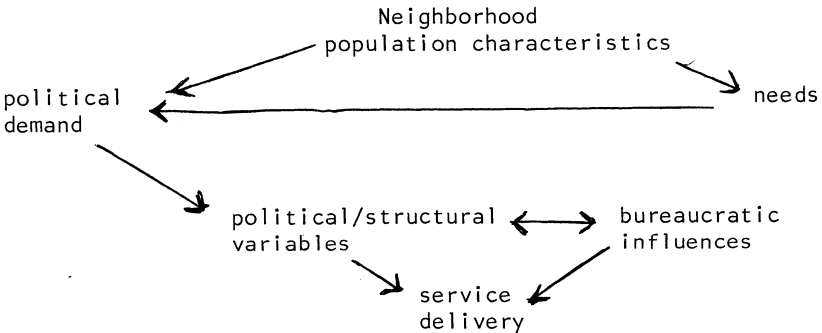
It is better to praise the author for coming so far in answering the question about the relationship between organizational structures and service delivery. In the public sector data about the functioning of organizations are not as easily obtained as they can be for the private sector.

The police services Parks researched are general patrol, burglary investigation, homicide investigation, radio communications and entry-level training. From the Dutch perspectives, what is remarkable in this enumeration is absence of traffic regulation and traffic control, as well as the implementation of such special laws as for instance, those on fire arms, narcotics and public morality. Implementation of special laws requires highly trained people, some economy of scale and organizational subdivisions.

Traffic regulation and control in metropolitan areas is a highly complicated task where it is difficult to imagine how overlapping jurisdictions would work out. We will consider this problem again.

The author distinguishes two types of indices that characterize the structure of the police task in metropolitan areas: compositional and relational. In the analysis that follows of the compositional indices fragmentation and relative fragmentation are omitted. Of the relational indices coordination and duplication do not return in the analysis of service delivery. This means that the reader is given no information about the number of organized consumer units in an area (fragmentation). Nor is it clear to what extent producers do (coordination) or do not (duplication) make efforts to coordinate or alternate their activities. Both points deserve more attention.

Parks' paper is also short on information about the demand side of police services. For this reason, it is to be regretted that data about fragmentation are lacking here. But the remark has a wider implication. Measuring how organizations are performing is one thing; relating performance to what is wanted, is another. Jones and Kaufman (B.D. Jones and C. Kaufman, *The distribution of Urban Public Services, Administration and Society*, 6, (1974), p. 337-360) have presented a model for linking demand and supply of public services. Leaving aside the question whether or not all arrows should be two-directional, the importance of the model is that it makes us attentive to the groups of factors influencing service delivery. Among those factors are the composition of the public and the needs the consumers of services have.



Do not the proxies Parks uses to measure the performance of organizations meet our wish for information regarding in consumers preferences? Such proxies are necessary, it is argued, because general standards for evaluating performance are lacking. So Parks uses as his indicators for performance:

- a. the production of street patrol;
- b. the clearance rate of reported crimes.

The first proxy can be considered as referring to consumers preferences. Do not people want to see police in the street? Is not the visibility of patrol cars a demand? We should not, however, be too quick to accept these suppositions. In some societies the best police performance are the police you don't see. To state it crudely: I did not get the impression that the numerous policemen in East-European countries lead citizens to conclude that the police are doing a good job. Nevertheless, in communities with a certain crime-rate the operation of patrol cars can give citizens the impression that the police are doing the job of preventing a higher one. It would seem, therefore, that there must be some relationship to the demand of general patrol.

The second proxy assumes also a significant knowledge of consumers preferences, for the registration of crimes depends, among other things, on two factors. The first is the eagerness of police organizations to register crimes. That eagerness is influenced, among other things, by organizational circumstances, political pressure and...clearance rates. No organization is very willingly to prevent a poor testimony on its own performance. The second factor is that likelihood of people reporting a crime depends on the probability that the crime will be cleared. It is hardly any use to go to the police if you are robbed if they cannot do much for you or prevent other citizens from being victimized. The image police organizations have influences this second proxy. In this sense, the research of Parks can strengthen if this demand side of police services is also taken into account. But, as the model indicates, there are also other circumstances that are relevant for examining the demand for given services.

The omitting of the relational indices 'coordination' and 'duplication' brings me to another problem. Central to the study of Parks is the existence of overlapping jurisdictions. It is difficult for an outsider to grasp the essence of that expression. Must one think of state, regional and local organizations with partly the same task or can it be special, local districts with the same job responsibilities? If so, how do they avoid doing the same job? The obvious answer would be that they do this by coordinating their job with the help of arrangements or by competition. Parks suggests that arrangements are worked out between agencies to avoid strict duplication of effort.

Thus there are forms of coordination between police organizations working in the same territory. A number of questions remain, however, about these arrangements. Are these organizations dividing the turf and if so, can one still speak of overlapping jurisdictions? Supposing organizations are coordinating their tasks, do they also coordinate their overlap?

If this last statement is correct, the organizational problem of fragmentation in metropolitan areas can be put in other, and for students of organizations more familiar terms. The key question can best be formulated as: is it better to coordinate tasks at the top or at the bottom of the organization? Classic organization theory offered a clear answer to this question: since there has to be unity of command, coordination at the top is indispensable. But it is not by accident that this theory is called classic. What is surprising is that so many people in public administration continue to adhere such traditional principles.

Parks concludes quite in line with what we might expect on basis of the insights of contemporary organizational theory, that a mixed approach is beneficial. Neither fully fragmented nor totally concentrated organization of service delivery leads to the best results. In a mixed approach patrol services are supplied by a number of autonomous suppliers, each serving a unique jurisdiction, while the suppliers of radio communications and homicide-investigation have to be centralized. According to the author one has to match the scale of production to the scale of effects. In theory, however, there can also be different economies of scale for the services mentioned (P. Samuelson, *Economics*, New York, 1955, p. 495-496). The concept economies of scale refers to a situation where costs diminish while the scale of production increases. Not only the scale of effects assuming we are able to establish them, but also economies of scale have to be taken into account. Furthermore, one must remember that only one governmental task has been under study in this research. The coordination of different tasks brings its own problems. Coordination of different local organizations working on different tasks can raise organizational paradoxes when compared with the solutions worked out in a single governmental field. That is to say this is an impassable road, but only that the answer to the central question becomes more and more complicated.

I have already referred to the long and still undecided issue of police organization in The Netherlands. To understand that discussion one has to know that there is a separation between the authority and the control of the police. Moreover, even the authority is subdivided: in matters of public order authority rests with the Dutch mayors; authority with regard to the investigations of crime is the task of the state attorneys. Control of the police

is organized along two lines. In most municipalities above about 25,000 inhabitants there is a local police(department). The mayor of a municipality with local police has not only the authority but also the control of this organization.

In most municipalities under 25,000 inhabitants the state police have a local unit. The Dutch discussion has to do mostly with questions of the control, and hardly at all with the authority of the police. It has been proposed that regional and, more recently, provincial police organizations be formed. An important justification is found, as you might expect, in the expected economies of scale for the more technical and more specialized police services. Objections to these proposals are based on the patrol service: a 24-hours service requires a unit of thirty-eight men. A local police organization consists of about forty-five to fifty officers at a minimum. That number is already possible in little towns of 25,000 inhabitants and more.

Research like that of Parks stimulates one to think in terms of combining both points of view in order to attain a maximum of advantages. Why not have different police organizations with overlapping jurisdictions and match economies of scale and scale of effects with scale of production? The resistance, I expect, will come from those who fear fragmented organizations nor scattered authority and differentiated responsibility.

DIFFUSION OF RESPONSIBILITY:
AN INTERORGANIZATIONAL ANALYSIS 1)

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Three topics of scholarship that are insufficiently studied in conjunction with one another are moral philosophy, public administration, and interorganizational relations.

Philosophers for centuries have generated an impressive body of literature on moral responsibility, but the preponderance of this work has focused upon individual action: those relatively simple circumstances when human beings, acting outside formal institutional settings, make choices that affect others. This work has been valuable, and indeed it is particularly useful in explicating the philosophy of law. Yet much less attention has been directed at questions of responsibility beyond the level of the individual. As one analyst points out, "We are...most comfortable analyzing conduct which occurs outside of formal institutional settings." (Levinson, 1973: 246). Most of the work done by philosophers aims to establish principles of legal or moral responsibility for individuals. While that is a worthy goal, it is not the object of this paper.

Increasingly, of course, individuals participate in organized activity. The literature of public administration, which deals in part with the supremely important question of how large public organizations act, has significant weaknesses. First, until quite recently, scholarship on public administration was quite weak on ethical matters generally, including the topic of administrative responsibility. (Any survey of texts in the field will, I believe, document this assertion.) Happily, the question of administrative responsibility is beginning to receive renewed attention (see, e.g. Rohr, 1978; Fleishman and Payne, 1980; Fleishman, Leibman, and Moore, 1981; Harmon, 1981; Cooper, 1982). In the US, the stimuli

may have included the Vietnam War, the New Public Administration (cf. Marini, 1971), and Watergate.

Second, the public administration literature is almost exclusively devoted to developing an understanding of administrative operations being carried out through single organizations. While there is unquestionably an increased recognition that important administrative activity crosses organizational boundaries, it is clear that the field of public administration carries an implicit - and sometimes an explicit - injunction that responsible public administrators do and should look primarily, if not exclusively, to their own organization for an ethical base of a moral tether. This assertion was certainly true some years ago, as when Paul Appleby, for instance, argued that hierarchy is "the formal structure and instrument of responsibility," and that propriety demands "loyalty upward disciplined by the sanctions of hierarchy" (quoted in Cooper, 1982: 44-45). I believe that the assertion also holds today. For instance, very recently, a group of American public administration scholars of diverse backgrounds, interests, and inclinations produced an assessment of the current status of The (American) Public Administration. Among their conclusions were these: "The Public Administration is....self-consciously derived from and focussed upon what we shall call an Agency Perspective... Political elites have failed for self-serving reasons to credit agencies with distinctive characteristics and legitimacy and therefore the mass public has failed to recognize them; most lamentably, The Public Administration has been too timid in asserting its claim to these...Most recently we have also allowed it to be diminished by the headlong rush to adopt a policy or program perspective..." (Goodsell et.al., 1983: 11-12). Lest one assume my argument involves the claim that something like the Agency Perspective is outmoded or inappropriate, let me add that I believe it to be a necessary and proper focus. My point is not to argue wholesale rejection of it, only that it seems to be the primary channel of responsibility advocated. In other words, despite widespread recognition that intergovernmental and interorganizational action is of growing importance, there is a general neglect of the implications of this fact for responsible administration. In a fairly recent analysis of and bibliography on dilemmas of administrative responsibility, no citation was made to interorganizational phenomena (Fleishman and Payne, 1980) 2).

Finally, this audience need not be reminded of the tremendous increase in scholarly attention to interorganizational arrangements in recent years. Yet of the portion of this work devoted to the implementation of policy, concern has been focused primarily on the ultimate goals of efficient and/or effective implementation, not issued like administrative responsibility.

In this paper I aim to begin a consideration of the topic of responsibility and administration in the interorganizational setting.

THE CONCEPT OF RESPONSIBILITY

When policies are implemented, action takes place. When human action affects others, humans must be responsible. What does it mean to be responsible, especially for implementation? What effects does a human actor's context, including the organizational context, have on one's responsibility?

In moral philosophy, a person is responsible for some action if and only if he or she is believed to have brought the action about and to have done so freely (Kaufman, 1972; Hart and Honoré, 1959; Feiberg, 1970). In other words, philosophers require the two conditions of causation and volition 3).

These initial points immediately suggest some reasons why the subject of responsibility has been a problematic one for students of administration. Even at the level of the individual, determining responsibility requires one to deal with such tricky concepts as the self, human action, and freedom. But in an organizational context, it becomes very difficult or impossible to determine just who causes an action that the organization takes; and even if we could determine who the causal agents are, we would then have to discover whether they had acted freely - whether they had had any choice in the matter. Observers of bureaucratic life know well how vexatious these queries can be.

Administrative actors usually act as representatives or agents of others, not merely of themselves, and this status constrains them in their choices. Most of the literature on administrative responsibility focuses on this feature of the administrative situation to identify the various and potentially conflicting strands of obligation. Any reasonably complete list would have to include responsibility to Constitution, statute, rules, standard procedure, custom, and precedent; to a policy; to the duties of office and to scientific or professional norms or canons; to political principles and ideals; to oneself and one's personal moral code; to the public interest; and to one's organization, or the hierarchy (cf. Fleishman and Payne, 1980: 17ff.; Cooper, 1982: 44-55). These stand as real obligations, and a truly responsible administrative actor would have to take account of all of them. Not infrequently, these channels of responsibility conflict; and the ethical problem of determining responsible conduct falls squarely on the shoulders of the bureaucrat, for there is no technical rule nor simple maxim to establish priorities or calculate the relative weight of obligations in tension (though careful

analysis may yield consistent and defensible ways of treating such conflicts).

As mentioned above, a bureaucrat's responsibility to the hierarchy - or, more precisely, to the organization - is accorded a special status both in practice and in the thinking of scholars of public administration (see, e.g., Mosher, 1982). This is a legitimate and important obligation. Yet I wish to make the case that an overemphasis on this channel of responsibility has a tendency to generate a diffusion of responsibility. More specifically, to the extent that administrative agencies are successful in creating loyalty to the organization, they may reduce bureaucratic individuals' sense of responsibility per se: the sense that one is actually making choices that affect others and could have been decided otherwise. In other words, well-administered organizations (in the conventional sense) have a tendency to reduce individuals' sense of causation and volition. As a consequence, the sense of responsibility is 'diffused', so that although the organization does things that affect people, and although the action takes place through bureaucrats as agents, the bureaucrats themselves have a truncated or stunted sense of responsibility and participate in activities that they might never allow or condone if acting as individuals. It is this capacity of organizations to dull humans' sense of responsibility by diffusing it that is of concern.

This argument is hardly new (though the language used here may be a bit unfamiliar). But by trying to explain how it is that organizations are so often, if unintentionally, successful at achieving this state of diffusion of responsibility, I hope to shed some light on how those concerned in the interorganizational setting with encouraging responsible administration - and especially maintaining actors' sense of responsibility toward a policy - may be able to do so.

The remainder of this paper, then, explores how organizations dull, or diffuse, their members' feelings of responsibility; what is likely to happen to their sense of responsibility in the interorganizational world; and how feelings of responsibility, especially toward a policy, might be encouraged in the latter setting. The rest of this analysis is necessarily oversimplified in many ways, but one of these deserves explicit mention. To deal in detail with the effects of organization on individuals' sense of responsibility, I ignore hereafter the other channels of responsibility mentioned above. This is a weakness of the analysis, but I do not think it is fatal. If organizations have a tendency to diffuse their members' senses of causation and volition, their feelings of responsibility in all directions are likely to be dulled. And if one can reawaken in the interorganizational setting an actor's sense of responsibility per se, all strands of obligation are

likely to be well-served in the long run.

DIFFUSION OF RESPONSIBILITY IN ORGANIZATIONS

There is something about the organizational context that diffuses responsibility, so that individuals have a tendency not to feel personally responsible for the actions in which they participate. As a result, all may collectively produce consequences that they would all personally abhor if acting as individuals. Organizations can, in short, produce a certain dulling of the moral sensibilities. Thompson labels this occurrence, somewhat imprecisely, the problem of 'many hands': "Because many different officials contribute in many ways to decisions and policies of government, it is difficult even in principle to identify who is morally responsible for political outcomes." (1980: 905). Granting that there are indeed many instances of responsible conduct on record - cases in which individual administrators, for instance, have viewed themselves as volitional causal agents and have acted morally -, it is certainly true that organizational contexts have the potential to diffuse responsibility.

One may take the example of Adolf Eichmann as paradigmatic here. Of course the evidence is complex and controversial. But if, for simplicity's sake we use Arendt's analysis (1963), Eichmann's behavior was the obverse of villainy. Personal evil requires some sort of rejection of morally superior alternatives, some recognition that one has been an actor. Eichmann was 'utterly ordinary', an individual who had 'nothing personal' against those of Jewish ancestry; but he participated in the Holocaust as if he had been (in Hegelian terms) the author of the actions he was executing. Even at his trial, his most acute sense of discomfort was generated not by a belated recognition of his own moral inversion, but by remembrance of the few cases in which he deviated from the established organizational line. What is it about organizational life that creates the potential for such 'banality of evil'?

There are a number of factors, empirical and even logical, that work in the organizational context to diffuse responsibility. They do so by reducing the individual's sense of causation, volition, or both.

POLITICAL CULTURE

First, it should be said that the variables determining diffusion of responsibility are not wholly contained within the organization. A political culture, including the general expectations about bureaucratic responsibility and the nature of a nation's legal

system, may be quite significant 4).

AGENCY SOCIALIZATION

Organizations are powerful instruments of socialization. They convey to their members in a variety of ways, through precedents, informal operations, even and perhaps especially language and other elaborate and subtle symbols, a world view that is directive and constraining. Simon, as usual, puts the matter quite clearly.

It is impossible for the behavior of a single, isolated individual to reach any high degree of rationality... Individual choice takes place in an environment of "givens" - premises that are accepted by the subject as bases for his choice; and behavior is adaptive only within the limits set by these "givens".

If the psychological environment of choice, the "givens", were determined in some accidental fashion, then adult behavior would show little more pattern or integration than the behavior of children. A higher degree of integration and rationality can, however, be achieved, because the environment of choice can be chosen and deliberately modified. Partly this is an individual matter: the individual places himself in a situation where certain stimuli and certain items of information will impinge on him. To a very important extent, however, it is an organizational matter. One function that organization performs is to place the organization members in a psychological environment that will adapt their decisions to the organization objectives, and will provide them with the information needed to make these decisions correctly. (Simon, 1976: 79.)

In other words, insuring organizationally correct decisions (and, in fact, creating human actions with pattern and integration beyond the childlike) necessitates reducing the individual's perceived causal and volitional range. This matter is more important than we may realize because, as philosophers have noted, our own assessment of what is a cause and what a mere condition of an action is not straightforward or objectively determinable. (The presence of oxygen is one of the causes of a house fire, but it is seldom reported as such. Instead, we are likely to identify faulty wiring or a carelessly tossed cigarette as the "cause". Our determination of cause, including our own recognition of ourselves as causal agents, is thus significantly dependent upon what we recognize as a deviation from "normal conditions" (Hart and Honoré, 1959). In ordinary bureaucratic settings, a standard world view truncates responsibility by affecting one's perception of one's causal role. One's own behavior often falls into the category of "normal conditions". Socialization helps to perform this function.)

AUTHORITY

Authority generally, wherever it exists, diffuses an individual's sense of moral responsibility. This is true, really, by definition of the term. For if we borrow from Simon once again, "we shall use 'authority' broadly, and comprehend under it all situations where suggestions are accepted without any critical review or consideration" (1976: 128).

Milgram's famous study (1974), in which he attempted to induce individuals to perform personally distasteful actions in the name of science, demonstrated how broad is the human tendency to submit to authority (at least the authority of expertise bolstered by organization), even under severe strain. The subjects quite literally felt that they "had no choice". Within bureaucratic organizations, where the relationships are relatively stable and binding, one would expect authority to be one of the main factors working to diffuse responsibility. Here, as elsewhere, we confront a dilemma: authority is absolutely necessary to insure organized, coordinated, consistent public action; but everywhere it exists, it diffuses responsibility.

REIFICATION

Bureaucratic organizations also deal with human beings not in the full range of their uniqueness and complexity, but as abstractions. Subjects are placed in categories and rules are applied to the categories to determine action. This happens both out of necessity and out of a concern for important values like justice (e.g., treating like cases alike). Of course, oftentimes bureaucrats make exceptions (i.e., take into account something beyond those factors officially designated), sometimes because of a sense of humanity, sometimes for personal gain. Yet to the extent that the organization objectifies, or reifies, those with whom it deals, individual bureaucrats are likely to be less sensitive to the human consequences of their own behavior.

Organizations have under their influence a range of techniques to reify the subjects of their action. One is the simple compartmentalization of tasks. Another frequently noted is the use of specialized language. When death camps are "Charitable Foundations for Institutional Care" and massive bombing becomes "protective reaction", individuals are distanced from the action in which they participate.

Sometimes individuals in organizations are discouraged from acting responsibly by the structure of incentives. Imagine a somewhat

artificial circumstance in which many organization members simultaneously and independently reach the conclusion that an established course of action is irresponsible. Suppose further that each concludes that voicing objection is likely to create negative consequences for oneself (e.g., by reducing career opportunities) and create no change in policy. If all individuals are rational, then, the consequences will be no change in policy. Instead, the individuals who are troubled have the choice of loyalty or exit, in Hirschman's terms (1979), with those most sensitive to the issue being the first to leave and thus reinforcing the course of action.

Less severe versions of this basic scenario are likely to be fairly frequent occurrences in organizations. Thus, even when individuals recognize that they are participating in some objectionable course of action, they may find it wise to continue to do so. Eichmann's behavior and thoughts at the Wannsee Conference illustrate the point:

Although he had been doing his best right along to help with the Final Solution, he had still harbored some doubts about "such a bloody solution through violence", and these doubts had now been dispelled. "Here now, during this conference, the most prominent people had spoken, the Popes of the Third Reich." Now he could see with his own eyes and hear with his own ears that not only Hitler, not only Heydrich or the "sphinx" Müller, not just the S.S. or the Party, but the elite of the good old Civil Service were vying and fighting with each other for the honor of taking the lead in these "bloody" matters. "At that moment, I sensed a kind of Pontius Pilate feeling, for I felt free of all guilt." Who has he to judge? Who was he "to have (his) own thoughts in this matter"? (Arendt, 1963: 114).

Eichmann submitted to authority, but apparently he also made a rough (though perhaps half-hearted) calculation at the Conference that resistance was fruitless. Like Pontius Pilate, he became a free rider.

One must be careful not to overstate the point. Whereas the free rider problem undoubtedly does temper the exercise of responsibility in organizations, it must be remembered that organization members are not atomistic individuals, unable to communicate with and thus quietly build support among their fellows without risking organizational sanctions. This point, and in fact the incentives toward responsible action, will be discussed more fully below in an analysis of the interorganizational setting.

THE LOGIC OF ORGANIZATION

The very logic of organizations, including the concept of formal organization and the language we have available to discuss it, is in tension with the notion of individual morality. "To be honest, courageous, considerate, sympathetic, or to have any kind of moral integrity" is not part of "the vocabulary, so to speak, of the organizational (Wittgensteinian) language-game". The point is "a logical one". Organizational decision-making means coordinating individuals to achieve an organizational goal or set of goals. The connection of means to achieve this end is what is meant, quite literally, by rationality. When one behaves in accordance with the dictates of organizational rationality, one cannot as an individual be blamed for consequences (within the language-game of organization). "Those actions that are inconsistent with (the organizational goal) are attributed to the individual officers as individuals. The individual, rather than the organization, is then forced to take the blame for whatever evil results", and such behavior is non-rational. The language-game of organization has no place for morality, just as the game of chess has no place for footballs. Once again, this does not mean that individuals in organizations do not act responsibly, only that when one does so one is doing something that violates the logic of formal organization (Ladd, 1970: 499, 496) 5).

DIFFUSION AND RESPONSIBILITY IN THE INTERORGANIZATIONAL SETTING

Increasingly, it seems to be the case that public policies mandate the involvement of multiple organizations in implementation, either explicitly or by virtue of the policies' technical requirements. (See, for example, Porter (1977) on the need for "local presence" in the implementation of many policies.) As Gustafsson (1983: 272-73) notes, this phenomenon has involved multiple units within single governments, between levels of government, and among both public and private agencies.

Considerable scholarly work has been done thus far in describing and analyzing the resultant patterns. Pressman and Wildavsky (1973) perhaps popularized the idea of studying interorganizational implementation, but they were joined by many other analysts. In recent years, members of the group assembled here have worked along related lines, although usually with a special interest in examining interorganizational implementation "from the bottom up" (cf. Hjern and Hull, 1982) - for example through the use of implementation structures as units of analysis (Hjern and Porter, 1981; cf. also Berman, 1978, 1980; Weatherley and Lipsky, 1977; Elmore, 1978, 1979-80; Lipsky, 1978; Menzel, 1981; Rawson, 1981; and Thompson, 1982). Most of the efforts have been devoted to mapping arrangements found

in practice (cf. Friend, Power, and Yewlett, 1974) and analyzing their consequences for policy. There has thus far been little attention to the question of administrative responsibility in the interorganizational setting.

In this setting, what can we expect about responsibility? The distinguishing characteristic of interorganizational implementation is that obligation to policy usually cuts across loyalty to organization. Up to this point in the paper, we have ignored lines of responsibility other than that toward the hierarchy, or the organization, because the point was to see the way organization diffuses one's sense of responsibility. For most bureaucrats most of the time, obeying the dictates of organization creates no special, enduring tension with policy. The Agency Perspective and the policy perspective are likely to be at least roughly congruent. Interorganizational implementation mandates the tie of policy to compete with that of organization, at minimum by requiring the organization to involve itself with others in the process of action. Insuring organizational rationality is not enough to guarantee policy rationality.

In such a setting, are individuals involved in implementation likely to feel a sense of responsibility for the action in which they are engaged? Very often, it is clear, the answer is no. The complexity of interorganizational relations - often involving many units charged with dealing with each other in complicated ways - makes it virtually impossible to ascertain which are earnestly seeking responsible results (e.g., on behalf of the policy) and which are engaged in selfish or destructive or organizationally-centered action. Because of the complexity and, often, the absence of a well-known structure or pattern of activity, individuals and organizations can evade any responsibility while blaming others for any failures or problems.

Instances of diffused responsibility have been reported in the literature on interorganizational implementation. O'Toole (1983), for instance, discusses examples in the implementation of labor market training policy; and Davies and Mason observe a "reluctance to assume responsibility for policy decisions" among organizational actors involved in labor market policy in another national context (1982: 153). Gustaffson comments similarly with regard to the Swedish political system (1983: 272). It may be that the interorganizational situation invites a tendency toward a "politics of the lowest common denominator", with actors paying even less attention to the ends of policy. In short, in interorganizational implementation more opportunities than ever before may be available for individuals and organizations to behave irresponsibly.

Yet this is not an inevitability. In fact, I would like to suggest that, despite the plentiful evidence of diffusion, under some circumstances implementing policy interorganizationally may actually create opportunities for responsible action that would not have existed otherwise. Why?

FACTORS AFFECTING DIFFUSION

If one examines the factors, discussed above, that seem to create diffusion of responsibility within organizations, it becomes clear that several are likely to be weakened or at least be subject to increased competition within the interorganizational setting.

Of course, students of implementation are well aware that, all too often, cases of interorganizational implementation are replete with "failures", that is instances in which actors pay attention to organizational considerations and neglect coordination and cooperation with others. This results from the usual circumstance in which greater resources are devoted to coordination within organizations than between them, and greater impediments to coordination are present across organizational boundaries than inside them (cf. O'Toole and Montjoy, 1977). I am hardly suggesting that interorganizational implementation is often or usually straightforward, only that policies which seriously seem to require organizations to deal with each other may create ongoing challenges to several of the organizational factors mentioned earlier.

Political culture may affect how responsible the various organizational members feel toward a collective interorganizational product. In Western liberal societies that rely upon the distinction between public and private (with the implication that different sorts of obligations attend each), private actors - who have not only organizational incentives but also a political ideology bolstering attention to self-interest - may find that involvement in interorganizational implementation challenges and sensitizes them to social consequences (i.e., causality) and responsibilities. Putting the matter simply, the complicated patterns of obligation and interdependence mandated by many modern policies high-light to implementers the inadequacy of some of their basic notions about rights and duties in society (see, for example, Waldo, 1981: 164).

All units involved in implementing a policy interorganizationally presumably exercise the potential to socialize their members. But the single organization's view of the world, supported internally and reinforced by symbols, is likely to be abruptly challenged for those who attempt to communicate and negotiate across

organizational boundaries. The experience can provoke tension and frustration, but may also remind many organization members that the "normal conditions" characteristic of life within their unit's boundaries are hardly the norm everywhere. This is close to the point made by Harmon, who notes that "the idea of personal responsibility is most clearly relevant in disaggregated contexts in which decisions can be made consensually through face-to-face negotiation", and "involves a conceptual ability to stand apart from existing social and institutional definitions both of 'what is' and 'what ought to be' in order that alternative values and conceptions of the social world may be apprehended and acted upon" (1981: 135-36).

Authority, of course, is almost always weaker across organizational units than within them. The absence of authority is hardly a guarantee that actors' sense of responsibility will be increased; indeed, when there is no clear sense among those in the various organizations about what they are generally expected to do toward an interorganizational product, the absence of authority may heighten confusion and create opportunities for diffusion of responsibility - it may be impossible to determine not only which individuals, but even which organizations should be held responsible for some result. A key factor is likely to be the general information available among the units about their respective roles and obligations, about the importance of their relative contributions to the collective product. Interorganizational facilitators may be particularly important in handling this function (see below).

Individual organizations reify the subjects of their actions. But multiple organizations are likely to do so in different ways, abstracting different characteristics for analysis, creating different rules, and using different languages. As the units deal with each other, then, members are likely to be reminded of the characteristics and factors their own organization ignores.

The logic of organization, too, is disrupted when one deals across organizational boundaries. To use the language-game idea once more, the game of morality is not mandated by this development, but abiding by its rules at least no longer disrupts another game that one is simultaneously playing.

In short, when people act in an interorganizational context, a number of factors may work to expand their own sense of their causal and volitional reach, thus working to increase their sense of responsibility.

FREE RIDERS, MORAL INCENTIVES, AND INTERDEPENDENCE

We turn now to the free rider factor. In the interorganizational setting, I believe, the structure of interdependence among the units may play a large part in determining whether people actually develop any sense of responsibility, at least toward the policy. (The attenuation of the other factors thus far discussed is only likely to make a difference if units actually deal with each other and confront the need to produce a collective product.) To provide some sense of how the structure of interdependence can affect perceived responsibility toward a policy, I borrow Thompson's simple classification of pooled, sequential, and reciprocal interdependence (1967), developed by him for the intra-organizational context. These categories are tremendously oversimplified and ignore much of the richness of interorganizational relationships, such as multiplicity of ties, types of linkages, etc. (cf. Benson, 1975; Mulford and Rogers, 1982). But Thompson's categories are of use (O'Toole and Montjoy, 1977; Mulford and Rogers, 1982: 10), especially for illustrating some fairly basic points.

Pooled interdependence occurs when the units tasked with a policy provide their own contributions to a common product but do not have to deal with each other in doing so. In the American context, perhaps the Model Cities program initiated in the 1960s and subsequently terminated, provides a clear example. Numerous federal agencies were provided resources and asked to produce results in common, geographically-designated areas of many of the nation's cities. There was virtually no requirement for coordination (one Department was labelled the "lead agency", but the designation was mostly meaningless), and virtually none occurred. Most evidence suggests that people in the various agencies felt little overall responsibility toward the policy and instead pursued their own organizations' objectives.

When several organizations acts on a common target, there may well be no incentive for any to divert resources or attention from organizational aims to an interorganizational policy objective (cf. Scharpf, et al., 1978). Yet implementation situations may be organized into something close to pooled interdependence fairly often, either because a policy seems to specify such an arrangement or because ambiguous policies are likely to be interpreted in this fashion by organizations that see little to be gained by submitting to higher levels of coordination. There is thus a danger in this arrangement that very low levels of responsibility toward the policy will be developed. We might hypothesize, further, 1) that the sense of responsibility felt toward the common product will decline as the number of units involved increases, and 2) that the sense of responsibility will be greater for discrete policy products than for continuous ones. Responsible implementation under situations of pooled interdependence may, however, be

able to be stimulated by facilitators, or reticulists (Friend, Power, and Yewlett, 1974), a point to which I return shortly.

In a circumstance of sequential interdependence, the output from one unit serves as the input for the next. Organizations linked through sequential interdependence are arranged in assembly-line fashion. (Pressman and Wildavsky's use of Rube Goldberg cartoons to illustrate interorganizational implementation (1973) thus is misleading, for the analogy is really to only this one type of implementation arrangement.) Here the free-rider problem is virtually eliminated, as each organizational unit serves as a potential veto point; causality can be pinpointed, organizations cannot get lost in the crowd, and those recalcitrant toward the overall policy may be subject to pressure or sanctions from the others or outsiders. This analysis implies no endorsement of implementation via sequential paths. For one thing, this pattern may be inappropriate for the collective task; and for another, it may create its own problems of implementation, such as delays and backlogging.

