STATE INSTITUTIONS, POWER, AND SOCIAL NETWORKS IN BRAZILIAN URBAN POLICIES

Eduardo Marques
University of São Paulo and Center for Metropolitan Studies

Abstract: A large historiographic tradition has studied the Brazilian state, yet we know relatively little about its internal dynamics and particularities. The role of informal, personal, and unintentional ties has remained underexplored in most policy network studies, mainly because of the pluralist origin of that tradition. It is possible to use network analysis to expand this knowledge by developing mesolevel analysis of those processes. This article proposes an analytical framework for studying networks inside policy communities. This framework considers the stable and resilient patterns that characterize state institutions, especially in contexts of low institutionalization, particularly those found in Latin America and Brazil. The article builds on research on urban policies in Brazil to suggest that networks made of institutional and personal ties structure state organizations internally and insert them into broader political scenarios. These networks, which I call state fabric, frame politics, influence public policies, and introduce more stability and predictability than the majority of the literature usually considers. They also form a specific power resource—positional power, associated with the positions that political actors occupy—that influences politics inside and around the state.

There is a long tradition of literature on the Brazilian state. Up to the 1980s, the majority of the studies focused on the importance of the state in broad processes such as the formation of the nation and the construction of citizenship and democracy. In the past twenty years, our knowledge of Brazilian federalism, political participation, executive-legislative relationships, and the role of political parties in government formation has been considerably enhanced, but we still know relatively little about the internal dynamics of the state, as well as the details of the political processes that connect state agencies and actors with their broader political environment.

The use of network analysis could help close this gap and allow for the development of empirically grounded mesolevel analysis of those processes, thus leading to the kind of contribution made by policy network studies to understanding public policies in countries such as the United States, Germany, and Japan (Laumann and Knoke 1987; Knoke et al. 1996; Heinz et al. 1997). However, solely applying policy network analysis to the Brazilian case might not solve the problem, since it does not incorporate the role of informal, personal, and unintentional ties, and it has already been established that a significant part of policies in Brazil are channeled exactly by those types of ties (Schneider 1991). To better understand the role of those ties in Brazilian policies, it is important to develop an analytical frame that integrates them in the study of policy networks and communities.

Latin American Research Review, Vol. 47, No. 2.

This article builds on research I have developed on urban policies in two different Brazilian metropolises using network analysis, but integrating informal and personal ties into the analysis (Marques 2000, 2003). The cases include a study of sanitation policies in the metropolitan region of Rio de Janeiro and an investigation of urban infrastructure policies in the city of São Paulo, both from the 1970s to the 1990s. The cases are interesting because they involve policy communities with a similar importance of personal ties among state actors and between state and private-sector actors. However, the cases differ substantially both in their respective political scenarios and in the institutional characteristics of the organizations that formulate and implement the policies, which allows for the discussion of the effects of networks in different political and institutional settings.

The results suggest a much more structured situation than described previously by the international literature. The evidence suggests that networks made of both institutional and personal relationships structure state organizations internally and insert them into broader political environments. These relational patterns, which I call *state fabric*, frame political dynamics, influence public policies, and introduce much more continuity, stability, and predictability than considered by the literature. This stability comes from the structure of the network but also from the large part of the network that is inherited from previous periods. These relational patterns also give political actors access to a specific power resource that I call *positional power*, associated with their positions in the networks. The distribution of this power resource influences politics inside and around the state.

In the first two sections of the article, I present the key elements of traditional analyses about the Brazilian state and discuss the main conceptual elements involved in the network tradition, defending its use to study the state internally. The third part presents elements that must be considered in order to apply the study of networks to the Brazilian state, incorporating informal and personal relationships more systematically. This section also discusses the relationships between social networks and political institutions. In the fourth part, I present the two cases and the methodology used. The fifth section presents the data about the state fabric and its consequences for policies and politics concerning stability and change in policies, the structure of political conflicts inside the state, and its connections with broader political environments. Finally, I conclude by reviewing the arguments of the article.

DISCUSSIONS OF THE BRAZILIAN STATE

Most studies of the Brazilian state before the 1980s focused on its macrocharacteristics and their role in the development of the nation, in the construction of a modern political order, and in the formation of a certain peripheral and dependent capitalism. This period included the classical works by Oliveira Viana and Raimundo Faoro up to those of Stepan (1989), Cardoso (1993), and Linz and Stepan (1996). The emphasis on more general interpretations was part of the style of analysis of the time but was also influenced by the Brazilian political context. The

legacy of this literature is significant knowledge about macroprocesses, exemplified by outstanding works such as that of Nunes (1984). In contrast, the detailed study of the state apparatus, its relations to the broader political system, and its influence on policies remained indirectly (and sometimes superficially) reviewed.

The 1980s were a milestone in the effective beginning of studies on Brazilian public policy. Accompanying the social and political transformations of the country, several works critically depicted the public policies of the Estado Novo and the military regime. A considerable number of policy domains were studied, such as social security, health, welfare, housing, and industrialization (e.g., Santos 1979; Draibe 1989; Evans 1995), enhancing comprehension of Brazilian social policies.

Most studies, however, were fragmented with respect to themes, disciplines, and analysis. In a general sense, this occurred because of the absence of broader theoretical perspectives, resulting in low-profile abstraction and too much empirical fragmentation, as Arretche (2003) has pointed out. The fact that public policies became a thematic meeting point of distinct disciplines worsened the problem. As a result, policy research in Brazil became torn between theoretical and macrosociological concerns and a profusion of specific case studies from concrete policy domains (Arretche 2003).

An important exception was a group of studies developed over the past fifteen years focusing on the construction of state capacities. Regarding the comparative literature on Brazil, this line of analysis concentrated on the solution to an apparent contradiction. Several authors sustained that Brazil had a weakly institutionalized party system (Linz and Stepan 1996); highly fragmented federalism (Stepan 2001); and state-society relations organized mainly around patronage, clientelism, and patrimonialism (Mainwaring 1999), thus resulting in a very fragmented state (Weyland 1996)—this has made policy initiatives very difficult to implement both during the military dictatorship (Hagopian 1994) and in the recent democratic period (Weyland 1996). In an apparent paradox, Brazil was also considered among the most successful cases of state-driven economic development (Evans 1995). The key to solve this apparent contradiction is to avoid generalized understandings of the state, disaggregating the state internally and taking into account various degrees of insulation and state capacity in different state levels, agencies, and periods.

