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AN ORGANIZATIONAL APPROACH TO STATE POLICY FORMATION: A COMPARATIVE STUDY OF ENERGY AND HEALTH DOMAINS*

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We specify a causal model of factors affecting organizational participation in State policy domains. Issue interests, monitoring resources, and influence reputations are antecedent variables that affect locations in communication and resource exchange networks. These five variables jointly affect the range of core organizations' efforts to influence the outcomes of policy events. Data from the energy and health domains in the 1970s are analyzed with the LISREL program and parameter coefficients are compared across the two domains. Material resource endowments have no direct impact, but issue interests are strongly related to the institutional range of policy events in which organizations are active. In the turbulent and uncertain energy domain, no other structural factors are important, but in the placid and institutionalized health domain, advantageous locations in both the routine communication and resource exchange networks contribute to greater participation in policy events. We discuss the implications of these findings for understanding the social organization of State policymaking systems.

The executive director of a major petroleum-industry trade association was leafing through the *Federal Register*, his daily ritual of scanning the Washington scene. Buried in the fine print was an apparently innocuous announcement by the Federal Aviation Administration of its intent to promulgate new regulations that would require detailed flight plans to be filed by pilots of noncommercial aircraft. Recently, several planes had gone down and search-and-rescue efforts had been hampered by lack of information on the pilots' intended routes. The trade-association director muttered, "We've got a problem," and spent a frantic morning on the phone alerting his group's membership to apply pressure on the FAA to set aside the regulation. The executive realized that, once detailed flight plans were on record with the FAA, the open disclosure provisions of the

Freedom of Information Act would allow anyone to learn where his member companies' planes were flying on their aerial explorations for oil, gas, and minerals. The alert director's quick mobilization of collective response saved the corporations potentially millions of dollars of secret data that might have fallen into the laps of their competitors.

This incident dramatically encapsulates several important features of State policymaking: the centrality of large formal organizations; the significance of policy interests in narrowly focused events; the great value of timely and trustworthy information; the activation of policy participants through communication networks; and the mobilization of influence resources to bear upon the formal authorities. State policies are the product of complex interactions among governmental and non-governmental organizations, each seeking to influence the collectively binding decisions about events that have consequences for their interests. For the past five years, we have been studying these various aspects of American energy and health policymaking, with particular emphasis on social structure, decision participation, and influence over outcomes. We have developed new analytic perspectives and empirical measures, described in a series of conference papers (Knoke and Laumann, 1982, 1983; Laumann and Knoke, 1982, 1983, 1985) and in a forthcoming monograph (Laumann and Knoke, 1986). In the present paper, we

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report a small but central portion of these researches.

PARTICIPATION IN POLICY-DOMAIN EVENTS

The purpose of this paper is to explain the variation in organizations' participation in the State's policy domains. A *policy domain* is "identified by specifying a substantively defined criterion of mutual relevance or common orientation among a set of consequential actors concerned with formulating, advocating, and selecting courses of action (that is, policy options) that are intended to resolve the delimited substantive problem in question" (Knoke and Laumann, 1982:256). Obvious examples of national policy domains include education, agriculture, housing, foreign trade, civil rights, energy, health, and so forth. Participants in domain policymaking actions include all public- and private-sector actors whose capacities to affect the collective outcomes of policy decisions must be taken into account by the other participants. In brief, a national policy domain consists of the movers and shakers in a clearly delimited subsystem of the State.

Our concept of policy-domain participation takes account of each organization's activity on the various discrete policy events that occur within a domain. A *policy event* is any proposal in the policy process that offers a choice among alternatives that would become binding on the domain participants (Knoke and Laumann, 1982:263). For example, a 1977 Congressional bill to phase out price controls on natural gas mobilized a large proportion of energy-domain organizations, both production companies favoring deregulation and opposing consumer associations. An event is a critical, temporally designated decision point in a decision-making sequence that must occur in order for a policy option to be selected. Each event requires some authoritative actor—a House subcommittee, the Senate as a whole, an executive branch official, or a court judge—to render a discretionary decision. Each intermediate decision event in a chain is a necessary but not sufficient gatekeeper through which an option must pass (and possibly be modified or transformed) in order to be selected as the final policy option.

Accounting for variation in organizations' participation across the full range of State policy-domain events is the core of this paper. The next section elaborates our analytic model of the factors that affect organizational efforts to influence collective decisions. We then discuss how our approach complements and contrasts with other models of the State's political processes. Finally, we turn to the empirical

examination of the model, using data from the health and energy domains of the 1970s.

A MODEL FOR ANALYSIS

Two assumptions underlie the research design. First, we assume that corporate entities—such as trade associations, professional societies, labor unions, public interest groups, government bureaus, and congressional committees—are the key State policy-domain actors. Natural persons are important only insofar as they act on behalf and at the behest of these collectivities in policy debates. Second, we adopt a social choice perspective, which assumes that *supra-individual* structural arrangements among these corporate entities must be taken into account in formulating an adequate explanation of policy-domain event participation. These two assumptions jointly guided the following specification of our analytic model.

We begin by identifying the *population of consequential corporate actors* within a delimited policy domain. Every public- and private-sector organization that is considered to be a key actor by the other participants must be included. These organizations are the units of analysis in estimating the causal relations among six conceptual elements in the explanatory model. Figure 1 shows in schematic form the causal connections discussed in the following paragraphs.

Beginning at the top left, each corporate actor holds *issue interests* within the policy domain's issue space. An issue space includes all policy matters under consideration by domain organizations within a given time span. An actor's interest in a specific domain issue defines the level of concern and attention that it is prepared to exercise regarding that issue's resolution. Each organization exhibits a unique portfolio or profile of issue interests across the entire domain issue space. For one organization, the range or scope of its interests narrowly focuses on a handful of important issues, while another organization maintains a much broader set of issues in which it vests substantial interests. Each organization's issue interests are predetermined in the model. That is, their origins lie outside the model's explanation, presumably in some combination of historical and intraorganizational power dynamics. In this paper we are not concerned with which sides of the issues (pro or con) an actor favors, but only with its expressed levels or intensities of concern about the issues.

The second predetermined variable in Figure 1 is the organization's endowment of relevant *monitoring resources* that it can deploy to tap the flow of policy information among the do-

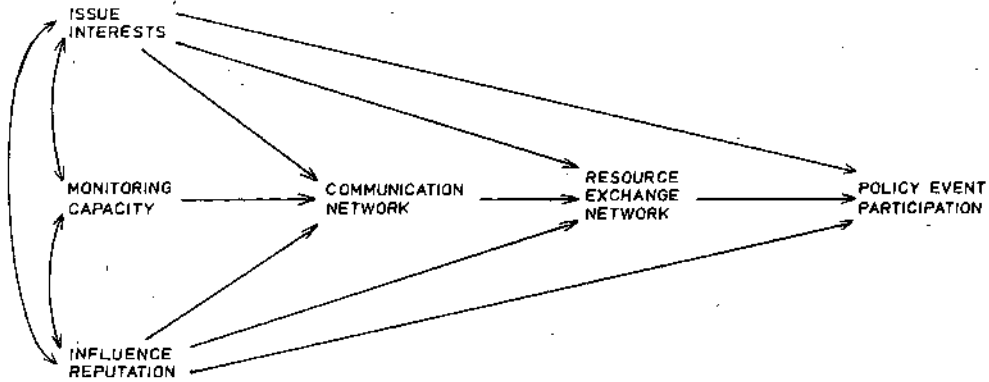


Figure 1. Schematic Diagram of Causal Relations in a Model for National Policy Domains

main participants. An organization's resource endowments enable it to pursue its interests as they are perceived in specific events. An organization monitors the relevant policy environment to acquire timely and trustworthy information about decision-making events, either impending or under way, that bear upon its interests. This surveillance function garners information about the larger system, including where the necessary material or political resources can be found that will allow the organization to advance or defend its interests (cf. Aldrich and Pfeffer, 1976; Aldrich, 1979). The model is silent about the origins of such resources, but they presumably stem from the organization's position in economic markets, the size and wealth of its membership, and its access to public revenues.