An especially important circumstance is the reciprocal one. Two units are reciprocally interdependent if each poses contingencies for the other. In simple settings where a few organizations implement policy through a pattern of reciprocal interdependence, the free rider problem can be reduced and responsibility can be encouraged. Yet many situations of interorganizational implementation are much more complex, with many units reciprocally related in complicated patterns (e.g. Hjern and Porter, 1981; O'Toole, 1983). These fairly common circumstances seem to be prone to the hazards of diffused responsibility. Here complexity is high and, even though units are reciprocally interdependent, possibilities for evasion are likely to be great. Units can claim to be working in good faith toward the common product, and their lack of apparent effort or success can be blamed on other contingencies derived from other units in the network. Both causality and volition are likely to be difficult to establish. Here we might expect token or "symbolic implementation". (This idea is adapted from Gustafsson (1983), who argues that there is a tendency toward the creation of symbolic policy when power and responsibility are diffused.) Agencies may assign a few personnel to interorganizational coordinating committees, may agree to devote effort to assisting the clients of the program, but may effectively be a free-rider on the interorganizational network. Derthick (1970: 214) provided one of the earliest and clearest descriptions of how this might work even in a fairly simple intergovernmental situation:

In addition to the defenses that administrators normally have against legislators, the grant system offers special ones, a result of the diffusion of responsibility it entails. When called to account for controversial actions, administrative agencies at both federal and state levels can escape responsibility vis-a-vis their own legislatures by attributing responsibility to a counterpart at the other level. In parallel fashion, each legislature can escape responsibility vis-a-vis its own constituents. The ability of all major official actors to deny responsibility very much reduces the chances of successful opposition.

Yet even in fairly complicated patterns of implementation, where there may be strong incentives for organizations to exercise little responsibility toward a common policy, there may be significanties to stimulate more responsible action. There are at least two reasons.

First, even in very complex implementation structures, the units are identifiable and their number is not vast. If some individuals are tasked with developing and maintaining the implementation structure - including the duty of specifying and keeping track of the obligations of the constituent units -, there would seem to be real opportunities to increase peoples' sense of responsibility toward the common product. The chances for free-ridership decrease as organizations run the risk of being called to task for their self-interested behavior. People who work on the interorganizational pattern - reticulists, as Friend, Power, and Yewlett have referred to them (1974), or facilitators as I have called them elsewhere (1983) - may thus be crucial not only for stimulating effective implementation but also for sensitizing implementers to their responsibilities. These individuals would require resources and also access to meetings, organizational records, etc., - as Friend, Power, and Yewlett stipulate - no less for assisting in the promotion of perceived responsibility than for keeping an implementation pattern in working order.

Second, however, even if the implementation structure is so complex and multifaceted that a facilitator cannot keep precise track of the free riders, such an individual can have a major effect merely by working to generate moral incentives. I believe that analyses of the free rider problem typically conceive self-interest too narrowly by ignoring humans' tendency to be actuated by moral incentives - whether toward altruism (thus contributing to the public good) or toward envy (which can stimulate individual action diminishing the public good and one's own benefits simultaneously). Olson (1965), for instance, refers to moral incentives but largely ignores them in his analysis. I refer briefly to three examples to illustrate this point about altruism and envy.

1. A colleague of mine at Auburn, John Heilman, is currently working on a most interesting data set. It involves individual household-level data on electrical energy consumption for several thousand Alabama families for a several-month period during a recent winter. This material was obtained from the electric utility company, not the consumers, so there is no Hawthorne effect. He also has social and economic data on the households. At one point during the winter the state was subject to a dramatic appeal for conservation from the Governor (a political demigod in Alabama, George Wallace). Heilman has found that, following the appeal for cutbacks, when one controls for temperature variations and other such factors, there were substantial energy savings made among low income people (repositories of the usual Wallace electoral strength) and very little among higher income families - this despite the presumed inelastic demand for electric power at the lower end of the consumption range (Heilman, 1980). The evidence severely challenges, further, the argument of Banfield and Wilson (e.g. 1964) that public-regardingness, even when it occurs, is a middle- and upper-class virtue. Here, in addition, the public good is a continuous one.
2. The literature of social psychology contains interesting evidence that the tendency toward diffusion of responsibility among individuals in an apparent free rider situation can be reduced by a cogent appeal to the common good, without the invocation of any sanctions except for "moral incentives" (Fleischman, 1980). In this instance, the public good is distributive.
3. In Los Angeles several years ago, federal policy-makers had designed what appeared to be one of those rarest of policies: a Pareto-optimal solution, this one for traffic congestion. On the Santa Monica freeway during rush hour, a diamond lane" (designated by diamond-shaped marks on the pavement) was set aside for use only by cars with several passengers. Traffic moved more freely in this lane, thus providing an apparent incentive for citizens to engage in car pooling to save time as well as energy. Studies indicated that the commuting took no longer than before (there were some reductions) 7). Yet the program had to be abandoned because of public objections: many of those who had chosen not to car pool became angry as every day they were confronted with the sight of other commuters whizzing by them in the diamond lane (Rich, 1977).

The point is that effective appeals can be made, at least to individuals, to violate self-interest (narrowly conceived) and feel responsible for a larger good. Conversely, it cannot be assumed that the usual economic incentives will be sufficient to

encourage responsible implementation, even in an apparently Pareto-optimal situation. In none of these cases was self-interest definitive, even when people seemed to be informed consumers of some good or service, or were informed decision makers. Their sense of responsibility was clearly affected by other factors. In cases (1) and (2), a facilitator or respected public official made an effective appeal. All the cases suggest how allegiance to a larger whole may be influenced by those who tie networks together and keep them functioning.

I draw here the analogy to the interorganizational setting. An effective use of an interorganizational facilitator would be to convey, by convincing communication through figures universally respected in the particular interorganizational setting, moral incentives and a sense among participating individuals of loyalty to something beyond the organization and its interests. The network may be unlikely to generate spontaneously and maintain a reasonable level of felt responsibility.

If this analysis has merit, then, the social psychological requirements and possibilities of the facilitator or reticulist need to be examined much more carefully. This is especially so in an era such as the one we now confront: one in which governments face tight resources and increased difficulty formulating acceptable policies. Exercising reticulist skills may be one way of generating and implementing rational public choices under conditions of great constraint. Yet this idea too raises new problems: Whence derives the authority of the facilitator? How might incentives for responsible facilitators be generated and maintained? What should be the ties between an interorganizational network and the larger political community?

SOME TENTATIVE SUGGESTIONS

I would like to suggest, in just the barest outline, some ideas that are congruent with the preceding analysis. Some follow quite closely from it, others are less tightly connected and more personal.

First, if the formulation in this paper have merit, it may be worth investing some thought in how we might bolster interorganizational patterns by the use of symbols, including language. So that I shall not be misunderstood, I am emphatically not saying that policy symbols should replace policy substance. I mean, rather, that finding ways to remind participants in interorganizational implementation that their responsibilities beyond their own units are real, legitimate, and have practical consequences to others is probably a worthwhile idea. This is especially likely to be the case, given the extent to which organizations themselves currently

exercise control over the symbols usually utilized in the bureaucratic world. Organizations pay salaries; schedule retirement parties; have letterheads, property, career ladders, and legislative oversight committees; and generate the world views and terminology that officials must use when they act in public life. No wonder they may seem more real, with consequences more tangible, than amorphous, dynamic, and apparently more tenuous interorganizational implementation structures. Building solidarity in and sensitivity to the interorganizational pattern through which one's actions are carried can stimulate "vicarious pride and shame" in the collective results, thus amplifying the sense of human responsibility, even in complicated surroundings (Feinberg, 1970: 236). Ideas generated by others on the possibly beneficial consequences of rendering the responsible termination of organizations less difficult might also supply here (e.g. Biller, 1976). Allow me to leave that suggestion at this abstract level and proceed to another.

Studies of successful interorganizational implementation often highlight the role played by boundary personnel, especially those that work on the network or interorganizational structure as "fixers" (Bardach, 1977), reticulists, or facilitators. I shall not review the functions that such individuals perform or how it is that they may be crucial for implementation success. I wish only to say that they may be extremely important in fostering and maintaining among the individuals with whom they deal a sense of responsibility in the interorganizational context. In an amorphous situation, they may be able to increase markedly various actors' sense of causality and volition, thus pointing out possibilities for responsible action and instilling special feelings of obligation among those who are in position to make or break a collective outcome. Friend and others have suggested that attention be paid to the social psychological requirements of the reticulist function (1974), and the social-psychological literature itself notes the importance of the function among individuals - for example, to handle the free-rider problem:

"...extra-economic considerations do exert a systematic influence on collective action. People do not behave as a strict interpretation of the free-rider hypothesis would suggest. Collective action can be viewed as an instance of helping behavior, and a sense of personal responsibility to help others may mediate decisions to engage in collective action. Any factors that inhibit responsibility diffusion should increase voluntary contributions to a public good. Models of collective action are mis-specified if they fail to include relevant social-psychological variables." (J.A. Fleishman, 1980: 637).

Even Simon, frequently labelled (and perhaps properly so) an organization theorist unmindful of the possibilities of reason beyond the crutches of bureaucracy, comments in almost mystical terms on the reticulist function:

The highest level of integration that man achieves consists in taking an existing set of institutions as one alternative and comparing it with other sets. That is, when man turns his attention to the institutional setting which, in turn, provides the framework within which his own mental processes operate, he is truly considering the consequences of behavior alternatives at the very highest level of integration. Thought at this comprehensive level has not been common to all cultures. In our Western civilization it has perhaps been confined to (1) the writings of utopian political theorists and (2) the thought and writings surrounding modern legislative processes. (Simon, 1976: 101)

Harmon (1981) suggests institutional malleability as a stimulant to morally responsible thinking, and Walsh (1970) proposes that morals can bring "softer and subtler pressure to bear" on individuals as a supplement to injunctions of merely legal responsibility. The interorganizational setting seems an appropriate situation for these concerns, and the reticulist function should perhaps include these considerations.

It is worth repeating a comment that was made earlier, however: controlling diffusion of responsibility in the interorganizational setting cannot be handled merely by the organizations and reticulists themselves. There must be some support beyond this level for stimulating a sense among organizational actors that their decisions are real choices that create consequences for others. And here I add my more personal comments.

The current national administration in the U.S. has fueled hopes among some scholars of interorganizational implementation and some proponents of authentic decentralization. Yet its actions on intergovernmental matters and issues of civil rights suggest less a desire for coping with the complexity and pluralism of the society (thus facing responsibilities) and more a wish to ignore obligations via "negative coordination" (Scharpf et al., 1978). The administration has seemed more interested in glorifying through its policies self-interest in the most naked and narrow sense. American advocates of thoughtful decentralization and local presence apparently must await another administration for the promotion of real interorganizational and intergovernmental responsibility.

Finally, I raise a suggestion that is hopelessly hackneyed, at least in the American context. The task of encouraging organizations to deal seriously with other units and interests and to find ways of aggregating preferences toward consensus cannot be achieved without assistance from other institutions of the political system. In particular, I have been impressed with how responsible political parties have the potential to assist in this task, particularly by carrying the burden of tracking responsibility for programs and policies, and by assembling interests around common goals. The declining ability of parties to perform these functions has been oft-noted (e.g. Offe, 1983). But I make this comment because the role of party has been seen as important in some cases of interorganizational implementation (e.g., O'Toole, 1983), because in the United States the national parties are in more disarray than ever, because single-issue politics seems to have reduced feelings of responsibility (8), and because I reside in a state in which no-party politics means interests or perspectives are seldom aggregated in any organized and continuous fashion. Responsible parties are hardly penaceas, but they surely better the current arrangement.

One must add obligatory cautions. In documenting the problem of diffusion of responsibility, I may have made it seem as though interorganizational implementation structures offer neat solutions. The point, however, is weaker than this in at least three respects. First, other competing obligations of administrative actors ignored in this paper often help to alert bureaucrats to the flaws of overattention to their organizational demands. My point is merely that the interorganizational setting offers some unique opportunities. Second, ethical blindness is perfectly possible even in elaborate interorganizational implementation settings. I am constantly reminded of a famous instance of this point: Approximately 25 kilometers from where I now write is the federal government (through its Public Health Service), in conjunction with various agencies of the state of Alabama, plus local governments, private organizations and professional associations engaged for approximately 40 years (until 1972) in an experiment that involved the withholding of treatment for syphilis from more than 400 black males; the goal was to see what would happen. In an administrative sense, the Tuskegee Syphilis Experiment was an extraordinary achievement, involving many organizations with members of both races, plus governments that almost never say eye to eye. Reticulists worked overtime to keep the network functioning until national media exposed the horror of the program (see Jones, 1981). Interorganizational implementation, even among units of very different perspectives, is no guarantee that individuals' sense of responsibility will be expanded. And third, this entire paper has been focused on diffusion of responsibility, its causes, and its cures. Of necessity, then, I have concentrated on how one might be able to

increase the extent to which individuals would assume responsibility for action. Yet this hardly solves all problems in the inter-organizational setting. Converting policy into results may still be a difficult undertaking; and, more importantly, stimulating individual responsibility may sometimes weaken consistency, responsiveness, and justice in the application of policy across many individuals in far-flung bureaucratic locations. As usual, important problems do not admit of simple solutions, and the tether upward - the link through organization and hierarchy to the state - must remain.

FOOTNOTES

1. An earlier version of this paper was presented at the Workshop on Analytical Models and Institutional Design in Federal and Unitary States, Rotterdam, The Netherlands, 27 June 1983. Support from the North Atlantic Treaty Organization enabled the author to attend the meetings, and the Auburn University Humanities Development Fund provided travel assistance for visiting several other European scholars during July 1983. The Auburn University Grant-in-Aid Committee funded the research itself. The author gratefully acknowledges this help, plus the insights and suggestions provided by many attendees of the Rotterdam workshop. Acknowledgements are due particularly to Peter Bogason, Michael Hill, and Gary Wamsley, who provided written comments. Responsibility for the views and analysis contained herein, however, remains with the author.
2. Of course, considerable efforts have been devoted to questions of responsibility in the bureaucratic context, and important issues have indeed been sketched and debated. The classic *Finer-Friedrich* disagreement, for example, illustrates this point (see *Finer, 1941; Friedrich, 1940*). In what is perhaps the most significant and comprehensive treatment of political responsibility, *Spiro (1969)* contrasts the problems of responsibility facing the bureaucrat under ordinary circumstances with those confronting the citizen in international relations. Many insights are provided by this analysis, but there is no real discussion of responsibility in circumstances where bureaucrats act outside of their "normal" institutional locus.
3. *Spiro* suggests that treating "responsibility as cause" is an inadequate formulation. Among other problems, the free will controversy is invoked by this idea. For him, a "favorable situation of responsibility" occurs when there is a "proper proportion between causal responsibility and accountability" (*1969:92*). The details of this discussion need not be elaborated

here. Suffice it to say that the present analysis is focused primarily upon the factors that affect individuals' sense of responsibility. Perceived causation and volition are crucial here. In Spiro's terms, but contrary to his argument, this paper suggests that certain factors work within the bureaucracy toward an imbalance between perceived causal responsibility and accountability.

4. John Rohr, for example, argues that educating American bureaucrats about the regime values, as recorded and reflected in the Constitution, is the most salutary method of encouraging ethical public administration (1978). It should be noted here that the analysis in the present paper is undoubtedly influenced by the author's research experience, which has been primarily though not exclusively in a federal system, i.e., the U.S.
5. This brief summary of Ladd's argument does not do it justice. I am only trying to allude to the point that organizations not only diffuse responsibility as an empirical fact, they do so as a matter of logic, or language.
6. I thank Michael Hill for both the idea and the succinct phrase expressed here.
7. Some interpretations of the experiment suggest that the results were not Pareto optimal (see Brown, 1980:235-39).
8. As Fiorina puts it, "We have constructed for ourselves a system that articulates interests superbly but aggregates them poorly. We hold our politicians individually accountable for the proposals they advocate, but less so for the adoption of those proposals, and not at all for overseeing the implementation of those proposals and the evaluation of their results. In contemporary America officials do not govern, they merely posture." (1980:44).

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THE STRUCTURAL CONTEXT OF RESPONSIBILITY 1)

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"As a philosophical concept, responsibility is a correlate of freedom, as a political concept, it is a correlate of constitutionalism. Philosophically, the opposite of responsibility is external or internal compulsion, in political terms, it is arbitrariness." (International Encyclopedia, 1968).

This citation sets the arena for the following discussion of responsibility in the public administration of Western democratic societies. The focus is on the consequences of organizational structure for responsibility and on how interorganizational policy-making and implementation may affect such responsibility.

As indicated by the quotation, the concept of responsibility is not easily defined to cover precisely the same meaning in differing circumstances. The term indicates a relationship - somebody is responsible to someone for something: in philosophy, to one's conscience; in politics and administration, to a constituency or a superior, and/or even to a constitution. In the pages to follow, we shall pursue the topic and thus develop an understanding of the concept step by step.

THE BASES FOR RESPONSIBILITY

A prerequisite for the moral philosophical concept of responsibility is that the individual must act freely if he or she is to be held responsible for that action. But as soon as we move into the sphere of political action, the rationale for appraisal changes to constitutionalism and what can be derived from such a concept.

Bureaucrats and politicians act in organizations based on constitutions, written or unwritten. There may be several links of administrative law, statutes and the like between that organization and the constitution, but, ultimately, a chain of formal rules connects them. An important role of this chain is to prevent arbitrariness. Consequently, it becomes very difficult to remain in the ideal world of moral philosophy when we want to discuss the responsibility of actors in a political setting. Public organizations are purposeful instruments meant to serve the public interest as interpreted by those who have been elected to political office or put into office by an elected body. Those who are elected must account for their actions before their electorate. Those who are put into political office by an elected body must answer for their actions before that body. In the first case, the constituency approves or disapproves by giving or denying their votes at the elections. In the second case, rules are normally found governing procedures that make it possible to remove an incumbent from office.

We can conclude that people holding political office can be held responsible because they can be sanctioned by removal from their office - though it may take a while. We can also conclude that in political life, there is no such thing as a free will. Political actions must be in concordance with the constituency to such a degree that a (relative) majority is satisfied. If not, sanctions may be initiated.

Responsibility should not be confused with responsiveness. That concept covers the meaning of reacting favourably to demands of the constituency. But if one acts favourably to any demand, there will be no guiding principles of policy that prevail and therefore, the resulting policies become unpredictable. Responsibility becomes a conservative element ensuring that the policy of a political office is politically assessed over time, not by each and every action. Responsible actors should not respond to each sudden movement in part of the constituency. They should act on the basis of a careful evaluation of the impacts of their policy, including the long-term perspectives where, typically, the momentary "lynch-mood" will disappear.

The above discussion concerned political offices. But it can be extended to those employed in organizations headed or directed by elected politicians or appointed officials. Such persons act in the name of or on behalf of the political head, or they act within statutes defining their scope and range of action. In general, the relation to the political head would be described as hierarchical, and in terms of responsibility, the persons holding positions in the organization are responsible to their superiors and through the hierarchical chain ultimately to the political top.

We shall leave the problems of the political heads of public agencies here. The purpose of taking them into consideration has been to link the activities of implementers of policy to the political life which forms the basis for all public administration. The main actor from now on is the (professional) bureaucrat employed in a public agency whose main occupancy is to implement policy, i.e. to adapt it to the environment and the clients of his organization.

THE AGENCY PERSPECTIVE

One major problem of referring to the moral responsibility of public administrators is that "total" responsibility, i.e. the sum of individual responsibilities, may be very incoherent and hence, arbitrary. This is indicated by the very existence of the concept of "representative bureaucracy". If a bureaucracy represents the population by being a mirror in terms of sex, ethnic groups, age, education and trade, this should ensure a fit between policy implementation and the demands of the population. (Laegreid/Olsen, 1978). Such a contention is based on a theory stating that the thoughts and behaviour of bureaucrats is determined by their social background and status. The proponents of such a theory thereby indicate that behaviour is determined by social forces. We can infer that any absolute sense of responsibility will also be hard to find. Individuals' senses of responsibility will differ, depending on their past socialization.

If there is any truth to such a contention - and I think there is, although I would not concur with the normative principles of a representative bureaucracy - then it becomes very difficult for any public agency to operate on the basis of the senses of responsibility that the individual employees possess. The problem is not whether or not they represent the population. Rather, the problem is that the senses of responsibility represented in the bureaucracy will differ so much that it would be a highly questionable basis for operation.

This is not a question of moral basics. It is still valid for everybody that Thou Shalt Not Kill Thy Neighbor. But apart from such basic principles it may become very difficult to establish a common moral code for bureaucrats unless the code is provided by the agency itself or another body in the political/administrative system. And this appears to be more necessary, the more diversified the population of the country is, to prevent arbitrariness due to e.g. underrepresentation of the views of minority groups in the bureaucratic staff.

Such a code is not established from one day to another. It should be the product of long-term experience of the agency and the principles stated in constitutions and other legal constructs

concerned with rights and obligations of citizens. It must be embedded in the political culture of the constituency and be protected from day-to-day movements of political life. In that sense, again, the notion of responsibility should be a conservative one, making the bureaucratic forms of action predictable and recognizable.

The paragraphs above should make it clear why public organizations must to a certain degree "dull" or "diffuse" the administrator's sense of personal responsibility (Cf. O'Toole). If this is not the case, the clients of the agency may soon be at the mercy of the individual bureaucrat, acting on the basis of his definition of responsibility. This is not warranted in public administration because it is seldom possible for outsiders to sanction individual administrators. We may blame the political head, be it in person or as an elected body, and sanction them by the constituency channels mentioned above, but only as long as there is a chain of responsibility from this top to the implementer at the bottom.

I shall conclude, therefore, that there are serious reasons for keeping the "agency perspective" in mind when we are concerned with responsibility of actors in public administration.

As to personal consequences for the administrator, there is historical evidence that certain individuals have let their personal morality be so dulled by the agency responsibility that they have crossed a threshold that for most people is unacceptable. One might question, however, whether these cases are so numerous that they call for modification of the agency responsibility in favor of personal responsibility as a general rule. I should argue that most people are capable of putting a limit to their action as administrators, and that certain evidence from experimental research and Eichmannian cases (Cf. O'Toole) are the results of peculiar circumstances which do not require us to dismiss the agency perspective.

THE IMPACT OF INTERORGANIZATIONAL RELATIONS

Many public activities are not carried out exclusively on the basis of means and goals defined by one agency. Certain activities are to be coordinated or to be carried out in cooperation with other agencies within community. We can talk of horizontal relations. Other activities are mandated by higher authorities by vertical relations. Typically, county and/or state (and federal) government has formulated a policy for service to be delivered at the local level by local government agencies. The mandates may concern procedures, content of policy or both, and may be followed by grants to finance the activity in part or in total - most often probably the former. In addition, state/federal government may

have formulated policies cutting across policy sectors, e.g. concerning equal rights, job opportunity, information access etc.

In the case of horizontal relations, the agencies involved are to a large degree equals and they must formulate their common (elements of) policy by negotiation and bargaining, and probably adjust their own policies and procedures to the common product. This means that the common policy is accepted as part of local political/administrative life and the responsibility or the implementation of the program is likely to remain with the individual agencies, each carrying out their part. In terms of responsibility, then, the agency perspective prevails.

In vertical relations, the situation may be different, depending on whether the implementing agency has been involved in the formulation of the policy. If this is the case, and if the resulting policy has been influenced in the same degree as in horizontal relations, then the organization can take responsibility as in horizontal relations. But in many cases the policy is being introduced as part of commitments that are not local, and therefore, the policy cannot in the first stage be adapted to individual agencies in different areas.

In vertical relations, then, there is an overt danger that policies may be at odds with the priorities prevailing at the local level where they are to be implemented. Or to put it another way: Local politicians would not have formulated the policy in that way, if at all. In such cases, the loyalties of the administrators may undergo a test, depending on their senses of responsibility - is it towards the policy they are to implement, or towards the organizational top?

If the policy is such that there is high degree of discretion during the implementation phase, there may be no problems. The administrators can then adapt the general principles to the local environment and there will be no major clashes of interests and, hence, loyalties. The more strictly defined the policy, the greater the chance that the administrator feels a cross-pressure in terms of responsibility towards the organizational top versus a responsibility towards some policy principles and priorities set by another level of government.

Administrators that are loyal to policy in an intergovernmental program are then loyal to priorities that are not set by the local political level. This means that such programs are means of national political forces and they can function as instruments to serve interests other than those the local political/administrative system is responsive to. This may be the case in areas where political parties play no great role or where only one party is effective. In such areas, the political leadership may become

unresponsive to certain needs because the political parties do not play their traditional role of communicating various types of demands of society to the political decision-makers.

However, this does not mean that the administrators are in any special way relying on a moral responsibility. They are responsible to a program or a policy as defined by a higher authority or by the negotiations between levels, and they must act in that role. If conflicts arise because of local attempts to influence the implementation of such interorganizational programs, the administrators must refer to their responsibility to the program and to those organizations at a higher level that supervise it.

In short, intergovernmental relations should not diminish or change responsibility, but the locus of responsibility may change to another level and this, of course, puts administrators in a difficult position in agencies where the leaders do not recognize the authority of that level. As long as the mandates of the higher level are legitimate, the implementing administrators should base their actions on program responsibility.

SPECIAL ROLES

In the above discussion we have concentrated on the administrative implementing role taking its point of departure in formulated rules or programs.

Another question concerns working as reticulist or "fixers" in roles that require personal initiative and ability to negotiate intricate problems without too much regard for the present locus of formal authority within the agencies involved. By the very nature of their role as schemers, they may be difficult to hold accountable. On the other hand, their activities may be invaluable for the progress of certain political/administrative activities, e.g. in planning. Typically, they are working with the formulation rather than implementation of policy and they need more discretion than the routine implementator.

In a similar vein, street-level bureaucrats with professional background often have to work with mandated "autonomy" to adapt to individual problems where a more tight rule network may be too restrictive. Their kind of responsibility permits change precisely because they are not too rule-bound. One often sees disagreement between such professionals and the political heads because the professionals tend not to take budgetary constraints too seriously. Their solutions to problems are based on principles that are action-oriented, involving any kind of expertise to obtain the goal.

In both cases, the structural context of the administrators

is of less importance. In the case of the reticulist, the political leadership relies on his or her ability to act as substitutes for political decision-makers. In the case of the professional, a special kind of responsibility towards a community based in universities, scholarly journals etc. exist. This responsibility may clash very much with more parochial values, especially in rural areas.

In a longer perspective it seems unlikely, however, that reticulists and professionals can act in dissonance with their agencies and their constituency. But changes may concern both parties, adjusting to one another. The values of an agency may change in the light of results obtained by professionals, and professionals may adapt their professional solutions to a local perspective.

One way of helping such adaption of professional solutions is to increase citizen participation in public administration. Participation is instrumental to infusing local priorities into the agencies and thereby increasing responsiveness without decreasing responsibility because, normally, citizen participation can only effectively veto action. This is a conservative element in concordance with the concept of responsibility. On the other hand, participation is an instrument of information, and may thereby help push action that is in agreement with the constituency, but with no legal possibility to demand action - unless the subject matter is devolved to local neighborhood groups. This seldom happens except in minor cases where no serious harm can be done in cases of hyperresponsiveness.

CONCLUSION

Basically, responsibility secures the clients of a public administration agency against arbitrary decisions. Responsible administrators are responsive to local demands, but in a conservative way to prevent solutions that are not viable in the longer run. The ultimate test is made by the constituency to which the political heads must account for their actions during their term of office. This kind of responsibility is defined by the structural context of the actor. The moral responsibility of individual administrators, in contrast, cannot be tested, and given the presumably large number of individual senses of moral, the concept should only form a basis for administration in very fundamental cases.

Interorganizational relations may affect the responsibility based on the agency perspective, depending on the influence the organization has had on the formulation of e.g. a policy program. In horizontal relations, such influence is likely to be present. In vertical relations, it will depend on the influence, as in horizontal relations, and/or the degree of discretion the program

gives the implementing agency. With little influence and discretion, there is a risk of conflict between the constituencies for responsibility.

Seen from a national perspective, such a conflict may be warranted, e.g. in cases of sub-national governments that are only responsive to a local elite, ignoring the needs for the underprivileged, as may be the case in areas where political parties are of little importance. Responsibility on program or policy lines to the national community is than legitimate. One should be cautious about such responsibility, however, in programs where professionals dominate and showed that they are responsible to others than their professional community. Citizen participation may help in securing responsibility towards local interests.

FOOTNOTES

1. This paper is an amended version of my discussion of Larry O'Toole's paper at the workshop on Interorganizational Implementation Systems in Rotterdam, 27-30th of June 1983. By request of the organizers, I have attempted to incorporate comments from other participants during the presentation of this paper. The responsibility for the interpretation of the session remains mine, however.

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RACIAL INEQUALITIES IN LOW-INCOME CENTRAL CITY AND SUBURBAN COMMUNITIES: THE CASE OF POLICE SERVICES

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Many scholars condemn the presence of multiple units of local government in U.S. metropolitan areas. Fragmentation of political units is presumed to be an institutional arrangement favoring the wealthy by creating inequalities in the distribution of resources and essential services (Hill, 1974; Newton, 1975; Fainstein and Fainstein, 1979; Cox and Nartowitz, 1980; Long, 1967). The condemnation of metropolitan fragmentation is explicitly or implicitly based on an acceptance of propositions underlying a social stratification approach to complex urban structures. A key proposition in this view is that suburbs are predominantly inhabited by the rich (Neiman, 1982). Suburbs are viewed as enclaves that enable the rich to escape their responsibility of paying for essential services needed by lower income families.

Those who condemn metropolitan fragmentation for creating and allowing gross inequalities in essential urban services tend also to recommend the elimination of fragmentation through some form of metropolitan consolidation. By creating a single, large central city, proponents presume resources and services will be more equally distributed (Katzman, 1978; Campbell and Sacks, 1967). All too many scholars and observers of the U.S. urban landscape have presumed that allowing fragmentation to occur within metropolitan areas by establishing small, separately incorporated communities is only a benefit for wealthy, white families. They have not recognized the complex set of relationships that exist in the articulation of preferences, and in provision, production, and coproduction of urban public services that may lead to counter-intuitive results.

In a recent paper (E. Ostrom, 1983b), I reviewed the evidence related to propositions underlying the social stratification explanations of the effects of metropolitan organization. Empirical studies provide evidence that the stratification of the suburbs is less than expected by proponents of the social stratification view. Schneider and Logan (1981), for example, examine the segregation of income groups among suburbs in 31 Standard Metropolitan Statistical Areas (SMSAs) for 1970. Of the 1,139 suburban cities in their sample, only one-fifth (201 cities) were judged to have an over-concentration of rich families (1). Thus, the remaining four fifths of the suburban cities either had a "normal" mixture of all income classes (746 cities) or an over-concentration of poor families (192 cities). Similar patterns were found by Pack and Pack (1977) and Williams and Eklund (1978). Opposition to proposals for metropolitan consolidation has been widespread throughout suburban jurisdictions. Not only have residents living in wealthy suburbs opposed the elimination of their own municipality, but middle- and lower-income, suburban voters have also opposed consolidation. Living in an independent, smaller city appears to be of benefit for lower- and middle-income families as well as for wealthy families.

A further presumption made by those who see metropolitan fragmentation as a major generator of inequality is that services within large, center cities will be more equally allocated to black residents as compared to white residents than services will be allocated in suburban jurisdictions (Danielson, 1976). To my knowledge, no prior systematic research has examined the relative equalities of the distribution patterns to black families and white families in center cities as contrasted to suburban jurisdictions. Without examining the relative equalities in the allocation of services to blacks and whites in central cities as compared to the suburbs, scholars cannot make informed policy recommendations concerning appropriate institutional arrangements to improve levels and equalities of service delivery available to black families living in major urban areas.

In this paper, I wish to pursue the specific question of whether one type of urban service -- policing -- is allocated in a relatively more equal manner, as between low-income, black and white families, within central cities as compared to suburban jurisdictions. To do this several methodological questions must first be addressed:

1. What criteria will be used to evaluate the equality of different allocations of services?;
2. What indicators of service delivery will be used?; and
3. What type of research design will be used to address this question?

