

Recent research on community power structures and national political elites increasingly incorporates social network concepts, principles, and methodologies. Analysts using this perspective seek to uncover the various mechanisms underlying the cleavages and coalitions among state managers, political parties, corporations, interest groups, social movements, mass publics, class segments, and other social formations. By combining reputational, positional, and decision-making measures, researchers delineate the networks of communication ties and resource exchanges, which shape collective actions that attempt to influence the outcomes of political controversies. This article critically reviews recent power structure research that applies network techniques to the analysis of elite structures and decision making. Specifically, the following topics are examined: the specification of political network content, the delineation of political elite system boundaries, the identification of key or core actors, the representation of network structures, elite actors' individual and collective participation in policy events, the determination of policy event outcomes, and future directions for elite research using network perspectives.

Networks of Elite Structure and Decision Making

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Over the past two decades, research on power structures at the community and national level increasingly benefited by incorporating principles, concepts, and methodologies from the social network perspective. Debate among pluralist, Marxist, elitist, corporatist, and state-centric theorists about state structures and processes fundamentally revolves around the existence of a cohesive ruling class, which effectively dominates all the major decisions made by government officials. Each theoretical perspective conjectures about various mechanisms for creating collaborative and oppositional collective actions among state managers, political parties, corporate organizations, interest groups, social movements, mass publics, class segments, and other social formations. Researchers applying network methods produced new insights into political cleavages and coalition formation. Combining reputational, positional, and decision-making

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measures, these analysts dissected the personal, organizational, and interorganizational communication and resource exchanges resulting in collective actions aimed at influencing the outcomes of political controversies.

I critically review recent research on local and national power by political scientists and sociologists that applied network techniques to the research design, data collection, and analysis of elite structures and decision making. I emphasize how network methods have refocused the substantive issues within this field, raised provocative theoretical questions, and addressed important empirical relationships. For fuller, but more substantively oriented treatments of these topics, see Knoke (1990, 1993).

SPECIFYING NETWORK CONTENTS

Power relationships are asymmetrical actual or potential interactions among social actors that enable one actor to exert greater control over another's behavior. Power conceptualized as a property of interactions among two or more actors (e.g., persons, organizations, classes) is inherently relational, and thus amenable to analysis in network terms. Two fundamental dimensions of power can be exercised via exchange relationships that connect political actors in a system: influence and domination (Knoke 1990, pp. 11-16).

Influence occurs when one actor provides information to another with the intention of altering the latter's actions (see Gamson 1968, p. 60). Influence is persuasive information used to change an actor's perception of the connection between an action and its consequences. Influence is a relational dimension of power, because a two-way communication channel must exist between influencer and influencee. Exchanges of information produce differential capacities among elite members to shape the collective policies of a system. Actors who are well-connected to other informed actors gain power through their positional ability to tap into larger stores of useful political information. Actors on the periphery of information networks, whose direct and indirect ties link them mainly to other marginal actors, will encounter inadequate quantities and qualities of information. They are in uninformed, hence uninfluential, locations.

In most elite network studies, relational data have usually been collected about structural ties that offer elites direct or short indirect communication opportunities. For example, Floyd Hunter's (1953) innovative effort to trace connections among Atlanta's top leaders mapped their joint memberships in civic committees, corporate boards, and social clubs. Laumann and Pappi (1976), using Parson's four-subsystem paradigm (AGIL: adaptive; goal-attainment; integrative; latent pattern maintenance), operationalized the relations among elites in a small German city as three distinct network ties: community affairs discussion, business-professional contacts, and informal social relations. The American Leadership Study (Moore 1979), and comparable studies in Australia (Higley and Moore 1981) and West Germany (Higley, Hoffmann-Lange, Kadushin, and Moore 1991), asked elite respondents to name other persons with whom they had discussed one national issue of greatest importance to them during the past year. Others have examined overlapping leadership positions among business, governmental, civic, and cultural organizations as evidence for the existence of a "ruling elite" (Perrucci and Pilisuk 1970), "ruling class" (Domhoff 1983; Dye 1986), or "inner circle" (Useem 1983). While indicating the presence of latent channels for passing messages or coordinating common political strategies, the mere existence of discussion linkages or interpenetrated boundaries cannot substantiate that overt efforts to influence policy are occurring among actors. Useem (1980, pp. 223) recognized the limits to such interpretations: "Scattered evidence suggests that they can significantly influence institutional policies under certain, specific circumstances . . . but direct verification of the impact of the business elite in these specific areas of outside governance is still needed."