A closely related predetermined variable is *influence reputation*, an organization's capacity to affect policy decisions attributed to it by other domain actors. Influence is a social mechanism by which one actor persuades another to modify its behavior by communicating information that changes the perceived connections between a policy decision and its outcome (Parsons, 1969). An organization's imputed influence varies with the trustworthiness and credibility of the information about its interests and intentions that it communicates to other domain participants. Influence reputations probably reflect both past impact and anticipated future performances in shaping collective domain policy decisions, although the model does not depict these sources. As a causal variable, influence reputation "can be wielded judiciously in an organization's efforts to avoid dependence and promote its interests" (Knoke, 1983).

The three antecedent variables in Figure 1 are hypothesized to affect an organization's locations within two intervening domain structures, the routine *communication network*

and subsequently the material *resource-exchange network*. When a policy event arises for authoritative action, such as a Congressional bill or a federal regulatory rule, it becomes a crucial source of uncertainty for policy-domain participants. In trying to manage these uncertainties, an organization attempts to establish predictable, stable relationships of interorganizational information and resource exchanges that permit it better to negotiate its external policy environments (on network principles, see recent reviews by Berkowitz, 1982; Knoke and Kuklinski, 1982; Burt and Minor, 1983; Wellman, 1983). Hence, the model shows that a broader range of issue interests, a higher monitoring capacity, and a more substantial influence reputation each allow an organization to become more centrally located within both networks. We depict communication-network position as causally prior to resource-exchange network location because creating low-cost discussion ties to other domain actors is a precondition for more costly exchanges of valued goods and services such as physical facilities, staff, and technical-scientific data.

The analytic model in Figure 1 hypothesizes ultimate effects from all three predetermined factors and both intervening structures to the organization's *policy-event participation*. Specifically, an organization will try to influence the outcomes of a broader range of policy events if it is more centrally located in the communication and resource networks, if it has a larger resource endowment, if it has a greater influence reputation, and if it maintains a wide range of domain interests. Organizations that lack such features will actively participate in a much narrower range of policy events. The model depicts direct linkages among all the variables because neither theory nor prior empirical research warrants assertions about differential impacts. The mag-

nitudes of effects are a matter for empirical assessment.

OTHER STATE POLICYMAKING APPROACHES

Our project departs in important ways from other research approaches to State policymaking by political scientists and sociologists. In this section, we briefly sketch four contexts against which to view our analysis of the social organization of the State.

Recent controversies have swirled around Marxist-inspired analyses of the economic-class basis of the modern State (Miliband, 1969; Poulantzas, 1973; Gold et al., 1975; Offe and Ronge, 1975; Therborn, 1976; Block, 1977; Wright, 1978; Skocpol, 1980). Instrumentalist explanations argue that State policies are determined by the class interests of capitalists and their agents. Structuralist accounts accede the State greater autonomy, with its policy decisions either reflecting the outcome of struggles between capitalist and working classes or partially determined by social and political forces operating within the State structure itself. While much of this dispute is conducted at a fairly abstract theoretical level, a few empirical efforts have examined their implications. These analyses are pitched at the micro level of State manager-class composition (Dye, 1976), at the macro level of highly aggregated time series of policy outputs (Griffin et al., 1982; Hicks and Swank, 1984), or at thickly described historical case studies (Domhoff, 1978; Skocpol, 1979). None of these analyses tries to track State policymaking at the level of organizational populations laying claim to governmental authority on behalf of their interests. While our project cannot elucidate the class basis of the American State, it cuts directly into that black box to reveal a complex set of interacting private and public institutions. We see policies resulting from conflicts and contradictions among these organizational players, rather than from the monolithic rationality and clarity of State class interests implied by many Marxist images. By studying organizations participating in many policy events across domains, we hope eventually to reveal the underlying social structure and dynamic of State policymaking. Perhaps these empirical findings will add substantive fuel to Marxist theoretical debates, despite the differences in conceptual languages.

A second analytic approach conceptualizes the State in terms of elites whose interests are less class oriented and more organizationally derived (Field and Higley, 1980; Knoke, 1981; Burton and Higley, 1984). Mills's (1956) now classic imagery of an unaccountable business-

government-military power elite dominating the State inspired several empirical attempts to identify the players and map their relationships (e.g., Domhoff, 1978; Barton, 1975; Dye, 1976; Moore, 1979; Useem, 1979, 1984). Much of this research takes individuals as the unit of analysis, for example, in tracing career patterns of recruitment to top command posts, or in delineating discussion networks among core actors (e.g., interlocking corporate directors). Very few studies offer more than anecdotal illustrations of how elite structures affect policymaking activities (but see Laumann and Pappi, 1976; Laumann et al., 1977; Galaskiewicz, 1979; Knoke, 1983, for analyses involving local community elites). Although our project shares the concern of research on elite structures for mapping communication networks, we see organizations rather than natural persons as the core actors at the level of the national State. We further treat network structure as antecedent to policy-event participation and its consequences. Thus, we seek to apply principles of elite social organization in more comprehensive directions.

A third context within which to view our project is the interest group tradition among some pluralist political scientists. Spurred by the virtual explosion of activity in Washington since 1970, recent analysts have concentrated on the origins, prevalence, policy interests, resource endowments, and strategies of those associations and corporate actors seeking to influence federal policy decisions (Walker, 1983; Schlozman and Tierney, 1983; Berry, 1984). Much of this research is descriptive and more needs to be learned about how interest groups pursue their policy objectives. Theoretical explanations of the pressure-group system too often emphasize the more formalized aspects of legislation (e.g., "cozy triangles" among executive agencies, Congressional subcommittees, and clientele; Gais et al., 1984) to the relative neglect of less proximate causes (Ripley and Franklin, 1980:4-7; Burstein, 1981; Hayes, 1979; McFarland, 1983). Yet, as Salisbury (1984) so cogently argued, the recent dominance of such institutions as corporations and local governments over mass membership associations in Washington interest representation requires substantial revisions in both descriptive and theoretical accounts of State policymaking. Our project was designed (along with a parallel study of Washington representatives; Laumann and Heinz, 1984) to develop a more sociologically informed approach to interest group behavior. We particularly stress the centrality of network structures among organized interest groups for the exchange of timely policy information and politically useful

material resources so essential in the coalition-formation; influence-mobilization, and bargaining-negotiation processes that ultimately create State policies.

The final approach to which we contrast our project is corporatism. Like pluralism, corporatism gives special attention to organized interests and their relations to the State. Schmitter's definition stressed the "intermediation" function that groups play in a societal corporatist system in which "the constituent units are organized into a limited number of singular, compulsory; noncompetitive, hierarchically ordered and functionally differentiated categories" (Schmitter, 1979:13). Corporatism is most fully developed in European liberal democracies, where peak associations are directly incorporated into governmental deliberations, in guarantee for controlling their fractious mass bases. Most scholars agree that the United States lacks corporatist attributes (Wilson, 1982). Still, the identification of autonomous organizations as key State actors and the insistence that State policies can be understood as a series of negotiations among interest groups are compatible with our own perspective.

The present paper represents only a portion of our larger project. It seeks, at a very concrete level, to identify the significant organizational actors and to explain the social sources of their involvements in domain policy events. Subsequent papers will address the question of how the structured participation of interested organizations affects the selection of policy event outcomes. Taken collectively, we believe these analyses will offer new insights into the political sociology of the State.

IDENTIFYING THE CORE ACTORS

The two settings for our research are the United States national energy and health domains during the 1970s, heavily concentrating upon the Carter Administration (1977-80). By the end of the 1970s, national health expenditures accounted for almost 10 percent of U.S. gross national product (Congressional Quarterly, 1980:2), while aggregate energy consumption exceeded five percent of GNP (calculated from Statistical Abstract of United States, 1983-84; Tables 973 and 974). More significantly, health and energy policy domains posed stark contrasts in their styles of policy debates. Following the 1965 enactment of the Medicare and Medicaid programs, policymaking in health became placid and routinized, with low public visibility and few disruptive controversies. But energy policy during the 1970s grew increasingly turbulent, as bitter struggles were fought in public over the shift

from regulated to more open-market pricing mechanisms, and two international oil shortages dramatically escalated prices (see Chubb, 1983; MacAvoy, 1983; Kash and Rycroft, 1984). Given these obvious differences, we expected that the health domain would exhibit a more elitist and consensual social structure, with policy participation more institutionalized and contingent upon interorganizational relationships. Energy-policy participation, on the other hand, would be more unpredictable, as the rules of the game changed periodically and policy actors scrambled to protect their interests as best they could.