EVALUATING THE RELATIVE EQUALITY OF SERVICE DISTRIBUTIONS

If all worldly allocations of goods (or, of bads) were either absolutely equal or absolutely unequal, problems of evaluating the relative equalities of different distributions would be less severe. Douglas Rae (1981) recently demonstrates, however, that many allocation patterns exist that vary in the extent of their equality. Further, an allocation pattern evaluated as relatively more equal, using one criterion, may be evaluated as relatively less equal using another. In addressing the problem of relative equalities, Rae develops a geometric method for arraying allocation of goods to two individuals (or two blocks). Once arrayed, the allocation pattern can be evaluated using several criteria.

Rae illustrates this method using a hypothetical allocation of a good to a more advantaged subject and a less advantaged subject. The amount of the good allocated to the more advantaged subjects is shown on the horizontal axis while the amount allocated to the less advantaged subjects is shown on the vertical axis in his diagrams (reproduced here as Figures 1 through 5). The initial allocation of goods is marked with an X. If this initial allocation were absolutely equal, X would be located on the 45 degree line of absolute equality. In Rae's diagrams, the more advantaged subject receives substantially more of the good than the less advantaged subject. Given this initial allocation, one can then apply four criteria to identify the regions in which alternative allocations would be judged as more equal. These criteria are: the maximin criterion, the ratio criterion, the least difference criterion, and the minimax criterion.

MAXIMIN CRITERION

"The maximin criterion says that any allocation that improves the position of the less advantaged subject is more equal". (Rae, 1981: 110). Given the initial allocation of X, all allocations that assign more to the less advantaged are considered more equal using this criterion. The shaded region in Figure 1 illustrates all allocations that would be considered more equal than the initial allocation X using this criterion. John Rawls (1971) uses the maximin criterion as a major component of his theory of justice. This criterion is, however, a relatively weak criterion for evaluating equality. A small increase in the allocation to the least advantaged may occur simultaneously with a very large increase to the most advantaged. The relative position of the two individuals or blocs may be adversely affected, but this criterion looks only at the absolute change in the allocation to the least advantaged.

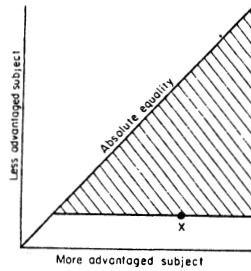


Figure 1. Maximin criterion.

RATIO CRITERION

"The ratio criterion says that any allocation that increases the ratio between the lesser entitlement and the greater is more equal". (Rae, 1981: 110). This criterion is frequently applied in the analysis of changes in income distribution patterns between advantaged and disadvantaged groups over time. In such an analysis, the question pursued is whether the ratio of the income earned by a member of an advantaged group to that earned by a member of a less advantaged groups grows smaller over time. If the answer to this question is affirmative, an analyst using this criterion would consider income distributions as becoming more equal over time. The shaded region in Figure 2 illustrates the set of allocations that would be considered more equal than X using this criterion.

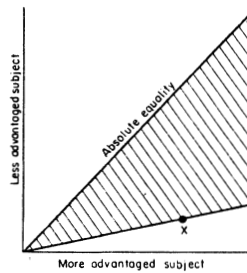


Figure 2. Ratio criterion.

LEAST DIFFERENCE CRITERION

"The least difference criterion says that any allocation that decreases the absolute difference between the greater entitlement and the lesser is more equal". (Rae, 1981: 111). The shaded region in Figure 3 illustrates the set of allocations that would be

considered more equal than X using this criterion. This is a more stringent criterion than the ratio criterion or the maximin criterion.

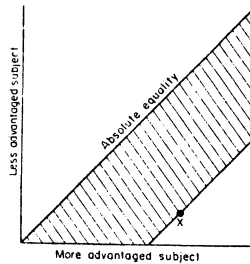


Figure 3 Least difference criterion.

An examination of the median household incomes (in constant 1967 dollars) by race for 1950 and 1975 illustrates the difference between these criteria. The median family income in 1950 was \$2,592 for black families and \$ 4,778 for white families (Dorn, 1979: 34). In 1975, it was \$ 5,452 for black families and \$ 8, 860 for white families. Using the maximin criterion, the 1975 income pattern would be considered more equal as the income level of black families increased. An application of the ratio criterion would also lead to a judgement that income patterns had become more equal over time. The ratio of black family income to white family income rose from .50 to .61. On the other hand, the absolute difference between black and white family incomes also increased from \$ 2,186 to \$ 3,408. Analysts using the least difference criterion to evaluate the changing patterns in income distribution would not agree that income distributions to black and white families became more equal in the interval between 1950 and 1975. Many current debates concerning the "progress" or "lack of progress" made by blacks in terms of income, and many other valued items, center on underlying conceptions of how to evaluate equality.

MINIMAX CRITERION

"The minimax criterion says that any allocation that diminishes the entitlement of the more advantaged subject is more equal". (Rae, 1981: 112). This is the "harshesht" criterion of the four especially when resources are themselves increasing rather than remaining at a constant sum or decreasing. When resources are increasing it seems unreasonable to demand that the "previously most advantaged" lose benefits in order to call a different allocation pattern more advantaged. The region to the left of the vertical line in Figure 4 represents allocations that would be

judged more equal than X applying this criterion.

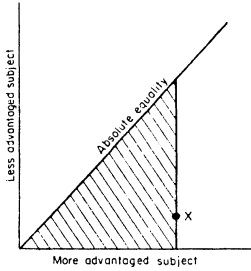


Figure 4 Minimax criterion.

A COMPARISON OF CRITERIA

These four criteria are simultaneously represented on Figure 5 for allocations of goods that do not involve a mutual loss. Here the relationships among the criteria can be easily seen. Region A would not be judged as more equal than X using any of the four criteria. Any point in Region B would be judged as more equal than X using the maximin criterion; any point in Region C would be judged as more equal than X using two of the criteria -- the maximin and the ratio criteria; any point in Region D would be judged more equal using these two criteria plus the least difference criteria; and any point in Region E would be judged more equal than X using all four of the criteria.

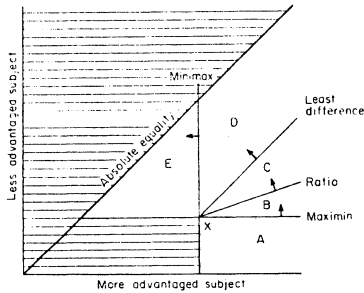


Figure 5 Allocation without mutual loss.

There is thus an order in the "stringency" of the criteria. The order from weakest to strongest for allocation of goods is: maximin, ratio, least difference, and minimax. Any distribution judged as more equal using a stronger criterion will also be

judged as more equal using a weaker criterion. Any point on the line of absolute equality would obviously also qualify as more equal than X under any imaginable criterion. Rae considers the shaded area above the line of absolute equality as irrelevant since it would give more to the disadvantaged than to the advantaged. As we will see below, however, allocations changing the relative position of the most and least advantaged are empirically possible.

This geometric form of representation is a useful technique for addressing the question of whether urban police services are relatively more equally distributed to black and white residents within center cities and within suburban jurisdiction. Instead of examining distributions over time, this approach examines distributions (at the same time) over space. This is the method that will be used below for comparing distributions of two blocs of individuals. The distribution of police services to low-income, black residents and to low-income, white residents living in central cities is used as an equivalent to an initial allocation. One can then ask whether the distribution of similar police services to low-income, black residents and white residents in suburban jurisdictions is relatively more or less equal than the pattern within central cities.

In regard to policing, some events being examined are "bads" rather than goods. These include victimization rates, response times, and perceived risk of crime. In comparing the relative equality of "bads", one needs to use the southwest quadrant rather than the northeast quadrant (see Figure 6). For the distribution of "bads", the order of stringency between the least difference and the ratio criteria is reversed. The ratio criteria is the more stringent criterion in these cases.

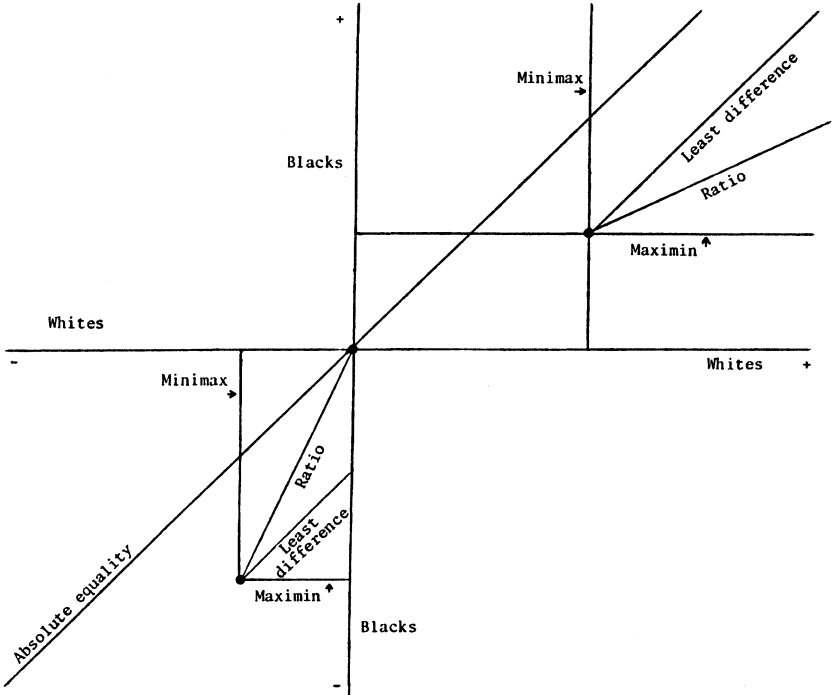
Prior to this analysis, however, a second methodological problem must be addressed: What indicators of police service are appropriate measures of services delivered to citizens?

APPROPRIATE INDICATORS OF POLICE SERVICES

Police services are among the more difficult urban services to measure. As with most goods or services, the amount of public resources allocated to a service is not an adequate indicator of the amount of services received by individuals. Howard Schuman and Barry Gruenberg, for example, argue that:

The adequacy of the services a city provides its citizens cannot be judged accurately by the amount of money expended or the number of persons paid to provide the services. High levels of either may simply indicate inefficiency, excessive patronage, or some other feature of urban life irrelevant to

Figure 6
Relative Equalities for Allocations of
"Bads" Compared to Goods



satisfactory services (1972: 369).

In a more recent analysis, Carol Lewis asserts that in "no case are expenditures validly employed as proxy measures of government services (outputs)". (Lewis, 1982: 204; see also Merget and Berger, 1982; Rich, 1982).

A major factor affecting the expenditures for urban policing is, for example, the success of unions in winning higher wages and in negotiating production strategies that use more personnel. Municipal expenditures are relatively high in northeastern metropolitan areas where municipal employees are more unionized than in other regions.

Local political acquiescence to union demands in the Northeast has resulted in municipal work forces that are often far above average in size and in wages. In the early 1970's, in the New York region, there were approximately 40 percent more municipal workers per capita than the national average, and these workers received wages 10-15 percent higher than private sector workers in similar occupations (Schneider, 1980: 551).

Police union contracts frequently specify the use of two officers in each patrol car 2). Doubling the personnel required to carry out routine patrol duties does not double the amount of service received by local communities. Higher expenditures for police can represent expenditures made primarily for the comfort and ease of police officers, instead of expenditures yielding higher levels of services for citizens.

While most scholars agree that expenditures are not valid measures of service, finding available and adequate measures for police services is extremely difficult. Thus, many scholars continue to use expenditure data, even while acknowledging the inadequacy of this proxy measure. The "final" outputs of urban policing are general states of affairs in a community, such as the level of safety from crime, perceived feelings of safety, and various perceptions of the quality of police services received in a neighborhood (E. Ostrom, 1973). As Roy Bahl and Jesse Burkhead express it:

Police protection is probably at the low end of the measurability spectrum. The final output is a social state measured perceptually by citizen attitudes as to whether streets are safe (Bahl and Burkhead, 1977: 261).

In a number of earlier studies of police performance (E. Ostrom and Parks, 1973; E. Ostrom and Whitaker, 1974;

E. Ostrom, Parks, and Whitaker, 1973; Parks and E. Ostrom, 1981; Parks, 1982b), we have consistently used multiple measures of police output including victimization rates, speed of response, citizens' perceptions of the safety of their neighborhood, and citizens' ratings of police performance. As I examine in a related paper (E. Ostrom, 1983b), no single indicator of police outputs is by itself adequate. Thus, for any evaluation of how institutional arrangements affect the equality or efficiency of urban services, it is necessary to rely upon multiple measures of output.

In this analysis, I will use the following types of indicators of police output:

1. Victimization Rates;
2. Response Time by Police to Victimization;
3. Citizens' Perceived Risk of Crime; and
4. Citizens' Ratings of Police Performance.

DATA BASE AND FORM OF ANALYSIS

Data from a study of police service delivery conducted jointly in 1977 by the Workshop in Political Theory and Policy Analysis at Indiana University and the Center for Urban and Regional Studies at the University of North Carolina, Chapel Hill, are relevant for a consideration of how police services are distributed in central city and suburban, low-income neighborhoods. A brief description of the data base is in order.

DATA BASE

Sixty urban neighborhoods, located in center cities, small- and medium-sized suburban municipalities, and unincorporated county territory, were selected for intensive study. The neighborhoods ranged from extremely poor, predominantly black neighborhoods to moderately affluent and predominantly white neighborhoods located in the St. Louis, Missouri; Rochester, New York; and Tampa-St. Petersburg, Florida metropolitan areas. Four large center cities, three large urban counties, and seventeen suburban municipalities were included in the original study. A citizen survey was conducted by phone with a random sample of approximately 200 households in each of the 60 neighborhoods to obtain respondent and household characteristics, experiences with the police and crime, and attitudes toward police and local government.

Of the original 60 neighborhoods, 27 were predominantly low-income neighborhoods served either by central cities or by independently incorporated suburban communities. The average family income in these neighborhoods ranged from between \$ 7,500 to \$ 14,000 in 1977. Seventeen of these neighborhoods were located in central cities: four were predominantly black neighborhoods (more than 75 percent black), four were mixed neighborhoods (from

75 to 25 percent black, and nine were predominantly white neighborhoods (less than 25 percent black). Ten were located in the suburban jurisdictions located in these metropolitan areas: one was predominantly black, three were mixed, and six were predominantly white. Survey instruments were completed with 5,331 households in these 27 low-income neighborhoods.

FORM OF ANALYSIS

Confining analysis to these 27 neighborhoods enables us to pursue questions related to the distribution of urban services across space to different racial blocks holding relatively constant the income level of the neighborhoods served. Thus, the potentially confounding variable of neighborhood wealth is controlled for by selecting only the set of lower-income neighborhoods for analysis. The question of whether wealthier neighborhoods inside center cities or suburban jurisdictions receive relatively better services than poor neighborhoods will not be addressed in this paper. Rather, looking specifically at low-income neighborhoods, three related questions will be addressed:

1. Are black or white respondents more advantaged within center cities?;
2. Do the distribution patterns in suburban jurisdictions represent an improvement for black and white respondents?; and
3. Are the suburban distribution patterns relatively more equal than the center city patterns using the maximin, the ratio, and the least difference criteria?

Since the answer to the second question is Yes in all but one instance, I do not use the minimax criteria. It seems overly harsh in an environment in which the level of services is generally higher for both blocks.

To begin to answer these three questions, I construct four Comparison Sets each composed of one group of black respondents and a second group of white respondents. In the first Comparison Set (Comparison Set A listed on Table 1), I include respondents living in the four predominantly black, low-income, center-city neighborhoods as one group to be compared with a second group of respondents from in the nine predominantly white, low-income, center-city neighborhoods. The allocation of services to these two groups is used in the following analysis as an "initial distribution" similar to X in Rae's analysis above. For each of the four types of indicators of police service used, the answer to the first question depends upon whether white, low-income neighborhoods inside center cities receive better services than black low-income neighborhoods.

Table 1
Comparison Sets

| | | |
|-------|---|---|
| Set A | { | CENTER CITY BLACK LOW INCOME NEIGHBORHOODS COMPARED TO CENTER CITY WHITE LOW INCOME NEIGHBORHOODS |
| Set B | { | CENTER CITY MIXED LOW INCOME NEIGHBORHOODS -- BLACK RESPONDENTS COMPARED TO CENTER CITY MIXED LOW INCOME NEIGHBORHOODS -- WHITE RESPONDENTS |
| Set C | { | SUBURBAN BLACK LOW INCOME NEIGHBORHOODS COMPARED TO SUBURBAN WHITE LOW INCOME NEIGHBORHOODS |
| Set D | { | SUBURBAN MIXED LOW INCOME NEIGHBORHOODS -- BLACK RESPONDENTS COMPARED TO SUBURBAN MIXED LOW INCOME NEIGHBORHOODS -- WHITE RESPONDENTS |

I then construct a second Comparison Set (C) which includes the one predominantly black, low-income, suburban neighborhood and the six predominantly white, low-income neighborhoods located within suburban jurisdictions. The answer to the second question depends on whether both white and black respondents receive better services in the suburban jurisdictions than in the center cities. In other words, does Point C lie northeastward of point A. The third question concerning relative equality will be answered for each indicator by examining where Point C lies in a relative equality diagram as compared to point A. Is the allocation represented by C more equal than the allocation represented by Point A using the maximin, the ratio, or the least difference criteria discussed above?

Since Comparison Set C contains only one black neighborhood, more weight than desirable is placed on this single neighborhood in the examination of relative equalities between A and C. The construction of two more Comparison Sets based on additional black neighborhoods enables us to examine whether the findings about the relative equalities of Comparison Sets A and C are entirely idiosyncratic.

Comparison Set B relates the level of services delivered to black residents living in four, center-city, mixed neighborhoods to the services received by white residents living in these same center-city, mixed neighborhoods. Comparison Set B is used as a second "initial distribution" for mixed neighborhoods. Comparison Set D relates the level of services delivered to black residents living in three, suburban, mixed neighborhoods to the services received by white residents living in these same suburban, mixed neighborhoods. The relationships between sets B and D provide a second set of empirical answers to the same set of three questions.

FINANCIAL RESOURCES DEVOTED TO POLICING

While the questions being asked in this paper relate primarily to the distribution of outputs to citizens, and not to the relationship between expenditures and outputs, the reader may want to know: (1) whether more resources were expended on policing in the center cities or suburban jurisdictions included in this study and (2) whether more resources were devoted to policing in the predominantly white suburbs than in the predominantly black or mixed suburbs. This concern can be answered in a general and approximate manner in regard to the governmental jurisdictions studied, but not with specific data about the expenditure patterns at the neighborhood level.

After many years of working with municipal expenditure data, one comes to a deep appreciation of how difficult it is to obtain comparable data for valid comparison across jurisdictions, let

alone across neighborhoods within jurisdictions. In this study, fieldworkers obtained jurisdiction-level expenditure data from public records and from in-depth interviews with public officials. Every effort was made to obtain comparable data including the cost of fringe benefits frequently not included in police department budgets.

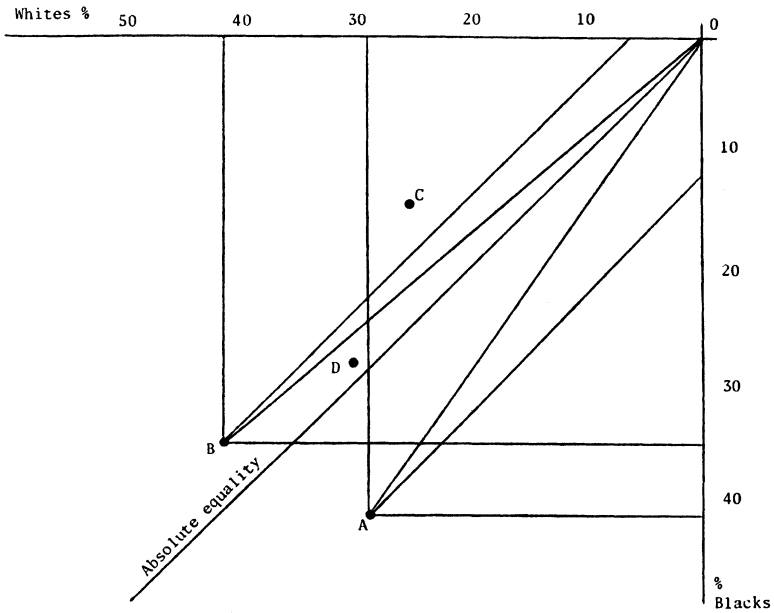
Per capita expenditures for policing in the center cities ranged from \$ 60,39 to \$ 79,19. From our own, and others' earlier research, it is reasonable to assume that jurisdictional level, per capita expenditures are a conservative estimate of the amount allocated to low-income neighborhoods within the center cities. For the one predominately black neighborhood in the suburban Comparison Set C, public records showed a per capita expenditure level of \$ 39.36. Since the neighborhood and the jurisdiction were the same in this instance, this is a relatively good estimate of the resources allocated to this neighborhood. For the predominately white neighborhoods also contained in Comparison Set C, jurisdictional level expenditures vary from \$ 27,92 to \$ 54,59. Thus, when examining the distribution patterns for Comparison Set A versus Comparison Set C, it would appear that more resources were available in the center cities than in any of the suburban jurisdictions. Expenditure levels in some of the white, low-income neighborhoods located in suburban jurisdictions were less and others were more than those in the predominately black suburban neighborhoods. The expenditures for the suburban, mixed neighborhoods ranged from \$ 35,03 to \$ 46,45. It is reasonable to assume that expenditures were less in the mixed, suburban neighborhoods than they were in the mixed, central city neighborhoods.

FINDINGS

Victimization Rates

The geometric relationships among the four comparison groups in regard to household victimization rates are presented in Figure 7, supplemented by a table containing the same information. Since victimization is a "bad" rather than a "good", the relationships are arrayed in the southwestern quadrant rather than the northeastern quadrant. Forty-one percent of respondents living in predominately black, low-income, center city neighborhoods reported that someone in their household had been the victim of a crime in their neighborhood during the 12 months prior to the study. Twenty-nine percent of the respondents living in predominately white, low-income, center-city neighborhoods reported a similar victimization occurrence. Thus, holding the income level of the neighborhood constant, white families were relatively advantaged in the center city. The ratio of the white victimization rate divided by the black victimization rate is .71.

Figure 7
Relative Equalities for the Distribution
of Household Victimization Rates



| <u>Neighborhoods</u> | <u>Black</u> | | <u>White</u> | |
|-------------------------|--------------------|--------------------|--------------------|--------------------|
| | <u>Respondents</u> | <u>Respondents</u> | <u>Respondents</u> | <u>Respondents</u> |
| | % | (N) | % | (N) |
| Center city homogeneous | 41 | (818) | 29 | (1,830) |
| Center city mixed | 35 | (303) | 41 | (441) |
| Suburban homogeneous | 14 | (106) | 25 | (1,146) |
| Suburban mixed | 28 | (326) | 30 | (296) |

Now, let us examine the relative equalities of Comparison Set A with Comparison Set C. Both low-income, white and black families receive a higher level of service in the suburban jurisdictions than they do within center-city jurisdictions. Fourteen percent of the black families and 25 percent of the white families reported victimizations in these neighborhoods. Point C lies above the line of absolute equality. Thus, black families received a better level of protection than white families in the suburban jurisdictions. The ratio of the white victimization rate divided by the black victimization rate is now 1,79. This ratio is approximately as unequal as it was in the center city, but now black residents are the more advantaged. The allocation pattern in the suburbs constitutes a substantial improvement for black families and a minor improvement for white families living in homogeneous neighborhoods.

Examining the patterns for mixed neighborhoods (Comparison Sets B and D), we find that 35 percent of the black families and 41 percent of the white families living in mixed, center-city neighborhoods reported a victimization in the neighborhood during the prior 12-month period. The difference between the victimization rates for white and black families is less in the mixed neighborhoods of the center cities than it had been in the homogeneous neighborhoods of the center cities. White families in mixed, center-city neighborhoods are less advantaged than black families. The victimization rate for white families in mixed, center-city neighborhoods is the same as the victimization rate for black families living in predominately black, center-city neighborhoods. The pattern in the mixed suburban neighborhoods is clearly better for both groups and also more equally allocated. Victimization rates for black families living in mixed, suburban neighborhoods is 28 percent and for white families it is 30 percent. The ratio of the victimization rates approaches 1,0. The difference between the victimization rates is the smallest in the mixed, suburban neighborhoods.

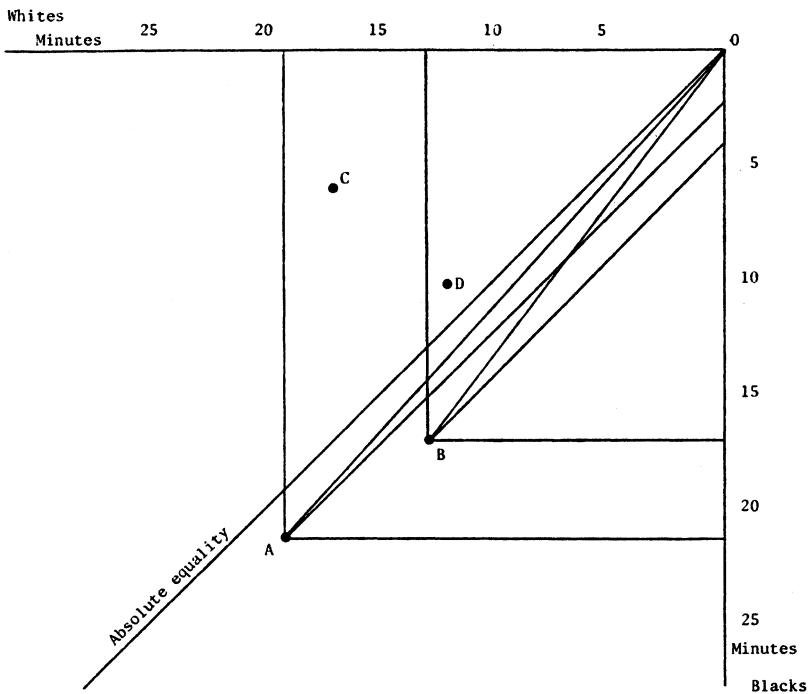
REPORTED RESPONSE TIME

In addition to obtaining information about victimizations in the study of neighborhoods, respondents who had been victimized were also asked how long the police had taken to respond to their calls. Patterns of reported response time are shown on Figure 3. The average reported response time for victimizations occurring to black families living in predominately black neighborhoods in center cities is 21 minutes and for white families living in predominately white neighborhoods in center cities is 19 minutes. Thus, whites are more advantaged in the center cities. Comparison Set C represents an improvement for both blacks and whites and another reversal in their relative positions as less or more advantaged. Black families living in the predominately black

suburb reported an average response rate of 6 minutes. But this estimate is based only on four interviews in which the respondent had the relevant information to answer this question. White families living in the predominately white suburban neighborhoods reported an average response time of 17 minutes.

Figure 8

Relative Equalities for the Distribution of
Reported Response Time (in Minutes)
When Police Called for Victimizations



| <u>Neighborhoods</u> | <u>Black Respondents</u> | | <u>White Respondents</u> | |
|-------------------------|--------------------------|------------|--------------------------|------------|
| | <u>%</u> | <u>(N)</u> | <u>%</u> | <u>(N)</u> |
| Center city homogeneous | 21 | (158) | 19 | (225) |
| Center city mixed | 17 | (53) | 13 | (79) |
| Suburban homogeneous | 6 | (4) | 17 | (104) |
| Suburban mixed | 10 | (48) | 12 | (40) |

Response time is generally better in the mixed neighborhoods than in the predominately black or white neighborhoods. Both white and black families receive faster response time in the center-city, mixed neighborhoods, but the improvement is more marked for white families. Thus, the relative advantage of whites over blacks increases within the center-city, mixed neighborhoods. In the mixed, suburban neighborhoods, both blacks and whites receive an average response time of almost twice as fast as they do in the predominately white or black neighborhoods of the center cities. The average suburban response time for black respondents is 10 minutes and for white respondents it is 12 minutes. Blacks are now more advantaged (D is above the line of absolute equality).

CITIZENS' PERCEIVED RISK OF CRIME

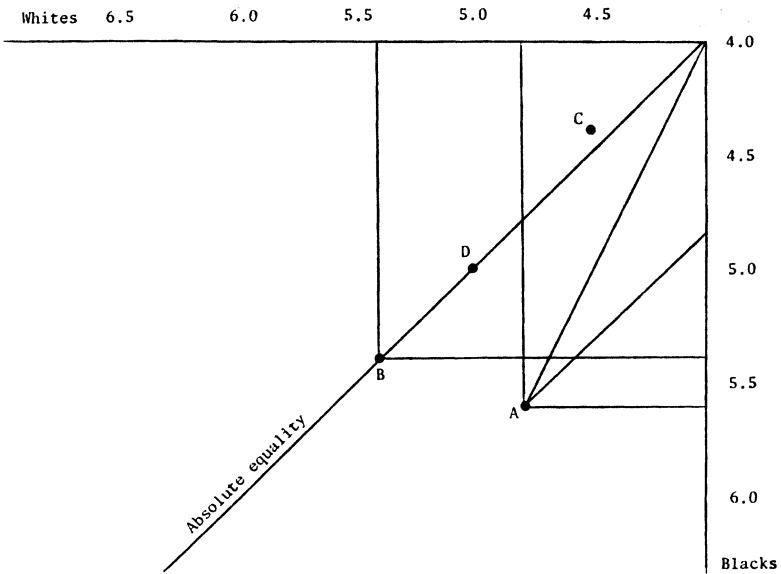
Three questions on the survey instrument asked how likely a respondent thought that he or she would be burglarized, vandalized, or robbed in their neighborhood. An index is constructed from these three questions that varies from 3 (not all likely that any of the events might occur) to 9 (very likely that all three events will occur). The average index score in predominately black neighborhoods of the center city is 5,6 while it is 4,8 in the predominately white neighborhoods (see Figure 9). Thus, black respondents are more likely to expect victimizations than white respondents. Both the absolute level and the relative equality improves when moving to Comparison Set C. In the predominately white or predominately black suburban neighborhoods everyone is less fearful of burglaries, vandalism, and being robbed. Further, both whites and blacks share approximately the same perceived risk and thus the allocation is more equal. In the mixed neighborhoods, the distribution pattern between whites and blacks is perfectly equal in both the center cities and the suburban jurisdictions, but both whites and blacks perceive less risk in the suburban neighborhoods than they do in the center city neighborhoods. Thus, the mean index score improves from 5,4 to 5,0 moving from the center-city to the suburban neighborhoods.

CITIZENS' RATINGS OF POLICE PERFORMANCE

Included in the citizen survey was a set of questions evaluating police performance. One of these questions asked the respondent to rate the job police were doing on a five point scale ranging from "Outstanding" to "Poor". One indicator of citizens' evaluation of police performance is the percentage willing to rate the performance of police as "Outstanding". The distribution of this positive evaluation of police performance is shown on Figure 10.