In this sense, the same agency might mobilize at the same time different political grammars, constructing varying combinations of clientelism, corporativism, bureaucratic insulation from political pressures, and the universalization of procedures (Nunes 1984). When these elements are taken into account, the high circulation of individuals among institutional positions that is considered a symptom of state weakness might also generate "alternative channels of communication" (Schneider 1991, 7), thus leading to coordination. Authors such as Schneider (1991) and Sikkink (1993) have demonstrated that state capacities were sometimes built through the construction of parallel agencies and bureaucracies, using the hiring and firing power of executive offices, with long-term effects on policies. Others have demonstrated that reformist movements (Falleti 2010) might change policies substantially from the outside to the inside, or that technicians might play impor-

tant roles in the development of good government from the inside (Tendler 1997), even at the local level and in poor regions. At the same time, the interactions of political actors, institutional details, and policy design might be more important to defining policy results than general institutional features (Arretche 2006).

These studies enhanced our knowledge about the actors and institutions involved in policy production, but we still know relatively little about the internal structures and organizations of the state. The construction of empirically grounded studies about the relational patterns between actors in the policy process is the most prominent way to connect the theoretical considerations about the Brazilian state developed in the 1970s and 1980s with the detailed but fragmented empirical analysis that characterized the 1990s. This makes network analysis a strategic analytical tool, although it has hardly been applied in the study of Brazilian policies until now. In addition, several important changes have to be introduced in the method to capture important elements present in Brazilian political processes. To introduce these changes, the following section presents the network analysis literature and discusses the particularities of its application to the Brazilian case.

ACTORS, NETWORKS, AND INSTITUTIONS

Network analysis starts from the assumption that networks structure many fields of social reality. From the 1960s, a vast literature has shown that the relational patterns between individuals and organizations structure a great range of social situations, thus affecting the flow of goods, ideas, information, and power (Freeman 2002). This perspective focused on social relationships, not on attributes, and aimed to construct midrange analyses that could simultaneously handle social action and structure and embed actions in broader relational settings (Granovetter 2003). In network analysis, the empirical work deduces the structures, in what Tilly (1992) called post hoc structuralism.

In the case of political phenomena, the intrinsically relational nature of power already suggests the possibilities of this approach, as networks provide different access to resources, facilitate alliances or conflicts, restrict choices, and affect policy results. In this sense, networks help us account for the effects of the actions of several actors at the same time, thus going beyond the consideration of political situations as interactions in dyads.

In the case of policy studies, at least since the classic contributions of Heclo (1978) and Hjern and Porter (1981), the study of networks has contributed to a better understanding of the effects of actors' interactions in the creation and implementation of policies. Although the point of departure of this tradition was pluralist, the authors attempted to "develop a more sociologically informed approach to interest group behavior" (Laumann and Knoke 1987, 7). This meant a rupture with the pluralist view of political institutions, as stated by Knoke and colleagues (1996, 5): "Is the state merely an arena within which societal forces struggle, or does it reserve the power to shape and channel that struggle?" Besides emphasizing relationships among private interests, bureaucracies, and politicians—or iron

triangles, in the pluralist view (Fiorina 1977)—network research proposed that those relationships are more permanent and less results oriented, which confirms what Heinz and colleagues (1997, 8) call structural attributes of influence.

Each policy would comprise a policy domain, "a component of the political system organized around substantive issues" (Burstein 1991, 328), defined analytically by mutual acknowledgment from actors involved in policy production (Laumann and Knoke 1987). The actors would belong to the state and to society and would be involved in policy making through lobbying and influence building (Heinz et al. 1997), inside policy domains structured in several different forms or through arenas of representation such as policy councils (Knoke et al. 1996). The model of the policy networks tradition is compatible with political entrepreneurs, domain institutionalization, and ideas (or issue framing), although those elements are not at the core of the analytical model.

Despite the important contributions of studies such as that of Laumann and Knoke (1987), policy networks literature raised two important problems for policy studies that, in my view, impede it from going beyond the pluralist representation of the state as an arena. First, in theoretical terms, organizational relations were considered the basis of influence, with the importance of individual ties explicitly rejected by the policy networks tradition (Knoke et al. 1996; Laumann and Knoke 1987, 7). Second, the emphasis was on only observable alliances and actions, which derive from the pluralist representation of power as observed political conflict (Dahl 1961). However, these studies were products of a reiterated research strategy that relied on relational information from questionnaires that asked key policy makers who their organization consulted, supported, or acted in association with.

There is no doubt that formal and organizational relations, as well as intentional ties, are central to politics. However, several of the elements that structure the relational patterns influencing politics are informal or develop over the years either unintentionally or for different purposes. In addition, although the association between relationships and time varies significantly, ties tend to endure, or at least to become latent and fade only with the passage of time. The broader effect of this on the networks is that only a small part of the ties change in each moment, which makes them heavily dependent on the heritage of past connections accumulated through time.

Recently, Watts (1999) suggested a new source of stability based on the theoretical properties of networks. He showed the existence of mathematical properties of networks that make connectivity increase much faster than the decrease in "clusterability" when a network is submitted to the randomization of ties. For these networks, which the author calls small-world networks, great connectivity (or short average distances) and high clusterability are obtained with low randomizing. Consequently, the structure of these networks tends to change little, as their structural characteristics are very stable, even in moments of intense changes in ties.

Therefore, relational settings are constantly changing but are very path dependent. Moreover, because the positions in the networks allow for different access to

resources, the characteristics and structure of those networks influence politics. This might mean incorporating both the contingency of political results (which leads to change) and the unequal distribution of power resources (which favors stability). More broadly, because network location makes strategic alliances and coalitions more or less feasible and provides different access to resources, policy network structures significantly affect power dynamics within the state. Those elements are not present in most studies of policy networks, but they might be incorporated through elements developed in other lines of analysis of politics, as in the work of Ansell (2000) and Hedström, Sandell, and Stern (2000).

All these elements are central to the study of policies in Brazil and Latin America, but I suspect that they also tend to be important in more institutionalized political systems.

THE RELATIONAL FABRIC OF THE BRAZILIAN STATE

To incorporate the elements discussed in the previous section, we must establish a conceptual point of departure. First, political domains in Brazil, as in other Latin American countries, tend to be centered in state agencies, given the relative fragility of civil society organizations. This is the case of both local sanitation and infrastructure policies, discussed in the following sessions. However, state organizations generally are also poorly institutionalized, have low insulation from political pressures, and experience intense migration from (and to) the private sector. This has traditionally been interpreted as state weakness, although it may also be a source of embedded autonomy (Evans 1995) or coordination (Schneider 1991). At issue is what conditions favor each result, a question that can be answered only empirically. Second, as already stated, different from several policy network analyses (Laumann and Knoke 1987), we must look at both organizational and individual ties (at least in Latin American contexts), taking into account the always-existing duality between persons and organizations (Breiger and Mohr 2004).