Domination, the second basic type of power relationship, occurs when one actor controls the behavior of another actor by offering or withholding some benefit or harm. In other words, one actor promises, or actually delivers, a *sanction* (reward or punishment) to another actor in order to gain the latter's compliance with first's commands. Sanctions may be physical events, but may also involve primarily intangible symbols. Domination is clearly an exchange relationship because it involves one actor giving some type of valued (or abhorred) resource to another in return for compliance or obedience. **One person or organization dominates others in the network when it becomes a**

source of scarce resources that are unavailable from alternative suppliers. Imperatively coordinated organizations (bureaucracies) and informal systems of political exchange (patron-client networks) are two familiar political domination structures based primarily on resource exchanges among actors.

Elite network studies of domination structures and processes are much less common than analyses of influence relations. Using secondary data sources ranging from corporate reports to social club rosters, G. William Domhoff (1983) extensively documented the linkages among institutions, organizations, and persons that he believed play a "dominant role in the economy and government" (p. 1), by which he meant not total control but the "ability to set the terms under which other groups and classes must operate" (p. 2). A power elite is established at the intersection of three social formations: a class-conscious upper social class of wealth holders, interlocked directors of major corporations, and a policy-planning network of foundations, research institutes, and nonpartisan organizations that discuss social problems and propose policy solutions. These structural connections form the prerequisites for policy consensus and concerted action by the power elite (Domhoff and Dye 1987). Likewise, Dye's systematic mappings of positional connections among 400 national organizations spanning a dozen institutional sectors uncovered a core leadership that was heavily overrepresented by upper social class origins (Dye 1986). Useem (1982) invoked a class-wide rationality principle in which elite membership is "primarily determined by position in a set of interrelated networks transecting virtually all large corporations" (p. 202). The fusion of friendship, asset ownership, social clubs and trade association membership, and interlocking directors generates a dominant segment or inner circle. Because its members simultaneously hold multiple directorships, the core can act politically in the interests of the class, which transcend the parochial concerns of its individual firms. The inner circle "possesses both the cohesion and broader concerns necessary for it to serve as a vehicle for promotion of the interests of business in general" (Useem 1982, p. 212).

A series of elite analyses guided by network principles underscored the importance of treating influence and domination processes separately. Laumann and Pappi (1976, p. 193-7) included imputed control over land, jobs, and capital among their operationalizations of com-

munity elite resources, but they did not analyze these resources as inter-elite exchanges. However, the two American community organization studies (Laumann, Marsden, and Galaskiewicz 1977) constructed three distinct exchange networks, two dealing with influence relations (community affairs discussion and social support) and one that can be interpreted as a domination network (money exchanges). Galaskiewicz (1979) found that the money exchange network was much sparser in both communities than were the communication and social support ties, as did Knoke and Wood (1981, pp. 156-83). Laumann, Knoke, and Kim (1985) treated communication and resource exchanges as separate networks in their U.S. energy and health analyses, finding almost no covariation once organizational interests were taken into account. However, Knoke, Pappi, Broadbent, Kaufman, and Tsujinaka (1991) revealed moderately positive covariations in organizations' centrality in the communication and resource exchange networks within the U.S., German, and Japanese labor policy domains. These findings underscore the importance of treating influence and domination as conceptually and empirically separate power relations. The patterns, meanings, and significance of both types of ties vary so greatly among elites that their conflation into a single power network would obscure the distinctive contributions that each makes to system differentiation and structural integration. Rather, researchers must investigate how the influence and domination networks each mutually shape and constrain one another.