We operationally identified all consequential organizations as follows. Lists of all nonfederal organizations active during the Carter Administration were compiled from five sources: (1) a computer-generated set of abstracts from eight major newspapers and newsmagazines, tallying all organizations mentioned in stories about energy or health and federal laws and legislation; (2) appearances to testify at energy- and health-related hearings of major Congressional subcommittees; (3) a computer-generated search for *amicus curiae* participants in energy and health cases before federal district and appellate courts; (4) lobbyist registrations explicitly for energy or health legislation; and (5) additional names suggested by two panels of domain experts, mainly from academia and journalism.

These procedures generated over 1300 organization names in the energy domain and almost 900 in the health domain. The lists clearly included many actors without significant impact on national policy decisions. To reduce these populations to manageable sizes, we required each consequential actor to appear five or more times across the combination of sources. To complete the lists, we added all major federal agencies, executive departments, independent agencies, and congressional subcommittees that were specifically charged with authority over each domain. The final populations thus included 228 energy domain and 157 health domain organizations. Interviews were conducted with the person responsible for supervising the organization's activities in Washington concerning energy or health policy. More than 90 percent of the targeted organizations were successfully interviewed during the summer and fall of 1981 (see Laumann and Knoke, 1986, for complete details).

MEASUREMENT OF VARIABLES

All variables were measured with data collected through the informant interviews, as described below. Although we have no direct evidence on reliabilities, many measures are

factual matters with which the informants were thoroughly familiar, while relational data take into account agreements between pairs of informants.

Issue Interests

To measure issue interests, we must first characterize the domain issue space, that structure of linkages among the entire set of issues facing the domain. Once the relative proximities among the issues are obtained, every organization's profile of concerns with the issues that attract its attention can be readily determined. From various popular press and academic sources, we assembled a list of 65 energy issues and 56 health issues during the 1970s. These issues were stated in very general terms, for example, "synthetic fuels industry development," "strip mining of coal," "allied health professional training," and "drug industry regulation." Informants were given a booklet listing all domain issues and asked to check whether their organizations had "no, minor, moderate, or major" interests in each one.

For each domain, a matrix was created consisting of organizations in the rows and issues in the columns. Cell entries are scores from 0 to 5, indicating the level of interest the organization had in each issue (ranging from no interest to major interest). The greater the similarity of interest that a pair of issues elicits across the set of domain organizations, whatever its substantive basis, the higher the correlation between their two columns. When submitted to a multidimensional scaling routine (the ALS-CAL program of Young in the SAS package), the full matrix of issue-by-issue correlation coefficients yields a spatial diagram showing the relative proximities of domain issues based on the similarity of the organizations whose interest they attracted. Figures 2 and 3 display the two-dimensional solutions for energy and health issue spaces, respectively. The Kruskal stress values for the two-dimensional solutions were .26 and .25, and for the three-dimensional solutions the stresses were .16 and .17 in the energy and health domains, respectively. Although the three-dimensional analyses provide better fits, the two-dimensional patterns are easier to display and do not differ in their gross configurations from the more complex plots.

Clusters of issues delineated by closed lines in Figures 2 and 3 were generated by hierarchical clustering analysis (Bailey, 1974) of each correlation matrix. A cluster contains issues having higher correlations among themselves than with issues located in other clusters. Issues that attract similar constituencies of interested organizations are located adjacent to one another, while issues that appeal to diver-

gent organizational concerns are plotted far apart. The most prominent feature of these pictures are the circle or rim patterns in the distribution of issues. That is, no issues occupy the center of either issue space. The absence of any central issue in either space implies that the policy-domain issues may have attracted only relatively specialized organizational constituencies (see Knoke and Laumann, 1983, for elaboration and discussion of this point).

We measured an organization's issue interests as the degree of spatial dispersion among the issues in which it had high interests by: (1) finding all the issues in which it had more than a moderate interest (scores of 4 or 5); (2) for those issues, calculating the mean of the coordinates generated by the two-dimensional ALS-CAL solution (i.e., the mean location of the average issue in which the organization had high interests); and (3) summing the squared distances of its high-interest issues from that mean location. The formula for issue interests is:

$$\sum_{i=1}^n (X_i - \sum_{i=1}^n X_i/n)^2 + (Y_i - \sum_{i=1}^n Y_i/n)^2$$

where n is the number of issues in which the organization had high interests and (X_i, Y_i) are the coordinates of the issues. The issue-interests variable is the degree of dispersion across the issue space among those issues in which the organization had a high degree of interest. The larger an organization's score, the more widely separated are the issues in which it had high interest. A lower score indicates more concentrated attention on a smaller region of the issue space.

Monitoring Capacity

The monitoring capacity of an organization refers to the resources it devotes to scanning the policy task environment for needed information and resources. For present purposes, we took account only of the internal staff resources. Informants reported on three types of employees: (1) General Monitors: the number of full-time equivalents (FTEs) on the staff "whose regular task involves monitoring the Washington scene about all kinds of national policy issues of interest to it"; (2) Specialized Monitors: the number of FTEs devoted to watching the Washington scene about either national energy or health policy issues; and (3) Technical Staff: the number of FTEs "whose principal responsibility is the gathering of systematic technical data" relevant to either energy or health policy issues. The number of Specialized Monitors was subtracted from the number of General Monitors to avoid artifi-