In addition, I consider here that only some of the ties were intentionally produced. Because policy networks are part of the broader networks that constitute society, most of the ties were produced long ago and with different goals (or even no goal at all). Hence, actors may choose strategically, but they will be bound by the actions of all other network actors (Granovetter 2003), which leads both to bounded rationality and to complex political results. This point of view collides with a great part of the Brazilian literature, specifically with that based on an instrumentalist reading of Cardoso's (1993) bureaucratic rings of power. According to Cardoso, the interests associated with specific policies would create intentional and relatively brief ties with state bureaucracies to achieve their goals. I propose that longer-lasting and less goal-oriented elements are involved. I call these processes *permeability of the state*, understood as the relational patterns that connect the private and public sectors in each public policy area through several types of ties constructed only partially with intention and often inherited from the past (Marques 2000).

The state fabric is created and changed by networks among people and organizations, both inside the state and in the larger environments of policy communities. The contacts are both personal and institutional and are based in old and new ties, constantly re-created. These midlevel structures conduct several resources and affect preferences, restrict choices and strategies, and change political results. Concretely, superposed thematic networks compose the state fabric.

The characteristics of the state fabric in each policy field, therefore, create more stability of political struggles in time. Ansell, Bichir, and Zhou (2009) recently added new elements to that understanding of the state fabric. Using several network measures, the authors compared power structures of several policy domains: the two analyzed here as well as transportation policies in Los Angeles and Chicago and educational policies in Oakland. The results suggested that the two Brazilian networks had the most concentrated relational patterns and most resembled oligarchic structures.

However, the idea of stability within the state fabric can lead to two misunderstandings: first, that politicians cannot interfere in the relational patterns present in policy communities (they can and constantly do, but in a constrained way). Second is the impression that the state fabric is equally important independent of the institutional design responsible for different policies. It is not; the state fabric interacts differently with diverse institutional designs. The two elements are associated, but it is important to discuss them separately.

Several actors are important in policy production and delivery. Among those that operate within the state, elected and appointed officials must be highlighted, as well as bureaucrats and technicians. As already pointed out, several governments in Brazil have adopted the strategy of constructing alternative (or parallel) agencies for policy development (Schneider 1991; Sikkink 1993), as well as the firing and hiring prerogative of executives. If this argument deserves consideration, it must not be understood as an unrestrained possibility of creating new agencies and bureaucracies, especially more recently. This analytical caution is important for several reasons. First, even when this happened, the part of the bureaucracy that is not from that agency and that was introduced from the outside had several opportunities to negotiate or dispute policy issues with the traditional agencies. Second, the creation of new agencies is (and always has been) very selective, focused on the most important and strategic policies (mainly economic development). This strategy tended to be more common at the federal than the local (state and municipal) level, where fewer financial resources are available and the issues involved are less strategic. This is true of the cases studied here, as well as with most Brazilian state initiatives. However, at least in the recent period, many new initiatives have been implemented using the existing state apparatus or reforming it incrementally. This has especially been the case since the 1988 constitution, which established public selection through universally accessible selection processes for all civil servant posts.[1] In fact, for a large proportion of the Brazilian

1. This tendency was enhanced by the 2000 Law of Fiscal Responsibility and other legislative initiatives, which complicated financially the growth of state agencies. These are not included in the two case

state (including the two agencies studied here), the restrictions on free hiring and firing date to the end of the 1960s but were implemented only over time. Actually, this issue is not as simple as it seems, given that it involves the juridical definition of each state agency. In general, state companies, foundations, and institutions have fewer restrictions on firing, but they are held to hiring restrictions, whereas ministries and state and municipal secretariats and departments are more constrained with respect to both hiring and firing. The characteristics of the organization in charge of making a particular policy, therefore, also influence the prerogatives of the top decision makers, which makes the interaction between the state fabric and institutions more important.

It is also important to note that today a larger proportion of decision makers are appointed by executive offices in Brazil than in other countries, especially at the higher tiers of the federal administration. This prerogative is used to intervene in specific places of the state fabric, introducing new technicians or even new network components, or removing them. With the end of an administration and its substitution by the appointees of the next administration, however, the effect disappears. If these decision makers want to permanently change the state fabric, they must spend political and financial resources to reform their particular agency. So, the inertia of the state fabric involves incremental changes produced continuously by the creating and breaking of new ties among individuals, but it is also a product of the strategies of top decision makers and politicians.

Therefore, the state fabric tends to vary according to policy issue and type of institution involved. It is reasonable to believe that the importance of the state fabric (and the bureaucracy) tends to be greater in more technically oriented policies. For example, with sanitation and infrastructure, the cases studied here, there is a greater dependence on experts, because there is less possibility of managing them (or pressuring them) from outside the community. Also, if the community involves specific career and technical training, provided endogenously, the importance of the state fabric is expected to be greater.[2] Both cases here, sanitation and urban infrastructure, involve policies of this type.

Concerning institutional design, the two cases here suggest interesting results that confirm my hypotheses. Thus, we can assume that the importance of the state fabric is greater when the policy community is more insulated from the influence of politicians and of both social movements and private-sector agents. When the organizations involved in policy making have their own budget or revenue sources, clear career patterns, a distinguished professional identity, and few migrations of technicians to and from other policy sectors, the importance of the state fabric is greater. It is important to note that the unit of analysis is the community and not the organization, and thus intense migrations outside each organization but in the same community may strengthen the state fabric, thus leading to coordination (Schneider 1991). This may be reinforced by the presence of technical elements, as in this case, even the technical training of civil servants must

studies here, but they do suggest an even greater reduction in the firing and hiring strategy of previous decades.

2. I thank an anonymous reviewer of this article for drawing my attention to this element.

happen inside the community. In contrast, when the policy community has no identity, when the organizations do not directly control their financial resources, and when migration to and from other communities is common, the state fabric is less important to the policy-making process. The two cases presented here confirm these hypotheses, suggesting distinct effects of the state fabric with different institutional designs.

THE CASES AND METHOD

This section introduces two studies and their methodology. Both cases had a similar overall design to enhance comparability. The first study analyzed basic sanitation policies developed by a state-level public company, Companhia Estadual de Águas e Esgotos (Cedae), in Rio de Janeiro's metropolitan area between 1975 and 1996 (Marques 2000). Cedae was created in 1975 through the merger of three existing public companies.[3] The second case study analyzed urban infrastructure policies developed by the Secretaria de Vias Públicas (SVP) in São Paulo between 1975 and 2000 (Marques 2003). The first policy was developed by a state-owned company (with relatively higher insulation from political pressures) and had metropolitan coverage, whereas the second one was developed by a direct administration agency (with relatively lower insulation) and had municipal reach.