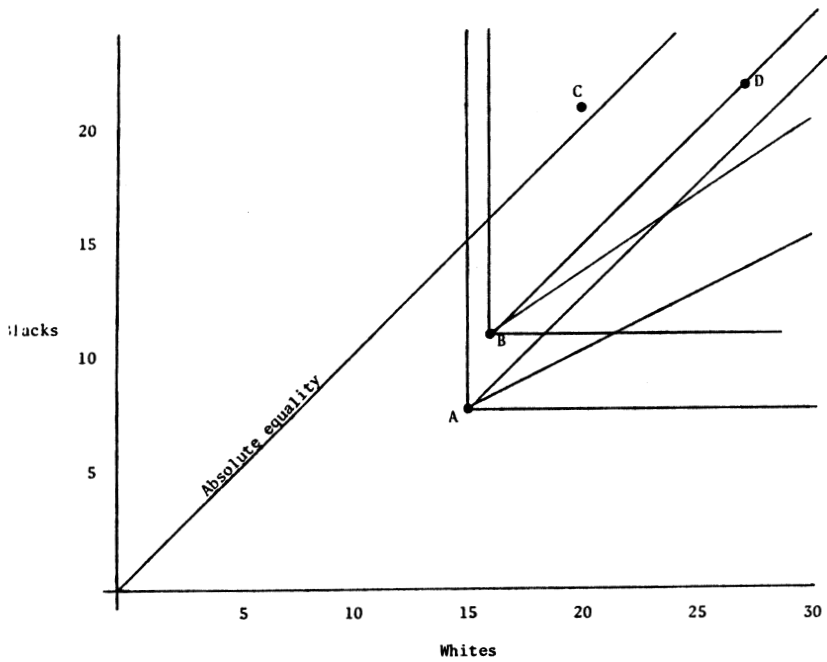
Figure 9

Relative Equalities of Distribution of Mean Index Scores
for Respondents Estimates of Probability
of Being Burglarized, Vandalized, or Robbed



| <u>Neighborhoods</u> | <u>Black Respondents</u> | | <u>White Respondents</u> | |
|-------------------------|--------------------------|------------|--------------------------|------------|
| | <u>%</u> | <u>(N)</u> | <u>%</u> | <u>(N)</u> |
| Center city homogeneous | 5.6 | (647) | 4.8 | (1,535) |
| Center city mixed | 5.4 | (261) | 5.4 | (364) |
| Suburban homogeneous | 4.4 | (81) | 4.5 | (979) |
| Suburban mixed | 5.0 | (264) | 5.0 | (253) |

Figure 10
Relative Equalities in the Distribution
of Respondents Ranking the Job of Police as Outstanding



| <u>Neighborhoods</u> | <u>Black</u> | | <u>White</u> | |
|-------------------------|--------------------|-------|--------------------|---------|
| | <u>Respondents</u> | | <u>Respondents</u> | |
| | % | (N) | % | (N) |
| Center city homogeneous | 8 | (763) | 15 | (1,702) |
| Center city mixed | 11 | (284) | 16 | (405) |
| Suburban homogeneous | 21 | (101) | 20 | (1,059) |
| Suburban mixed | 22 | (315) | 27 | (287) |

Black respondents living in predominately black neighborhoods in center cities are the least likely to rate police performance as outstanding. Only 8 percent of these black respondents give police the highest ratings while 15 percent of the white respondents living in predominately white neighborhoods in the center city rate police performance as outstanding. Comparison Set C represents an improvement for both whites and blacks in absolute as well as in relative equality terms. Approximately one fifth of both blacks and white respondents rated police performance as outstanding.

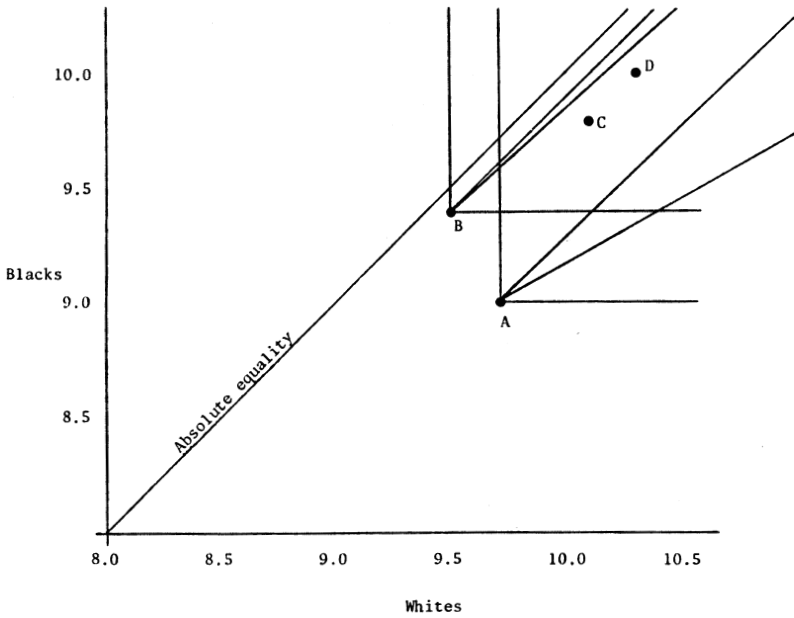
In the mixed, center-city neighborhoods, 16 percent of the white respondents and 11 percent of the black respondents rate the job police are doing as outstanding. Thus, white respondents are again more advantaged within the center cities. Comparing B to D represents a substantial change in the proportion of respondents willing to rate police performance as outstanding (the rate doubles for black respondents and rises by approximately two-thirds for whites). While the difference between ratings remains equal - a difference of 5 percent - the ratio between the ratings rises from .68 at B to .82 at D. Thus, D represents a higher and more equal evaluation pattern than B using the ratio criterion, but an equal allocation using the least difference criterion.

In Figure 11, I array the relative equalities in the distribution of mean scores for an evaluation index composed of three questions 3). Comparison Set C represents a general improvement in evaluation ratings as compared to A, and Comparison Set D as compared to B. C represents a more equal distribution than A using three of the criteria. While the relative positions of the two blocks represented at D is a higher but slightly less equal distribution than at B, the initial distribution at B is close to the line of absolute equality and D is not far from it.

A third evaluative index related to respondent views toward the courtesy and fairness of police presents the only differing pattern in the entire analysis 4). As shown on Figure 12, the relationship between A and C is similar to that shown on all of the previous diagrams, but the relationship between B and D is substantially different. A smaller proportion of black and white respondents evaluate the police positively in regard to their courtesy and fairness in the mixed, suburban neighborhoods than do respondents in the mixed, central-city neighborhoods. This is the only relationship in the entire analysis in which respondents living in the suburban jurisdictions are less willing to rate the police positively than the central-city respondents.

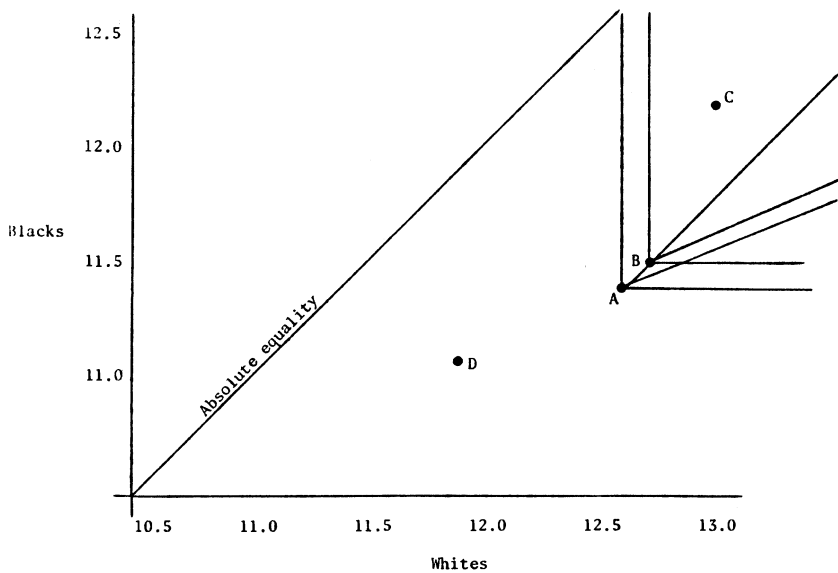
Figure 11

Relative Equalities of the Distribution of Mean Satisfaction with Police Scale



| <u>Neighborhoods</u> | <u>Black Respondents</u> | | <u>White Respondents</u> | |
|-------------------------|--------------------------|-------|--------------------------|---------|
| | % | (N) | % | (N) |
| Center city homogeneous | 9.0 | (607) | 9.7 | (1,533) |
| Center city mixed | 9.4 | (242) | 9.5 | (367) |
| Suburban homogeneous | 9.8 | (86) | 10.1 | (964) |
| Suburban mixed | 10.0 | (257) | 10.3 | (241) |

Figure 12
Relative Equalities of the Distribution
of Mean Police Impartiality Scale



| <u>Neighborhoods</u> | <u>Black Respondents</u> | | <u>White Respondents</u> | |
|-------------------------|--------------------------|-------|--------------------------|---------|
| | % | (N) | % | (N) |
| Center city homogeneous | 11.4 | (607) | 12.6 | (1,533) |
| Center city mixed | 11.5 | (242) | 12.7 | (367) |
| Suburban homogeneous | 12.2 | (86) | 13.0 | (964) |
| Suburban mixed | 11.1 | (257) | 11.9 | (241) |

CONCLUSION

Let us now review the findings of this paper. The first question examined in the paper was whether white or black residents were the most advantaged within center-city, low-income neighborhoods. In homogeneous, center-city neighborhoods, white residents were uniformly the more advantaged (see Table 2), while the picture is less uniform in mixed neighborhoods. In the latter case, whites were the more advantaged in regard to half of the indicators examined, the allocations were relatively equal in two instances, and blacks were the most advantaged in one instance. Overall, one could conclude that white residents received higher levels of services within the center city than black residents living in similar neighborhoods.

The second question examined was whether service levels improved for both white and black residents living in similar neighborhoods within suburban jurisdictions. Here the answer is an overwhelming yes. In 11 out of the 12 separate analyses conducted, service levels improved for both white and black residents living in similar neighborhoods within suburban jurisdictions as compared to center-city neighborhoods.

The third question examined whether the distribution patterns in the suburbs were relatively more equal than they had been in the center city. Again, the answer is positive. In most instances examined, the suburban pattern was evaluated as being more equal using all of the criteria selected for this analysis: the maximin criterion, the ratio criterion, and the least difference criterion. In several instances, blacks became the more advantaged in the suburban jurisdictions. The pattern was reversed in only one instance - the evaluation of the relative impartiality of the police in mixed, suburban neighborhoods.

Given the general acceptance of a strong belief that urban service levels must be more unequal among low-income neighborhoods in the suburbs than in center cities, these findings will be surprising to many scholars and analysts. Obviously, further empirical research should be conducted on this question - particularly since one of the comparison sets used in the current analysis placed heavy reliance on only a single black neighborhood.

Several previous studies have found that center-city police departments allocate higher levels of personnel to high-crime, predominately black neighborhoods (Weicher, 1971; Lineberry, 1977; Mladenka, 1974; Mladenka and Hill, 1978; Nardulli and Stonecash, 1981). I presume that this is also the pattern that prevails in the center cities included in this study. This personnel allocation pattern has been interpreted as providing higher levels of

Table 2
An Overview of the Findings

| | Q1: Who is more advantaged in the center cities? | Q2: Are the suburban patterns an improvement for both? | Q3: Are the suburban patterns relatively more equal as evaluated by: | | Least Difference Criterion |
|--|--|--|--|-----------------------|----------------------------|
| | | | Maximin Criterion | Ratio-Criterion | |
| Homogeneous Neighborhoods A vs. C Relationships | | | | | |
| 1. Victimization Rates | Whites | Yes | Yes | Reversal in advantage | Reversal in advantage |
| 2. Reported Response Time | Whites | Yes | Yes | Reversal in advantage | Reversal in advantage |
| 3. Perceived Risk of Crime | Whites | Yes | Yes | Yes | Yes |
| 4. Citizen Ratings | Whites | Yes | Yes | Yes | Yes |
| A. % Age Outstanding | Whites | Yes | Yes | Yes | Yes |
| B. Mean Satisfaction Scale | Whites | Yes | Yes | Yes | Yes |
| C. Average Impartiality Scale | Whites | Yes | Yes | Yes | Yes |
| Mixed Neighborhoods B vs. D Relationships | | | | | |
| 1. Victimization Rates | Blacks | Yes | Yes | Yes | Yes |
| 2. Reported Response Time | Whites | Yes | Yes | Reversal in advantage | Reversal in advantage |
| 3. Perceived Risk of Crime | Equal | Yes | Yes | Equal | Equal |
| 4. Citizen Ratings | Whites | Yes | Yes | Yes | Same |
| A. % Age Outstanding | About Equal | Yes | Yes | No | No |
| B. Mean Satisfaction Scale | Whites | No | No | No | No |
| C. Average Impartiality Scale | Whites | No | No | No | No |

services for black residents within center cities. These studies, however, did not examine the outputs resulting from the allocation of input resources.

In our own earlier studies, we have consistently found that small- to medium-sized police departments are able to produce higher levels of service using fewer input resources than large, center-city departments. As shown in the present analysis, suburban police agencies are able to respond faster and keep victimization rates lower than larger, center-city agencies, even with lower expenditures. Thus, what appears on the surface to be re-distributive loses its re-distributive connotation when one looks at the results produced.

In addition to the possibility that larger police departments are just not as efficient in producing neighborhood level police services, there is also the possibility that larger police departments are not as responsive to the needs of black families living in predominately black, center-city neighborhoods. Black leaders have repeatedly charged large, central-city police departments with protecting wealthy white families and center city businesses from black residents while not providing genuine services to black residents themselves.

It also appears that citizens living in smaller jurisdictions tend to have a better knowledge about local government and to utilize voice options more effectively. For example, in the neighborhoods included in this analysis, a much higher percentage of suburban respondents know the police that serve their neighborhoods well enough to call them by name than do respondents living in center-city neighborhoods. As shown on Table 3, three out of five black residents living in a homogeneous, suburban neighborhood know a policeman well enough to call him by name while only one out of five black residents living in similar, center-city neighborhoods have the same knowledge of local police. In mixed neighborhoods a similar pattern exists.

Citizens living in the smaller and separately incorporated municipalities also tend to call upon police more frequently for information or for assistance in matters that are not crime related. Thus, they interact with police more extensively in noncrime related events. Further, when citizens in separately incorporated suburban cities have a complaint about police services, they are more likely to complain than their neighborhoods living in central cities. Still further, when they do complain, they are more likely to talk with the mayor or the police chief directly than their central-city counterparts.

Table 3
Percentage of Respondents Who Know Police

| <u>Respondents Living in:</u> | <u>Suburban Cities</u> | | <u>Center Cities</u> | |
|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|
| | <u>Black Neigh- borhoods</u> | <u>White Neigh- borhoods</u> | <u>Black Neigh- borhoods</u> | <u>White Neigh- borhoods</u> |
| <u>Homogeneous Neighborhoods</u> | 59 | 32 | 22 | 16 |
| N | (106) | (574) | (817) | (1,822) |
| <u>Mixed Neighborhoods</u> | 47 | 42 | 19 | 15 |
| N | (326) | (296) | (303) | (440) |

Because I have found relatively better and more equal services provided to low-income, black families in suburban neighborhoods, as compared to central-city neighborhoods, does not mean I wish to deny the existence of racial discrimination within suburban jurisdictions. Racial discrimination is a tragic fact of American life and exists both in suburban and central-city neighborhoods. However, eliminating suburbs may not be the most efficacious public policy to achieving improved urban services for racial minorities and poor families in general. It is clear from the results of this analysis that low-income black families receive very substantial benefits (even greater than low-income white families) by moving to low-income neighborhoods located in suburban jurisdictions.

FOOTNOTES

1. Schneider and Logan calculated a location quotient for each income group in their sample. This quotient was the ratio of the number of local families in an income group to the number that would be in that suburb if the group were distribu-

ted among suburbs according to their population sizes. They consider a suburb to have an overconcentration of a particular income class when its location quotient exceeds 2.0.

2. Two-officer patrol cars are frequently justified on the grounds of increasing the safety of police officers. However, given the practice of sending back-up patrol units for any potentially dangerous calls for service, no evidence exists that assigning two officers to a patrol unit increases officer safety. See Boydston, Sherry, and Moelter (1977).
3. The evaluation index is composed of responses to the following three questions:

When the police are called in your neighborhood, in your opinion, do they arrive very rapidly, quickly enough, slowly, or very slowly?

How would you rate the overall quality of police services in your neighborhood? Remember, we mean the two or three blocks right around your home. Are they outstanding, good, adequate, inadequate, or very poor?

Do you think that your police department tries to provide the kind of services that people in your neighborhood want?

The scores on this index could range from 3 to 12.

4. This index is composed of responses to the following three questions:

The police in your neighborhood are generally courteous. Do you agree or disagree? Do you feel strongly about this?

The police in your neighborhood treat all citizens equally according to the law. Do you agree or disagree? Do you feel strongly about this?

Policemen in your neighborhood are basically honest. Do you agree or disagree? Do you feel strongly about this?

The scores on this index could range from 3 to 15.

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SOCIAL STRUCTURE AND SOCIAL PRAXIS IN INTERORGANIZATIONAL POLICY ANALYSIS

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We propose here a dialectical approach to interorganizational policy analysis. The approach is distinguished by the intention to locate interorganizational policy networks within totalities (or total social formations) and to construct a basis for an emancipatory praxis attacking the social structures which shape and limit policy.

Our procedure is first to construct a critique of the prevailing approaches to interorganizational policy studies and then to outline a program of research questions based on the dialectical view. The proposed program transcends the prevailing approach within a more encompassing perspective. We do not simply invalidate the prevailing approaches. Rather, we try to reveal their limited character and location within a total social formation.

INTERORGANIZATIONAL POLICY RESEARCH: A CRITICAL ANALYSIS

Interorganizational structures involved in the formation and implementation of public policies are the focus of a growing body of scholarly work. This emerging field of study joins policy analysis and interorganizational analysis, providing a distinctive, interorganizational approach to the problems of making and implementing public policy.

The approach grew at least partly out of studies of policy implementation (e.g., Pressman and Wildavsky, 1973) where the importance of interorganizational divisions of labour, power blockages, and coordination problems have been shown to be crucial determinants of the outcomes of policies. It received impetus too

from the efforts of interorganizational theorists to apply their theoretical constructs to concrete, practical problems. (A recent manifestation of this tendency is Hall and Quinn, 1983). Still another source, as Barrett and Fudge (1981) point out is the move of students of comparative politics toward behavioral studies.

A number of fissures cut across the emerging field. There are prescriptive versus descriptive, rational versus behavioral, and top-down versus bottom-up divisions. It would be difficult to identify amidst such diversity a single, coherent, fully developed approach that dominates the field.

We intend to add to the diversity of the field by proposing a dialectical approach which is distinguished from others in two essential respects: its founding on an emancipatory praxis and its location of interorganizational policy networks within total social formations or totalities.

Interorganizational policy analysis has been built for the most part on a practical commitment to change within the limits of a political-economic social formation. The fundamental structural features of the social formation remain out of focus. The capitalist organization of the economy, the state, and state-economy relationships are not typically examined as sources of policy formation and implementation. Rather, these are an assumed context within which interorganizational problems occur and must be resolved.

Some policy analysts deal with this problem by assuming a stance of value neutrality and ignoring the larger context of their work. This seems to characterize the work of the Ostroms (V. Ostrom, 1973; E. Ostrom, 1983) and others influenced by the public choice perspective. Here the biases imposed by a commitment to piecemeal change within the limits of a particular social formation are allowed to enter unannounced and unacknowledged, perhaps even unrecognized into the research process. Nevertheless, a preference for small, decentralized organizations in the public sector and for the accountability of public organizations to the economizing choices of citizens immediately affected or served by the organizations seems clear despite the repeated avowals of value neutrality and scientific method (see E. Ostrom, 1983: 335-337).

Mancur Olson's recent book (1982) extends this basic logic to the whole array of organizations, especially business and government organizations, forming the macro-structure of the society. His analysis suggests that the continuous build-up of negotiated agreements between interests gradually drags down the productivity of a society and throws it into decline. The practical implication is that societies need periodic reorganizations of

their interorganizational structures to make them more efficient and competitive.

Within this overall approach, it is assumed that interorganizational structures are administrative arrangements which are only loosely coupled to the fundamental features of the political-economic order. So, these structures can be changed independently of those fundamental features, and indeed, they must be changed to facilitate solutions to problems of coordination, planning, and policy-making of the advanced industrial societies. Some go on to argue that the centralized, bureaucratic organization of the state - both in capitalist and socialist societies - prevents solutions to important policy problems. Interorganizational relationships, in this view, can provide creative, flexible, and adaptive alternatives to bureaucracy.

The latter response seems consistent generally with Weberian theories which treat the rationalization of administrative apparatuses both in the private and public sectors and in socialist as well as capitalist societies as the central problem of the advanced industrial societies. Rationalization, including the elaboration of hierarchical authority, rules, and specialization in the pursuit of a narrow technical efficiency, is thought to be a pervasive feature of the industrial societies. These writers rattle Weber's "iron cage" by looking for small-scale, spontaneous, adaptive, bottom-up solutions such as interorganizational networks. This includes, for some, a criticism of centralized state power which is linked to conservative political ideologies and programs. For others, however, it involves an increasingly active but decentralized and open state apparatus. This model is close to Etzioni's (1968) notion of an "active society" which is highly mobilized through participation of citizens but also capable of rationality in planning and policy making.

These several approaches have in common a tendency to look for variations in policy formation and implementation structures which are manipulable within the limits of an established political-economic order. While there are more conservative and less conservative versions of this stance, the general tendency is to ally interorganizational policy analysis with order rather than change. In its more conservative versions, where the reliance on public choice theory is strongest (and thus a formalization of the capitalist ideology that institutional arrangements result from the free choices of utility optimizing individuals is placed at the core of the theory), interorganizational policy analysis becomes an instrument for limiting the power of the state.

The more liberal versions, by contrast, link interorganizational policy analysis with the needs of advanced industrial societies for societal planning and guidance or as Mayntz and

Scharpf (1975) call it "active" policy making on the part of the state. Interorganizational structures, in this view, can be rearranged to overcome power blockages which inhibit the development of a steering capacity. The interorganizational arrangements are then treated as an administrative apparatus at the level of the whole society which is loosely coupled to and partially detachable from the basic political-economic arrangements of the society. Put otherwise, the interorganizational structures of a capitalist (or socialist) society may be and should be extensively revised without disturbing the capitalist (or socialist) rules governing its institutions. Policy studies may reveal points at which the interorganizational structures are coupled to the institutional arrangements, but these constitute limits to change and, in a sense, boundaries of theoretical concern.

Interorganizational policy analysis, through this approach, may be seen as a means of reproducing a capitalist (or socialist) order. It is used to find routes to change that solve significant problems of the societies while leaving fundamental rules intact. It may help in the management of the contradictions of those societies. It may help in the management of interests and may become the stock-in-trade of a new breed of technocrats. The approach seems compatible with the theory that both socialist and capitalist societies face problems of bureaucracy, including not only rules, hierarchies, and specializations but also entrenched domains and blocked resource channels that inhibit adaptive change (Crozier, 1973; Crozier and Friedberg, 1980; Mayntz and Scharpf, 1975; Scharpf, 1978, LaPorte, 1975). Indeed, this approach seems to extend the process of rationalization beyond bureaucracy (i.e., rejecting bureaucracy where other arrangements are more efficient) and to provide ways of rationalizing the whole array of organizational and interorganizational structures (Heydebrand, 1983: 100-108). An interest in rationalization, located at the level of the whole society provides a basis for revising the entire administrative apparatus of hierarchies, domains and networks.

This stance leads to a "directed functionalism" in which politically defined purposes are the reference points (rather than equilibrium states) for the assessment of functions and dysfunctions. The contributions of organizational and interorganizational structures to the realization of the purposes are examined (Scharpf, 1978: 349). Mayntz and Scharpf (1975), for example, direct their book toward the achievement by the society of a capacity for active policy making. The purposes themselves and the actors generating them remain outside the focus of theory. As Habermas (1975: 137) argues, the research addresses the administrative limits on rationality and lays aside the limits imposed by the political-economic order. Scharpf, in fact, acknowledges that constraints imposed by the political-economic order may be discovered in policy studies, but he sees these setting boundaries

upon policy alternatives (Scharpf, 1978: 363). In a manner similar to organization theory, interorganizational policy analysts pursue generalizations about the effectiveness of particular social structures for achieving purposes which remain outside their theoretical grasp. On the basis of such a program, recommendations to policy makers and implementers might be constructed to show what steps to take to create more effective policies. (For example, see the guidelines recommended by Sabatier and Mazmanian, 1981). Such a program might reveal limits or constraints deeply embedded in the social formation (e.g., in capitalism as a mode of production) thus getting at systemic constraints hard to overcome (Scharpf, 1978: 14). The orientation, however, is to seek reform of administrative arrangements within the basic outlines of the existing social formation.

We propose, in developing a dialectical approach, to go beyond the formulations outlined above in two interrelated ways. We propose a more radical practical concern, orienting research and theory to the liberation of human potentiality. This orientation leads to the second modification, a totalizing analysis in which interorganizational networks are set within the context of total social formations.

DEVELOPING THE DIALECTICAL ALTERNATIVE

Basic to a dialectical approach is a concern with praxis, i.e., the effort to overcome existing limitations on human development. In this view analysis should look for openings to break through to a fundamentally different social structure instead of taking the established arrangements as the boundaries of concern (Markovic, 1974). A critical or radical policy analysis would be based on an emancipatory concern with breaking the hold of an existing system of domination. Research rather than looking for ways in which fundamental challenges to the established order might be made. This does not necessarily mean revolutionary actions. It includes so-called "nonreformist reforms", i.e., reforms which undermine or erode principles or patterns crucial to the existing order. Identifying such reforms would require a conception of social organization which distinguishes the fundamental, deep structures from the surface ones. It would require too a framework which identifies the fundamental processes and generative mechanisms (Bhaskar, 1979) guiding the development of the social structure, thus dealing with possibilities for social change that are grounded in the developmental tendencies of the system. Further, the social location of policy analysis itself must be reflexively theorized within the developmental tendencies of the system. Finally, the analysis must look for contradictions or opposing tendencies deeply rooted in the structure of the social formation which tend to occasion crises and opportunities for fundamental change.

In what follows we will outline the main features of such an approach to policy analysis, stressing the combination of formal and contextual moves. Then we will propose an agenda of research issues for policy analysis. We draw upon the Marxist tradition, especially to neo-Marxist theories of the state, in formulating our approach. We propose gradually to build a model of the contemporary, capitalist-industrial societies within which interorganizational networks and policy sectors are centrally located. We begin here by combining the generalizing and contextualizing modes of analysis. A central contention is that a particular social formation or totality can best be understood by combining these approaches. The generalizing model provides a form; the contextualizing model fills it with content. The concrete social formation combines form and content in a tightly wound, interwoven totality. While for some purposes we might wish to abstract form from content by highlighting the generalizing model, our understanding of the social formation is best accomplished through grasping the interweaving of form and content in the concrete social totality. Our abstracted analysis based on pulling form away from content (and context) may help us to see continuities between this and other similar totalities. But we must not mistake the formal, abstract model for the totality itself.

The abstracting tendencies of interorganizational analysis yields "forms", i.e., general conceptions of networks and their logics. In previous work, for example, Benson (1975) formulated a "political economy" model of networks emphasizing the strategic resource interdependencies underlying relations of conflict, coordination, etc. between organizations. This abstracted form, the interorganizational network conceived as a political economy, was developed within a particular social formation, modern American capitalism characterized by a particular form of state apparatus. Indeed, many of the empirical events on which the model was based were generated by social reform programs within the various levels of the American capitalist state, specifically antipoverty programs. Yet, the model we think, can be usefully applied in quite different settings, even including state socialist societies (see Kolarska, n.d. and 1978, for studies in Poland highlighting similar interorganizational political economies). Developing and refining models of this kind is an important generalizing activity which abstracts components from their contexts.

It is important that interorganizational analysis should also have a contextualizing component in which such abstract forms as the network conceived as a political economy are located within particular social formations. In this way we may understand networks more adequately by seeing how they are shaped by a particular context.

Contextualizing analysis of networks will also contribute to

an understanding of total social formations. Networks appear to be an important component of social organization in capitalist- and socialist-industrial societies. This may account for the usefulness of abstracted network models in diverse settings. Yet, if we are to have an adequate comparative grasp of social organization, we must contextualize the networks. Furthermore, an adequate grasp of each social formation as a totality is necessary to a praxis of radical transformation even if that is pursued through nonreformist reforms. An abstracted model of networks alone will not contribute to such a praxis.

Much of contemporary policy analysis is based on the abstraction of forms - administrative structures, games, networks - from the totalities in which they are embedded, i.e., advanced capitalist societies. The analysis of "games" by Crozier and Friedberg (1980), for example, is an effort to pull an aspect of social reality from its context and, of course, to argue that in this exercise the core features of the social reality have been isolated. By this means natural resource policy making in a particular society may be characterized as a series of interconnected games, very much like other sets of games in that they have players, stakes, power bases, bargaining, negotiations, payoffs, and rules. We may even compare such abstracted games between societies. But there is a danger here that we will substitute the abstracted games for the whole of the reality in which they are embedded. We may, for example, be so enthralled by the observation that both capitalist and socialist societies have games or networks that we fail to grasp the complex ways in which the games are different by virtue of their imbedding in the complex, multileveled interweaves of distinct totalities. Abstractions of this kind are valuable sources of insight but are also dangerous distortions. Indeed such distortions may be used to advantage by politicians, bureaucrats, and others who wish to manipulate social situations by disguising or hiding important features of the totality. They may, for example, reorganize "games" while concealing the implications of the reorganizations for class relations. They may create an elaborate world of reifications in which interorganizational games replace the concrete specificity of the totality. This sort of thinking occurs also when we abstract an administrative apparatus, a technology, or a class structure from the flux of events and treat it as a thing rather than an abstraction. We can see this in the pursuit of generalizations based on the formal properties of abstracted structures such as bureaucratic organization. "Bureaucracy", the abstraction, is of course much neater and more coherent than observable, everyday bureaucracies. So it is also with interorganizational networks, policy sectors, and games. The worrisome thing in all of this is that the abstract forms may become part of an abstracted, decontextualized way of thinking about and manipulating the social world.

The key to formulating a dialectical approach is in how the relation between form and content is conceived. A dialectical approach would be focused on the relational linkages between form and content, i.e., with the way in which formal features of social structures are shaped by institutional contexts. Specifically, we must deal with the penetration of interorganizational policy structures by their development within contemporary capitalist societies. We must also understand how the emergence of extensive interorganizational networks shapes contemporary capitalism. We must develop, then, a conception of contemporary capitalism as a totality within which interorganizational networks are prominent features. And, our formulation must attend to the specific points at which capitalist assumptions and limits are structured into emerging interorganizational policy systems.

A PROGRAM FOR INTERORGANIZATIONAL POLICY ANALYSIS

Here we suggest a program of theoretical tasks in the development of a dialectical analysis of interorganizational policy networks. Each step merely names and elaborates upon a set of tasks to be pursued.

TYING INTERORGANIZATIONAL NETWORKS TO STAGES OF CAPITALIST DEVELOPMENTS

The task here is to locate the emergence of interorganizational policy systems historically, looking for the ways in which such systems are constructed and reproduced within an ever developing mode of production, capitalism. Ultimately, we would like to show how networks of organizations are connected to, indeed are integral parts of, the reproduction of the capitalist mode of production. One approach to this problem is to conceive of capitalism itself as a formation consisting in part of relationships between organizations, e.g., between corporations and public bureaucracies. The shifts in the character of the interorganizational relationships, e.g., toward more extensive and intensive interorganizational networks, may be seen as aspects of the reproduction (including modernization) of capitalism (Lefebvre, 1976; Heydebrand, 1983). Corporatism, for example, may be seen as a form of social organization of capitalism within which relatively centralized control of the social formation is exercised through an apparatus of interorganizational linkages, rather than through bureaucratic authority. Corporatism, then, would be a specific configuration of interorganizational relationships (Heydebrand, 1983: 103, suggests a similar connection).

RELATING THE DIFFERENTIATION OF INTERORGANIZATIONAL POLICY SECTORS TO THE FUNCTIONAL PROBLEMS OF CAPITALISM AT PARTICULAR STAGES OF DEVELOPMENTS

We could argue, for example, that capitalism encounters a series of interrelated functional problems which demand solutions but which cannot be permanently resolved within the limits of the system. In this sense the capitalist system may be conceived as a contradictory arrangement generating needs or functional requirements which cannot be met. To some extent such limits are imposed by the contradictory character of the needs or requirements. That is, the resolution of one functional problem tends to exacerbate other problems. So, for example, we may argue that the emergence of an elaborate "welfare state", including a number of differentiated policy sectors is a response to problems of legitimation of the capitalist system. Yet, the welfare state solution tends to contradict the system's need for capital accumulation e.g., by diminishing motivation to accept employment, by raising the costs of government programs, and by generating a number of organizations which do not operate according to capitalist principles (e.g., producing services in response to need rather than ability to pay). The differentiated welfare state organizations, then, are caught in a contradiction. Their emergence and expansion responds to the legitimation requirements of the system, read more clearly in certain time periods because of vocal working class movements (i.e., class struggle). Their development and autonomy, however, run into limits defined in part by the accumulation requirements of the system. So, the welfare system expands and contracts, gains autonomy and then is subordinated anew. These fluctuations reflect that the system is caught in the midst of opposing tendencies, contradictions which must be addressed but which cannot be resolved (Offe, 1975, has developed an argument that influenced this formulation).