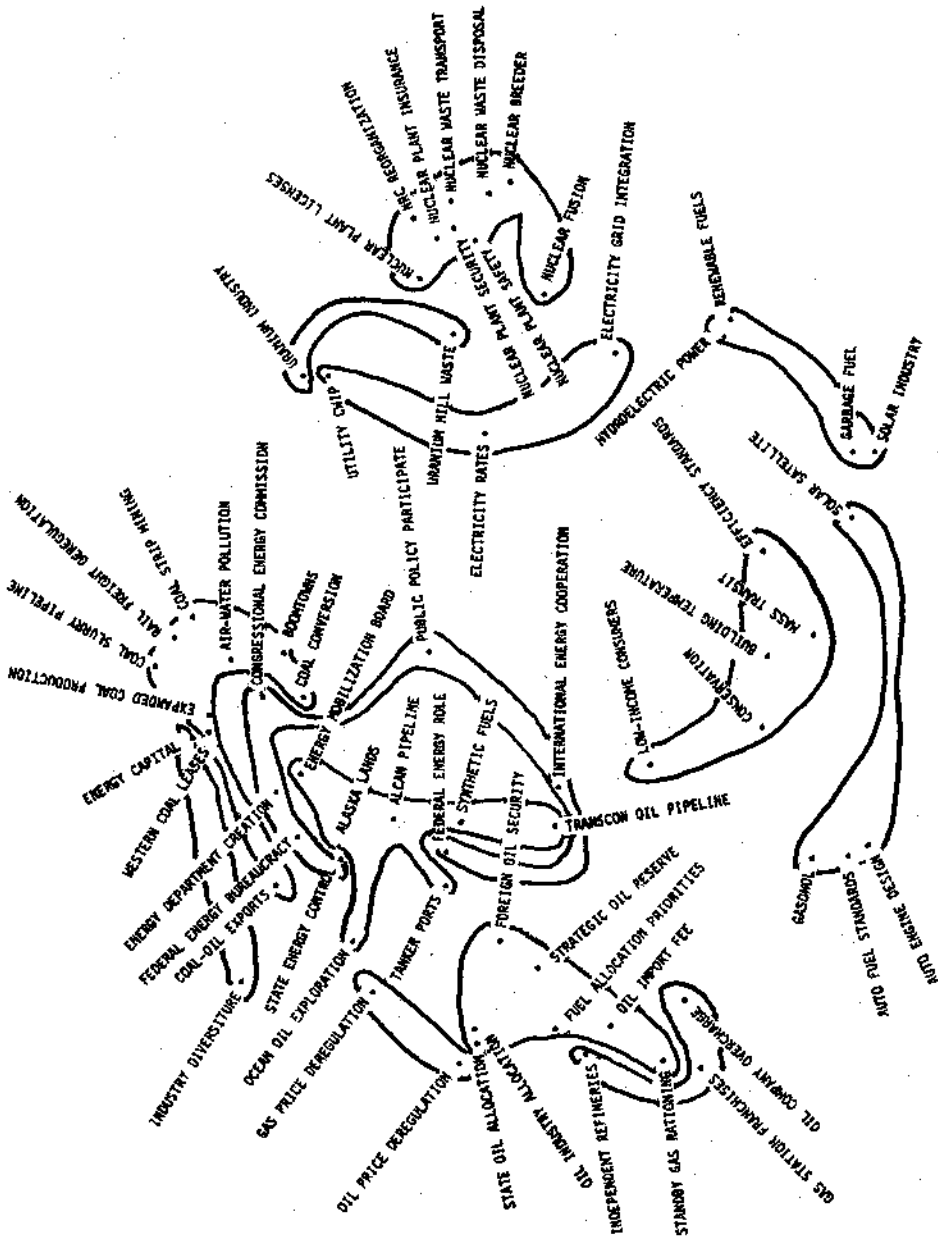


Figure 2. Two-Dimensional Picture of the Issue Structure of the National Energy Policy Domain for the 1970s.
 * Issues belonging to the same issue cluster in the hierarchical clustering analysis are indicated by closed lines.

cially inflating the correlation between these indicators.

Reputed Influence

An organization's reputed influence within a domain is simply the number of times it was cited as consequential by the other participants. Informants were handed a list containing the names of all organizations in their domain and were asked "to check those organizations which stand out as especially influen-

tial and consequential in formulating national [energy or health] policy." Informants could choose as many organizations as they wished. The average energy-domain informant cast 50 "votes," while the mean among health-domain informants was 47 choices (22% and 29% of the targets, respectively). The mean choices received by energy organizations was 40, and by health organizations was 37, but the range was enormous: from 151 for the Energy Department to 0 for the U.S. Labor Party in the energy domain, and from 117 for the American

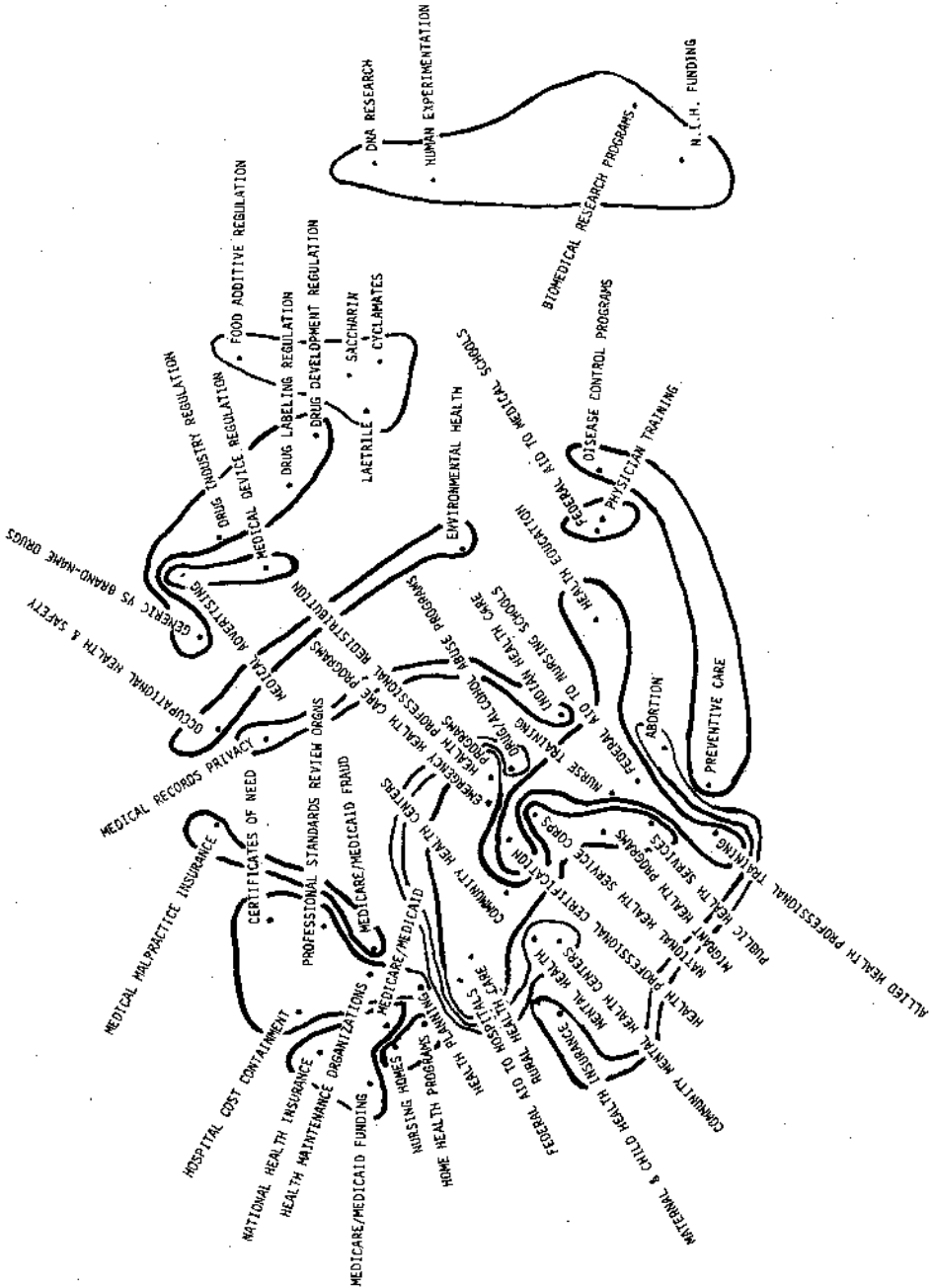


Figure 3. Two-Dimensional Picture of the Issue Structure of the National Health Policy Domain for the 1970s^a a Issues belonging to the same issue cluster in the hierarchical clustering analysis are indicated by closed lines.

Medical Association to 2 for the Hispanic Health League in the health domain.

Communication Network Location

Informants were asked to "place a check mark in front of the name of all organizations on this list with whom (your organization) regularly and routinely discusses important [energy or

health] policy matters." For each organization named, the informants were then asked which organization usually initiated the discussions. These responses produced an asymmetric square binary matrix with 1's in the matrix cell wherever a column organization reported that it received regular communications initiated by the row organization, or a row organization reported that it initiated regular communica-

tion with a column organization (and, of course, if a jointly initiated communication was reported by either party). Matrix densities were approximately .30 in both domains.

The matrices were used to calculate prestige prominence scores for every domain organization. An actor is prominent within an exchange network to the extent that its relations with other organizations make it especially visible. Prominence in a network derives from being the *target* of many actors and/or being the target of actors who are themselves the object of strong ties from many actors.

Within the generic prominence concept, two subclasses can be distinguished: centrality prominence and prestige prominence (Knoke and Burt, 1983). Centrality measures assume *symmetrical* relations of reciprocated ties between actors and emphasize the sheer volume of the linkages. In contrast, prestige measures are based on the assumption of *asymmetric* relations of directed exchanges and emphasize the quality of relations. The quality of relations takes into account the structural contexts within which a given volume of an organization's contacts occur. A contact has high quality to the extent that it increases the diversity of the others in a focal organization's ego network. For example, consider two organizations, both directly communicating with the same number of others. Suppose that the first organization's contacts are themselves the objects of many relations from other organizations, while the second organization's contacts are otherwise all isolates. The first organization has higher prestige prominence because its direct relations connect it indirectly to many diverse others. The second organization has low prominence because its direct relations connect it only to peripheral actors.