In political terms, the two cases were quite different. During the military regime, governors were indirectly elected by the state assemblies, while mayors of state capitals were appointed by state governors. In 1982 governors began to be directly elected, but mayors of state capitals continued to be appointed until 1985. In the Rio de Janeiro case studied here, the first two administrations were indirectly elected, whereas all the others were directly elected. In Rio de Janeiro, during the six administrative terms during which the policies lasted, two opposing political groups vied for, and alternately held, control of the state government.

São Paulo experienced much less political competition, being controlled by one political group in five of the seven governments of the period in which the policies were active. The first two mayors were appointed by undirected elected (right-wing) governors. The third was appointed by a left-wing elected governor. The mayors from the fourth to the seventh were elected, but the left managed to elect only one mayor (the fifth), while the other three belonged to the same political group of the appointed mayors of the 1970s. During the whole period, therefore, the right-wing political group was hegemonic, even after the return of direct elections. These São Paulo government administrations had a strong right-wing ideological identity and were clearly opposed to the left-center coalitions that occupied the municipal government in the third and fifth terms. Both studies started from information about investments based directly on contracting disclaimers published in the official press (around 800 contracts in Rio de Janeiro and almost 5,500 in São Paulo). That information was analyzed by distributing the investments year by year and quantitatively testing the effects of electoral cycles,

3. In 1975, Guanabara and Rio de Janeiro States merged, along with all public agencies.

the return to democracy and the presence of social movements. The same contract disclaimers were considered by location of the public works and the spatial impact of each type of investment.[4] By matching this distribution of public works with the spatial distribution of social groups (by using census data), the research investigated the distributive character of the policies over time (and in each administration), trying to determine in which administration poorer social groups, living at the social periphery, benefited more. Other information obtained from interviews helped characterize the policies and political dynamics, complementing that quantitative information.

I conducted a series of interviews with policy makers, collecting information on both informal and formal relations that were constructed intentionally and unintentionally. Specific interviews separated types of ties (e.g., kin, workmates, political affinity) and time periods and connections with private companies inside the network. The interviews focused on whole networks in an effort to map the whole policy community. The questionnaire (i.e., the name generator) considered reputation only in the first "seed" of names, when the interviewee indicated the most important names in regard to the policy. In the next rounds of interviews, the method was the interviewees' free association of names, as described here. Before the first interview, I organized a list of individuals with institutional positions in several periods. I submitted this list to interviewees and asked for names of up to three people who appeared associated in her/his mind to the one cited, considering the policy. Interviewees could present their own name, new names, a name already in the list, or no names. The names were included in the row of the cited name (creating dyads, or pairs of connected names), but new names were also included in the first column at the end of the list, which expanded the list of persons I asked about. In each interview, I explored approximately fifty names, regularly changing the names about which I asked the contacts (the seed), so that each name was presented a similar number of times. The procedure was repeated in several interviews until no new names appeared, which indicated that the frontier of the network had been reached and that no additional interviews were necessary.

Later I conducted interviews on types of contacts, to separate which ties were constructed in which of the periods and to locate the most important private companies in the network. The choice of interviewees followed snowball sampling techniques, but after the tenth interview I processed the data, drew the network, and located my interviewees to check if any region of the network was not covered by informants. The following interviewees were located within those regions of the network. For each city, I conducted between twenty-five and thirty interviews, some in more than one session.

The selected material enabled me to analytically reconstruct, using social network analysis techniques, the relationships among individuals, entities, and pri-

4. For example, the spatial impact of bridges is much broader than the effect of street paving, which tends to be local, because bridges benefit the regions they connect, whereas street paving benefits only the inhabitants of the immediately surrounding area. So, to distribute the investments across space, I analyzed each of the public works and decided their probable impact, case by case.

vate companies, including several types of ties, as well as formal and informal relationships, associated and not associated with specific policy issues. In each case, the networks were organized by government administrations.[5]

The results are organized around two broad arguments about the state fabric: First, because of the state fabric, the settings in which public policies are developed are more stable than those the policy literature usually considers, thus enhancing permanence over time and resilience against change. Second, this structure gives individuals access to a specific kind of power directly associated with their position in the network structure. This resource is exchanged with other power resources. For example, politicians who become presidents or directors of a state agency appoint technicians as chiefs of the agency sectors because they need persons within the network to operate the policy. These individuals receive institutional power (which brings them higher salaries and better working conditions) in exchange for their positional power within the network.

Details about the policies and political dynamics of each case are presented only when strictly necessary.

ANALYSIS

Network Structure and Continuity and Rupture in the State Fabric

As already discussed, networks structure policy communities internally in a relatively stable way across time and help maintain administrative capabilities and technical memory (Sikkink 1993). The first element of network structure is associated with the importance of individual contacts in policy networks, which is not an expression of low institutionalization. In the Rio de Janeiro network, for instance, the type of personal tie that increased more during the period examined here was institutional, and personal ties tended to remain stable during the period. This suggests that processes of institutional building are not incompatible with environments that are strongly based on personal relations.

In addition, in Rio de Janeiro, the network was an important element of institution building. As stated earlier, Cedae was created through the merger of three previously existing state-owned organizations. The interviews suggested that the merger was full of conflicts; however, Cedae did later evolve to have its own institutional identity, insulation from political pressures, and technical culture. The networks suggest that the structuring of the new company also had a relational dimension, as the merger caused (and was politically enabled by) the slow and progressive merging of the network itself, with the fusion of the three original networks into a single one. One indicator of this fusion is the decrease of the percentage of ties between individuals from the same original company over the years, at the same time that ties between individuals who originally belonged to different companies increased, proportionally. In 1981, approximately

5. Thus, there is a network for each administration: six in Rio de Janeiro and seven in São Paulo. The first two administrations of each case were collapsed, given recall issues with interviewees. To control for the historical construction of the sector, in each case I created a "before" period.

35 percent of ties were among persons who did not belong to the same original company, and in 1996, this had stabilized to around 50 percent. Even so, at the end of the period, the presence of ties with individuals from their original companies remained high (almost half), thus indicating the path-dependent character of the state fabric.

Political networks change over time, given the formation and destruction of ties as well as institutional dynamics. There are some processes that contribute strongly to that change. First, change happens in policy networks in a concentrated way during administration changes, as a result of firing and hiring. However, there is also the effect of generational dynamics (to analyze effects of age cohort, technicians were classified by the age cohort, or generation, they belong to). As expected, the two cases indicate that the gradual arrival and exit of cohorts to the state fabric affects the networks by including or excluding new members.