DELINEATING SYSTEM BOUNDARIES

Before any data collection can begin, a researcher must specify, analytically, which objects are included in the political networks of interest. To designate a system's boundaries, researchers may alternatively focus their attention on the actors, their relations, or the critical policy events as the primary elements delineating a network. Applied to elite research, system boundary specification requires analysts to decide whether they are primarily interested in attributes of elite actors (whether these are persons or organizations), in the political relationships that connect the actors to one another, in these actors' involvements in policy-making activities or events, or in some combination

of these elements (Laumann, Marsden, and Prensky 1983; Pappi 1984). For example, in launching the classic debate over business domination of urban politics, Hunter (1953) asked his informants to name Atlanta's top leaders "from the point of view of ability to lead others" (p. 265), while Robert Dahl (1961) began his study in New Haven by selecting three decision arenas and tracing backward to uncover the most active participants. Not surprisingly, such divergent system specifications produced divergent patterns of actor concentration across policy decisions and hence supported fundamental theoretical disagreements about local elite or plural power structures. In proposing their new elite framework, Field, Higley, and Burton (1990) defined elites as "persons who are able, by virtue of their strategic positions in powerful organizations, to affect national political outcomes regularly and substantially" (p. 152). Operationalizing this concept requires precise clarification of what they meant by "strategic positions," "powerful organizations," and "regular and substantial" effects on "national political outcomes." Each choice broadening or narrowing these definitional components shifts the boundaries of elite membership in ways likely to alter the substantive conclusions.

Investigators working from a multiple institutional framework require even more complex boundary specifications. Unfortunately, commonsense labels for these sectors have predominated, although occasional efforts are made to specify the arenas theoretically, such as Parson's AGIL subsystem scheme (Laumann and Pappi 1976). For example, Hunter asked his informants to nominate the 10 top persons in the civic, government, business, and status-society arenas (Hunter 1953). Perrucci and Pilisuk (1970) significantly advanced the network perspective in community power structure research by designating as interorganizational leaders (IOLs) those persons holding executive positions in four or more community groups. In West Lafayette, Indiana, a set of 6 organizations linked through 11 IOLs formed the core of the local ruling elite. Dye (1986) cataloged the top 6,000 American national position holders in more than 400 major organizations drawn from a dozen institutional sectors. His framework was one of the few to designate the military as a distinct sector, perhaps because C. Wright Mills had included it in his national power elite triad. The global-mapping approach used in the American, Australian, and German elite network surveys specified the analytic universes as persons

holding authoritative positions in powerful public and private organizations and influential movements (Higley et al. 1991). In practice, the top leaders of organizations in seven arenas were included: politics, civil service, business, trade unions, mass media, voluntary associations, and the academic sphere. Analytic rationales were generally missing for deciding on the particular arenas, determining the important organizations, or selecting the key administrative positions within each organization and researchers have not grappled with the problem of whether all sectors should be treated as equally important. Too often, researchers simply assert that certain arenas and actors are important, consequently leaving unclear their precise conceptualization of a system's "elite."

One analytic effort to delineate elite subsystem boundaries in explicitly relational terms was Knoke and Laumann's (1982) concept of a *policy domain*, consisting of formal organizations identified "by specifying a substantively defined criterion of mutual relevance or common orientation . . . concerned with formulating, advocating, and selecting courses of action" to solve that domain's problems (p. 256). A domain excludes those organizations whose interests and actions are not taken into account by other core participants. Their definition emphasized the priority of interorganizational relations over actor size or attributes, strongly implying that participation in problem-solving activity constitutes the source of the mutual recognition that warrants an organization's inclusion in that subsystem. Numerous national policy domains exist within modern states, and their core organizations interpenetrate to varying degrees (Laumann and Knoke 1987, pp. 387-95; Manigart 1986; Browne 1990; Salisbury, Heinz, Laumann, and Nelson 1987; Heinz, Laumann, Salisbury, and Nelson 1990). Whether a specific actor must be included depends both on its own interests in that domain's events and on its ability to make the other domain actors take it into account when collective decisions are made. Thus which actors belong in a national policy domain cannot be specified a priori. They must ultimately be determined empirically.

FINDING KEY ACTORS

With the analytic boundaries of a system determined, the researcher's next task is to identify the specific empirical members of the elite

population. The actors may be natural persons or formal organizations—such as corporations, unions, professional societies, and government agencies. In either case, comprehensive lists must be assembled that unambiguously locate these entities, including names, mailing addresses, phone numbers, and various descriptive attributes. In practice, four generic techniques have been developed to locate the players:

(1) **Positional Methods:** persons or organizations occupying the key roles in the analytic system, such as the elected or executive positions in major economic and political units. Published directories for city or national governments, stock and bond services, information clearing houses, social registries, even telephone books are frequently consulted compendia for identifying those with *prima facie* interests in the system.