Given the asymmetry of the routine communication networks, the prominence of the *i*th organization was calculated as a prestige score:

$$P_i = \sum_{j=1}^N C_{ij} P_j$$

where C_{ij} is a square matrix of network relations (normalized to sum to 1.0 over column elements within row *i*), and P_j is the *j*th organization's prestige prominence score. Prominence scores were computed as a routine eigenvector problem, meaning that each organization's prestige prominence was determined jointly with every other organization's prominence (Hubbell, 1965; Coleman, 1972, 1973; Burt, 1980). A higher prestige prominence score means that an organization is more advantageously located within the domain communication network. This measure should not

be confused with the reputed influence measure described above, which is an attribute of an actor rather than a measure of its structural relationship to other organizations.

Resource Exchange Network Location

Informants were asked to indicate with which other domain organizations their group engaged in a variety of transactions: (1) receiving "technical or scientific information relevant to the issues"; (2) giving "substantial funds as payments for services or goods, or as contributions or membership fees"; (3) receiving such funds; (4) permitting other organizations to use its staff and facilities; (5) using staff and facilities of other organizations; and (6) belonging to the same trade association or organizational councils. If organization A said that it received funds or used facilities owned by organization B, but B did not acknowledge that tie, then the relationship is unreciprocated. We assigned "0" for no exchange, "1" for unreciprocated reports, and "2" for reciprocated reports, on the assumption that reciprocated reports imply a greater visibility and value of the exchange tie to both parties. After transposing some of the matrices to make the senders and recipients of resources compatible across types of exchanges, all matrices were summed element-wise to form a final nonbinary matrix. Prestige prominence scores for every organization in each domain were computed by procedures identical to those described above for the communication network. A higher score on the resource-exchange-network variable means that an organization is more advantageously located within that network.

Policy Event Participation

The ultimate dependent variable to be explained by the causal model is an organization's active participation in decision-making events within a policy domain. In the absence of clear-cut criteria to delineate empirically all events, but armed with a theoretical perspective on the key stages in various types of decision-making processes (Laumann and Knoke, 1982), we purposively selected a large number of events from both domains. These events span the entire 1970s decade (but especially the Carter Administration, 1977-80), covering the full range of the issue space analyzed above, and reflecting the midpoints of lengthy decision sequences. Altogether, 81 energy and 85 health-domain events were summarized in short factual descriptions of time, location, and substantive content. For example:

May, 1979, House Interior Subcommittee votes for a 6-month *nuclear powerplant construction moratorium* (Congress kills amendment in November).

Informants indicated for each event whether or not their organization had an "active involvement in the issue." (Organizations that did not exist at the time were treated as missing data on that event.)

We classified each event in terms of five formal attributes:

- (1) Decision-making locus: A dichotomy of the decision arena in which the event took place, specifically, whether it was decided by the Congress or by the executive and judicial branches.
- (2) Public visibility: The amount of attention given to the event in the print media, as measured by the number of news articles about the event published between six months before and six months after the event.
- (3) Controversiality: The degree of polarization between interested actors favoring opposing outcomes, measured by the number of organizations taking the minority position on the event.
- (4) Functional focus: (a) Initiatory: a one-time occurrence that signals the start or end of a major activity; (b) Regulatory: an authoritative action applying a regulative principle to a particular case or promulgating a new interpretation of a rule having the force of law; or (c) Funding: budgetary actions to give an on-going program its annual appropriation.
- (5) Type of decision cycle: (a) Standard Decision-Making Cycle: following a customary or usual sequence of actions to pass a Congressional bill into law, promulgate a federal regulation, or complete a judicial review; (b) Recurrent Cycle: an annual appropriations review or similar action; and (d) Constructed Event Cycle: a set of events linked by common intended policy consequences despite dissimilar functional foci. (See Laumann and Knoke, 1982, for details.)

For each domain, a matrix was constructed with events in the rows and the five formal event attributes in the columns. The data were subjected to multidimensional profile analysis, the Guttman-Lingoes MSA-I program (Lingoes, 1973). This program analyzes an n-chotomous regular data matrix and produces a Euclidean space by partitioning subjects (in this case, policy events) into n-chotomous categories over all items (attributes) simultaneously (Lingoes, 1973:219).

Figures 4 and 5 show the two-dimensional representation of these event proximities. The large diagrams display the decision-making loci: "contiguity curves" mark the cleavages between events with a Congressional locus and those with an executive-judicial-branch locus. The small inserts along the right margins of the Figures indicate the identical pattern of points displayed in the larger diagram, but with different contiguity curves delineating how each of the formal features is distributed within the event space. For example, Congressional events in the health domain fall into the upper half of the space and executive-judicial-branch events into the lower half. Highly controversial events tend to fall on the right side and less controversial events on the left side. Interpretation of the other dispersion patterns is left to the reader.

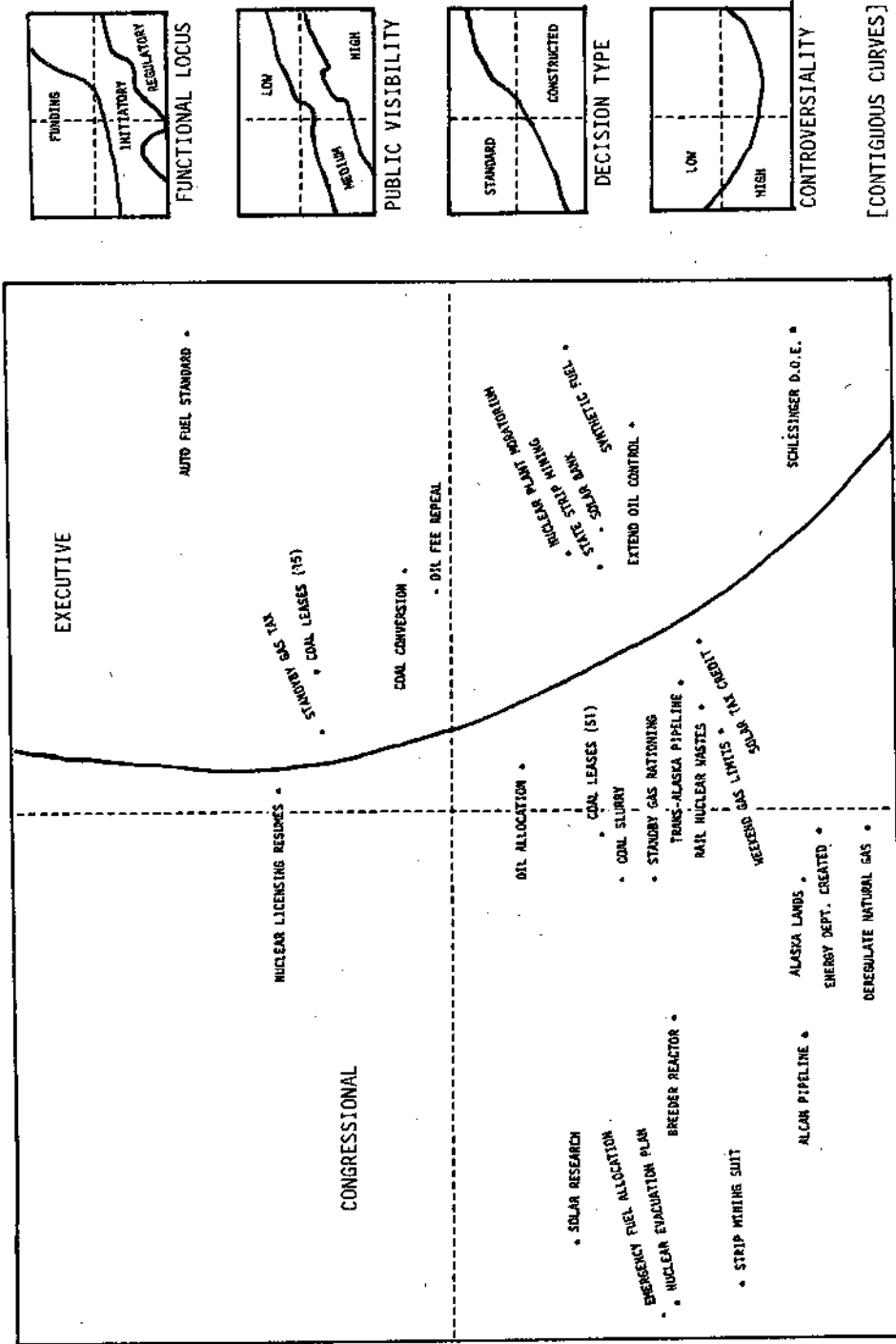
Using the two-dimensional coordinates from these event profile analyses, organizational scores on the event participation variable were calculated following procedures described above for issue interests. The higher an organization's score, the more spatially separated are the domain events in which it participated. The basic justification for looking at organizational event participation in this fashion is that discrete domain policy events occur in very disparate decision arenas. These loci vary in the ease with which organizations can monitor them and in the nature of the resources most relevant to their resolution. An organization's ability to participate in many or few events depends upon what the organization brings into the domain in the way of its issue interests, monitoring capacity, influence reputation, and locations in the communication and resource-exchange networks. We hypothesize that the greater the distance between events in terms of their formal attributes, the heavier the requirements for an organization to participate effectively. Thus, only organizations that are well positioned in terms of the independent variables in Figure 1 will be able to participate in a wide range of domain policy events.