The formation and destruction of ties also has important effects in the disaggregation of cohesive groups. Groups are sets of individuals or entities with several internal ties and a similar relational pattern to that of other network peers. They usually gather allies and individuals with similar identities and behavior, and they may be delimited by cluster analysis. The interviews confirm this, suggesting that several of the groups in the two cases have common political identities or engage in collective actions. Within each network, the groups differ in power resources, not only because of the institutional positions of their members but also because of the network locations of the groups, which ensures better or worse access to specific parts of the state fabric.

In Rio de Janeiro, this meant the loss of control over the policy after the first administration, when the most important group declined in terms of political power. This was caused both by the exit of an older cohort of the policy community (and from its network) by electoral changes and by changes of broader political alliances within the administrations. From this moment on, the heirs of this group polarized political disputes in the community with a completely new group that emerged from the association of important positions in the fabric with institutional positions occupied by some individuals after the return of elections for governor in 1982, thus creating an intensely competitive political environment.

The São Paulo case shows a smoother decline of the older cohorts or generations over time, as there were few political shifts in who controlled the administration. The exceptions were the two left-wing mayors who held office between 1982 and 1985 and between 1989 and 1992. But with the return of the same right-wing political group in 1993, the older cohorts returned to important institutional positions. Therefore, generational dynamics have influence here, but so do political decisions and processes.

With respect to network transformation, the great amount of ties and nodes that carried over from preceding periods was considered, until recently, the main stability-promoting element. Moreover, Watts (1999) has suggested that the structural characteristics of small-world networks may be resilient to change once they are in place. The application of Watts's ideas to the policy networks of São Paulo

and Rio de Janeiro suggests that each is a case of a small-world network (i.e., both have high connectivity and high clusterability).[6] The structural properties of both networks change little, even in the face of the intense creation or breaking of ties. In political terms, this means that the state fabric is stable, which may add new elements to the explanation of the difficulties of state reforms, as well as of the inertia of organizational structures. Therefore, even in moments of intense transformation of a particular policy community, changes tend to have local (rather than structural) effects. Such changes may be sufficient to allow for shifts in policy preferences according to who is in office, but generally those shifts will not be reproduced over time, and the former situation will reappear when the external (political) efforts cease. This occurs in the case of São Paulo.

This combination of stability and change produced by both political dynamics and institutional designs is highly visible in São Paulo. During most of the period (both under military rule and after the return to democracy), municipal administrations were right wing, with only two exceptions, in a polarized but not competitive political environment. The spatial distribution of investments indicated that right- or left-wing administrations systematically implemented different policies in terms of the types of public works, their location, and the social groups they benefited. As compared to left-wing administrations, right-wing governments invested in larger works, with bigger companies, and concentrated mainly in areas inhabited by richer social groups. The disclosure of corruption in the press accompanied these large public works projects, which suggests close relationships between private contractors and local politicians. In this case, therefore, the electoral ideological identification of parties coincided with the contents of their policies expected by the left-right divide, considering Bobbio (1997), namely an emphasis on social justice and on redistributive policies.

Most right-wing mayors belonged to the same political party, but the two left-wing mayors were from different parties (although they implemented very similar policies). Because of the right-wing domination of office, the policy-making community was extremely close to the right-wing political group. The fact that certain people remained in office across administrations suggests the existence of a network of administrators close to right-wing politicians that crossed several terms, weaving the urban engineering community throughout many agencies. Among right-wing administrations, 171 individuals participated in more than one right-wing government, 31 participated in both right- and left-wing governments, and 10 participated in both left-wing administrations, with averages of co-participation per administration of 29, 16, and 5, respectively.

Left-wing administrations had a more isolated network. Using their hiring power, they brought in technicians from outside the community and tried to im-

6. In this case, the relationships between the clustering coefficient from the random (theoretical) network and our networks are Cedae (1982–1985), 0.11; Cedae (1995–1996), 0.07; SVP (1989–1992), 0.04; and SVP (1997–2000), 0.05. The relationships between the distances from the random (theoretical) network and our networks are Cedae (1982–1985), 0.74; Cedae (1995–1996), 0.92; SVP (1989–1992), 0.84; and SVP (1997–2000), 0.86.

plement the policy using just some strategic connections between outside technicians and the network. Because of legal restrictions, however, they could hire only for nontenured positions and could not fire individuals whom they considered hostile to the policies they wanted to implement; they could only remove them to unimportant sectors of an agency.

The organizational design facilitated the left wing's strategy. As we saw, the agency that implemented the policy had no policies for recruitment and training, no self-directed revenue, and low insulation from political pressures. The network boundaries did not coincide with the agency itself, but instead transcended it strongly, comprising technicians who worked at several offices in the São Paulo urban engineering community. Consequently, the community had much less political strength to negotiate with its political surroundings.

In Rio de Janeiro, in contrast, a state-owned company with specific administrative staff, its own budget and revenue source, a clear organizational identity, and strong insulation from political pressures implemented policies. In this case, the network limits almost coincided with the organization; in other words, the network consisted almost entirely of individuals within the company, except for those in the private contracting sector. Members of the agency controlled even civil society organizations such as engineering associations, and their issues and political dynamics reflected those from inside the state agency.

Relational Power in the State Fabric

I now turn to relational power, associated with certain positions in the state fabric. Because networks structure the relationships among agents in the state fabric, the administration of state organizations involves intense negotiations between insiders (who control knowledge, contacts, and positions in the network) and outsiders (mainly politicians and public works and service contractors).[7] Those who hold institutional power need supporters inside the community to implement policies and projects.

The cases of Rio de Janeiro and São Paulo were different in this respect, although the differences are associated with the specification of a single pattern. In Rio de Janeiro, data suggested a rather polarized network, with strong and important groups controlling different areas of the network and disputing power among themselves. The two most important groups included primarily individuals who had worked in the two companies that merged in 1975. The center of the network was occupied by groups of minor importance in power disputes but also by individuals and groups involved in political mediation.

In São Paulo, the network had low inner polarization and a single core associated with public administrators of the right-wing political group that controlled the administration. They alternated themselves in the most important institutional positions at the agencies and were located at the same network position.

7. In these cases, the policy beneficiaries were not relevant, but in policies associated with social demands and/or social movements that street-level bureaucracies implemented, they probably would have greater influence.