(2) **Decisional Methods:** actors that participate in making or influencing the collectively binding policy decisions for the system as a whole. These participants often leave public records of their involvement in such accessible sources as newspaper accounts and minutes of board or commission meetings.

(3) **Reputational Methods:** actors widely believed by knowledgeable observers to have the actual or potential power to “move and shake” the system. Rarely are accounts of power reputations already available, but must be assembled from informant testimonies, such as journalists and academic experts, as well as elites themselves. The list of reputedly powerful nominees can be expanded by snowball sampling: each new addition is asked for further names until closure is reached. Despite researchers’ best efforts to construct comprehensive lists before entering the field, some key actors are likely to be omitted. When such lists are presented for elites to check off their interactions, it is imperative to ask, “Is there anyone [any organization] not on this list whom you believe to be especially powerful/influential? What is that person’s [organization’s] name?”

(4) **Relational Methods:** actors who maintain important political relationships with other system members, who were not uncovered during queries about elites’ power reputations. The main difference is that relational techniques only pick up additional actors who have direct contacts with those already located: “With which other persons [organizations] not named on this list do you discuss politics/exchange resources/etc.?”

In practice, the four basic methods for finding key actors are difficult to keep separated. For example, many elites' reputations are based on a blending of their current incumbency of major leadership positions with the informants' perceptions of their past actual or anticipated future involvement in major decisions (Knoke 1983). Similarly, information about who participated in and influenced decisions that occurred out of public sight may only be reconstructed through evidence provided by informants. Unfortunately, no studies of the reliabilities of these alternative approaches have been conducted.

Taking the union of the lists generated by the four identification methods has the advantage of achieving closure on a final elite membership list with reduced possibilities for serious omission or erroneous inclusion. For example, Laumann and Pappi (1976, pp. 271-3) began their study of a small German city with a list of the position holders in the largest organizations of four sectors. They then consulted newspaper archives and informants to eliminate persons not influential in recent community affairs. Other persons were added if they received frequent mentions during interviews by the elite informants (see also Galaskiewicz 1979, pp. 45-8). Domhoff (1978) identified members of an American national power elite through such secondary data sources as *Social Registers*, *Who's Who*, government directories, corporation annual reports, interlocking directorships, and social club membership rosters. Demonstrating that this ruling class actually influenced major national policies required Domhoff to reconstruct the actors' roles in specific historical events. Whitt's (1982) investigation of the class politics behind five California mass transit propositions required painstaking reconstructions of business organizations' campaign contributions. Clawson, Neustadt, and Scott (1992) combined data on corporate donations to 309 political action committees (PACs) with in-depth interviews of 30 corporate PAC officers to explain the flow of political money in national elections.

Research on the U.S. national health, energy, and labor policy domains combined multiple lists of organizational participants in policy decisions, using congressional testimony, newspaper accounts, lobbyist registrations, federal appellate and Supreme Court *amicus curiae* (friend of the court) briefs, as well as asking panels of experts to nominate additional actors not on the lists (Laumann and Knoke

1987; Knoke and Pappi 1991). Because the preliminary listings typically turned up more than 1,000 organizational names, a prominence criteria was imposed to reduce the final list to manageable proportions (requiring at least five mentions by all sources typically selected only 100-200 names). During the field periods, additional organizational names were solicited from the interviewees and were added if at least five mentions were received (only a couple were included, suggesting that the other procedures resulted in near closure of the elites). Taken together, these criteria essentially require that members of an elite have a high level of network centrality, either in the form of publicly visible participation in many policy events or a high degree of in-choice from many of their system peers. Higley et al.'s (1991) surveys of American, Australian, and German top elites found much larger numbers of position holders (545, 370, and 497, respectively), and located hundreds of other second-tier names, through snowball nominations.

For elite network studies that collect data beyond published sources, high response rates to personal or mail interviews are necessary to prevent an inaccurate picture of elite relational structures. When individual persons are the actors, their refusal to participate can prove devastating. For example, the American Leadership Study gained cooperation from only 31% of the "owners of large fortunes" (Barton 1985). Hence the degree to which that sector was integrated into the larger institutional complex remains unclear. Elite research on organizations can typically attain very high response rates (ranging from 89% to 98%; see Laumann and Knoke 1987, p. 98; Knoke et al. 1991). The advantage is that, in larger organizations, any one of several persons may be suitable as a knowledgeable informant. Thus, if the executive director is too busy or uninterested, a governmental affairs expert or lobbyist may be able to provide the necessary information. Although no study of informant reliability has been conducted, a potential source of error is staff turnover that results in a loss of institutional memory. My personal experiences in hundreds of such interviews revealed that a far more serious problem is a tendency of the political heads of organizations to either not be well-informed about what their subordinates are doing, or to engage in ideological posturing rather than to communicate candid insights into what the organization is really trying to accomplish.