FINDINGS

Attributed Resources and Influence

In this section we show that organizational influence reputation is a valid indicator of an actor's resource endowments. We asked informants to select five to ten "organizations that you know best" and to identify "the characteristics or resources on which that organization's influence is based" using these eight items:

1. Special expert knowledge about the energy/health field.



DECISION-MAKING LOCUS
Figure 4. Multidimensional Scalogram Analysis of 81 Energy Events on their Characteristics

2. Funds to underwrite efforts to secure support for a proposal.
3. Staff or facilities that can be used in an effort to gather support for a proposal.
4. Official decision-making authority because of its high position in the government.
5. Good connections to influential organizations.
6. Reputation as an impartial mediator of conflicts about issues.
7. Ability to mobilize its members or employees to support a proposal.

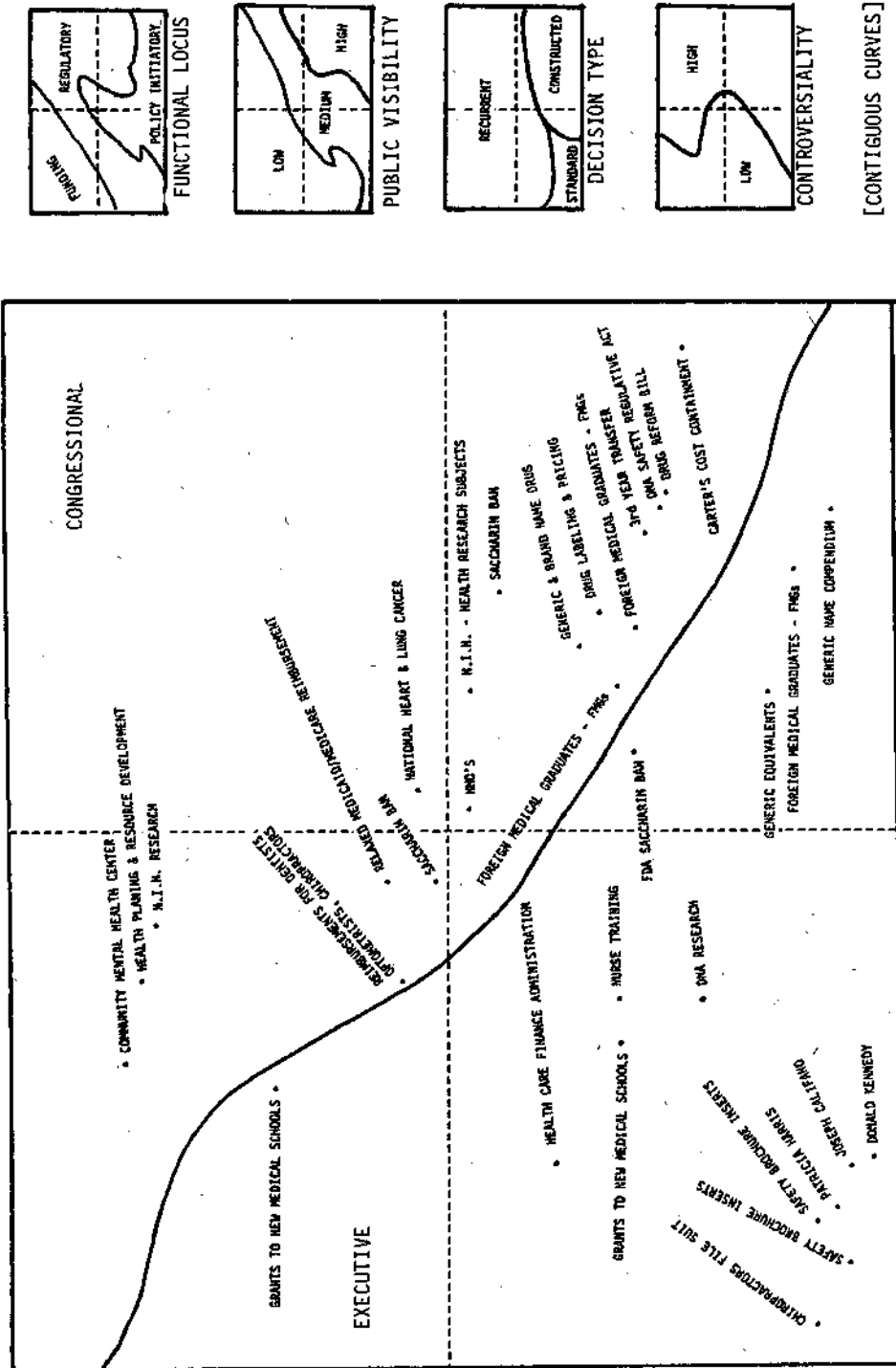


Figure 5. Multidimensional Scalogram Analysis of 85 Health Events on their Characteristics

8. Ability to mobilize general public opinion to support a proposal.

Table 1 reports factor analyses on the frequencies with which each of the eight resources were attributed to the domain organizations.

Three latent factors emerged in both domains. The first factor, labeled "mobilizable resource factor," in both cases consists of six resources that load highly: staff, funds, expertise, connections, capacity to mobilize members, and to mobilize public opinion. This di-

Table 1. Factor Analyses of Attributed Resources

Resource Attribute	FACTOR LOADINGS		
	Mobilizable Resource	Impartial Mediator	Official Authority
ENERGY DOMAIN			
Expert Knowledge	.95	.07	.24
Program Funds	.96	.22	.11
Staff or Facilities	.96	.22	.14
Good Connections	.93	.33	-.13
Mobilize Members	.95	.41	-.03
Mobilize Public Opinion	.83	.28	.23
Impartial Mediator	.47	.81	.43
Official Authority	.10	.23	.97
VARIANCE EXPLAINED	78%	4%	15%
HEALTH DOMAIN			
Expert Knowledge	.92	.27	.11
Program Funds	.98	.04	.05
Staff or Facilities	.98	.14	.10
Good Connections	.97	.20	.10
Mobilize Members	.98	.11	-.07
Mobilize Public Opinion	.93	.12	.18
Impartial Mediator	.19	.98	.18
Official Authority	.10	.05	.99
VARIANCE EXPLAINED	74%	12%	11%

mension accounts for the vast bulk of the common variance in both factor analyses (78% and 74%). The other two factors are more sharply differentiated in the health domain than in the energy domain. In the health domain, reputation as an impartial mediator or as possessor of official decision-making authority is clearly differentiated from the first factor, which refers to types of resources for mobilizing partisan political activity by nonpublic claimant organizations.

In contrast, the energy-domain factor structure is decidedly more blurred. While the same six partisan resources load highly on the first factor, impartial mediation also has a moderate loading (.47). The second energy factor displays a high loading for impartial mediation, but it also draws upon "ability to mobilize members"—an unexpected but explicable conjunction, as we explain below. The third energy factor is dominated by official authority, but also includes a moderate loading for the impartial mediator measure. In short, reputation as an impartial mediator loads on all three energy-domain dimensions, but only by itself on one health-domain dimension.