It is important to add that the São Paulo network is larger and far more complex than that in Rio de Janeiro, having reached 238 entities (persons and companies) and 806 relations, compared to 153 entities and 628 ties for the latter.

As discussed already, in successive administrations, members of different groups struggle for political (and policy) hegemony in the state fabric, mobilizing their relations with those who hold institutional power. An important dimension of power in networks, hence, is the location of the individuals who hold institutional positions.

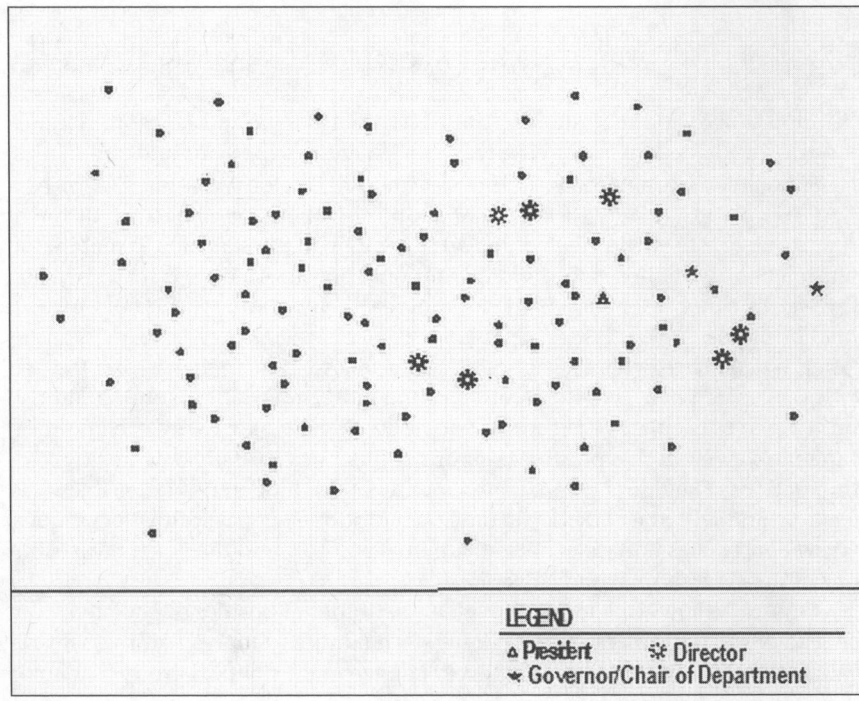
In Rio de Janeiro, where local politics experienced greater change and the network was more polarized, the location of the most important institutional positions tended to oscillate between the two network poles along with each political change in key executive positions. Figure 1 illustrates this situation for two administrations. The figure compares sociograms with hidden ties (to enable visualization) and with the nodes located using multidimensional scaling techniques, which reduces bias and distributes the points according to the general distributions of ties (Wasserman and Faust, 1994).

As figure 1 shows, the location of chief institutional positions oscillated from one side of the networks to the other between administrations, and this was repeated in other administrations; for every change in the political group that holds office, the board of directors is on the opposite side of the previous administration. That pattern is easily understandable. When a particular political group held office, it had to choose points of entry into the policy community. But in doing so, it could not create contacts with network groups that had already been associated with its adversaries. When that same group returned to power, it reactivated the same contacts and groups, thus reproducing polarization in the network. Following both polarizations, the location of institutional positions oscillated from one administration to the other, as the sociograms show.

In São Paulo, the situation was very different, primarily because some groups controlled the majority of institutional positions in several governments. In fact, three groups held more than 50 percent of the most important positions in almost all administrations (in two administrations, they occupied more than 75 percent of those positions), with the exception of the two left-wing governments (which controlled 43 percent and 27 percent, respectively, of the most important positions). Those groups had sharp ideological tendencies and long political association with the political group that dominated local politics during most of the period under study here. The two controls—over the administration and over the network—likely reinforced each other.

In such a situation, what could the left-wing governments do once in office? Their only available strategy was to import parts of the network from the outside using the prerogative of hiring and to connect groups of technicians external to the community to certain positions in the network. This strategy becomes obvious with the analysis of the location of the main decision makers in the network. If the interpretation is correct, left-wing governments should have a much less central board of directors than right-wing governments. Comparing the reach centrality scores of the chairs of the Department of Public Works in each administration, we find an average centrality of 73.5 for left-wing governments, against 98

A. 1983–1986



B. 1995–1998

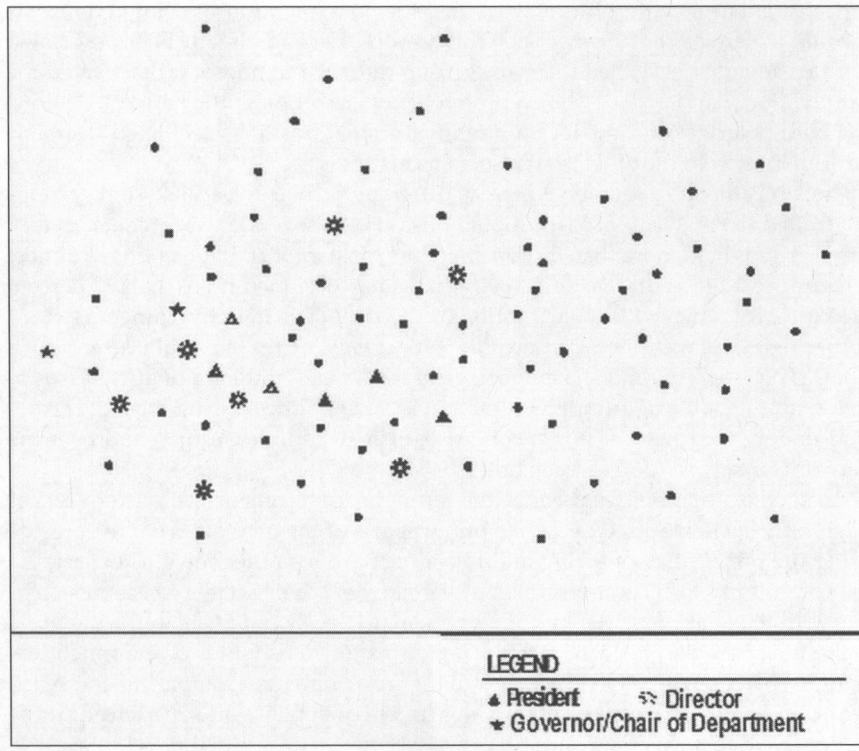


Figure 1 Community Network with Boards of Directors (Rio de Janeiro)

Source: Interviews with community members.