The recent differentiation of energy agencies in the U.S. may be symptomatic. Their emergence draws together activities that were previously handled in other ways under other labels and also creates some new functions. This seems to result from system problems confronted within exogenous limits, i.e., energy supply problems. The whole process is guided by and limited by capitalist system limits. That is, solutions to energy problems have to be consistent with the accumulation requirements of capitalism or they will not be politically viable.

ANALYZING THE RELATIONSHIPS BETWEEN POLICY PARADIGMS AND THE STRUCTURE OF THE LARGER POLITICAL ECONOMIC SYSTEM

Practices followed within a specific policy sector (e.g., health care) are systematically linked to each other, forming a reasonably coherent pattern. The pattern or paradigm constitutes a way

of conducting the work of the policy sector which is more or less "in force" at a given time. A certain model of health care, for example emphasizing individualized treatment, high technology, and fee-for-service, prevails in the U.S. (see Navarro, 1978, for a Marxist analysis of health care in capitalist societies).

Paradigms consist of selections from available alternatives. In the case of health care the available alternatives may include relative levels of emphasis upon public health or individualized treatment. A series of choices within an array of available alternatives delineate a policy paradigm. The components of the paradigm are to some extent functionally related so that one choice in an array tends to limit other choices, e.g., medical dominance in the governance of the health care system (in the relations of production of the system) tends functionally to favour a fee-for-service system. That is, the institutionalized dominance of the medical profession limits the range of choices in other aspects of the health care paradigm. Many components of a paradigm, however, are based on separate compromises, only loosely coupled to each other. Thus, many inconsistencies find their way into a system. There is probably a considerable range of tolerance, i.e., variations which do not upset the system's balance. There is indeed probably more structural tolerance than the ideologies of participants acknowledge. Freidson (1970), for example, argues that medical dominance need not extend to the overall governance of the health care system, that the system will tolerate other forms of governance without a necessary disruption bringing on ineffective care. The research program of Scharpf (1978) appears to be focused on the tolerances of the system and to assume that these are quite broad.

It is important, nevertheless, that research be addressed to the limits imposed by the larger mode of production. To some extent these limits are imposed from outside a particular policy sector. For example, the sector may fail to be legitimated or funded or otherwise supported from outside if it extends beyond such limits. It may be argued, for example, that the antipoverty programs of the U.S. government in the 1960's lost financial support and autonomy when some of their activities challenged fundamental structures of the society, e.g., through community organizing and class action results. The reaction was not merely the functional response of an abstract equilibrium-seeking system. Rather, it involved the mobilization of political opposition and the marshalling of power resources lodged in the intergovernmental structure. The governors of the states, for example, used their political resources to assure curtailment of the autonomy of the poverty program. (For a related argument see Benson, 1971).

The limits are also lodged in the everyday practices of participants in the sector - elected officials, administrators,

practitioners of various kinds. Their everyday activities, the assumptions they make, the ideologies within which they function - all to these tend to reproduce some of the essential features of the larger social formation. In vocational rehabilitation programs in the U.S., for example, the agency ideologies and routine practices tend to reaffirm capitalist assumptions about work, achievement, and occupational mobility. Rehabilitation services are offered only to those who by reason of physical or mental infirmity cannot participate in the regular labour market. And, the accepted objective of services is to bring recipients to a level of functioning that permits their employment and thus a return to the regular game. The everyday practices, it may be argued, help to reproduce capitalist relations of production. (For a study of interorganizational relations including vocational rehabilitation, see Benson, Kunce, Thompson, and Allen, 1973).

SHOWING HOW INTEREST AND POWER STRUCTURES ARE DELINEATED BY THE APPARATUS OF ORGANIZATIONAL AND INTERORGANIZATIONAL RELATIONSHIPS FORMING A POLICY SECTOR

An interorganizational complex or sector consists of a large number of social locations delineated by authority relations (relations of dominance and subordination), by functional interdependence (or strategic contingencies), and by divisions of labour (differentiation). These include intraorganizational and interorganizational relations and are not confined to the official or formal organization of the complex. Interdependence, for example, often develops between segments of two or more organizations in ways neither intended nor anticipated by formal structure. So organizations are linked not simply through their separate authorities and as units but also through extensive ties between inclusive segments, e.g., departments, programs, and field workers.

Social locations delineated in this way become bases of group formation. Routine practices and shared assumptions develop. Common concerns and ways of looking at issues develop. Groups define their interests differently as they are located in different social locations and so encounter the problems of (say) environmental protection in unique ways. Callon and Vignolie (1975) have used the term "logics of action" to denote these distinct social worlds and have advocated a research strategy of "breaking down the organization", i.e., understanding it as a loosely linked collection of subjectively defined worlds.

Organizational and interorganizational structures also create multiple bases of power. Interdependence is an important basis of power resources, as a number of analysts have pointed out. Also important, however, is a more politicized form of power where segments form coalitions based on interest commonality and lend support to each other in political games. Proponents of nuclear

energy, for example, are well aware of the niches of the interorganizational policy arena where support for their position is lodged. They can further their policy preference by strengthening these segments.

Maintaining a policy paradigm is an ongoing political process. Each paradigm rests upon a power structure which keeps it operative. But a paradigm also generates bases for opposition movements. There is an continuous struggle to defend an established paradigm. Reorganizations of structure are often associated with paradigm struggles, as each side attempts to build a political base for its preferred paradigm.

Analyzing power games of this sort must be pushed further toward an understanding of how the games are connected to the contradictions and crises of the total social formation. The interest and power structures of the sectors may be connected, to some extent, to class conflict and class struggle. Some of the interest and power bases within interorganizational policy sectors are closely linked to class interests. So, for example, in dealing with welfare state issues such as health care or income maintenance there is a split between classes demanding services and classes supporting services through taxes. These opposing class interests get embedded in the interorganizational structures of the arena, with various organizational segments supporting each side. Other interests complicate the scene, however. Some capitalist firms are, of course, providers of health care; their interests tend to be in conflict with the more general interest of the capitalist class in reducing costs and taxes. (For a Marxist analysis of the welfare state see Gough, 1979).

Class interests also get entangled in the interorganizational power structures supporting a policy paradigm. In the case of the U.S. antipoverty program, it seems clear that the paradigm alternatives were linked to class interests. The preference for providing services - job training, job development, child care, dental services, etc. - as opposed to community organizing and class action suits seems clearly to orient the program toward dominant class interests. The social unrest of the poor was channelled into the expansion of already accepted service programs delivered by professionally trained workers under the authority of bureaucratic organizations subject increasingly to political control by elected officials of state and local governments (Benson, 1971).

CONCLUSION

A dialectical approach to interorganizational policy analysis, based on a praxis of overcoming the limits upon human development structured into particular social formations, focuses research, on the production of policy within social totalities. Interorgani-

zational relationships involved in making and implementing public policy are understood both as abstract forms (games, networks, arenas, etc. with formal properties) and as integral parts of total social formations (capitalism, socialism). The total social formation is expressed partly in the structuring of interorganizational games, networks, and arenas. This orientation leads to a distinctive program of research issues. The development and structure of interorganizational policy sectors are to be connected to the stages of development and functional problems of capitalism. The pattern of work practiced in a sector, its paradigm, is to be connected to policy limits imposed within a particular political-economic system. Finally, the interests and power structures underlying a policy paradigm are to be related to the social organization of the sector, e.g. its structural differentiation creating interest and power bases. The relation of the political structure of the sector to the structural divisions of capitalist society, e.g., its class structure, are to be sought.

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INTERORGANIZATIONAL ANALYSIS: A FIELD FOR SOCIAL PRAXIS BASED ON
SOCIAL STRUCTURE, OR STRATEGIC CHOICE AND RETICULIST JUDGEMENTS?
A discussion Paper in response to Kenneth Benson and Carla Weitzel

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INTRODUCTION

Kenneth Benson and Carla Weitzel's paper raises some important issues, including some points which deserve to be explored further, and others which should not be allowed to go unchallenged. Rather than simply discuss and criticize Benson and Weitzel's work in abstract terms, an attempt will be made to compare it and contrast it with that of the present author. This is perhaps especially relevant since a third party (Healey, 1979) has already expressly suggested that Benson's approach to inter-organizational analysis is to be preferred to that first put forward by the present author and others in a joint book some ten years ago (Friend, Power, and Yewlett, 1974).

Benson and Weitzel's work is essentially a fairly abstract review, or even 'overview', paper. The 'intention (is) to locate interorganizational policy networks within totalities (or total social formations)... (introduction, p. 1). The principal total social formation under discussion is contemporary Western society (late capitalism, advanced industrial society, or whatever one chooses to call it). Following a critical discussion of work in the field of 'interorganizational policy analysis', the authors proceed by seeking to outline a 'program of research questions based on the dialectical view'. The perspective adopted is claimed as more encompassing than the prevailing approach. In particular, the paper draws on neo-Marxist theories of the state to develop models of organizational and interorganizational analysis. A programme of some four theoretical tasks is then suggested:

1. Tying inter-organizational network to stages of capitalist development;

2. Relating the differentiation of inter-organizational policy sectors to the functional problems of capitalism at particular stages of development;
3. Analyzing the relationships between policy paradigms and the structure of the larger political economic system;
4. Showing how interest and power structures are delineated by the apparatus of organizational and inter-organizational relationships forming a policy sector.

One of the fundamental criticisms of other perspectives is that of excessive or inappropriate abstraction of concepts from reality: "Much of contemporary policy analysis is based on the abstraction of forms - administrative structures, games, networks - from the totalities in which they are embedded" in which is, of course, added "i.e. advanced capitalist societies". The authors continue, in the traditions of this school of thought, with an extensive critique of abstraction as an activity which, although offering valuable insights, is also likely to lead to dangerous distortions. The ironical paradox is, of course, that their own paper is itself essentially a work of abstract theorizing. Indeed, it might even be seen as primarily a contribution to science (or the extension of the frontiers of knowledge), particularly its theoretical aspects, rather than a contribution to practice (or 'praxis' if preferred).

The present author has emphasized the importance of reconciling the scientific and practical perspectives elsewhere (Yewlett, 1984). Here, to avoid a vicious circle of argument and counter-argument, the present paper will endeavour to cut through some of this abstraction by tracing some of the ideas back to specific field research and observation. This also offers an opportunity for comparison with some other field research with which the present author was personally concerned, leading to rather different conclusions about the world. Some suggestions are then mooted as to why these different conclusions have been drawn, leading back into theoretical discussion which will hopefully shed more direct light on the world.

CONTRASTING FIELD EXPERIENCES?

In earlier work alluded to in his current paper (p. 9), Benson (1975, 1973) formulated a "political economy" model of networks, emphasizing the strategic resource interdependencies underlying relations of conflict, co-ordination, etc., between organizations'. That model is based on empirical events arising in a particular context, that of antipoverty programs in the State of Missouri, USA. To be even more specific, Benson's empirical base for the study of interorganizational networks was a major study of the field of social service agencies (to adopt British usage). These were essentially agencies concerned with providing some kind of

service to a large number of individual clients, in fields such as employment rehabilitation (the placing of long term unemployed back into employment). The kinds of agency (organization) treated included both public welfare agencies (responsible for disbursements of benefits) and rehabilitation agencies (Benson et al, 1973). The general operational climate of the bodies concerned was essentially competitive. The picture emerging is one of a number of agencies all competing to provide 'human services' of one kind or another to, if not a limited number of clients, at least a fairly tightly drawn definition of a potential client group. Essentially, this provides an operational climate in which such success for any one agency is at the expense of success (or at least of potential success) by another. Funds, authority (and clients) attracted to one agency are denied to all the others. This is a classic example of the situation which, modelled in game-theory terms, has been described as a 'zero-sum' game (Von Neumann and Morgenstern, 1953); put crudely, there is only a fixed size of 'cake' to be shared amongst all contenders. Such a 'zero-sum' situation produces an emphasis on competition and conflict, rather than co-operation. In its extreme formulation, it is in the interests of one party if the other ceases to exist as an entity altogether (in organizational terms, by dissolution rather than elimination of individuals, although this latter strategy has been pursued in many historical cases).

This empirical field research site can be contrasted with another with which the present author was directly involved. This work, reported in Friend, Power and Yewlett (1974), was based on extensive field work involving detailed examination of the processes involved in the planned expansion of a small British town Droitwich in the West Midlands to absorb population growth from a nearby conurbation, in the late 1960s and early 1970s. This was much the same period, incidentally, as Benson et al's empirical research in the USA. The organizational context and climate, however, was rather different. Here we did not primarily see a field with a plurality of competing agencies, all seeking control of the same 'territory', although there were a number of quite important specific instances of competition. Rather, we saw a complex web of mainly, but not exclusively, public sector agencies, each with a quite closely defined sphere of interest. These spheres might be defined by reference to provision of a particular service or package of services (e.g. water, health care) or primarily by reference to a geographical area, within which a wide range of services are provided. The majority of these agencies, which had varying forms of political accountability, had a statutory monopoly for the provision of particular services within their 'patch', a very different situation indeed to that researched by Benson et al.

Of course, the situation studied was not conflict free. Indeed,

that a measure of conflict between the various parties concerned was present is a matter of record. First, at the detailed level, there were some overlaps of service provision, e.g. competition between gas and electricity to provide domestic heating; second, and perhaps more fundamentally, even where such direct competition did not arise, there were conflicts of interest between differing agencies, and their several political constituencies. Indeed, one of the sharpest conflicts of all, between the urban authorities' desire for peripheral expansion, and the adjacent counties' desire to appropriate population and property tax income by 'remote overspill', surrounded the very negotiation of the planned expansion agreement itself. Moreover, these latter conflicts might quite readily be interpreted, by an analyst of Marxist persuasions, as essentially reflecting attempts by comparatively privileged rural residents to resist encroachment by the disadvantaged urban masses. As a further complication, the UK Central Government, which had a strong interest in seeing some suitable solution to the West Midlands conurbation housing problem agreed, possessed a powerful trump card. The appropriate Government minister could, under the New Towns Acts, designate Droitwich as a New Town, in which case responsibility for the expansion would be taken out of local political control and vested in an independent New Town corporation - appointed by the same Government. This was no idle threat, as such a body had been created in nearby Redditch following failure to agree. Such an imposition was regarded as highly undesirable by local Droitwich politicians at both County and District levels. Such potential direct action could certainly be seen as contributing considerable pressure to come to some agreement on the parties involved. Nevertheless, the over-riding ambient circumstance of the several bodies involved, particularly in the period following the formal signature of the Droitwich Town Development Agreement in late 1963, remained essentially one in which they all had to co-exist - there was only the remotest possibility of any one effectively gaining control of another, let alone eliminating it.

Susan Batty (1977, 1983) has used the Droitwich case material as a vehicle for exploring the potential role of game-theoretic concepts in urban planning and design. Batty postulates three levels of inter-acting conflict over the planning issues involved which can be modelled by a 3-level inter-acting game structure. Without going into the details of this work, the key point is that 'the games are such that the players are able to achieve more in total by co-operating: in other words they are non-zero-sum games'. (Batty, 1983). Conflicts of interest in other words are not here the over-riding influence, but rather this is a context in which co-operation plays a major role.

CONTRASTING THEORETICAL UNDERPINNINGS!

In seeking to relate these divergent field work experiences back to more theoretical concerns, two key factors come to mind, which can perhaps be summed up as aphorisms: first, 'what you find' depends on what you look at' and second, 'what you get out depends on what you put in'. Both of these are of course over-simplifications, but they do offer food for thought when we seek to look at real world situations. Taking the first, and perhaps more obvious, factor, the general inter-organizational climate differed substantially between the two field situations examined. Benson's research situation, involving a dominant element of direct competition, led naturally towards a conceptualization of competitive, zero-sum conflict, in which the main emphasis is on securing resources. In contrast, the situation studied by Friend, Power and Yewlett was rather more complicated for analysis.

Before studying these field study rooted differences further, however, it is also important to remember that 'what you get out depends on what you put in'. To express this in more formal academic language, we must remember that conceptualization, in the interorganizational field as elsewhere, depends on an integration of pre-existing theoretical notions with empirical observations. It is thus important to examine the theoretical stance underpinning the conceptualization as well as the empirical data. Benson's theoretical stance, as he repeatedly states in his work, is rooted in the Marxist, especially neo-Marxist, tradition. When discussing interactions between organizations, this leads him to the position that 'sentiments and co-operative interactions are treated as a superstructure, analogous in a loose way to the Marxian conception. Orderly relationships are hypothesized among phenomena at the level of superstructure, e.g. between consensus and co-operation. The phenomena at this level however are hypothesized to be controlled in the final analysis by more fundamental considerations of resource acquisition and dominance'. (Benson, 1978, p. 73-9, emphasis added). But the 'final analysis' is essentially a choice of the analyst; or in other words, whatever is observed is assumed to be controlled by factors which are defined as more fundamental. To suggest this is perhaps a little unfair, but there is a distinct danger of taking key factors outside the realm of testable propositions.

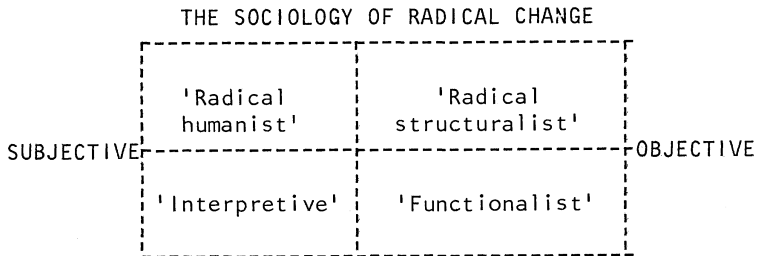
The approach developed in Friend, Power and Yewlett (1974), in contrast, is essentially decision-centred, focussing on the difficulties faced by actors in making decisions (or choosing between courses of action). This approach, drawing substantially on earlier work by Friend and Jessop (1969), has become known as 'Strategic Choice'. Space prevents a restatement of these ideas in depth: Friend, 1976, provides a useful precis for new readers. In barest outline, the earlier work identified the importance of

uncertainty in any difficult decision making situation and led to the suggestion that uncertainties could usefully be divided into three distinct classes, reflecting different appropriate strategies for managing them. These were 'uncertainties in the operating environment' (abbreviated to UE), leading in the direction of survey, analysis, or predictive modelling; uncertainty concerning the balance of underlying political values, leading towards policy soundings (UV); and uncertainties of a more structural nature, arising from a belief that the issue under consideration was too narrowly defined, and should realistically be considered in conjunction with other 'related fields of choice' (UR). Consideration of the complexities of inter-organizational decision making in Droitwich led to the development of three further concepts. First, that of a 'policy system', any recognizable set of relationships between actors in a decision process sharing both a legitimate concern in some identifiable problem area, and a nominal allegiance to some set of policy guidelines. Second, that of the 'decision network', comprising more flexible and adaptive communication arrangements between decision makers with common interests in a particular problem area, but not necessarily any shared policy guidelines. Third, that of the network managing or 'reticulist' judgement, argued to be essential to the creativity and adaptiveness of decision networks as a vehicle of strategic planning.

Testing these concepts against the field situation reported above led to a number of general propositions about the characteristics of inter-corporate planning (Friend, Power and Yewlett, 1974). These culminated in the proposition that 'the practical influence of public planning depends on the disposition among agencies of skills and resources relevant to the selective activation of inter-agency networks' (p. 343, 372) leading to the injunction to 'regard the disposition of resources relevant to the support of reticulist activities as an explicit field of political choice'.

Whether a fundamentally Marxist position is correct at one extreme or even a tenable position at the other is, of course, one of the major debates in social science today. This is not the place to reopen this debate, although in passing it should be noted that the materialist emphasis of such work does tend to lead inexorably towards conclusions such as that cited. Of more immediate relevance to the present discussion is the work of Burrell and Morgan (1979). Reviewing work in the field of Sociology, they identify some four different schools of thought and research, which they call (after Kuhn, 1962) 'sociological paradigms'. They point out that each of these rests on a different set of assumptions about the world regarding ontology, epistemology, human nature (in particular the relationship between human beings and their environment) and methodology (in particular whether

nomothetic or ideographic, reflecting emphasis on the search for universal laws in traditional 'hard science' fashion or an emphasis on subjective experience and the 'creation' of reality). These differing assumptions are portrayed as reflecting differing positions on two important dimensions: an emphasis on 'subjective' versus 'objective' experience; and an emphasis on the 'sociology of radical change' versus 'the sociology of regulation'. These two dimensions define four possible paradigms for the analysis of social theory (Figure 3.2, p. 22):



The point of interest here is that a Marxist position reflects a particular set of choices on these dimensions, likely to be different to that of other workers. In particular, the present significance of Burrell and Morgan's work lies in their conclusion that people working in different paradigms tend to argue through one another rather than with one another. To put it more academically, each party chooses to hold such debates as do occur on its own ground, in terms of its own conceptual frameworks, whereupon the opposing point of view becomes at best erroneous, at worst incomprehensible and nonsensical. As they themselves put it: 'The division between Marxist theorists and orthodox sociologists is now so deep that they either ignore each other completely, or indulge in an exchange of abuse and accusation regarding the political conservatism or subversiveness commonly associated with their respective points of view. Debate about the intellectual strengths and weaknesses of their opposing stand points is conspicuous by its absence' (p. 19, note 2).

One of the aims of the present paper is perhaps to 'avoid this fate by referring abstracted theoretical positions back to concrete field research situations. Whilst it has been argued that field research conditions do not of themselves directly give rise to particular abstractions, they clearly have a major influence. Although the present discussion has been essentially concerned with theoretical issues, and the rooting of that theory in empirical observation, we must not forget that an ultimate aim of the work in both cases is to change practice. Research, and subsequent discourses such as those discussed here, can impact on practice in

two ways; one direct, the other more indirect, even insidious, but possibly more important.

The direct impact arises from the direct recommendations of the respective researchers, either to individual practitioners in agencies, or to the wider debate about the institutional structure, e.g. Benson et al's (1973) express 'judgement that substantial changes in the effectiveness and co-ordination of inter-organizational networks require alterations of the political economy in which the agencies are entangled' (p. 122), or Friend, Power and Yewlett's (1974) 'injunction to regard the disposition of resources relevant to the support of reticulist activities as an explicit field of political choice', (p. 348, 376, original emphasis).

The indirect effect arises from the effect, on practitioners in the field, of conceptualizations which do (or do not) present social life with a primary emphasis on conflict (especially competitive conflict) or co-operation. The insidious influence of Benson's (and others) position is that by presenting a picture of zero-sum competition at the operational level, underpinned by a theory rooted in ultimately irreconcilable fundamental conflict, the practitioner is induced to adopt an assumption of inevitable confrontation with opposite numbers. Such a stance can easily become a self-fulfilling prophecy, leading to the adoption of entrenched positions in negotiations. The dangers inherent in this have been succinctly detailed by Fisher and Ury (1981), summarized as: inefficient; producing unwise agreements; and endangering ongoing relationships between the two sides. In contrast, they advocate an approach ('principled negotiation' is their chosen label) which allows each side to a negotiation to pursue its own interests whilst still maintaining satisfactory inter-personal relations. Although this approach has been castigated as overly idealistic, the authors do in fact address such problems as intransigent opponents, and suggest strategies and overtures for inducing principled negotiations. Ultimately, however, any approach to negotiation must require at least an openness by both parties to the possibility that negotiation will lead to mutual gains, i.e. that the situation is not irretrievably (and inevitably) zero-sum.

It may indeed well be that this is one area where belief so conditions actions and behavior as to produce different outcomes, thus confirming those with commitments, in either direction, in their original beliefs. Although this is a very speculative comment, there is some empirical evidence tending to support it. See for example the work of Kelly and Stahelski (1970a, b, and c) discussed in the course of a review of experimental gaming by Colman (1982). Of course, Social Psychology Laboratory experiments are a long way from real world political processes; nevertheless there are some very interesting ideas around here. Particularly

interesting is the (empirically supported) assumption that co-operative and competitive people hold widely differing world views; competitive people were found to believe, in general, that others are uniformly competitive, whilst co-operative subjects tended to believe that some people are co-operative and others competitive. Perhaps most interesting of all: 'According to Kelly and Stahelski, competitive people have a cynical authoritarian outlook on life; they believe in and create a social environment of competitive and untrustworthy adversaries against whom they feel impelled to defend themselves by behaving competitively. Cooperative people, on the other hand, are less pessimistic in outlook and have a more realistic appreciation of the diversity of human nature'. (Colman, 1982, p. 128; original emphasis). Whilst we must be careful to avoid degenerating into 'argumentum ad hominem', the possibility of reciprocal influences operating between personality factors and political positions raises some very interesting issues indeed.

Both Benson's and Friend, Power and Yewlett's analytical frameworks offer starting points for further development. Benson here advocates a research programme, and indeed some of his earlier work (Benson, 1932) can be seen as a contribution towards such a research programme. In Strategic Choice and related work, the need to develop two complementary perspectives has been recognized (Friend and Yewlett, 1974). The first concerns the 'appreciation and analysis of the structure of relationships between decision problems, and the way these relationships change over time, in a way which can assist in arriving at choices of preferred actions. The second strand relates to the appreciation and analysis of the structure of social and organizational relations within which the decision making process is set' (p. 3). It is emphasized that 'neither of these perspectives is complete in itself'.

This work was carried out from an organizational base at the Institute for Operational Research (or IOR) and has thus been christened the 'IOR School' by Faludi and Mastop (1982). It has had a substantial impact in British urban and regional land use planning; indeed Faludi and Mastop have described it as 'the second mainstream of planning-methodological thinking in British urban and regional planning during the 1960s and 1970s ('next to the Systems Approach'-p. 244). Considerable development has taken place in terms of the first perspective since Friend and Jessop was first published (see, e.g. Sutton, Hickling, Friend, 1977, reporting developments in applications to British Structure (strategic) Planning). However, as Faludi and Mastop have noted, there is scope for considerable further development of the ideas of the second perspective.

The approach has of course been extensively criticized in the

literature, although much of the criticism has been rooted in a materialist, Marxist framework which tends to be dismissive of anything which does not share this basic theoretical stance. (A recent example is Cooke (1983) which, even to be charitable, appears confused, collapsing and conflating together as it does the decision-centred work under discussion with systems analysis and systems modelling approaches). More worthy of serious consideration is Healey's (1979) work, alluded to at the start of this paper. This expressly argued that Benson's (1975, 1978) 'political economy' framework provides a better basis for the analysis of inter-organizational networks, allegedly because it supplies a claimed 'missing dimension', essentially the 'final analysis' discussed earlier. Healey's criticism is particularly interesting, however, in that it goes beyond this critique, fundamentally (and fatally?) reliant on a, to put it mildly, debatable theoretical foundation, to raise specific more practical criticisms. The 'reticulist' (or network manager making reticulist judgments) is seen as a 'very dangerous animal indeed' (p. 67); as one who may, wittingly or unwittingly, effectively reinforce the existing order, or even undermine local political control, raising questions of political accountability. In reply, it can be argued that the conclusions (quoted earlier in this present paper) reached in Friend, Power and Yewlett (1974) expressly reflected the potential political significance of reticulist activities. In more recent work the present author has suggested that Strategic Choice is one of a number of approaches which are neither exclusively normative nor exclusively descriptive, but which rather seek to first articulate and then improve upon, or 'polish', present practice (Yewlett, 1984). Thus the advocacy of reticulism is at least partially a reflection of particular kinds of activities, some aspects of which might be expected to occur regardless of express advocacy or condemnation. This rather redefines the relevant issues as essentially those of understanding, controlling, and diffusing reticulist skills rather than promoting or rejecting them.

The more practical side to Healey's criticism has been discussed at length elsewhere (Yewlett, 1981). The present point is that it ultimately derives, via Benson's cited works, from a different world view altogether. It was suggested earlier that 'what you get out depends on what you put in' at a theoretical level, and 'what you find depends on what you look at' at a more empirical level. The situation is further complicated in as much as an individual's theoretical stance influences the choice of objects for field study; as Healey (1982) herself puts it 'the nature of a theoretical perspective (or set of constructs about how phenomena are related together) generates its own selection principles about what it is relevant to investigate' (p. 192).

Interestingly for the present purposes, Healey's position here emerges as far more sympathetic to an eclectic approach to theory

than her earlier discussion (1979) might suggest (at least across a field of study, if not by individuals!). Discussing the future prospects for the development of (land-use) planning theory, she anticipates that 'distinctive research and theoretical contributions will remain, reflecting different assumptions about the nature of society and the imperatives of individual behavior', although each will perhaps face different critical challenges. She does however explicitly recognize that any individual's own personal position on these issues is ultimately a matter of belief, reflecting personal values and personal 'perceptions of the credibility of explanation'; a position showing marked similarities to Burrell and Morgan's conclusions.

CONTRASTING APPROACHES - RECONCILIATION, DIALOGUE, DETENTE, OR DIVERGENCE?

However, if we accept this kind of position, how then are we to make any progress at all, and avoid degenerating into what is in reality little more than common vulgar abuse of one another's different positions? One possible approach is mooted here - that of seeking to go behind theoretical disputes and investigate the underpinning empirical evidence. This will, if nothing else, at least contribute to mutual understanding. Another step might be to ask what each participant is actually seeking to do. Here we must be careful to avoid (as Karl Popper emphasized) misrepresenting others. With that caveat, however, as best as can be determined, Benson's project, including his advocated research programme, is essentially to explain interactions between agencies within a society. Granted that the situation explained may be deemed unsatisfactory in various ways, and accepting the theoretical underpinnings for the purpose of argument, the problem remains as to how best to bring about changes. 'Non-reformist reforms' (p. 8) are mooted as one such avenue ('i.e. reforms which undermine or erode principles or patterns crucial to the existing order'). But to achieve such changes, specific individuals must make specific choices at specific times.

In contrast, the Strategic Choice research programme is essentially one of seeking to help individuals (or groups) who are faced with the problem of choice - of deciding between several possible courses of action in any given situation. It can be argued that we are all faced with this problem, whatever our chosen (using the word advisedly) theoretical position - although the substantive factors which influence our particular choice (and especially our conception of what factors and what kinds of factors are relevant) may vary enormously. At the level of individual decision making, it clearly has something to offer even the most committed materialist. Indeed, the central role of the analysis of uncertainty in Strategic Choice might prove particularly valuable; probing uncertainties about related choices (UR) and

especially values (UV) could well lead, through the exposure of previously latent 'UV', into broader societal issues. At a more technical level, simple structuring of the current personal decision problem can obviously always be helpful, regardless of the chosen substantive theory informing that decision problem.

At the level of the inter-organizational network, in contrast, perceptions of the 'zero-sum' or potentially 'win-win' nature of interactions can be expected to influence behavior in relationships with others. It would be somewhat ironic if commitment to a particular theoretical position (the materialist one) inhibited the creative development of networks in ways which might help bring about the kinds of change (whether major or minor) which the holders of such positions (by no means exclusively) feel to be desirable.

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REFLECTIONS ON BRIDGE-BUILDING IN COMPLEX TERRAINS:
A Postscript

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One proposition suggested to us by the Editors of this volume was that Christopher Yewlett and I, as erstwhile colleagues and collaborators, might jointly prepare a contribution which in some way combined the substance of his reply to Kenneth Benson with the flavour of my own response to Elinor Ostrom's paper.

This seemed an unusually daunting challenge so, in discussions between us, we have settled on the proposition that I write a short piece which can be seen as a postscript to Christopher's more substantial discussion paper, but which also weaves in a few points deriving from my own perspectives on the conference as a whole and Elinor Ostrom's paper in particular. This compromise I feel comfortable with as I saw my own opening remarks on the Ostrom paper as offering no more than a prelude to the more serious and substantive discussion that followed.

If meetings such as that in Rotterdam are to be seen as exercises in bridge building **between** research scientists or schools, then any attempt to construct bridges to explore the connections between Benson, Ostrom, Yewlett and myself - not to mention bridging the North Atlantic, or making connections across the substantive fields of police work, social welfare and urban expansion - becomes indeed a complex task. Perhaps it is symbolic that this gathering took place in the intricate deltaic terrain of Rotterdam, where it is harder than in most places to detect whether or not one is standing on an island, whether the stretch of water in front is fresh or salty, and what problems could be involved in trying to get from here to there - if only for the purpose of looking back at oneself and one's work from another's point of vantage.

The differences between the perspectives of Kenneth Benson and Elinor Ostrom may seem sharp enough - though I believe it would be much too simple to categorize them as merely the methodological and ideological distinctions which separate the school of neo-marxist organizational sociology from the school of public choice with its roots in long-established traditions of economic theory.