One explanation for these differences lies in the dual images of citizen-based groups advocating environmental protection, such as the Sierra Club and the National Wildlife Federation. The energy domain was highly controversial and partisan throughout the 1970s. Environmental groups enjoyed especially high access to the executive branch under President Carter, who

seemed particularly responsive to their policy preferences. As a result, these groups gained highly ambiguous and ambivalent reputations during this period among the core policy organizations. On the one hand, they claimed to speak for the general "public interest" in urging environmental protection and preservation against the self-interested capacity of the special interests, thus laying the basis for their claims to impartiality. On the other hand, environmentalists' opponents increasingly viewed them as advocates for antigrowth and antidevelopment policies ("sleeping-bag society") alleged to affect adversely economic expansion and full employment. Hence, the blurring of impartial mediation with mobilizable resources in the energy domain can be traced in part to bifurcated perceptions of the environmental organizations.

We can now answer the key question, to what extent are organizations' general reputations for influence explained by differential possession of the three resource factors? The influence reputation scores were regressed upon the three factor scores, with the results shown in Table 2.

The most striking finding is the almost identical pattern of relative importance of the three resource factors in structuring reputed influence in each domain. Official authority and mobilizable resources exert approximately equal impacts upon organizational influence. Reputation as an impartial mediator is substantially weaker, although notably more sa-

Table 2. Regressions of Organizational Influence Reputation Scores on Three Resource Attribution Factor Scores

Domain	STANDARDIZED REGRESSION COEFFICIENTS FOR			R ²
	Mobilizable Resource	Official Authority	Impartial Mediator	
Energy	.55**	.44**	.23**	.55**
Health	.53**	.48**	.12*	.54**

* $p \leq .05$.

** $p \leq .0001$.

lient in the energy than the health domain. The relative quiescence of the health domain contrasted markedly with the turbulence of the energy arena, where impartial mediation was probably a scarcer and more valuable resource for resolving highly politicized and polarized issues. These differences, however, do not obscure the basic finding for both domains that higher influence is attributed to organizations that possess more resources.

Causal Model Estimates

This section describes the empirical estimates of our causal model, applying the preceding variables to the theoretical concepts in Figure 1. The statistical algorithm used is LISREL V, a computer program for maximum likelihood structural and measurement equation estimates which incorporates multiple indicators for latent variables, such as the monitoring capacity measure (Jöreskog and Sörbom, 1981). Figures 6 and 7 display the standardized parameter estimates. Both domains yielded reasonably good fits to the observed covariations among the measures ($\chi^2 = 9.30$, $df = 13$ for energy, and $\chi^2 = 18.55$, $df = 13$ for health; the adjusted goodness-of-fit indices are .968 and .908 for energy and health, respectively).

The three indicators comprising the latent construct of domain monitoring capacity exhibit essentially equivalent patterns in both domains: the number of domain-specific staff has the largest loading, the number of technical staff has the smallest loading, and the other Washington monitoring staff has an intermediate value. The three predetermined variables (monitoring capacity, issue interests, and influence reputation) are all positively intercorrelated, although the covariations are notably higher in the energy than in the health domain. This tighter connection among interests and resources implies that energy organizations may require larger resource endowments to become broadly concerned about domain policy issues. The more institutionalized health domain may not necessitate extensive resource holdings to sustain expansive issue interests.

In both domains, influence reputation has a very substantial impact on communication-network position. As expected, the more influential an organization, the more prominent its position within the exchange of routine policy information. The reputation effect is somewhat higher in health than in energy, perhaps reflecting the more unsettled conditions in the latter domain. Net of this relationship, issue interests also exert modest positive effects on communication exchange. The more widespread an organization's policy interests, the more prominent its communication location. This effect is marginally greater in energy than in health. Surprisingly, in both domains monitoring capacity has no significant effect on communication prominence, once other measures are taken into account. That is, organizations with both large and small monitoring staffs have essentially identical advantages within communication networks. Altogether, the three predetermined variables account for 63 and 73 percent of this variation in communication-network prominence in the energy and health domains, respectively.

Contrary to expectations, prominent location in the routine communication network does not significantly increase resource-exchange prominence in either domain. The predetermined variables differ across the two domains. In health, a high influence reputation enhances an organization's prominence as a resource-exchange partner. In energy, both broader issue interests and a larger monitoring staff appear to promote a slightly advantageous exchange location. Since both equations explain less than ten percent of the total variance, clearly other factors not included in this model must affect the material resource-exchange structure. This low explained variance may be due to our use of a unidimensional prestige prominence score. Unlike the communication network, which can be adequately characterized by center-periphery imagery (i.e., there is only a single center of gravity around which most organizations orient themselves), the resource-exchange network may involve numerous cliques that are only loosely connected to one another. Prestige prominence scores thus poorly capture this multidimensional clique dispersion pattern.

Finally, the domains also differ markedly in the antecedent variables' effects on policy-event participation. Issue interests exert a substantial impact in each domain, .56 of a standard deviation in energy and .42 in health. Thus, the broader an organization's issue concerns, the wider the range of policy events it actively pursues. But, for energy organizations, issue interest is the only variable with a significant coefficient. These results support our expecta-

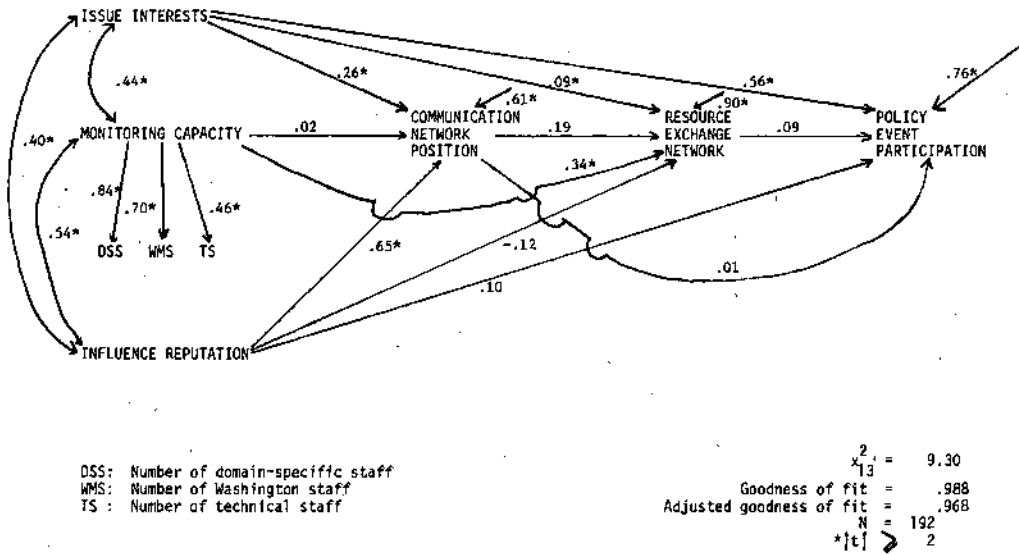


Figure 6. A Causal Diagram of Organizational Activation in National Energy Policymaking

tions concerning the noninstitutionalized nature of the energy domain in the 1970s. In contrast, the health domain exhibits significant net relationships from both measures of network location. Indeed, the .44 coefficient from routine-communication-network prominence rivals the issue interests' .42 magnitude. These relationships indicate that the more prominent a health organization is within either the communication or the resource-exchange networks, the more likely it is to participate in a diverse range of policy events, net of its concerns with policy issues.