Table 1 Indicators of the Ego-Centered Networks of Department Chairs, São Paulo

	Administrations			
	Right-wing (Reynaldo)	Left-wing (Covas)	Left-wing (Erundina)	Right-wing (Maluf)
Number of nodes	27	9	14	28
Number of private enterprises	12	2	2	19
Individuals from the community	13	1	1	8
Individuals from outside the community	2	6	11	1
Burt's efficient size	28.7	10.2	11.9	24.0

Source: Interviews with community members.

for right-wing governments.[8] The same tendency is found in their "egonets" characterized in table 1 by selected indicators.[9] As we can see, the egonets of the most important decision makers in right-wing governments are larger, more populated by private enterprises and individuals from the community than the ones of left-wing governments. We can see additionally by Burt's measure that the egonets of right-wing governments tend to be more efficient, in the sense of being less redundant. All administrations follow the same pattern.

These differences are also visible in the structure of the networks as a whole. The sociograms in figure 2 present the networks of a left- and right-wing government, with the weak ties hidden. The board of directors from the first administration (left-wing) occupied a peripheral section of the network, as opposed to the central, connected location of the second (right-wing) board. The other administrations follow the same pattern in the period, with the location of key institutional positions at the periphery of the network in left-wing administrations. The weak ties were suppressed because of the complexity of the network in São Paulo (the strength of ties considers the relative frequency of mentioning a certain tie in interviews).

However, these imported network branches tend to become disconnected with the end of the administrative term. Consequently, the strategy of hiring may help with the implementation of policies that important segments of the policy community would not support, thus momentarily neutralizing the bureaucracy found in central locations of the state fabric. But this tends to have little influence on community change over time, as suggested by the case of the few left-wing administrations in São Paulo already cited, except if true state capacity-building efforts are made.

The interpretation of the positions of the boards is complemented by the

8. Reach centralities are simple network measures: the greater the score, the greater is the centrality and the closer is the individual to the rest of the network. The differences between means are significant at a confidence interval of 95 percent.

9. Egonets are a part of a larger network centered at one node and which considers only its direct (primary) contacts and the direct contacts between them.

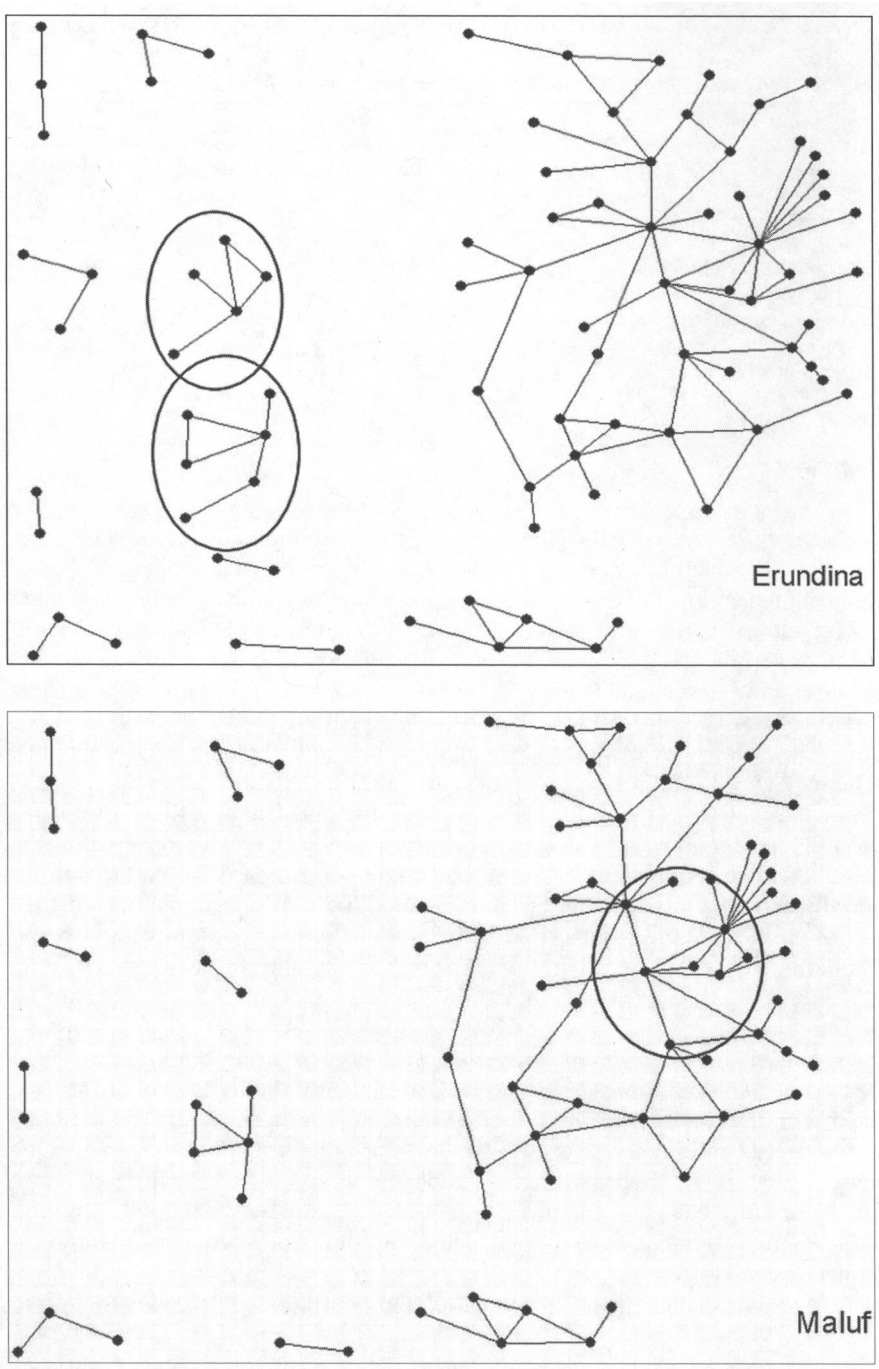


Figure 2 Sociograms by Administration, Weak Ties Concealed (São Paulo)

Source: Interviews with community members.

Note: The circled areas concentrate the majority of institutional positions.

observation of their location in relation to that of private contractors. The previous sociograms included only persons, but the following also present information on the location of private companies. The sociograms in figure 3 compare right- and left-wing administrations, with ties concealed and nodes located by multidimensional scaling techniques.

As figure 3 shows, the board of directors of right-wing administrations is located in areas that private companies also occupy. In left-wing administrations, on the contrary, the individuals with institutional positions are far away from the private companies, which confirms the results here. The other administrations follow the same pattern.