REPRESENTING NETWORK STRUCTURES

Both local community and national elite systems are likely to contain dozens, and possibly hundreds, of important actors, whether individuals or organizations. Attempts to represent these entire networks—as sociograms, matrices, or other graphic images—often result in cluttered and indecipherable figures that conceal far more than they reveal about the internal social structures of the elites. The researcher's goal may be to characterize the global structure of the entire network, to determine the composition of jointly occupied positions within the network, or to locate individual actors in the overall configuration. Thus an important step in analyzing elite networks might be to reduce their complexity by aggregating actors into jointly occupied positions, manipulating these positions to uncover their connections, and interpreting the results in light of theoretical expectations.

The remarkable proliferation of network analysis methods beginning in the mid-1970s placed a large arsenal at researchers' disposal (for methodological overviews see Knoke and Kuklinski 1982; Burt and Minor 1983; Pappi 1987). With the aid of specialized network programs—such as the personal computer versions of UCINET (Borgatti, Everett, and Freeman 1992), GRADAP (Sprenger and Stokman 1989), SONIS (1990), and STRUCTURE (Burt 1989)—as well as the standard matrix manipulation and multidimensional scaling routines in SAS and SPSS, researchers now routinely subject multiple binary and valued matrices to complicated analyses. Unfortunately, space limits prevent a detailed examination here of the range of applications to political relational data.

To illustrate the kinds of substantive issues underlying network representation, consider the question of whether an elite system has a core subset. In a social analogue to geographical distance, two elites who interact frequently and intensely should be located near to one another in a spatial representation of the social interaction “space,” but pairs having rare and weak indirect ties should be quite distant. The set of all interactor connections generates the elite's social-spatial map, just as all pairs of intercity mileages yield a geophysical map. A basic network question is what global configuration results when a matrix of pairwise transactions are represented as social-spatial structures? Laumann and Pappi (1976, p. 142) proposed two generic

structuring principles: sectoral differentiation and integrative centrality. Social space could be divided into relatively homogeneous regions jointly occupied by actors from the same functional subsystem who are likely to share common values, attitudes, and interests. Actors located at a network's center might play key coordination roles in the system, while actors with less integrative importance occupy the periphery. Thus the spatial diagram could resemble a wheel (or, in three dimensions, a sphere), with spokes separating the sectors, radiating out to the peripheral rim from a dense hub containing the core elites. Such patterns were uncovered in a German town and two U.S. cities (Laumann and Pappi 1976, pp. 133-44; Galaskiewicz 1979, pp. 61-90), in the U.S. national energy and health policy domain organizations (Laumann and Knoke 1987, pp. 242-48), and national labor policy domain organizations (Knoke 1990, pp. 163-71). Laumann and Knoke (1987) succinctly summarized the spatial structure: "The core is dominated by governmental actors with the most broad-reaching policy mandates; the first circle is dominated by the major special interests of particular sectors; and the peripheries are occupied by the minor claimants. In effect, the aggregative interest groups serve as intermediate communication filters that link the peripheries with the core" (p. 245). A notable exception was a study of Washington private-sector representatives' assistance ties to 72 notables (elite actors) in four policy domains (agriculture, energy, health, and labor). The pattern in each domain was a "sphere with a hollow core" (Heinz et al. 1990). No identifiable sets of autonomous statesmen capable of bridging the empty center were uncovered in any arena. Rather, client-type, economic ideology, and political party affiliations produced sharply polarized sectors in which communication "takes place mostly with the elites of adjacent, politically-compatible interest groups. They deal with their allies not with their adversaries" (p. 381). The authors speculated that hollow spheres could be an artifact of omitting government officials who might act as mediators binding the system together.