Influence reputation does not exert a direct effect on event participation, but its indirect effect through the two structural measures is substantial $((.79 \times .44) + (.40 \times .17) = .42)$. That is, the more reputedly influential a health organization is, the more active it is in policy events because of its prominent position within network structures. In the energy domain, influence reputation confers no such differential advantage, either directly or indirectly. Despite these substantively different causal relationships, the two domains are similar in that the explanatory variables account for roughly

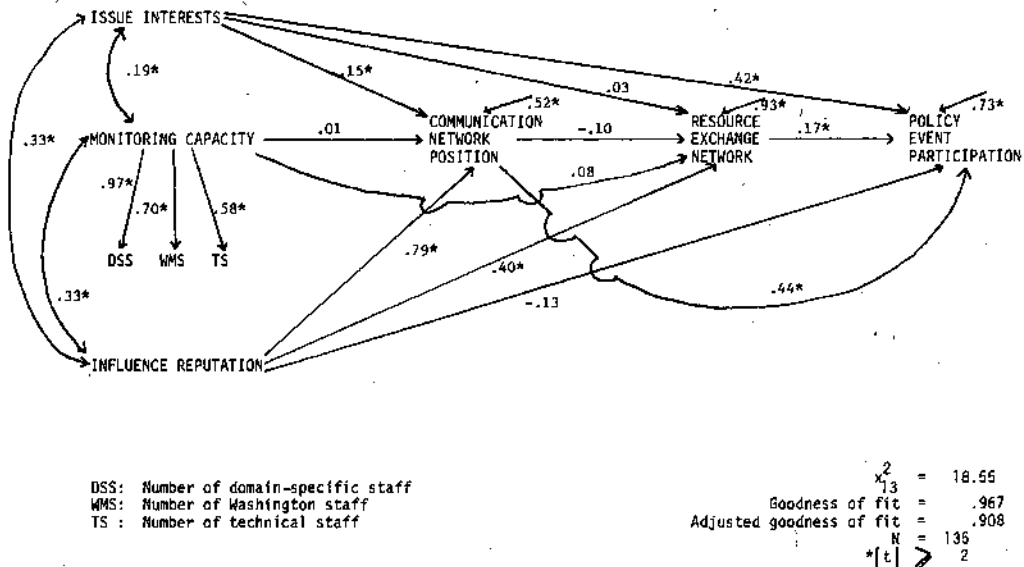


Figure 7. A Causal Diagram of Organizational Activation in National Health Policymaking

the same amount of variation in policy-event participation (.42 in energy and .47 in health).

DISCUSSION

The empirical analyses supported several initial speculations about the differential social organization of State energy and health policy domains. We attribute the contrasting magnitudes of estimated relationships to differential institutionalization of the policy participation processes. Our model was premised on the crucial impact of timely, trustworthy exchanges of policy-relevant information upon organizations' decisions to participate in policy events. This expectation was upheld in the health domain but not in the energy domain during the era under study. The absence of a significant communication-network effect for energy organizations suggests that the energy domain exacted relatively lower transaction costs for acquiring information than did the health domain. Some evidence supporting this interpretation comes from a related study of Washington representatives conducted during the early Reagan Administration (Laumann and Heinz, 1984). Energy representatives were somewhat more likely to use daily newspapers and trade or professional journals for domain information than were health representatives, while the latter relied more upon computerized data bases, the Federal Register, Congressional Record, and reference books. If these results can be projected back on the preceding decade, they suggest that energy-policy information might be more accessible through widely disseminated sources.

Our research implies that organizational interests are a prime factor affecting the breadth of policy-event participation in both domains. That is, the broader the range of an organization's domain issue interests, the more diverse its involvement in policy events. However, when the policy domain is more institutionalized, advantageous locations near the center of social exchange networks make important independent contributions to mobilizing organizational participation. In this context, institutionalization means that a domain has become a routinized, calculable, well-integrated system, with the rules of legitimate policy participation well understood and accepted by all players. Because information about critical events is more impacted (i.e., embedded in less accessible sources) in such domains, network prominence plays an important compensatory function in converting an organization's purposive orientations and material resources into policy activity. To some extent, an advantageous position within the communication network allows an

organization to reduce some of the higher costs of obtaining relevant information in a more institutionalized domain.

In turbulent, rapidly changing, and unstable policy domains, where the norms of participation have not been clearly demarcated, social structures may be too fluid to have much impact on policy participation. Judging from the energy domain during the 1970s, any organization with a modicum of interest in its policy issues could easily enter into the debates. The territorial bases of energy production (Davis, 1982), unlike the geographically dispersed provision of health services, generated more divisive and contentious controversies within the Congress, itself a territorially organized entity. The Nixon-Ford-Carter era can be read as a prolonged struggle over the rules of the game: whether centralized political direction or decentralized market forces would predominate in the allocation of energy resources (Goodwin, 1981:395-684). Recurrent efforts to centralize energy policy, through wage-price and allocation controls (Nixon's response to inflation and the oil embargo), or under a federal "czar" (James Schlesinger's politically inept "master plan" at the beginning of the Carter Administration) were bitterly fought by many sides. Often, strange interest-group coalitions emerged (e.g., the Consumer Federation and the Edison Electric Institute both favored extending federal oil price controls in 1975), only to fall apart over other events. By the decade's end, marketplace solutions had triumphed and were further consolidated under Reagan (Kash and Rycroft, 1984:257-79). The highly visible nature of these struggles, further publicized through the mass media, drove energy information costs considerably below those of the health arena. As a result, privileged locations within the energy communication network conveyed no special advantage in mobilizing an organization's involvement. In effect, simply having a policy interest was enough to stimulate participation.

A major revelation of this research was the absence of any direct effects of resource possession on event participation. Importantly, monitoring capacity (as indexed by staff sizes) and influence reputation did not directly increase event involvement in either domain. However, influence reputation among health organizations did promote greater prominence within the two networks, to the ultimate expansion of policy activity. Apparently, at least among elite organizations operating at the core of the national decision-making systems, large resource endowments are not essential for participation efforts. Resource holdings may critically enhance an actor's influence over the outcome of collective decisions, but that re-

relationship is the subject for another analysis. At present, we conclude that when an organization sees its interests are at stake in an event, it will try to influence the direction of that decision without regard to the resources it controls.

Our findings have implications for other political approaches to the State. Marxists have long emphasized how social relations, particularly those embedded in economic classes, shape the political realm. Our analyses underscore the centrality for collective political participation of interorganizational relations, albeit exchanges based upon information and material-resource transactions rather than upon property ownership and authority relations. Nevertheless, we believe that Marxist analysts would benefit by explicitly incorporating interactions among State institutions into both conceptual and empirical studies. Our experience demonstrates the feasibility of collecting complex primary data directly from participants in fairly large systems, with a high response rate. The elite, interest group, and corporatist traditions also could benefit from our findings. By conceptualizing the State as a system of mutually interpenetrated public and private organizations, we took a large step toward answering Salisbury's call for reformulating the interest representation process. Future researchers cannot treat advocacy groups simply as discrete entities, but must take into account their locations within domains consisting of partly conflicting, partly cooperating political actors. Interest realization in such institutional complexes requires analysts to reorient themselves away from sampling designs toward frameworks that encompass the entire population of organizations attempting to influence State policymaking. Our approach offers both elitist and corporatist scholars a method for fine-grained analyses of State policy domains that can be compared across nations with differing polity structures.

Replicating this design on a larger number of diverse State policy domains is imperative, as well as on the energy and health domains over time. With only two domains, we cannot determine the extent to which our findings are idiosyncratic to time and place, or whether they are robust with regard to the United States' polity in the modern era. We speculated that energy-policy participation patterns reflected the chaos of the system during the 1970s upheavals, but we have no direct evidence that the *laissez-faire* revival under Reagan created an institutional dynamic similar to that of the health domain. Our research design demonstrates the viability of using survey methods to investigate the details of elite-organization participation in State policymak-

ing. The feasibility of these techniques is unknown for other States in which access to inside information is more constricted. Western Europe's more corporatist polities may be less amenable to close scrutiny, but until a genuinely comparative effort is launched, we cannot know the generalizability of our approach. Finally, empirical findings such as ours must be integrated into the larger theoretical literatures on political behavior, policymaking, and the State. We uncovered some important parameters shaping the coordinated actions by interest groups in a pluralist polity, but the full implications of these results will be revealed only by the concerted efforts of analysts from a variety of theoretical perspectives to interpret them in light of substantive propositions about political action. If our research stimulates such efforts, we will consider the project worthwhile.

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