Both Chris Yewlett and myself represent a different research tradition again: we both moved into operational research from the mathematical and physical sciences, after which we gravitated into the field of public policy and inter-organizational relations through our involvement in the 'IOR School' with its essentially pragmatic orientation, based on a belief in the value of building theory through 'action research' engagements with public service decision-makers. Despite this common research base, it is of course always to be expected that differences in interpretation of the same experiences may emerge. For instance, at one stage prior to our recent liaison in responding to the Benson and Ostrom papers the two of us found ourselves diverging somewhat in our views on the structural foundations for the inter-authority processes that we had both observed in play around the development programme in Droitwich which we had both studied over the same period; and, somewhat to my own surprise, I found myself arguing for an interpretation from an Bensonian perspective.

But our viewpoints soon began to converge again in the recognition that there are many levels of games being played simultaneously in and around any such situation (1), so that it can be as dangerous to begin from an ideological perspective that looks for explanations in terms of structural conflict as from an opposite view that looks for 'better co-ordination' working from the common bureaucratic assumption that all public or voluntary organizations should be working constructively together in pursuit of a comforting abstraction called 'the public good'. Which is where - as again the two of us would agree - there is merit in the pragmatic research style which begins by observing people making choices and trying to understand how they are doing it and what their implicit reference points are. Does, for instance, a bureaucrat admit that any of his difficulties of praxis arise from conflicts of underlying value position between agencies or societal interests, which might conceivably be exposed more clearly before trying to move ahead? Or does he seek to distract attention from this and suggest that the difficulties are more technical, and can be tackled by a little more number-crunching culminating in an impressive and perhaps impenetrable pseudo-scientific report? These are the kinds of judgement which Chris and I would seek to expose more clearly to the light of day through language such as the UE/UR/UV taxonomy of uncertainty fields to which he refers in his paper. How

interesting it would be to share field experiences with Kenneth Benson - let us say, to sit together observing a few interorganizational group meetings either on his side of the Atlantic or on ours - and to exchange our own interpretations, expressed in such terms, with his interpretations in terms of his own sociological insights. Having already established congenial relations with Benson at a personal level, here is an experiential bridge which could be well worth building if the opportunity could be created.

Here I turn from Kenneth Benson to Elinor Ostrom, where again one starts from a sense of congenial personal relations established through the Rotterdam meeting and its predecessors, which could offer a point of departure for more direct sharing of field research experiences. In responding to the discussion of her paper, Lin has said that it is the combination of quantitative analysis with continuing exposure to field realities - whether through sitting in council meetings or in police cars - which provides the hallmark of her own work and that of her associates at Bloomington. Yet it is always through the hard grind of abstraction, whether in the form of quantitative comparisons or generalized argumentation, that bridges with other scientists are most easily built: at least the kind of bridges which third parties can learn to recognize as ones which they too might safely travel over.

Not only would I be interested to share some of the field experiences of the Bloomington School; I would also like to experience the kind of political debates which develop in US cities over such issues as whether or not metropolitan police jurisdictions should be consolidated; the kinds of negotiations and positioning moves that surround the actual processes of reorganization; and the arguments and assertions which, in such contexts, become bandied around over whether the effect would be to alter the black/white balance (or any other balance for that matter) in any significant way. I believe the debate over alternative "models of equity" is a very pervasive feature of many interorganizational games, and I find Lin's readiness to examine her data in relation to four alternative types of equity argument one of the most thought-providing aspects of her paper.

So, in this brief postscript, all I have tried to do is commit to paper one or two sketch plans of bridges across wide and possibly treacherous stretches of water, with the motivation of seeing enticing and unfamiliar landscapes on the other side. But I must stop dreaming and recognize that my sketch plans are more idealistic and ambitious than at first they may appear. It is difficult enough for us all to assemble resources for occasional gatherings at Rotterdam and other congenial meeting places in North America and Europe, without attempting to construct the more elaborate arrangements which more extensive sharing of field

experiences would undoubtedly imply.

But the commitment to continued dialogue is there; and the building of congenial relationships among individuals seems to contribute, however slowly, to the recognition of stylistic, methodological and cultural differences which in turn leads to at least slightly clearer understanding of what can be done to build a few tentative bridges - which may not mean necessarily starting from the more obvious gaps in this confusing terrain.

My return to the bridge-building metaphor tempts me to start pursuing other fanciful images to do with tunnels, deep (structural?) waters and all kinds of other artefacts and physical features. But I have already pushed a dubious metaphor more than far enough for what is intended to be no more than a postscript to one contribution to a wide-ranging dialogue among scientists in the public policy field, from which I hope we can all continue to learn.

FOOTNOTES

1. 1971, Friend, J.K., Laffin, J.J. and Norris, M.E.: Competition in Public Policy: the Structure Plan as Arena. In Public Administration, Vo. 59, Winter, 1981.

STRATEGIC INTERACTION, LEARNING and POLICY EVOLUTION: A SYNTHETIC MODEL

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INTRODUCTION

This chapter differs somewhat from preceding chapters. While those offered general overviews and conceptualizations, based for the most part on the results of current or completed empirical research, an outline is presented here of a research project being developed that consciously seeks to build upon and extend some of the work reported on elsewhere in these proceedings.

This project involves a comparative case study of policy implementation, evolution, and learning in three interrelated problem areas -water quality, air quality, and housing/tourist development- at Lake Tahoe (on the California-Nevada border) during the period, 1960-1983. In addition to comparisons across the three policy areas, there will be comparisons with respect to water quality at Tahoe and at the San Francisco Bay during these two decades.

The study has two objectives. The initial motivation for the project was the interest in analyzing the strengths and weaknesses of "top-down" and "bottom-up" approaches to implementation analysis in the same research setting through the collaboration of proponents of the two approaches -respectively, Sabatier and Hanf. Using Mazmanian and Sabatier (1983) as an example of the former approach, a comparative analysis of water quality policy making at Tahoe and the San Francisco Bay presents some excellent examples of the manner in which socio-economic environment affects legal structure, which in turn strongly biases the decision outcomes of regional institutions with roughly similar policy

objectives (e.g. via the scope of legal authority and voting rules on the respective governing boards, the Tahoe Regional Planning Agency and the Bay Conservation and Development Commission). On the other hand, these cases also vividly demonstrate the limitations of a top-down perspective in understanding the outcomes of situations in which a large number of agencies, none of them preeminent, is involved.

As for the bottom-up perspective, the work of Benny Hjern (Hanf, Hjern and Porter, 1978; Hjern and Hull, 1982, 1983) is taken as paradigmatic. We anticipate that an analysis of water quality policy making at Tahoe and the San Francisco Bay will illustrate the strengths of the approach in terms of the complexity of the "implementation networks" involved, as well as its weaknesses in explaining the participation of and resources available to many actors.

A second concern of the project is to move beyond policy implementation to a more integrated analysis of the policy process as a whole by focussing on the structure and dynamics of policy evolution. In this connection the effort to synthesize the key insights from the two principal approaches to implementation analysis works with a longer time-frame than is used in most implementation studies and gives a prominent place to the concept of policy-oriented learning as a crucial element in the process of strategic interaction between what we call "advocacy coalitions" within a given policy community or sub-system. What follows is a summary of the project design and a first sketch of the model on which it is based. We elaborate the model itself and its utility by indicating the way in which such an integrated analysis of the policy process can be applied to the study of developments concerning the management of the Lake Tahoe Basin over the last two decades.

LESSONS FROM IMPLEMENTATION RESEARCH

The general point of departure for this model of policy evolution and learning is a series of "lessons" or insights which we feel can be drawn from the first generation of implementation studies (1). It is not our purpose here to review the voluminous literature on implementation. That has been done elsewhere (Williams, 1980; Barrett and Fudge, 1981; Alexander, 1982; Sabatier and Mazmanian, 1983). Instead, we attempt to draw a number of conclusions from this literature which are particularly relevant to an understanding of the problems of guidance, control, and performance evaluation in the public sector. This discussion lays the groundwork for our effort at combining the best features of the "top-down" and "bottom-up" approaches in order to understand the factors affecting the ability of governments to guide/change target group behavior over time.

The 1960s and early 1970s represented a rather remarkable era of policy innovation in Western Europe and North America. A decade of relative prosperity made these reforms possible, while activist governments provided the political will. For their part, social scientists and other professionals provided many of the ideas.

It soon became clear, however, that many of the programs were not working as intended. It was largely as an effort to explain these apparent failures that implementation research arose. Starting from the dictionary definition of "implementation" as the "carrying out of a decision", this research initially focused inquiry on the extent to which, and the reasons for which, the formal objectives of a policy decision were (or were not) attained. This concern has remained the critical starting point for much subsequent work (Van Meter and Van Horn, 1975; Rodgers and Bullock, 1976; Mazmanian and Sabatier, 1981, 1983).

In the decade since publication of Wildavsky and Pressman's "classic", a number of approaches to implementation analysis have emerged. Suffice it to say that the "top-down" approach of Pressman and Wildavsky -which starts from a policy decision and then explores the extent to which its objectives are attained- has been refined and tested by a number of scholars (Rodgers and Bullock, 1976; Van Horn, 1979; Mazmanian and Sabatier, 1981, 1983). At the same time, it has also been subjected to considerable criticism. Some has been relatively friendly, e.g. the need to incorporate longer time-frames than the 2-4 years common of most early studies (Kirst and Jung, 1982; Goodwin and Moen, 1981), and the need to give greater attention to the legal structuring of the implementation process (Sabatier and Mazmanian, 1980). In addition, Wildavsky and others have expressed reservations about the frequency with which one can usefully make a clear conceptual distinction between formulation/adoption, on the one hand, and implementation, on the other (Majone and Wildavsky, 1978; Barrett and Fudge, 1981).

But by far the most fundamental critique has come from a group of European scholars who have labelled themselves (or been called) "bottom-uppers" (Hanf, 1982). They got their start from a number of studies showing very substantial limits on the ability of central governments to guide the behavior of local implementors and target groups (Derthick, 1972; Berman and McLaughlin, 1976; Williams and Elmore, 1976; Weatherly and Lipsky, 1977; Hanf and Scharpf, 1978; Barrett and Fudge, 1981). When combined with doubts about the utility of separating formulation from implementation, what emerged was a perspective which argued that the appropriate starting point should not be a policy decision but rather the actors involved in addressing a policy problem.

From this, it is argued, emerges a more accurate portrait of the role of various governmental programs - vis-a-vis other factors - in guiding behavior "on the ground".

Implementation studies frequently have found that the most important actors are not the official policy-makers in the capital but rather the street-level bureaucrats - classroom teachers, social workers, pollution control inspectors - who interact directly with target groups (e.g. secondary school students, polluting industries). Legislative intent is usually sufficiently vague and the amount of hierarchical control within organizations sufficiently weak that street-level implementing officials have very substantial discretion.

Study after study has shown that elected policy-makers - whether they be a local city council or a national cabinet - can seldom exercise effective control over street-level bureaucrats in the sense of keeping the latter's behavior within tightly circumscribed limits. In any but the smallest bureaucracy problems of communication and control are far from trivial. These problems are compounded by the fact that implementation efforts typically involve not simply a single organization but rather a loosely-coupled network of organizations from different levels of government, none of which is preeminent (March and Olsen, 1979; Hjern and Porter, 1982). In such a situation, the "program" may actually consist of the sum of negotiated settlements among street-level bureaucrats and target groups - largely irrespective of what is written in the law books.

While implementation scholars agree about the substantial discretion usually exercised by street-level bureaucrats, they disagree concerning the ability of elected officials to guide the behavior of implementors and target groups so as to bring their actions within the limits defined as legally acceptable over time.

There are scholars, like Hanf and Scharpf (1978), Elmore (1979), Barrett and Fudge (1981), and probably Berman (1980) who seem to suggest that control by formal policy-makers is virtually impossible, or, at the very least, highly problematic. It would appear to follow that one should give street-level professionals the resources they need and trust them to do a good job.

Whether or not this is the conclusion to draw, these studies do stress the "problematic" aspects of attempts by hierarchical superiors to steer effectively subordinates' and target group behavior by virtue of formal position and authority alone. This literature examines the patterns of cooperative and joint relationships among public and private actors that do in fact pertain and tries to pinpoint the factors that shape both the dynamics

and results of these interactions.

There are, nevertheless, a number of reasons for believing that formal policy-makers are not nearly so impotent as Hanf et al. might suggest. For one thing, the degree of autonomy of street-level bureaucrats varies from country to country, policy area to policy area, program to program. It is virtually never either trivial or total. Hanf et al. emphasize that implementation involves a multitude of locally-negotiated settlements. While true, this really does not say very much in and of itself. The trick is to relate the negotiated outcomes to the ability of various interests to participate in the negotiations; the legal, political, technical, and financial resources available to each; and the willingness of each to expend those resources in a particular case. One must not assume a priori that official policy-makers have only a trivial ability to affect such locally negotiated settlements.

It is also clear that implementation analysis must be able to deal with change over time; changes in the strategic behavior of actors; changes in the organization and decisions of governmental agencies; and changes in the parameters of the problems.

Most of the early implementation studies attempted to reach judgments concerning a program's outcomes, and the factors affecting them, within 2-4 years of the basic policy decision (usually in the form of a new law). Examples include Derthick's (1972) analysis of new towns within U.S. cities, the Pressman and Wildavsky (1973) classic, and the initial studies of the federal compensatory education legislation.

While a time-span of this length may have been appropriate in some cases, in many others, such a limited time period proved to be quite misleading. First, it led to premature assessments of a program's effects. In the case of ambitious efforts to significantly change the behavior of large numbers of people it is clear, in retrospect, that a 2-4 year time-frame is completely inappropriate. It takes a year or two to get a program to hire personnel, draft the basic implementing regulations, and otherwise get off the ground. To expect major changes after only a few years is quite unrealistic. When it does not happen, analysts are quick to judge a program to have failed. In several cases, such judgments have turned out to be premature and unfair. Second, and directly related, a short time-frame neglects the possibility that program proponents will identify and overcome a series of impediments over a period of years. In such cases, the result can be cumulative incremental change that move the achievements in the direction of the original objectives of the program.

The particular direction such program change may take will be influenced by changes in socio-economic conditions, interest group support, elections, and learning by both proponents and opponents. Shorter time intervals are thus likely to produce erroneous conclusions about program effects and to mask the critical process of policy evolution and learning. Increasing appreciation of the possibility of program change has led to a growing consensus among implementation scholars on the desirability of taking a fairly long-term perspective, e.g. 10-15 years, when evaluating the impact of public programs in guiding target group behavior (Majone and Wildavsky, 1978; Barrett and Fudge, 1981; Mazmanian and Sabatier, 1983).

What is needed, we argue, is a policy analysis model that builds upon and takes further these lessons. Both the limitations of the top-down and bottom-up approaches when used alone, and the advantages of moving to a time-frame of a decade or more suggest the utility of seeking such a synthesis by moving beyond policy implementation to an analysis of policy evolution. Many of the elements for a conceptualization of that process are contained in the conclusions that can be drawn from the overview summarized above.

What is immediately apparent from implementation research thus far are the very real limits (inherent in all political systems) to attempts to steer behavior from the "top-down". Accepting this "fact of life" raises many questions regarding the assumptions on which most (descriptive and prescriptive) models of hierarchical control and guidance rest. (Hanf and Scharpf, 1978; Elmore, 1979; Barrett and Fudge, 1981).

The "top-down" approach, starting with policy decisions and seeking to account for "implementation deficits" encountered, has certainly made important contributions to our understanding of intergovernmental relations and the effect of legal structure and intellectual (causal) assumptions on program performance. But, as already noted, it has proven of less utility when a large number of programs, none of them preeminent, are involved. Moreover, its tendency to overemphasize the importance of the program under study in affecting target group behavior has often led it to neglect non-program effects in explaining outcomes and to have difficulty capturing the strategic interaction of a wide variety of actors in different local settings.

The alternative "bottom-up" approach stresses the need to start -not with a policy decision- but rather with the actors who interact at the operational (local) level on a particular problem

or issue. In the process, the analytical stages of formulation, implementation, and reformulation tend to disappear. Thus instead of focusing on the factors affecting the implementation of, for example, the 1970 Clean Air Act, "bottom-uppers" look at the problem-solving strategies and activities of actors involved in air pollution control at the local level. This typically involves some sort of networking methodology (Hjern and Porter, 1981) and focuses on the interacting initiatives of a multitude of public and private actors within a policy field (subsystem). This approach has been very effective in demonstrating the extent to which local governments and street-level bureaucrats use programs from superordinate governments for their own purposes, as well as the importance of non-program (e.g. market) factors in explaining outcomes (Berman and McLaughlin, 1976; Ingram, 1977; Hanf and Scharpf, 1978; Elmore, 1979; Browning et al., 1981; Barrett and Fudge, 1981; Hjern and Hull, 1982; Hanf, 1982).

However, pure bottom-up approaches have, in turn, their own methodological shortcomings, e.g. a tendency to ignore why potentially-important actors are not included in a given implementation network. In addition, the reliance on actors' perceptions produces a tendency to neglect the (often indirect) manner in which legal institutions and socio-economic factors may constrain individual behavior. Therefore, if this approach is to rise beyond purely descriptive network analysis, the networking technique on which it presently rests needs to be supplemented by explicit causal theory regarding the factors affecting the participation rates, resources and preferences of the various actors involved or affected by the program or problem under investigation.

Thus, an appropriate synthesis must begin at the "bottom", i.e. with the interaction of people involved on the ground or at the problem level, and move to develop a causal model that includes both the aspects of strategic interaction among multiple actors with their individual goals, interests and strategies, and the broader situational factors (socio-economic, political and legal) which set the context and define the parameters for individual actions and interactions.

An examination of the constraints associated with the institutional and political context within which actors located at different levels -in and out of government- and involved at different points in the policy process operate reintroduces an important element shaping the context and dynamics of policy development: the formal factors often associated with the top-down perspective. However, analysis now works back from the pattern of actual interactions with regard to specific cases of problem-solving to include such factors as possible explanatory variables instead of positing their consequences for target group

behavior and outcomes on the basis of their assumed relevance for effective policy implementation. These factors (along with broader situational conditions) are here viewed both as parameters within which interactions occur and, in strategic terms, as a set of (potential) instruments and/or targets for those seeking to influence the behavior of decision makers in the pursuit of their interests. In this sense the structure of legal authority that sets the decision arenas and distributes initial positions can also be "manipulated" by actors in order to change the rules and the nature of the game as well as the relative positions of the various parties. By viewing such factors in this way, analysis can focus on the sets of constraints and opportunities different actors confront, and the costs involved in trying to change them. In this manner it is possible to "flesh out" the strategic dimension implicit in (or at least up until underdeveloped by) most "bottom-up" analyses. This combination of analysis of strategic choice situations and of the constraints under which this behavior occurs offers a basis for accounting for how and why those structures of interaction (networks) came to be there in the first place as well as for understanding the dynamics of their operations.

A STRATEGIC INTERACTION FRAMEWORK FOR POLICY EVOLUTION AND LEARNING

Starting from these conclusions, the model presented below represents an effort to develop a strategic interaction model of policy evolution. In it particular attention is given to separating policy-oriented learning from the more general process of policy change 2). Policy evolution is conceived of here as an iterative process of policy/program formulation and reformulation over time mediated through experiences different actors have in pursuing their interests and objectives in connection with the implementation of a given program iteration. In this process an important dynamic is provided by the strategic behavior of actors involved in reaction to the conflicts generated around implementation activities. We suggest that these actors can be usefully aggregated into a number of advocacy coalitions, each with its own belief system, which seek to have their core beliefs enacted into governmental action programs and which experiment with various strategies for realizing these values and interests over time. A major focus of this model is the strategic interaction process whereby different coalitions come to modify their perceptions of the causal factors affecting a problem area and the courses of their actions they select for dealing with the problem and attaining their objectives.

Overview

The framework starts from the premise that the complexity of most modern industrial polyarchies creates substantial pressures for

specialization among policy elites interested in particular policy areas such as pollution control, highways, etc. Unlike early notions of "iron triangles" which were limited to interest groups, administrative agencies, and legislative committees at a single level of government, this framework follows a number of recent authors in arguing that our conception of policy subsystems should be broadened to include actors at various levels of government active in policy formulation and implementation, as well as journalists, researchers, and others who play important roles in the generation, dissemination, and evaluation of policy ideas (Gregg, 1976; Wamsley, 1983; Milward and Wamsley, 1983).

While subsystem actors generally strive for and attain a degree of autonomy from the larger political system, their activities are nevertheless affected by two broad categories of exogenous variables. The first are a relatively stable (over several decades) set of constitutional, social, natural resource, and problem-related parameters strongly resistant to change. Water quality management at Tahoe, for example, is constrained by the Lake's location in two states, features of the water basin responsible for both its exceptional clarity and its sensitivity to nutrient inflow from erosion, and the susceptibility of water (as a policy issue) to common pool problems. The second set of variables external to a policy subsystem can vary substantially within any decade and, in fact, provides one of the principal dynamics affecting any subsystem. It includes such things as policy decisions and impacts from other subsystems, electoral changes, and broader socio-economic changes (e.g. inflation rates).

A number of studies of policy changes over several decades have concluded that these two sets of external factors provide only a general set of constraints and opportunities within which policy-making occurs (Hecló, 1974; Altenstetter and Bjorkman, 1976; Derthick, 1979). Within the remaining substantial realm of discretion, policy decisions and impacts can vary subject to a number of factors internal to the subsystem, including the preferences and resources of various actors. Of particular interest in this connection is the contention by Hecló (1974), that these decisions are not simply, or even primarily, to be accounted for in terms of traditional models of interest group or bureaucratic politics. While these factors should not be neglected, he suggests that much of the internal dynamics within policy communities can be understood as a learning process (in which various actors profit from experience in experimenting with a variety of means to achieve their policy objectives over time).

This hypothesis is supported by recent studies of the implementation of social welfare, school desegregation, and compensatory education reforms in the U.S. (Goodwin and Moen, 1981;

Mazmanian and Sabatier, 1983). While such studies have tended to focus on learning by program proponents, it is obvious that a variety of "opponents" are doing the same thing (Hanf and Scharpf, 1978; Barrett and Fudge, 1981). Hence the need for a strategic interaction framework which maps the strategies pursued by various actors over time in response to external perturbations, the strategies of other actors within the subsystem, and individual (and organizational) search processes.

The framework we use generally follows the meta-theoretical approach of Kiser and Ostrom (1982) who argue that individual decision-making should be conceptualized as the product of individual attributes (preferences, information processing capabilities) confronted with an action situation which itself is the result of institutional rules, problem attributes, and socio-cultural values (i.e. roughly analogous to our list of external factors). Kiser and Ostrom also suggest the presence of at least three levels of action situations: the constitutional, the collective choice (e.g. legislation), and the operational (e.g. the disposition of individual cases). A logical extension of this approach is to view policy evolution as partially the product of attempts by various actors to structure action situations -chiefly via institutional rules regarding the range and authority of participants- so as to produce the preferred operational decisions.

A general overview of the framework is presented in Figure 1. It indicates the two sets of exogenous variables -the one relatively stable, the other more dynamic- which affect the constraints and opportunities of subsystem actors. Within the subsystem, it is assumed that actors can be aggregated into a number (here two) advocacy coalitions which share a set of normative and causal beliefs and which disposes over certain resources. At any particular point in time, each coalition adopts a strategy envisaging one or more institutional innovations which it feels will further its policy objectives. Conflicting strategies from various coalitions are normally mediated by a third group of actors, here termed "policy brokers", whose principal concern is to find some reasonable compromise which will reduce intense conflict. The end result is one or more governmental action programs at the collective choice level, which in turn produce policy outputs at the operational level. These outputs -mediated by a number of other factors- result in a variety of impacts on targeted problem parameters (e.g. water quality), as well as side effects.

On the basis of perceptions of the adequacy of governmental decisions and/or the resultant impacts, as well as new information arising from search processes and external dynamics, each advocacy coalition may revise its beliefs and/or alter its

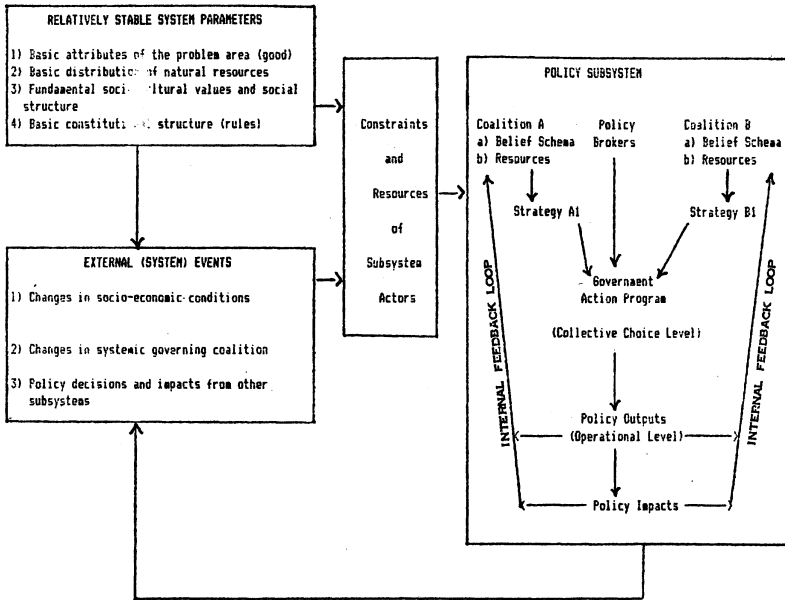


FIGURE 1. General overview of conceptual framework of policy evolution and learning.

strategy. This can involve policy-oriented learning, i.e. relatively enduring alterations of thought or behavioral intentions which result from experience and which are concerned with the attainment (or revision) of public policy (Hecl, 1974: 306). Such learning can, in principle, be distinguished from that which aims at purely personal or organizational objectives. But it comprises only one of the forces affecting policy evolution. In addition to this cognitive activity, the real world also changes. This involves, first of all, the realm of system dynamics in Figure 1, e.g., changes in relevant socio-economic conditions and systemic governing coalitions. There are also dynamic elements within subsystems -such as changes in personnel as a result of death or retirement- which may not result from learning but which can substantially alter the political resources of various advocacy coalitions and thus the policy decisions at the collective choice and operational levels.

Policy subsystems: external factors

Policy-making in any policy subsystem is constrained by a variety of social, legal and resource features of the society of which it is a part as well as affected by its relationships to other subsystems and the broader political system. Our framework must distinguish between relatively stable (over several decades) system parameters and those aspects of the system which are susceptible to significant fluctuations over the course of a few years and which thus provide the principal inputs to policy subsystems.

As far as the relatively stable system parameters are concerned, the difficulty of changing these factors discourages actors from making them the object of strategizing behavior. Nevertheless, they play at least two important roles in policy evolution. On the one hand, they limit the range of feasible alternatives or, in some cases such as constitutional rules creating recourse to citizen referenda, create alternatives which are not available in most political systems. In addition, they can facilitate or impede policy-oriented learning.

There are, also, several aspects of the problem/issue area itself which are hypothesized to affect the degree of policy-oriented learning. Specifically, a problem's susceptibility to quantitative measurement affects the ability to ascertain performance gaps and thus the pressures to seek more adequate causal understanding of the system. The likelihood of developing good causal models is also affected by certain features of the problem. For example, Elinor Ostrom (1982) has hypothesized that natural resource systems are easier to model than social policy systems because a smaller proportion of the key variables are

active strategists. Such systems are also more susceptible to controlled experimentation. On all these grounds, one would expect more learning to occur on water pollution than on mental health. Thus it is no accident that we have chosen to begin testing the evolutionary/learning model on a relatively tractable issue area, although our concern with tourist development at Tahoe offers some opportunity for controlled comparison.

As for external events, Figure 2 provides a very tentative indication of some of the external events which appear to have substantially affected water quality policy-making at Tahoe over the past twenty years via the activities of the environmental and local control/economic development coalitions. For example, the Squaw Valley Winter Olympics and the completion of a major highway in the early 1960s opened Tahoe to the outside world, which led to the 1962 Wilsey-Hamm Plan proposing a 10-fold increase in the area's population and two major highways ringing the lake by 1980. This quickly galvanized opposition by conservationists, who sponsored the McGauhey report predicting a drastic decline in the lake's water quality and recommending the export of all sewage from the basin as a remedial measure. After several years of negotiation, this was accepted by the two governors and the Federal water quality administration. Activity then shifted to the second major cause identified by McGauhey et al., erosion from construction activity. Given environmentalists' perception that local governments would resist such controls, there ensued a decade-long struggle to develop a viable regional planning agency.

Policy subsystems: internal structure

Let us define a policy subsystem as the set of actors who are actively -or potentially- concerned with a policy problem. This can be done either by the actors involved, e.g. via a networking approach (Hjern and Porter, 1981), or by the analyst (Wamsley, 1983). A combination of the two is desirable. The networking approach tells us who is actively involved in dealing with a policy problem at a particular point in time and thus provides a valuable starting point. But the analyst must be free to identify potential/latent actors, since changes in the participation rates of various interests over time constitutes one of the most critical factors affecting policy evolution (Balbus, 1971; Sabatier, 1975).

Delimitation is also complicated by overlap among subsystems. At Lake Tahoe the water quality, air quality, and tourist/economic development subsystems are heavily interrelated. Not surprisingly, subsystems normally contain a large and diverse set of actors. For example, the Tahoe water quality subsystem includes the

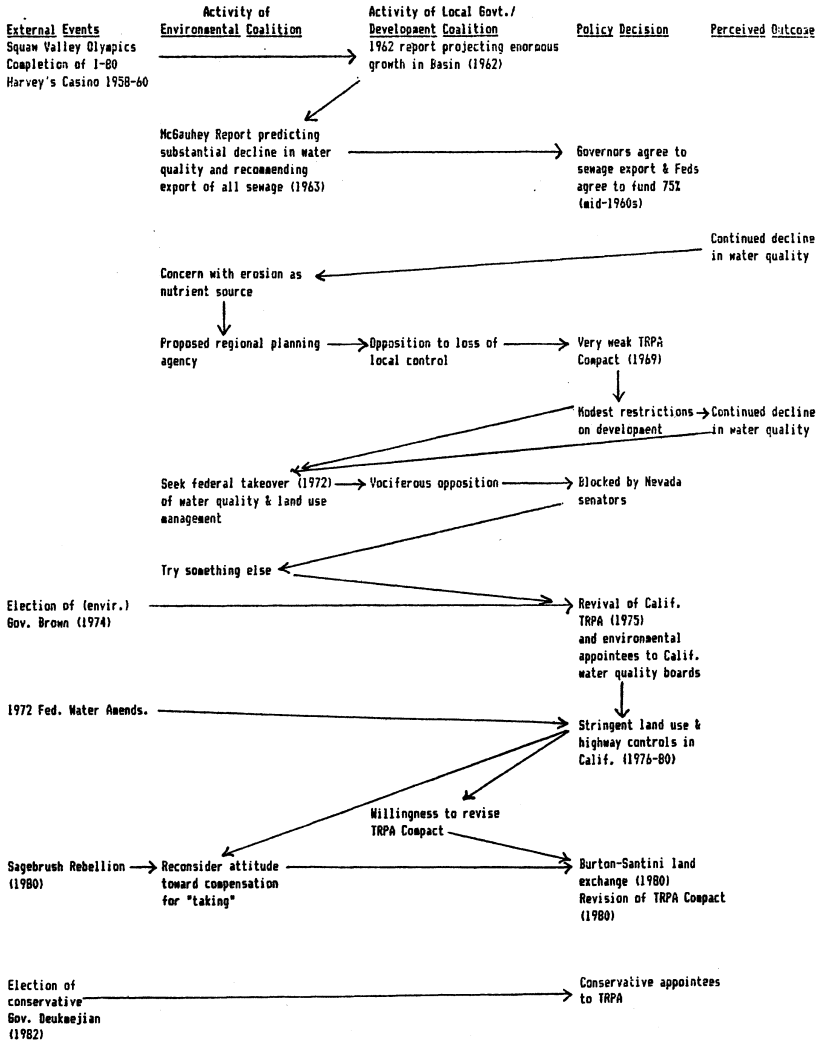


Figure 2. Tentative analysis of selected events and strategies re Tahoe water quality, 1960-82

following:

1. Local elected officials from 5 counties and 2 cities;
2. Water quality officials from 2 states and the EPA;
3. Most local businessmen, especially realtors, developers, and tourist industry;
4. Officials of the Tahoe Regional Planning Agency (TRPA) and California TRPA (CTRPA);
5. Local and (several) state environmental groups;
6. Officials from the Forest Service, Geological Survey, Coast Guard, and several other Federal agencies;
7. Several Congressmen, Senators, and state legislators;
8. Representatives/staff of the Governors of California and Nevada;
9. Several newspaper publishers and reporters;
10. Several researchers and consultants.