PARTICIPATING IN POLICY EVENTS

Network analyses of elite structures are ultimately valuable only if they improve our understanding of how elites interact to reach policy

decisions. Thus analysts must determine if the global structures and actor positions within influence and domination networks are related to those actors' mobilization for participation in policy events. An event is a "critical, temporally located decision point in a collective decision-making sequence that must occur in order for a policy option to be finally selected" (Laumann and Knoke 1987, p. 251). Events occur in many institutional settings, such as legislatures, regulatory agencies, or courts. They can reference various types of decisions, including new program creation, promulgation of eligibility restrictions, enunciation of legal precedents, funding changes, implementation, oversight, and evaluation. Given the enormous complexity and often ponderous decision-making procedures of liberal democratic states, a potentially infinite number of decision points may occur in any policy process. Unfortunately, conceptualization of the event space and appropriate methods for representatively sampling time points from this space lag far behind the parallel problem of identifying and selecting elite actors. Most researchers resort to purposive selection of highly visible and controversial events, where elite mobilization is exceptionally great. This overemphasis on the exciting rather than the routine runs the risk of a distorted view of how policy participation occurs, nor do we understand the full implications of singular event embeddedness within much larger temporal sequences of events (Abbott and Hrycak 1990).

Analyses of elite policy participation typically emphasize actor mobilization as a consequence of their interests, resources, and network positions. Domhoff (1978), Whitt (1982), Schneider and Werle (1991), Jansen (1991), and others have produced thick descriptions for specific cases where conflicts over high-stakes issues erupted in publicly visible arenas. But, these approaches tend to concentrate on the dramatic details of particular events, at the expense of more systematic structural patterns emerging across numerous events of varied intensity. The policy domain approach of Laumann, Pappi, Knoke, and their colleagues has attempted to characterize the global interactions of political elites across numerous domain policy events. Early studies in one German town and two American cities obtained actors' positions on each of five events (for, against, neutral) (Laumann and Pappi 1976; Marsden and Laumann 1977; Laumann et al. 1977; Galaskiewicz 1979). Not surprisingly, those actors holding similar

positions tended to be located close to one another in the information, support, and resource exchange networks, opponents clustered in one region, proponents in another portion of the space. Although the fault lines separating antagonists might shift from event to event, the contours still followed the network structure. Galaskiewicz (1979, pp. 91-127) showed that central location in the three exchange networks significantly boosted an organization's involvement in each of the five events, even controlling for various organizational attributes. Community actors' ties to other elites were directly related to their likely participation in events for which they held preferred outcomes. The conclusion that interorganizational network ties promote participation in community decision making is inescapable. The appearance of sharply different pro- and con-coalitions across separate events refuted claims of a pervasive oppositional configuration that structured all community conflicts into an invariant polarized pattern. Importantly, no evidence was uncovered that an overarching economic class-based cleavage recurred across every controversy.

Similar plural patterns of mobilization were uncovered in national policy domain analyses. Analyzing the energy and health domains, Laumann, Knoke, and Kim (1985) specified a causal model in which an organization's positions in communication and material resource exchange networks mediated between three antecedent factors (the organization's interests in issues, its external monitoring capacity, and its influence reputation) and the organization's policy event participation. Issue interests exerted a large direct effect in both domains, meaning that the broader an organization's issue concerns, the greater the number of events in which it is actively engaged. For energy organizations, neither network measure was significantly related to event participation, supporting a noninstitutionalized interpretation of the energy domain in the 1970s. In contrast, in the health domain, while resource exchange only slightly increased health policy event participation, communication network position substantially raised event participation. This effect was as strong as that for health issue interests. The authors concluded that the greater importance of network position for event mobilization in health than in energy reflected the greater institutionalization of the latter domain. Because policy information is less accessible in such domains, an advantageous network position allows an organization to reduce some of the higher costs of obtaining

relevant data. By contrast, the turbulent, highly visible energy domain of the 1970s did not impose serious information impediments to policy involvement. Hence privileged locations in the communication or resource exchange networks did not convey special advantages to mobilizing an organization's policy event participation. Simply having an interest in a policy issue was sufficient to stimulate involvement.