Given the enormous number and range of actors involved, it becomes necessary to find ways of aggregating them into smaller and theoretically useful sets of categories. Possibilities include 1) degree of involvement (e.g. primary, secondary, latent) and 2) formal role (e.g. elected officials, agency officials, interest group activists, researchers and reporters).

But probably the most important means of analytically aggregating actors within a policy subsystem is by advocacy coalition. These are people from all four of the role categories who share a particular belief schema, i.e. a set of basic values and causal assumptions. The concept of belief schema -to be discussed in greater detail below- does not imply a comprehensive and consistent set of beliefs. Instead, it is a knowledge structure which helps individuals decide which information is important, make causal inferences, and decide on the appropriate behavior (Tesser, 1978; Young, 1977, for similar concepts).

For example, the Tahoe water quality subsystem in the 1970s apparently was divided into two rather distinct advocacy coalitions. One, which might be termed "the Environmental Coalition", was dominated by local environmental groups, their allies in Congress and the state legislatures, the Forest Service, Federal and State water pollution control agencies, a few researchers and reporters, and representatives of California's Governor Brown (1974-82). It had a belief schema which appeared to stress 1) the primacy of environmental quality/aesthetics over economic development; 2) a causal assumption that sewage and erosion from development were principally responsible for the lake's deteriorating water quality; 3) another causal assumption that local officials' pre-occupation with their tax base and campaign funds from local businessmen made them too development-oriented; and thus, 4) protecting the Lake's water quality would require a strong federal/state presence.

The competing "Economic Development/Local Control Coalition" was dominated by local businessmen (especially realtors, developers, and motel owners), local elected officials, their allies in Congress and the state legislature, owners of unbuilt lots in the Basin, and (at various times) staff in the governors' offices. Its belief schema 1) stressed the need for a viable local economy; 2) questioned the seriousness of the alleged deterioration in the Lake's water quality; 3) vigorously supported local control, property rights, and the "free enterprise system"; and 4) stressed the adverse effects of land use controls on these values.

A governmental action program may incorporate a single, or portions of several, belief schema. The 1969 TRPA Compact was a compromise dominated by the development/local control coalition, while the 1980 revision to the Compact was dominated by the environmental coalition.

Not everyone active in a policy subsystem will "belong to" an advocacy coalition or share one of the major belief schema. Some researchers and others may participate simply because they have certain skills to offer, but otherwise be indifferent to the policy disputes (Meltsner, 1976). In addition, there will almost certainly be a category of actors whose dominant concern is with keeping the level of political conflict within acceptable limits and with reaching some "reasonable" solution to the problem. This is a traditional function of many elected officials and, in some European countries like Britain, of high civil servants (Doggan, 1975). These are not policy advocates but rather "policy brokers". In addition, actors with quite different belief schema may agree to cooperate on a specific policy dispute. For example, Ackerman and Hassler (1981) document the rather curious alliance between environmental groups and Western coal companies against Midwestern coal interests with respect to sulfur dioxide emission standards during the mid-1970's. But it is hypothesized that such "coalitions of convenience" will tend to be rather short-lived (except perhaps in distributive policy arenas).

The general model outlined in Figure 3 below assumes that, in a "new" policy area, an advocacy coalition will emerge around a particular definition of the problem and then propose one or more governmental action programs. In most cases, these will adversely affect other people, who will coalesce around an alternative belief schema. The two (or more) coalitions will fight it out, usually at the collective choice level. In most cases, the resultant government action program will reflect one belief system more than the other, although total victories are very rare. The winner then becomes the dominant coalition and seeks to maintain itself in power. The minority coalition(s) will continue the fight, waiting for an opportunity -e.g., a change in socio-economic conditions or in the systemic majority coalition- to reverse the

balance of forces within the subsystem (Wamsley, 1983).

Finally, there seems to be a tendency for relatively uncontroversial subsystems (those with quiescent minority coalitions) to become increasingly dominated by administrative officials rather than by elected officials or interest group leaders. It is they who are in charge of "routine" administration, and it becomes difficult for outsiders to motivate themselves to expend the resources necessary to carefully monitor agency activities. We would hypothesize this to be the case with respect to water quality in the San Francisco Bay after 1972, but certainly not at Tahoe.

Policy-oriented learning: individual and collective

Following the meta-theory of Kiser and Ostrom, it is assumed that only individuals can learn. Knowledge is then transmitted to others. While one may want to argue that an organization, advocacy coalition, or some other collectivity has "learned" something, such statements are metaphors and should only be used on the basis of explicit decision rules. (For example, see Argyris and Schon, 1978: 19-20).

In its conception of individual learning and attitudinal change, the framework has three basic points of departure. The first is Ajzen and Fishbein's (1980) "theory of reasoned action" - basically an expected utility model in which the preferences of reference groups are accorded a more prominent role than in most utilitarian models. Second, rationality is limited rather than perfect. Thus the framework relies heavily upon the work of March and Simon (1958), Kahneman, Slovic, and Tversky (1982), and many others in terms of satisficing, cognitive limits on rationality, limited search processes, etc. Third, because subsystems are composed of policy elites rather than the general public, there are strong grounds for assuming that most actors will have relatively complex and internally consistent belief schema in the policy area(s) of interest to them (Axelrod, 1976; Buttel and Flinn, 1978; Tesser, 1978).

These, however, are only starting points, for they tell us very little about the structure of the belief schema of policy elites. Without structure, it is very difficult to predict how beliefs will change over time under conditions of competition and scarcity. Following Majone (1980), it is argued that a policy belief schema can be divided into two parts: the core consists of fundamental values and causal assumptions concerning natural and social systems, while the secondary aspects include less salient values and causal relationships, as well as perceived variable states. In the environmental belief schema mentioned earlier, for

example, elements such as the normative priority accorded aesthetics, the causal belief that local officials are preoccupied with tax bases and campaign funds, and the preference for a strong supra-local presence were apparently all core precepts. "Secondary" aspects would tentatively include i) the belief that X was an adequate water clarity standard; ii) the causal assumption that golf course fertilizers are an important source of nutrients for algal growth; and iii) the perception that water clarity in the Lake continued to decline through most of the 1970s.

Given the more fundamental nature of the core, one arrives at the following hypotheses:

Hypothesis 1: Actors within an advocacy coalition will show greater consensus concerning core precepts than over elements in the periphery.

Hypothesis 2: An actor will give up peripheral aspects of his belief system well before he acknowledges weaknesses in the core.

While it would be desirable to treat these as hypotheses subject to empirical test, at the moment the latter is more likely to be utilized as one of the defining criteria by which the analyst separates core from secondary beliefs.

The entire notion of a belief schema organized around a set of core values and causal assumptions, plus a largely instrumental set of elaborative values, causal relationships, and perceived variable states, assumes some psychological predilection for cognitive consistency on the part of policy elites. It does not, however, take issue with the implications of Simon's recent work (Newell and Simon, 1972; Simon, 1979) suggesting that cognitive structures resemble semi-autonomous filing cabinets into which one places new information. Instead, the framework supposes that policy elites seek to better understand the policy-relevant world in order to identify instruments which will help them achieve their fundamental objectives. Such thought produces pressures for evaluative consistency (Tesser, 1978: 295). The framework also presumes some (modest) selection pressures outwards those with a capacity for reasoned discourse within the "filing cabinet" directly concerned with the policy subsystem(s) in which they are active. Insofar as policy discussions among insiders are based on reasoned argument; actors holding blatantly inconsistent or unsubstantiated positions will lose credibility. That may not be debilitating for their position, but it does mean that they will have to expend scarce resources in support of it and thus eventually be to their competitive disadvantage (Brewer and de Leon, 1983).

TABLE 1

SELECTED HYPOTHESES CONCERNING CHANGES IN BELIEF SCHEMA

Hypothesis 1: Actors within an advocacy coalition will show greater consensus concerning core precepts than over elements in the periphery.

Hypothesis 2: When a belief schema is under attack or when dissonant information emerges, adherents will attempt to restrict change to the secondary aspects rather than the core.

Hypothesis 3: When change in the belief schema incorporated into a governmental action program cannot be restricted to the secondary aspects, adherents will seek to modify the core in the following sequence:

First, add a portion of the opposing coalition's core;

Second, delete a portion of the existing core;

Third, arrange a synthesis of the two cores;

Fourth, bow to a replacement of their core by the challenger's, but try to get portions of theirs incorporated into the new elaborative aspects.

Hypothesis 4: Over time, belief schema which are largely incorporated into a governmental action program will come more and more to resemble that program as a) adherents adjust their aspiration levels and otherwise become more aware of real-world constraints and as b) practitioners come to dominate interest group activists among adherents.

Hypothesis 5: The core of a governmental action program is unlikely to be significantly changed as long as the governmental coalition which approved the program remains in power.

On the other hand, the framework certainly does not assume that policy elites are disinterested scientists or philosophers. Once something has been accepted as a core belief, powerful ego-defense and peer-group forces create considerable resistance to change even in the face of countervailing empirical evidence or internal inconsistencies (Festinger, 1957; Argyris and Schon, 1978; Lamm and Myers, 1978; Janis, 1983). When salient beliefs and/or the egos of policy elites are at stake, the evidence of data manipulation, selective perception, and partisan analysis is strong enough to warrant a prominent place in any model (Cameron, 1978; Nelkin, 1979).

Finally, the growing literature concerning "strategic retreats on (policy) objectives" (Wildavsky, 1979: Chap. 2) is obviously an attempt to apply the logic of satisficing to policy reformulation. Here the distinction between core and secondary beliefs suggests a number of hypotheses about the order in which strategic retreats will be made (see Table 1).

Basic dynamics of policy oriented learning

Policy-oriented learning focuses on a variety of cognitive and behavioral processes whereby individuals learn -and then seek to communicate to others- means to realize the core precepts of one's belief schema. Learning can be about a variety of things:

1. Improving one's understanding of the state of variables defined as important by one's belief schema (or, secondarily, by competing belief schemas). For example, participants in the environmental advocacy coalition have expended a great deal of effort monitoring water quality because that is a critical variable affecting one of their core values, the clarity of the Lake. Conversely, members of the economic development coalition have concentrated on estimating the contribution of tourism to the Basin's economy, because that is critical to them. Of course, the interactive process within a policy subsystem forces one to gather information on variables defined as critical by others. But it is our hypothesis (to be elaborated below Figure 3) that this is primarily done to counter opponents' claims.
2. Refining one's understanding of logical and causal relationships internal to a belief system. This typically focuses on the search for improved mechanisms to attain core values. For example, protecting water quality has apparently forced the environmental coalition to stimulate research on 1) the critical nutrients affecting algal growth, 2) the sources of those nutrients, and 3) the means of reducing inputs from those sources.
While opponents will be loathe to reexamine seriously core

beliefs, experience and opponents' activities may eventually force them to acknowledge erroneous assumptions or implicit goal contradictions. (For examples, see Cameron, 1978; Robinson, 1982, and Mazmanian and Sabatier, 1983: Chap. 4).

3. Identifying and responding to constraints external to one's belief system. Exogenous events, a loss of political resources, opponents' activities, or a variety of other factors may force proponents to revise their belief schema by incorporating some new elements, e.g. aspects of opponents' beliefs. But every effort will be made to restrict change to the secondary aspects, thus keeping one's core intact. In the late 1970s, there is some evidence that the hardships imposed by stringent growth controls on small lot owners in the Basin, fear of the Sagebrush Rebellion, and a recognition that public ownership affords the only permanent erosion control led environmentalists to soften their traditional aversion to paying compensation in cases of down-zoning. This change in attitude remained secondary/ameliorative, however, to a commitment to growth control.
4. Responding to (external) opportunities. All is not constraint. Learning may also involve identifying and creatively responding to opportunities in a manner consistent with one's belief schema. For example, proponents of arresting the filling of San Francisco Bay gradually realized there was substantial political support for increasing public access to the Bay. Since this was not inconsistent with their belief schema and would, in fact, increase political support for their principal objective, they enthusiastically sponsored new programs to increase such access (Sabatier and Klosterman, 1981).

Policy-oriented learning, then, is the process of seeking to realize core policy beliefs until one confronts constraints or opportunities, at which time one attempts to respond to this new situation in a manner which is consistent with the core. Although exogenous events or opponents' activities may eventually force the reexamination of core beliefs, the pain of doing so means that most learning occurs in the secondary aspects of a belief schema (and/or action program).

Policy-oriented learning normally entails experimenting with a variety of institutional arrangements over time (Dewey, 1938; Brewer, 1973; Campbell, 1977). Dissatisfaction with the performance of a specific institution - in terms of either its policy outputs at the operational level or its inability to ameliorate the problem- will lead program proponents to reexamine their strategy (see Figure 1). If policy outputs appear satisfactory but problem parameters (policy outcomes) do not, proponents can conclude a) that the deficiencies reside in target group non-compliance with operational decisions and/or b) that the program is based on inadequate causal assumptions (Mazmanian and Sabatier, 1983: Chap. 2).

On the other hand, if policy outputs at the operational level are unsatisfactory, the difficulties could reside in (a) suboptimal institutional arrangements, (b) poor personnel, (c) inadequate financing, and/or (d) the lack of political support, e.g., in a subset of local jurisdictions. Each of these calls for different strategies. Moreover, it is often the case that both policy outputs and outcomes are unsatisfactory; proponents will then have additional difficulties assessing the relative contribution of various factors.

Strategic interaction and learning

One of the basic processes in policy evolution involves the development of, and interaction among, different advocacy coalitions. One scenario goes as follows: A few people perceive a problem or source of dissatisfaction -e.g. declining water clarity- and search for information concerning the seriousness of the problem and its causes. They identify one or more causes -e.g. nutrient inflows from erosion- and then propose one or more policies to deal with specific causes. Each policy alternative implies a set of costs and benefits to various actors. Those who feel themselves aggrieved by the proposed policy have a number of options. They can:

- 1) Challenge the data concerning the seriousness of the problem;
- 2) Challenge the causal model;
- 3) Challenge whether this is the best policy for dealing with a cause by pointing to its costs on themselves and others and/or by mobilizing political opposition to the proposal.

The original group normally responds to these challenges, thus initiating the process outlined in Figure 3. The result is often a fair amount of research -e.g. on the relative importance of various nutrient sources of the Lake- and perhaps some sort of governmental action program, e.g. the formation of the TRPA.

The majority and minority coalitions will continue to sponsor studies investigating topics of interest to them in seeking to marshal political support. As long as the dominant subsystem coalition which created a program remains in power, however, the core of the program is unlikely to be substantially changed. But new knowledge concerning state variables or system dynamics can significantly alter the distribution of power within a subsystem. At Tahoe, for example, quantitative evidence of the decline in the Lake's clarity and of increased algal growth became so strong during the 1970s that it could no longer be disputed by the development coalition. This placed them somewhat on the defensive and, more importantly, provided a justification for the increased intervention of state and federal water quality agencies.

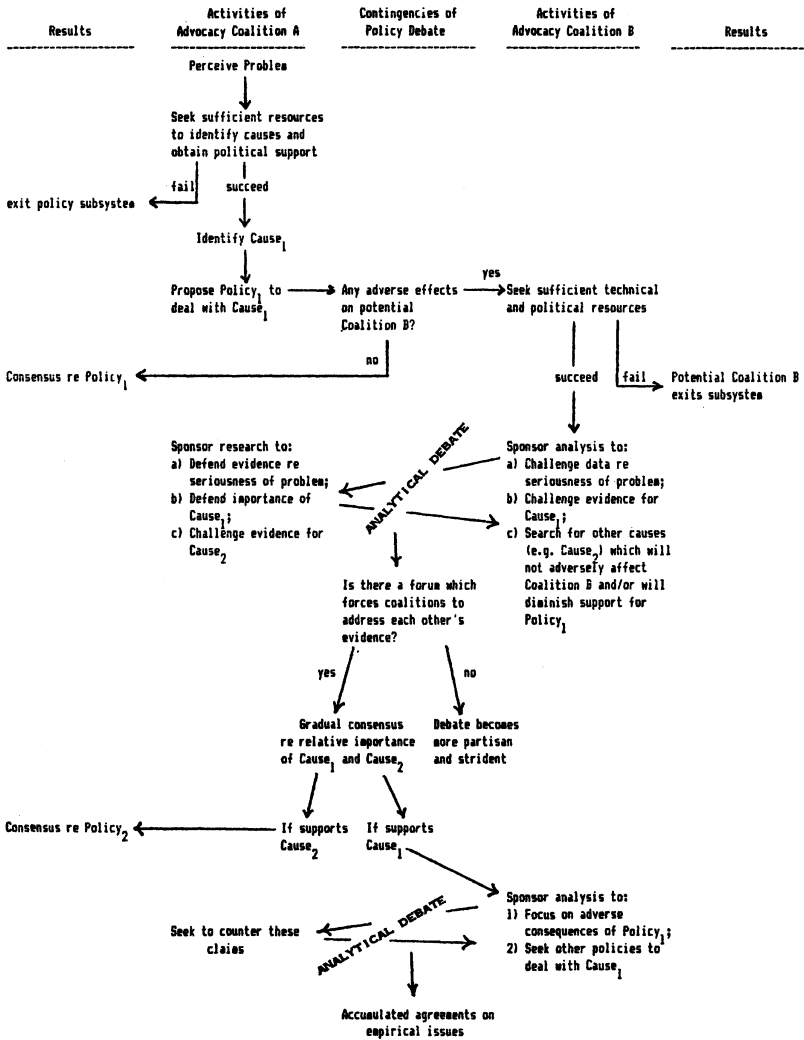


Figure 3: Analytical Interaction between Advocacy Coalitions: A Process Model of Policy-Oriented Learning.

Partisan use of research within quasi-scientific norms

Much of policy evolution can be understood in terms of a search for, and disputes over, the validity of data bases and the causal theories underlying various programs (Pressman and Wildavsky, 1973; Majone, 1980; Mazmanian and Sabatier, 1981, 1983). For example, an enormous amount of research at Tahoe has gone into determining the relative importance of various sources of nutrients into the Lake. The early focus on sewage produced a policy consensus, as export furnished a solution and the Feds agreed to pay most of the bill. Since then, however, there have been enormous disputes over the importance of erosion as a source. Environmentalists push it as a justification for development controls. The development coalition for years questioned the validity of those studies and recently began to point with glee to evidence that airborne dust might be an even greater source. Not surprisingly, the environmental coalition has vigorously questioned the validity of that interpretation and has sponsored new research on the topic.

Such disputes will involve researchers, agency personnel, and interest group activists. To the extent that there is a consensus concerning overall goals and policy instruments -i.e. a policy subsystem dominated by a single belief schema incorporated into a governmental action program- the discussion will be low-key, in private, and probably dominated by agency personnel. An example would be U.S. Social Security policy from the late 1930s through the 1960s (Derthick, 1979), and apparently some aspects of water quality in San Francisco Bay during the 1970s.

When there are competing belief systems -as at Tahoe- the process is likely to be far more contentious and the partisan use of analysis far more frequent. Figure 3 presents a scenario of the evolution of such a dispute over time. If the various sides have access to a minimum of technical and political resources and if they are forced to confront each other in an authoritative and relatively apolitical forum, the norms of analytical (scientific) debate will gradually eliminate the more improbable causal assumptions and invalid data. As a result, a rough consensus over the outlines of a more accurate model will gradually emerge. This does not imply the cessation of conflict. Until the various coalitions reach a policy consensus, they will continue to raise new empirical issues - each of which will take several years to resolve. But at least the base of empirical agreement will gradually expand over time (and the conflict may even focus more and more on underlying normative disagreements).

Summary

Policy evolution within subsystems can be understood as the product

of two sets of exogenous factors, as well as internal (subsystem) dynamics. The exogenous factors include 1) relatively stable (over several decades) socio-economic and constitutional variables which establish basic constraints and opportunities, as well as 2) more dynamic factors -such as changes in systemic governing coalitions or important socio-economic perturbations- which periodically alter the constraints and resources confronting subsystem actors. But policy evolution is also a function of internal processes, including 3) the striving of competing coalitions to better realize their core beliefs (and interests) over time and 4) the resources available to those actors to translate their preferences (including the products of learning experiences) into governmental action programs and other institutional innovations.

The major innovation of the framework presented here is its focus on policy-oriented learning. This is an effort to show how -despite the partisan nature of policy-making and the various cognitive limits on rationality- actors' desires to realize core values in a world of limited resources provide strong incentives to learn more about the magnitude of salient problems, the factors affecting them, and the consequences of policy alternatives. If the different coalitions have access to a minimum of technical resources and if authoritative and relatively "depoliticized" communication fora exist which force competing professionals to address each others' findings, then performance gaps will become known and more adequate causal models and a better understanding of policy impacts will gradually emerge over time.

RESEARCH DESIGN, CASE SELECTION, AND HYPOTHESES

This project basically involves a multiple interrupted time series design with comparisons across three policy problems -water quality, air quality, and tourist development- at Lake Tahoe, as well as cross site comparisons involving water quality at Tahoe and San Francisco Bay (Leege and Francis, 1974). Each of the time series is a dynamic, interactive one. Analysis will focus on the manner in which external events and subsystem dynamics produce changes in the belief schema and policy strategies of the advocacy coalitions. These interact to produce changes in public policy (goals and institutional arrangements) at the collective choice level which, when combined with other factors, result in program outputs/decisions at the operational level and, eventually perhaps, changes in problem parameters (program outcomes). Feedback from policy decisions, operational outputs, and outcomes may, in turn, lead to changes in belief schema and/or policy strategies.

Case selection

In testing the framework of policy evolution and learning, it seemed advisable to begin with relatively tractable cases. Once

the processes are better understood, the concepts operationalized, etc. future research can deal with more difficult cases. This strategy calls for cases with the following characteristics:

1. A policy area in which quantitative data on problem parameters are available and in which good causal models are possible. As explained previously, these characteristics are hypothesized to facilitate policy learning. Thus cases in, e.g., air or water quality should be given preference over those in mental health or foreign policy (which can be reserved for future research).
2. A policy subsystem which is relatively small, well-defined, and stable, such as a subsystem concentrated in a local area, preferably rural (and thus rather small). As for stability of membership, it offers obvious practical advantages in any study of policy evolution covering a decade or more.
3. Given the obvious methodological difficulties of relying heavily on respondents' memory, one needs as much documentary evidence as possible in the form of government reports, newspaper files, previous studies of policy-making, etc. In addition, one needs (a) a good time-series on the dependent variables (problem parameters) and, if at all possible, (b) previous surveys of elite opinion which can be replicated and thus furnish the basis of a systematic analysis of attitudinal change over time.
4. A good deal of conflict and institutional innovation over time. There is not much sense in studying policy evolution in a subsystem in which little happens. Instead, what's required are changing strategies and institutional innovations as a result of the interaction of competing coalitions.

In short, testing the evolution/learning model requires a case (or cases) of a small subsystem in a tractable policy area (e.g. water quality) which has a good historical record and in which a good deal of conflict and institutional innovation have taken place. In addition, analyzing the limitations of "top-down" and "bottom-up" implementation models requires cases with a multiplicity of programs for the former and a variety of institutional arrangements for the latter.

Fortunately, Tahoe meets these demanding criteria surprisingly well. Lake Tahoe is a large (156 km²), extremely oligotrophic lake nestled in the Sierra Nevada mountains on the California-Nevada border. Its extreme transparency and cobalt color -as well as the majestic mountains rising from its shores- have made its beauty world famous, rivaled perhaps only by Lake Baikal in the Soviet Union. It remained relatively isolated until 1960, when the completion of a major interstate highway and the Winter Olympics in Squaw Valley just north of the Lake spurred an influx of tourists. Since then, the opening of a number of casinos on the

Nevada side, the area's attractiveness for both summer and winter recreation, and the presence of the San Francisco Bay Area only 4-hours drive away have led to considerable tourist development, with peak summer day populations exceeding 200,000. This has been accompanied by a noticeable decline in water and air quality. In order to arrest this decline, environmental groups and their allies have pursued a number of policy initiatives over the past 25 years, including the export of all sewage from the Basin starting in the late 1960s; the formation of the interstate Tahoe Regional Planning Agency (TRPA) in 1969; the institution of a virtual ban on sewer hookups in the mid-1970s; a moratorium on highway construction starting in the late 1970s; the revision of the TRPA Compact in 1980; and a number of measures to compensate landowners affected by some of the growth-control measures. In short, Tahoe definitely meets the first criterion (water quality policy) and the fourth (lots of conflict and institutional innovation).

There is also a well-developed historical record regarding events at Tahoe (much of it compiled by U.C. Davis faculty over the past 15-20 years). This includes a) excellent data on the "policy problems" -air and water quality- much of it predating any institutional innovations (Goldman, 1981; Tahoe Research Group, 1981; Cahill et al., 1979); b) a number of elite panel surveys from the early 1970s (Constantini and Hanf, 1972; Merrill and Springer, 1975) which, when replicated, will provide an invaluable record of change in elite attitudes over time; c) an extensive clippings file and most of the major policy documents from the last 15 years; and d) analyses of permit decisions by the TRPA during the early 1970s (Felts and Wandesforde-Smith, 1974). Thus there are very good longitudinal data on the ultimate dependent variables -air and water quality- and on many of the independent and intervening variables predating and postdating at least some of the institutional innovations.

The Tahoe policy elite are also relatively small in number and apparently quite stable. The 1970 Constantini-Hanf elite survey comprised a couple of hundred respondents, and a spot check suggests at least half are still active in the Basin. In addition, the multiplicity of programs and institutional innovations provides a good arena for examining the advantages and limitations of "top-down" and "bottom-up" models of implementation.

The use of three policy/problem areas -water quality, air quality, and economic viability- at Tahoe presents some opportunities for at least partially-controlled comparisons. Water quality and air quality are quite similar in their relative ease of measurement and in the basic line-up of political forces. They thus provide an opportunity to examine the extent to which, e.g. differences in the number of actors or the duration (or amount) of research funding affect the amount of learning. Tourist development

is included as a problem area for two reasons. First, it is more difficult to measure and to model than either air or water quality, and thus one would predict a poorer knowledge of the system. Second, it is of principal concern not to environmentalists but rather to the developer/local government coalition; it thus provides a better opportunity to see both coalitions as active strategists.

Hypotheses

Following are some of the principal hypotheses which will be examined in this project, as well as a brief indication of the manner in which they will be tested.

Hypothesis 1. Neither top-down nor bottom-up models do a very good job of explaining policy evolution. While top-down models do a reasonably good job of explaining policy outputs of specific institutions, they have difficulties in explaining policy initiatives/strategies which are not legally mandated and in dealing with situations involving multiple programs, none of them preeminent. Bottom-up models (e.g. Hjern et al.) have trouble with the often indirect manner in which legal institutions and socio-economic conditions constrain behavior.

Top-down models would predict that the TRPA would make only marginal changes in the status quo ante. A top-down model would have correctly predicted that environmentalists would have attempted to revise the 1969 Compact, but would not have predicted their other strategies when that failed. This is part of their more general limitations in dealing with the interaction of multiple programs. On the other hand, the bottom-up model of Hjern et al. should do a good job of mapping the complex networks at Tahoe, but have difficulty predicting policy evolution (for the simple reason that it's almost exclusively descriptive).

Hypothesis 2. In regulatory (and redistributive) policy, advocacy coalitions are more important actors over a 10-15 year period than are coalitions of convenience. While this would apply to air and water quality at Tahoe, tourist development at Tahoe is less certain.

Advocacy coalitions are characterized by a similarity of members' beliefs and policy recommendations, as well as considerable interaction, over a rather extended period of time. Coalitions of convenience are ad hoc alliances on specific policy disputes. This hypothesis predicts a great deal of continuity over time in the composition of coalitions, i.e. in one's allies and opponents in policy disputes. This also predicts a good deal of continuity in the expressed beliefs of most actors over time.

Hypothesis 3. The core of a governmental action program is unlikely to be significantly changed as long as the systemic governing coalition which established it remains in power. Thus major policy changes at Tahoe should coincide with changes in legislative governing coalitions.

In particular, one would predict major policy changes at Tahoe after the 1974 election of environmentally-oriented Jerry Brown (replacing conservative Ronald Reagan) and again after 1982, when Brown was replaced by conservative George Deukmejian. (Note: a governor's principal vehicle for change is his authority to appoint the heads of most agencies and boards).

Hypothesis 4. Policy areas involving natural systems should be characterized by more learning concerning system dynamics than social policy subsystems because the former have a smaller percentage of active strategists and more possibilities for experimentation. Thus one would predict more learning at Tahoe with respect to air and water quality than tourist development.

This requires, of course, the development of a methodology for measuring this aspect of policy learning. At different points in time, one should be able to assess actors' perceptions of the major inputs (sources) into a system, the relative importance of each, and some sense of intra-system dynamics. With respect to water quality at Tahoe, for example, the set of perceived nutrient sources has grown from 1) sewage and 2) erosion in the late 1960s to now include 3) groundwater and 4) airborne. There is now also apparently a better sense of the relative contribution of each source to different types of algae, as well as a better knowledge of nutrient flows and conversions within the lake. It should be possible to make comparable assessments with respect to knowledge of the factors affecting tourism, and then to compare (at least qualitatively) changes in knowledge within the two policy areas over time.

Hypotheses 5-7. These are the same as the first three hypotheses in Table 1 relating to changes in belief schema over time.

They obviously are predicated upon the development of a methodology for analyzing the structure of belief schema independent of behavior. That is one of the principal early tasks of this project. When such a methodology is found, the elite panel surveys (supplemented by interviews and documents) will furnish the basic data set for testing these hypotheses.

FOOTNOTES

1. For a more extensive discussion of the points summarized here, see Paul A. Sabatier, "What Can We Learn From Implementation Research", a paper presented at the conference of the Research Group on Guidance, Control and Performance Evaluation in the Public Sector, University of Bielefeld, Center for Inter-disciplinary Research, June 15-22, 1983.
2. This section is based on the more detailed development of the model, and the reasoning behind it, contained in Paul A. Sabatier, "Toward a Strategic Interaction Framework of Policy Evolution and Learning", University of California, Davis, Division of Environmental Studies, October 1983.
3. The California TRPA (CTRPA) was an agency with a separate staff whose governing board was comprised of the six California (but not Nevada) representatives to the TRPA plus a seventh chosen by the other six. During the 1974-80 period, it had a much more environmental policy orientation than the TRPA. In fact, it was the CTRPA's policy of restricting highway expansion to the Nevada casinos which was one of the factors responsible for Nevada's eventual willingness to revise the 1969 TRPA compact.

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IMPLEMENTATION RESEARCH AND INSTITUTIONAL DESIGN: THE QUEST FOR STRUCTURE

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INTRODUCTION

It seems unavoidable that any "new", "modern", or "thus far unexplored" field of social research comes wrapped in a mystical cover that hinders efforts to push directly to the issues underlying the topics that are being put on the research agenda. It takes some time to discover what a new research interest is all about, be it means-goals analysis, P.P.B.S., policy implementation, policy termination, privatizing government, or deregulation (to name but a few). Some of these by now have become demystified. Several others await their turn to be saved from the political rhetoric that - also in their scientific treatment - still surrounds them. The study of policy implementation seems to be somewhere in the middle of this process.

At the outset, the study of implementation was presented as a different, new, and promising field of social research. It was considered different and new in that attention was drawn to dimensions of policy processes that were considered to be neglected by "traditional" policy analysis. It was considered promising in that insight into the "black boxes" of policy was thought to provide useful clues for improving the quality and impact of public policy.

The early days of implementation research were characterized by vigorous debates about how to approach the newly "discovered" subject. Participants in intellectual exchanges were classified in terms of hierarchically oriented "top-downers" and grass-root oriented "bottom-uppers". Emotions centered around the "idealistic" claims of the first - that implementation research should aim at

finding the missing link and close the implementation gap - and the "realistic" claims of the second - that implementation analysis should focus on studying policy in action.

The theoretical dividing lines originated in stressing intra-organizational, environmental-contingent, or interorganizational aspects of implementation. However, in the process of an ongoing intellectual debate, these different approaches have become accepted as tapping different but not necessarily opposing or mutually exclusive dimensions of the same general problem area. By now, the differences between "top-down" and bottom-up" seem to have become relaxed, if not bridged by concepts as "contextuality" (Wittrock) and forward and backward mapping (Elmore). The same goes for dynamical conceptions of evolution and learning (Hanf; Sabatier), and conceptualizations of multiorganizational arrangements that enable one to capture simultaneously, consolidated, and fragmented institutions (Parks; E. Ostrom).

Differences between intra- and interorganizational approaches, furthermore, become relative when one takes into consideration either the totalities or total social formation that embrace organizational networks (Benson; Weitzel), or the organizational political processes that go on within policy-subsystems (Milward and Wamsley; Wamsley). In these cases, a priori defined differences between intra- and interorganizational approaches become surmounted by the question of how to define and demarcate relevant units and levels of analysis in such a way that they meet standard criteria for social research such as reliability, replicability, and validity (Hjern; Hull).

Government in Action

The above observations by no means imply that the problems of implementation research are in the process of being solved. The development, as I see it, is one in which the old problems of implementation research are gradually being replaced by the still older problems of doing social research. This is clearly a function of "the coming of age of implementation analysis" (Wittrock). I am not sure, however, that we should feel uncomfortable about it.

In a sense, the pendulum swings back. A lot of papers included in this volume entail references to "pre-implementation-analysis" ideas and concepts. This holds true for the theoretical ideas of distinguished scholars as, for example, Tocqueville, Marx, Weber, or Durkheim, and for less traceable concepts as responsibility, iron-triangle, policy-subsystems, contextuality, learning, or evolution.

To say that a community of scientists is on its way to rediscover its own classics does not mean that history merely

repeats itself. History cannot repeat itself, simply as it is made by different people in different "times", using different sources, information, data, and ways of organizing and processing these. "The pendulum that swings back" seldom is precisely the same pendulum that swung back or forth at earlier times. This is also the case with implementation analysis.

The swing from policy analysis to implementation analysis seems to be characterized more by a shift in empirical locus than a shift in theoretical focus. A lot of the research presented or referred to in the papers of this volume could not have been reported without undertaking activities such as sitting in and observing city-hall meetings, interviewing and interacting with small businessmen, going through actual decision-making situations instead of their documentation, engaging in day-to-day operational activities of public and private officials, riding in police cars, and recording police encounters.

These types of research activities might have been familiar to, for example, anthropologists or organization-analysts out in the field. In the realm of academic policy-analysis they were less so. Concentration on the operational level of public problem processing institutions, however, is inherent in the very idea of analyzing policy implementation. As such, the introduction and development of implementation analysis can be interpreted as an implicit agreement to take even more seriously than before the urge of Woodrow Wilson (1887) to engage in the study of administration. This, among other things, he described as "the business of government" or "government in action".

An unspecified focus on the level of operational action does not guarantee, however, that the activities in the "black boxes", where the great majority of policies are formulated, implemented, and adjudicated, ultimately become illuminated. Indeed: "What you find depends on what you look at", and "What you get out depends on what you put in" (Yewlett). Or, stated in a different manner, without adequate theoretical tools, operational activities within the "black boxes" of public problem-processing will remain as opaque as ever (Wamsley).

The question then becomes whether decisions on "what you look at" and "what you put in" can be based on some idea about what we are looking for. In this respect the papers in this volume, despite their variety, seem to indicate a clear concern with at least one old, if not "classic" question.

The Quest for Structure

The early "problems" identified by implementation analysts centered around insights which indicated that implementation units are not

merely passive or mechanistic elements. That is to say, elements that are set in motion by some centrally initiated policy. The units (individuals, organizations, systems, and subsystems) that constitute an implementation structure appeared to a greater or lesser extent to have a factual (power and influence) as well as a normative (legitimacy) independence. Some considered this to be the problem, called: "discretion", that caused so many "policy-failures". Others, to the contrary, stressed the inevitability and desirability of processes in which a variety of units participate, each from its own resources, perspectives, and values. In either case, however, interaction (bargaining, persuasion, mutual adjustment, exchange, power) became the central concern of implementation analysis.

The papers in this volume seem to be the expression of a gradual shift that has taken place in the concern of implementation analysts. Wildavsky, together with Majone (1978), admitted that the original platform he had set out with Pressman and from which "the lemmings of policy-analysis popped into the sea", was inadequate. Wildavsky and Majone recognize the need and desirability of interaction in policy implementation. But an approach merely stressing that everything is "interaction" cannot be expected to be very fruitful either. By now, the question for implementation analysis, indeed, seems to have become: What is the (institutional) structure that underlies or should underlie a cluster of interactive and interdependent activities that are required in the course and evolution of policy implementation?

This quest for structure and institutional design is an old one (cf. V. Ostrom). As such, it is not surprising that in looking for adequate theoretical tools, several papers take recourse to "pre-implementation-study" concepts and ideas.

What is interesting, however, is that the revitalization, in a new setting, of the old question of (how to study) structure at least partly results from the findings of implementation analysis. In contrast to the quantitative, behavioral, and macro-oriented policy-analysis of the sixties and seventies, implementation research has contributed to the insight that institutional structures do matter. This is the case, despite the fact that thus far too little knowledge has been generated about how structures and institutional arrangements differ and in what ways.

In addition, the study of policy implementation has generated several insights that further undermine the confidence in legalistic approaches to institutional analysis. These approaches rely heavily on a linear interpretation of formal constitutional, legal or organizational arrangements as the way to plug analysis into the relevant structural setting of implementation activities.

In summary and stated in different words: implementation analysts seem to have created a problem for themselves. On the one hand, in focusing on the operational level of public problem processing they are confronted with the fact that structural variations do make a difference, if only for the way in which implementation units relate and interact with each other. On the other hand, the focus on the operational level has further demolished confidence in the reliability of the legalistic conceptual apparatus that has played such an important role in the study of structural variety.

Implementation analysis, thus, seems to leave us with empty hands after it has confronted us with structure as a phenomenon, the importance of which it has helped to rediscover. But is not the ability to generate scientific problems and to impose its own problem definition upon an area of social research a sign of development and strength? The criterion for scientific development is not whether a group of scholars can come up with the "right answers", but whether they are able to adequately formulate the "right problems". The question then becomes whether "the quest for structure" has some potential to become a scientific puzzle. This is a problem that is intrinsically interesting and has a prospect of a solution.

Given this background the rest of this paper is devoted to exploring the quest for structure a bit further and attempting to get some idea about the direction in which the analysis and prescription implied by the papers is heading.

FEDERAL AND UNITARY STRUCTURES

In his paper, Elmore distinguishes more or less complex settings for implementation processes. In his view, the complexity of adaptive implementation processes and the complications it causes for implementation analysis depends on the number of objectives and jurisdictions that are involved. In the case of multiple-objective, multijurisdiction policies, (parts of) the implementation processes are much more complex than they are in single-objective, single-jurisdiction policies. The differences in structural setting gives rise to different implementation problems:

In the single-jurisdiction case, the problem was how to get an organization to respond to a policy, while at the same time, minimizing the effects of the policy on its internal operation. In the multiple-jurisdiction, multiple-objective case, the problem is how to get lower level jurisdictions to trade one policy objective against another in a way that produces aggregate effects consistent with national policy. Notice that we assume lower-level jurisdictions will trade

objectives, rather than assuming that all jurisdictions will treat all national objectives as equally binding. Failing to do so means that we make the conceptual error of treating separate political jurisdictions as if they were extensions of a single jurisdiction" (Elmore).

Elmore's observations imply that in failing to identify the correct nature, i.e., the structural setting of the implementation problem, one makes counter-factual and counter-productive evaluations and decisions. His paper provides some prescriptions worth pursuing. At this moment it is important, however, to stress that the usefulness of prescriptions - not only in Elmore's case but also in several other contributions to this volume - critically depends on our ability to correctly identify the nature of the structural setting of implementation processes.

In essence, Elmore outlines some aspects and problems of institutional arrangements that on other occasions and at the level of nation-states are implied by the difference between federal and unitary structures. Federal structures are considered to be composed of a multitude of jurisdictions that are relatively autonomous. Unitary structures are conceived as composed of subunits that are subordinated to one ultimate source of authority, often depending on an authoritative act by the centre, i.e., the (national) state for their sheer existence.

In mentally changing the institutional scenario from federal to unitary structures, problems and processes of implementation are placed in a different perspective. They almost automatically are imagined to be very different. The multiplicity and variety of federal structures is confronted with the (perceived) simplicity and uniformity of unitary structures. This almost by definition elicits a host of ideas about the impact that the differential institutional setting has on those activities that we label implementation.

A federalist structure seems to provide the more difficult and complex cases, entailing all sorts of problems in terms of coordination, enforcement, persuasion, and control. A unitary structure seems to provide a more generous setting for implementing nation-wide policies. The asymmetry of the system seems to favor the centre, i.e., nation-state and seems to place subunits ultimately in the position of "extensions of a single (nation-wide) jurisdiction".

This train of thought is not without problems, however. Unitary and federal states are concepts used to characterize, at a given level, systems as a whole. Within these systems the amounts of federalism or unitarism can vary enormously. The fact that some implementation activities take place in a country that as a whole

is labeled federal or unitary, does not mean that the implementation-relevant structures are "federal" or "unitary". This eventually boils down to the question of how far federal states are really "federal" and unitary states are really "unitary". Stated otherwise: How do we identify federal and unitary structures which then allow us to expect the "problems of implementation" to occur that are theoretically associated with these categories?

Another problem is more fundamental. It has to do with the appreciation of federal and unitary implementation-structures. At an overall level, the success of a policy depends not so much on the implements of individual agencies or organizations. If anything, the papers in this volume demonstrate that this success depends on the relationship between implements at different levels within the system. Unitary structures generally are considered to provide better opportunities for linking together different implements than federal structures do. The argument runs, for example, that people at different levels of government tend to focus on "parochial" solutions. Elmore contends that:

There is no guarantee that (an) interlocking system of parochial solutions will produce a result that anyone would regard as a 'success'. Nor is there a universal principle ordaining that any result which emerges from (a) system of interlocking solutions is a 'good' result.

This seems to me to be a correct observation. Just as correct, however, is an observation that there is no guarantee or universal principle that would ordain that an "interlocking system of parochial solutions" will produce results that everybody would regard as a "failure" or that any result emerging from such a system necessarily is a "bad" result. The proof of the pudding is in the eating. But in the meantime many analysts seem to have developed a taste to like a "unitary" setting for policy implementation better than a "federal" setting.

Compound Rulership

V. Ostrom, in his paper, offers a theoretical critique of ideas underlying and leading to a sharp differentiation of federal and unitary political systems. Although he addresses himself at the level of the state, his argument applies to other levels of analysis as well.

Ostrom criticizes the tendency to talk and think about "the state" and "the government". He contends that these labels are either misnomers or that they are being used as a proper name, but then, "only" identify some particular entity in a more complex configuration of rulership that exists in all Western democracies.

Given the fragmentation of authority and the distribution of authority over several governments, his case is easily made with respect to federal systems. Ostrom goes on to indicate, however, that also in unitary states provisions have been designed so as to prevent the ultimate unitary state, with all powers vested in one single and unchecked source (The Hobbesian Solution). One can point at the "checks" of the people on parliaments as the centre of power, at the institutionalization of a separation of powers, and to the fact that also in unitary states central governments must make use of regional and local units to conduct their affairs. Both in federal and unitary states implementation-processes take place in the context of compound and configurative arrangements that include a multitude of organizations.

Ostrom's normative critique aims at the desirability of the very idea of unitary structures. His positive critique points out that what we usually refer to as unitary structures are something quite different from the structure that is implied by the idea of a unitary structure. His basic concern is that in analyzing "systems of governance" - whether at a national or subnational level - a perspective emphasizing the unitary character of these systems tends to overlook important and sometimes quite consciously designed institutional arrangements. Each of these arrangements separately can be treated as an asymmetrical unitary structure. But in their configuration they make up a compound structure. This structure has little resemblance to the monopolistic, unitary structure that characterizes each of the (analytically) separable parts which make up the "whole".

This concern seems to imply, for example, that Ostrom is in accordance with Elmore. The latter states that if we were to look at policy decisions only from a unitary perspective (in Elmore's language: the forward mapping perspective), we would consistently overestimate the degree of control policymakers exercise.

Another example that might be mentioned as a misspecification of the compound character of many institutional arrangements, and that follows from adopting a unitary perspective, is that the interference of courts (public, private, or administrative) in implementation processes is often interpreted as an outside intervention. Analysts tend to treat this intervention as an unfortunate event made necessary because of some "failure" in the "proper" or "real" implementation process. They do not see the role of the courts as an integral element of full value in the policy process.

Unity Through Diversity

Ostrom could have gone even further in his theoretical criticism. Looking back, the emergence of unitary states in Western Europe is often associated with the hierarchical, bureaucratic centralism of

the Napoleonic Era. This might have been a driving force behind the establishment and design of some unitary states. But if one takes as an example the Dutch "decentralized unitary state", a different picture of the political theory underlying the design of the intergovernmental system emerges.

The designers of the legal system in the middle of the last century gracefully accepted the national unity that had been completed under the French domination. The design of the legal system for intergovernmental relationships, however, was not based upon some notion of the desirability or necessity of a centrally and hierarchically integrated system.

"Wholeness" and "Unity" were basic concepts. But these concepts did not stand for unity through central integration, coordination, and organization. The theory assumed organic unity in which the "parts" cannot exist without the "whole", while at the same time the "whole" cannot exist and go through an evolution without the parts.

The starting point was the assumption that local governments were living organisms within a larger organic whole and with an evolution and strength of their own. Local governments were not considered merely to be mechanistic entities created by the state and set into motion by some central order or command.

The design of the intergovernmental system of the Dutch unitary state reflects these principles. Among other things, the designed relationships between national and local governments essentially were of a supervisory and not of a command character. The design gave national government "blocking power", not "energizing power". The energy was supposed to lie within local governments. Their most powerful resource was that they had and kept the initiative in intergovernmental relationships. The exercise of this initiative could be facilitated but not organized. The central idea was not to bring unity in diversity, nor diversity in unity, but to get unity through diversity.

An unrestrained exercise of local strength and local initiative might, on the other hand, destroy the system as a whole. So in fact the supervisory powers that were vested at more embracing levels of government were meant as formal checks to balance the actual power of living local organisms. The latter is presumed to be the condition on which the formal structure is built.

This means that if taken out of its configurative context in which "actual" and "organized" powers are supposed to check and balance each other, the formal intergovernmental system only reflects the "hierarchical" powers.

Whatever one might think about the validity of organic theory - especially after what it has become in the hands of some organization theorists (Scott, 1979) - it might be clear that an exclusively unitary (or if you like "forward mapping") perspective can lead to a distorted picture of at least the design of the Dutch unitary state.

Fallacy of the Wrong Level

In addition to theoretical critiques, implementation analysis has fueled methodological and empirical critiques of the adequacy and usefulness of the unitary-federal dimension (broadly defined) as a frame of reference for studying the structural setting of implementation processes.

Contemporary unitary states, or unitary arrangements within federal states, rather generally are looked upon as centralized systems. The empirical indications to support this thesis are found in the distribution of constitutional, legal, and organizational resources. In the latter case, one finds references to the existence of a large, well-trained, well-equipped, and professional bureaucracy at the national level of government. Furthermore, people point at "the power of the purse" in systems with a nationalized tax-system and at the political support that national governments derive from nationally organized political parties and interest groups (the "iron triangle").

The distribution of both the legal and organization-political resources seems heavily to favor the power-position of national governments. From the sheer increase in national policies, programs, guidelines, specific grants, and nation-wide legislation, observers draw the conclusion that these "systems of governance" have grown increasingly centralized.

This conclusion potentially has a fatal flaw, however. In methodological terms one could speak of the "fallacy of the wrong level". Conclusions about the ever increasing centralization in, for example, The Netherlands, are based on observations at an aggregate, national level. From these observations inferences are drawn about developments at the disaggregated local level.

Conclusions about financial centralization, for example, are based on an inventory which revealed the existence of more than 500 specific grants through which national departments allocate their budgetary funds to "lower" governments. As in The Netherlands - again at an aggregated level - local governments depend for more than 50 percent of their income on specific grants, the conclusion was easily reached: the Dutch municipality had become a puppet on more than 500 (financial) strings.

The criticism of this conclusion is aptly summarized in the comment of somebody who for the very first time heard about these figures and asked: "Wouldn't you like to be the victim of more than 500 specific grants?"

Stated in more neutral terms, the problem is that we have no idea - except the inside "horror-stories"- how the aggregated findings vary over local governments, which factors account for these variations and, more generally, how the processes of allocation and mobilization of resources actually take place.

The "Other Side of the Story"

There are several reasons to suspect that a focus at the operational level of intergovernmental relationships will provide us with a different picture than the one which emerges from an inspection of aggregate characteristics. The image that the central government controls and allocates the flow of resources does not match very well with fairly common complaints of other administrative and organization analysts. These draw attention to the fact that the overall structure of the national government is characterized by a lack of integration, by fragmentation, and by overlapping activities. These can be disturbing characteristics. They can give rise to unpredictability, uncertainty, and time-consuming procedures. But the alledged system of "the fourteen shafts of government" or "the kingdom of the fourteen partitioned departments" - as they sometimes are called in The Netherlands - does not correspond very well with the idea of centralized control.

It at least should make us sensitive to the fact that "the national government" too, does not exist and, in fact, is a conglomerate of different organizations. These organizations, and parts within them, are themselves engaged in a competitive struggle for scarce resources. Local governments can benefit from this struggle.

Seen from this perspective, one realizes that, for example, the financial dependency of local governments is accompanied by a dependency of national departments on local government agencies. National departments are confronted with a "policy-substantial" dependency in that - especially in the Dutch context - the success or failure of a national policy, sometimes critically, depends on the cooperation and efforts of local government units (for example, a national housing or urban renewal program). Furthermore, national departments are confronted with an organizational dependency. In order to prevent (additional) budgetary cutbacks or to prevent other departments from claiming slack-resources, a department needs projects that can be funded. These projects are not only needed to spend available resources but also to gain a strong position in the comparative, interdepartmental process of

demonstrating the importance or (even better) "necessity" of the continuation of their activities. These fundable projects have to be provided by subnational governments.

A look at the operational level of intergovernmental activities also highlights the fact that the highly qualified bureaucratic expertise at the national level as a source of influence, very often, is matched if not outbid by the expertise, knowledge, and information that is available to local authorities because of their "local presence".

In focusing on the operational effects of employing "top-down" legal arrangements, such as a central mandate to local governments to perform a certain task, the dual nature of many of these unitary legal provisions might become clear. A central assignment as, for example, a "growth-city" means for such municipalities not only that they may expect some commitment of the relevant national departments that are involved in the program. This "central intervention" also means that the pool of municipalities with which to compete for scarce resources is being reduced. Central intervention thus actually diminishes the possibility to divide and rule. This principle (paradoxically?) is often seen as being the essence of central control.

The disregard for these and many other aspects of mutual dependency within unitary arrangements is, methodologically speaking, of crucial importance to the validity and reliability of the assessments and prescriptions with respect to existing institutional arrangements. This disregard results at least partially from an assumption that unitary systems are uniform and centrally controlled in the first place. Given this assumption, local variation by definition becomes the exception to the rule, not worth studying as a major characteristic of unitary systems.

Empirical Evidence

In focusing at the operational level of public problem processing, implementation analysis has provided at least some hunches that the above methodological and theoretical criticism is not merely an academic one. Especially because of its concerns in the early days, implementation analysis "discovered" a lot of national policies, programs, guidelines, and other rules that were not very well executed at lower governmental levels, if they were being implemented at all. Many local governments on more than one occasion did not meet the requirements laid out by some national program or "messed up" a declared policy in some other way. Indeed, there was a time when the dominant feeling of some implementation analysts was that it was amazing that programs were being implemented at all.

A lot of frustration and disappointment was aroused by this impotence of policy, program failures, and planning disasters. The formalism, inefficiency, and ineffectiveness of the system were criticized. Local governments at least partly got the blame, while national departments were criticized for their inability to design effective programs so as to overcome local resistance.

But, wait a minute. Wasn't the subject centralization, the growing power of national government and the erosion of the power of local government? Do these "failures" of national policy not at least indicate that the conclusions we draw from "traditional" institutional parameters (constitutional, legal, and financial arrangements) only partially reflect what is actually going on at the operational level of public policy? Surely, there is inefficiency, and perhaps a lot. There is unnecessary formalism, wasted energy, and wasted resources at both the national and local levels of government. But are these phenomena properly addressed under the heading of centralization? Is the problem of relieving overloaded national governments and the effort to regain control properly addressed under the heading of decentralization? And, is formalism, inefficiency, and wasted energy not primarily the result of consistently overestimating the degree of control that policy makers can or should exercise in "unitary" structures?

Thus far, I have mainly focused at the "unitary" character of unitary states. One could also focus at the "federal" character of federal states. There are many spontaneous, organized, and nonorganized, juridical and nonjuridical sources of integration in formally fragmented systems. There are many factors which "unify" federal structures. They too are often overlooked in "conventional" institutional analysis, but - if we are able to recognize them theoretically - they come to the forefront when one focuses on the operational level of policy implementation.

Milward and Wamsley provide an example. They assert that the federal governmental structure of the United States is overruled by the vertical ties and interrelationships of the component parts of policy subsystems at different levels of government. Indeed, one does not necessarily have to like the substantial integration that particular policy subsystems accomplish. One might prefer a different cluster of values than the one which is being traded off within existing "iron triangles". But without the existence of policy subsystems per se, would not be there a chaos? (Milward and Wamsley).

THE QUEST FOR STRUCTURE: PROCEDURES, CONCEPTS, RESEARCH

Whether one is interested in arrangements "federalizing" unitary structures or "unifying" federal structures, on both occasions one ultimately confronts the question of what might be an adequate

conceptual apparatus for plugging into the relevant structural context of implementation processes. The papers in this volume reflect several efforts to resolve this question.

V. Ostrom and Elmore focus on some procedural ways to arrive at an adequate grip on the relevant institutional structures. Ostrom emphasizes the necessity for research that self-consciously takes into account the configurative nature of multiorganizational arrangements in both unitary and federal structures. He demands special attention to the way in which separable arrangements are linked together such that one unitary structure may be counterbalanced by another unitary structure, thus contributing to the symmetry of the compound system of governance as a whole. In doing this one should recognize that the configuration of institutional arrangements might involve structures at different levels of analysis and thus cannot be revealed if one focuses only at one of those levels.

Somewhat differently, but in a similar vein, Elmore proposes the strategy of self-consciously moving back and forth between forward and backward mapping as a device to get a hold of the structural factors that actually are of importance to "implementation problems". In exercising "reversible logic" in the analysis of public policy, one is almost forced to take into consideration the relevant units and levels of analysis and the relevant characteristics thereof.

Milward and Wamsley, and Wamsley try to save the concept of policy subsystems from "conventional wisdom". They assert that this concept is unnecessarily narrowed to the idea of "iron triangles". They explore the potentiality of this concept and the underlying ideas as a way of trying to conceptualize the structures and processes within the "black boxes" of the governmental process. They, among other things, stress that policy subsystems are analytic constructs. This means that one has to be careful not to ascribe them "organic" qualities before one is more or less sure of dealing with the proper unit of analysis. This then brings again the methodology of mapping the network in terms of relevant units and levels of analysis to the forefront as a major issue.

Several other authors address themselves to the problem of how to conceptualize and analyze the relevant structures underlying the "fluid" interactions of implementation. The question is how to cope with the difficult effort to combine an actor-oriented perspective with a structural one. Wittrock stresses that in this endeavor the dynamics should be taken into consideration. In treating implementation as a contextual phenomenon, one should not only be aware of spatial variations. Also, the discontinuities in policy evolution and the way in which these discontinuities relate to changes or crisis in macro-political and societal

structures should be taken into consideration.

A complement to this point of departure is readily found in the paper of Benson and Weitzel. Their plea is to tie the analysis of interorganizational networks to stages of capitalist development, to relate the differentiation of interorganizational policy sectors to problems in particular stages of that development, and to analyze the relationship between policy paradigms and the power and interest structure of the larger political economic system. As Yewlett observes, this research agenda is not without problems. However, the agenda is illustrative for the basic concern of most contributors to this volume. All contributors seem to agree: structures and institutions are theoretically important again. The question is what structures at what level, and how can we get a hold of them in such a way that we actually understand what is going on at the normal, day-to-day, operational level of public problem-processing.

The Pilotless Polity

This volume contains some reported results of parts of research projects that have an established tradition and that, at least partially, have tried to incorporate the concerns outlined above.

To begin with there is the effort of "the Bloomington School" to study multiorganizational and formally fragmented institutional arrangements as a "public service industry": a complex configuration of production, consumption, and provision units. They argue that "the government" should not be thought of as one (big) firm, but rather as a configuration of branches of industry.

This then leads to a different conception of the structural characteristics of governmental institutions that might enhance goals such as efficiency, responsiveness, and equity. The findings consistently show that institutional prescriptions which are considered to be productive in the context of a single organization do not apply very well to the complex multi- and interorganizational setting that characterizes so many policy sectors. The "unitary" solution might be appropriate for some (types of) services, but counterproductive in other occasions.

Besides the potentialities of "structural complexity as a way of avoiding pathologies of overcentralization or excess fragmentation" (Parks), the findings, more generally, seem to support the idea of a "pilotless polity". With this notion, Wamsley refers to the idea that a polity can be conceived of as a system without reducing or eliminating the rich complexity, autonomy, and interactions of component parts to some single, monocentric whole. He stresses that we need not see political institutions as different, superior, inclusive, and capable of

coordinating a polity as a central nervous system would a body.

As any research, the Bloomington approach can be criticized. One might wonder whether one would arrive at a different conclusion about the desirability and feasibility of complex institutional arrangements when research is focused on values, such as controllability or responsibility (Ringeling; O'Toole). One also might want to add some additional complexity to the analysis of public service industries. One could expand the analysis to those "industries" which formally are not labeled as such, but that functionally might influence the performance of, in this case, the "policing industry" (such as: education, housing, social security).

This "functional" point of view is a major element in the research project reported by Hjern and Hull. They are very aware of the analytical nature of "policy-networks" or "policy-subsystems". Thus, they try to follow a methodology that permits them to arrive at a relevant but manageable unit of analysis for a given problem area (i.e., job creation by small firms). In doing so, they more often than not arrive at an implementation structure that embraces formally mandated as well as nonmandated, but for the problem-area functionally important organizations. These organizations are of a private as well as of a public nature.

The two types of research are essentially complementary. The inductive approach to defining the "right" unit of analysis could be added in an effort to demarcate a public service industry. The "service structure measures"; on the other hand, could be useful to characterize implementation structures and provide a ready way of comparing these. More interesting for the present purpose is that despite differences in theory and methodology they seem to arrive at the same kinds of conclusions as far as institutional prescriptions are concerned.

IMPLEMENTATION RESEARCH AND INSTITUTIONAL DESIGN

Research at the operational level of policy processes shows that legal and programmatic arrangements are not irrelevant. A linear interpretation, however, in which rules, financial, and informational flows are thought to determine the actions of participants in the policy process leads to an ill-perceived conception of implementation structures.

A certain combination or configuration of rules and other resources determines the decision situation, not the decisions (E. Ostrom, 1984). An awareness of this subtle distinction has important consequences for the interpretation of institutional arrangements. It indicates, for example, that the power of national governments is not very well reflected by legal, formal, and financial rules. The important question is whether local

governments or other units in given circumstances actually depend on the resources to which access is being regulated by the formal and legal arrangements. National governments may have many legal competencies. But as long as these regulate the "property right" to resources which, in a particular implementation situation, are not important to or can be substituted for by local governments, these formal competencies only very partially reflect the influence structures.

Treating legal arrangements as an intervening variable (instead of the explaining variable) prevents rule-deterministic interpretations. Many implementation studies show that a lot of "top-down" competencies in effect are not being used as such or eventually become "bottom-up" channels of influence. The actual employment of a seemingly "top-down" competence (for example, granting a permit or a formally required approval) often means putting a (formal) seal on previous "bottom-up" processes of bargaining, negotiation, or simply going along with local government plans that meet some implicit or informally agreed standards.

The structures usually referred to by the concepts of unitary and federal structures do not really cover all the structural variables that are of importance. A focus at the structures of "federalism" and "unitarism" runs the risk of overlooking all the forces within the existing structures of the "organic" foundations upon which these unitary and federal structures are built. Whatever the legal arrangement, the particles that constitute implementation structures should not be treated analytically as mechanistic artifacts.

But what else can be said than merely to draw the apparent conclusion that the way in which institutional analysis and institutional design "conventionally" are addressed, at its best is incomplete?

Facilitate Variety

There is one striking feature about the kind of structural arrangements that is stressed in several papers. There is a lot of attention to what could be called self-governing or self-organizing capacity within implementation structures. The exercise of this capacity in many cases is considered to be dependent on structural arrangements that facilitate this self-organization or self-regulation. Thereby the emphasis is not so much on the need for "integration", "coordination", or "communication". The plea for a central designer or coordinator is - even implicitly - so completely lacking, that one would almost forget that up until not so long ago this was one of the standard prescriptions of academic public administration and policy analysis.

The analysis presented in the collected papers focus on the existence and necessity of "intermediary actors" (Hjern;Hull), "reticulists" (Yewlett), "fixers" and "facilitators" (O'Toole). These are supposed to draw the activities within different networks or policy subsystems together, keep them functioning, and tie them into a larger whole. There is a concern for institutional arrangements in which the activities of production, consumption, and provision units in a systemic way are drawn together via diverse forms of mutually binding exchange, bargaining, and negotiation (Parks). Analytically separable structures need to be put together in a compound, configurative whole (V. Ostrom). Institutional arrangements are expected to be more successful when structured by "assistance structures" in which intermediary actors lubricate the interface between firms with problems and actors relevant for the resolution of these problems (Hjern and Hull). In another language one would speak of the important role that "providers" play in linking "consumption units" (demand) to "production units" (supply) (Parks).

Through all of this runs as a thread the emphasis that there is a variety of possible arrangements for organizing public problem-processing. Furthermore, it is stipulated that the facilitating activities need to be selective and to be varied from time to time and place to place. Given the attention for the self-organizing capacities within complex and compounded implementation structures, there is less worry about the fact that in the absence of some central initiator, problems will be created by a lack of information, coordination, miscalculation, or initiative. In this respect complex structures are ascribed some self-correcting tendencies. Problems might arise, however, in that because of the interdependent nature of many implementation activities decision arena's become overcrowded. This - besides high decision-making costs - may lead to a blockage of decision making and deadlock. Wittrock reports, for example, that "...one of the problems of the program was not its lack of participation but its excessive efforts to drag fairly divergent public and private interests into one and the same development corporation". From this perspective there is not so much need for integration as there is for selective activation of implementation networks.

Craftsmanship

More generally, the findings of implementation research seem to lead towards a shift in the conception of the character of institutional design. Institutional design is not so much approached as a creative act by some organizer that takes a distance from the matter that he wants to rule, mold, regulate, and organize. The central idea seems to become that "...not only must we be creative and eclectic in developing ideas, but also careful and craftsman-like in putting them together" (Wamsley). In contrast to an

"organizer", a craftsman largely follows the matter that he has to deal with, respects it and, to a certain extent, submits himself to it.

This general attitude is also reflected in the conception of the role that social science research should play in the process of institutional design. The purpose of social research is not so much recommending the "correct" solution, as it is providing craftsmen with as sensible an assessment as possible of the stakes and consequences in choosing various institutional arrangements to accomplish public problem-processing (cf. Elmore). In playing this role particular attention should be given to test empirically the assumptions on which well-established ideas and institutional arrangements are founded. Instead of trying to prescribe some desired course of action or possible arrangement, the informational base of institutional craftsmen can better be enhanced by a careful study of the existing capacities within the system. The same is true for a thorough analysis of the relationship between complex institutional arrangements and inequality, or other outcomes, as, for example, E. Ostrom's paper ably illustrates.

The papers in this volume seem to indicate that at least two topics need to be subjected to such an endeavor: (1) the "classic" problem of responsibility and, perhaps in relation to that (2) a more appropriate assessment of the role that laws and the legal norms and arrangements of federal and unitary states play at the operational level of policy processes. In both occasions implementation research should not focus so much on finding the right solution as on properly formulating the problem. Implementation analysis cannot tell what one should do. Maybe implementation analysis can tell what one should not do.

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