Another major consideration in policy domain analysis is the oppositional structure of domain events. A legislative, executive, or judicial controversy typically attracts opposing sets of organizations, each side seeking an outcome favorable to its interests. But, these lines of consensus and cleavage between pro and con organizations generally do not persist across numerous domain events (Laumann and Knoke 1987, pp. 311-42; Laumann and Marsden 1979). Rather than the polarized sets of opponents implied by class-conflict or power elite theories, each event seems to attract unique opposing organizational configurations. Because every actor maintains a different portfolio of issue interests and also communicates with distinctive sets of others, very few of these groupings can be exactly reassembled, as new events move towards a decision. Analyses of communication networks and policy event participation in the U.S. and German national labor policy domains in the 1980s revealed similar spatial cleavage patterns in three dimensions (Knoke and Pappi 1991). Opposing business and labor coalitions (collective actors and action sets) structured many of the legislative fights, no central body emerged to coordinate actions, and organizational interests were the driving forces behind coalition formation, with resource capacity playing a minor role in the U.S.

EXPLAINING EVENT OUTCOMES

The outcomes of public policy controversies are also related to network connections among elites interested in collective decisions. Winning or losing a policy fight depends on which of the opposing sides best uses its network connections to mobilize and coordinate greater quantities of political resources. Galaskiewicz (1979, pp. 140-41) proposed simple but elegant measures of interorganizational resource inflows and outflows. First, each community organization could tap

resources from its support system. An organization receiving numerous money, information, and moral support contacts has potentially greater access to the resources of those partners than does an organization with fewer such connections. Second, an organization's resource dependents—the organizations to which it sends money, information, and support—are also potential sources of resources that could be obtained by calling in debts. Galaskiewicz calculated six indices that measured the total amount of money an organization might mobilize through its support and dependency networks. These inflow and outflow linkages significantly explained both an organization's influence reputation and its success in affecting four community events, independent of the organization's funds and personnel and its purpose.

Parallel efforts to explain collective decisions applied a collective action model, developed by James S. Coleman, to event data (Coleman 1973; Marsden 1983). The essence of Coleman's approach considers how actors with interests in different events exchange resources that influence the event outcomes. Following from resource dependence principles, actors are more powerful and more likely to achieve their preferred outcomes if they possess resources that control events in which other actors have strong interests. Event outcomes depend on the intensity of interests in the various events and the controlling resources held by each actor. In a pure market situation, every pair of actors can directly exchange with one another. But, in political elite systems, where mutual trust is required before such transactions take place, resource exchanges most likely occur only through well-established communication networks comprising direct and indirect connections. Brokerage relations may also be critical in bringing potential exchange partners together.

The Coleman exchange model has been applied to only a few real collective action situations. Marsden and Laumann (1977) studied five events (including two hypothetical ones) in an American city. Using ten types of resources controlled by the community organizations (ranging from money and credit to influence with subgroups), they estimated the power of each actor and the probabilities of the outcome of each event. The correlation between actors' exchange power, predicted by the Coleman model, and direct measures of their influence reputations was .90. Exchange power was also highly correlated with

centrality in networks of social relations ($r = .58$) and business-professional ties ($r = .61$). However, the Coleman model correctly predicted only three of the five event outcomes, a result the authors attributed to incorrect assumptions about the closed nature of the community system for all events (Marsden and Laumann 1977, p. 223; see also Pappi and Kappelhoff 1984; Kappelhoff 1989).

Laumann and Knoke with Kim (1987, pp. 343-73) applied a modified version of Coleman's exchange model to 16 American energy and health policy domain event outcomes. A resource deployment model depicted one domain organization as allocating valuable resources to another organization in order to achieve a favorable event outcome. The deployer delivers resources to a deployee, or its agent, to create the latter's dependence on the former. The analysts combined the candid-confidential communication network with the money, staff, and facilities exchange network to identify the presumed equilibrium pattern of restricted exchanges among governmental and private sector organizations in the energy and health domains. Power in the resource deployment model was estimated simultaneously for all organizations as a system of equations. Thus this concept of power is a function of pairwise dependence, exchange network volume or centrality, and the quality of relations among organizations. Power estimates were strongly correlated with the independently measured reputed influence standings of the organizations ($r = .58$ and $.73$ in energy and health, respectively). For each of the 16 events analyzed, the model quite accurately predicted the collective outcome, failing in only 1 of the 8 health events to designate correctly the actual result (Laumann and Knoke with Kim 1987, pp. 362-63; however, one of the eight energy events was erroneously reported as accurately predicted). Pappi and Knoke (1991) also applied the exchange model to analyze organizational demand and supply of control across 12 German and 9 U.S. labor policy subfields. They found that the more concentrated an actor's interests on a few subfields, the higher the chances of realizing its interests.

Stokman and van den Bos (1992) proposed a general model of policy-making that integrates a preliminary stage of mutual interactor influence and a final stage of decision only by the actors entitled to vote on the binding decision (i.e., governmental authorities). Applied to the U.S. energy domain data, it demonstrated that the positional

power of various types of organizations was especially dependent both on the organizations' resources and their voting power, indicating that the distinction between governmental and nongovernmental actors is important to preserve. Another intriguing development is Peter Kappelhoff's (1989) development of power in exchange networks beyond the Marsden reformulation, taking into account clientelistic dependency and barter-exchange relations among actors. Exchange analysts continue to develop the dynamic and predictive aspects of their models, to the ultimate improvement of knowledge about how political elites shape collective policy outcomes.

SEEKING NEW DIRECTIONS

Researchers have made significant strides in recent years toward understanding networks of elite structure and decision making. Developments in data-collection strategies and analysis methods were indispensable in providing suitable tools for specifying and testing propositions that relate influence and domination structures to the mobilization of political resources and the collective resolution of policy events.

The community and national power studies discussed above led to several important conclusions about the structural foundations of such collective action systems:

- The principal political actors in elite systems are organizations, not individual natural persons. As systems increase in size and complexity, organizational imperatives surpass family and class interests as the principle structuring dimension of domination and influence.
- A major problem for all actors is reduction of resource dependency. Actors try to use their interorganizational relations to acquire necessary inputs and dispose of outputs, while avoiding control by other actors. Structural autonomy (low resource dependence) within networks enables an actor to pursue its goals with fewer constraints.
- The most important feature of a power structure is its multiple networks of interactor influence and domination. Actors' locations within networks of information and resource exchange affect their abilities to achieve both individual and collective objectives.
- An actor's ability to get the resources essential for its political purposes is increased by its access through multiple networks to other resourceful actors.

- An actor's influence reputation varies with its centrality in the information and resource exchange networks. Influence reputation reflects others' perceptions of an actor's past and future capacity to persuade other actors to support its interests.
- Formation of coalitions on a specific event is helped by ties of sponsorship and obligation through exchange networks. Actors having common interests and short communication linkages form coalitions that can more easily undertake coordinated action to achieve a collective outcome.
- Activation on policy events and success or failure in controversies involves exchanges of control over resources and coordinating actions through restricted interactor networks.
- Most elite power structures are decentralized bargaining systems, rather than hierarchical systems controlled by a central economic elite.

Evidence to support these assertions comes from a handful of community and national studies that examined influence and domination networks among actors and events. Warrant for generalizing to a wider scope of elite systems is narrow. Because the collection of primary data on elite networks is costly in money and time, the cumulation of empirical support is unfortunately slow. More rapid progress might be made through closer relations between the natural elite system tradition and the small-group experimental tradition. The much greater precision and control over exchange structures that is possible in artificial systems has the advantage of isolating important causes from extraneous effects. One potentially fruitful topic is how network explanations can be augmented by the laboratory findings on coalition formation, mostly developed in a rational-choice game theory paradigm (Pridham 1986). By manipulating actors' interests, resources, and locations in exchange networks, experimenters can assess the effects of centralization, cohesion, structural equivalence, and other relational phenomena on actor participation in coalitions and their contributions to the production of collective action outcomes. Findings produced in laboratory and computer-simulated settings subsequently would need to be verified by analogous tests with natural elite systems before their generalizability could be confirmed.

Beyond research focused solely on elite structures and decision making, analysts should turn to a larger set of questions about the functions of elites in mass political systems, their contributions to stability and stagnation, and the enduring issues of justice, equity, and

well-being for all members of the political community. The impact of citizen discontent in the rapid collapse of communism in East Europe and the Soviet Union, in the impending upheavals in China, Cuba, and other oligarchic societies, and even in the persistent malaise pervading advanced liberal democracies suggests much fertile terrain available to be plowed by innovative investigators. Except for a brilliant effort by Laumann and Pappi (1976, pp. 217-53) to map, comprehensively, the interface between one community's elite and its population subgroups, network researchers have made little progress toward solving the knotty problems of data collection and analysis of such large systems. These opportunities should only spur us on to greater creative theoretical and methodological efforts.

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