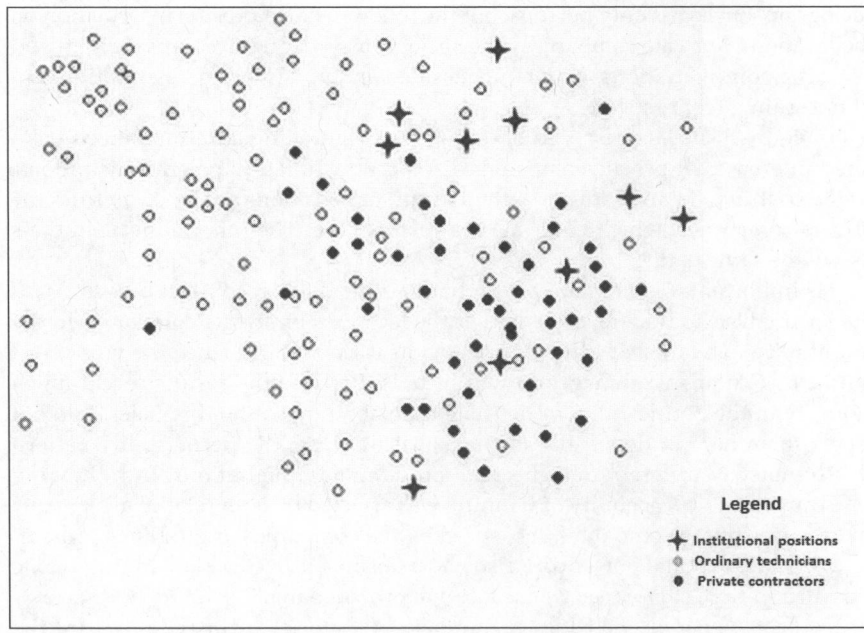
It is important to note that I also submitted the data on contract bids to quantitative analysis to understand whether the locations of private companies in the community networks, or other nonrelational variables, influence the number of contracts a company manages to win in bids. Because the results reveal much more about the permeability of the state than about power and policies, I do not report them here in detail. But in the São Paulo case, the permeability pattern was completely different in right- and left-wing administrations. In right-wing governments, the probability of winning was affected by both relational elements and the size of the companies, measured by the companies' capital. The proximity to the institutional power core also had a positive influence on winning public bids. In addition, companies whose location provided many primary and secondary contacts generally had higher numbers of victories (primary links are the direct connections of a node, and secondary links are the connections of nodes directly connected to the node in question).

In left-wing administrations, no network-related variable had significance. Among the investigated elements, only a company's capital had a positive influence on the amount won in bids, but with a lower return than for right-wing administrations. This suggests that the left-wing administrations succeeded in neutralizing the network's core. Once more, the state fabric affects policy, but the actors' choices and strategies are relevant and may reverse the results.

In Rio de Janeiro, conversely, for the great majority of the cases, the pattern of bids was affected by the location of the contractors within the state fabric. The companies that occupied positions in the network with easier access to information would get more contracts. This pattern was present over the whole period, which confirms that permeability is more diffuse, unintentional, and resilient than suggested by most of the literature on Brazil (e.g., Cardoso 1993).

In summary, the two cases can be understood as different configurations of the same exchange of power resources in the state fabric. At least two different sets of power resources are present in the administration of state agencies. The first is the occupation of institutional positions, which is based in law and administrative arrangements and relates to the formal capacities of command over the state apparatus. These resources are essential to power authority but are not sufficient to an effective exercise of power, because a substantial part of the policy process remains in the hands of the lower tiers of the bureaucracy. The mobilization of actors at these tiers depends on a different set of power resources associated with location inside policy networks. This positional power is embedded in the

A. Right-wing (Setúbal)



B. Left-wing (Erundina)

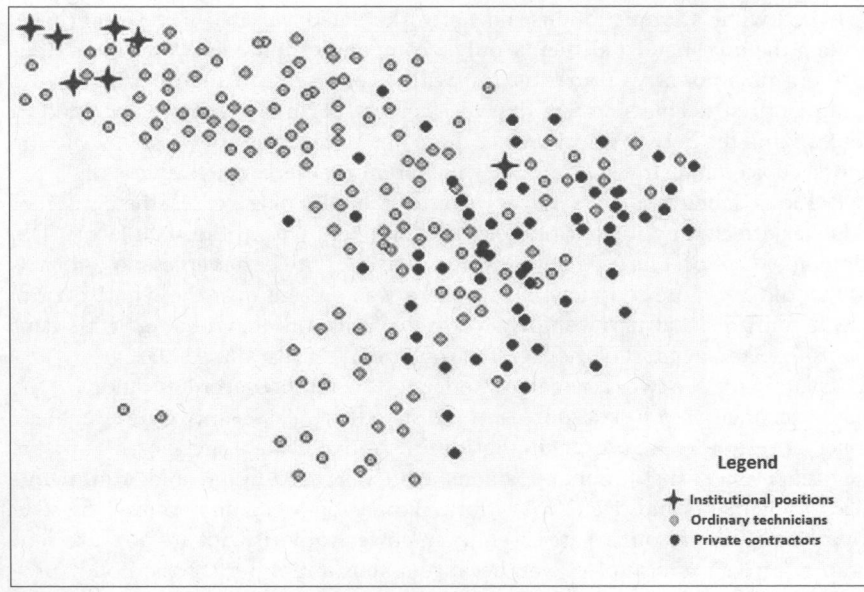


Figure 3 Board of Directories and Companies (São Paulo)

Source: Interviews with community members.

state fabric and can be exchanged for other power resources, which is exemplified by the heads of the executive branches who exchange institutional positions (i.e., institutional power) for places and locations (i.e., positional power) occupied by members of the policy community in the state fabric. Those members of the community then lend their places and relational patterns, thus receiving higher wages, status, and so on. Policies are thus implemented by mobilizing whole areas of the network.

In Rio de Janeiro and São Paulo the elected administrators engaged in dialogue with each community to acquire support in the networks. The different results in each city pertain to the differences in network configurations, institutional environments, and local power structures. In Rio, this involved the polarization of the network as a result of the changing configurations of institutional power. In São Paulo, the network's core was associated with a particular political group, which led other political groups to import technicians only marginally connected to the network from outside the community.

THE STATE FABRIC AND INSTITUTIONS

We have seen throughout this article the main characteristics of the state fabric and how taking them into account enhances our understanding of state policies. The tradition of policy networks has stated the importance of relational patterns to policies. By considering only the formal and purposive relationships between organizations, however, that literature misses the most important part of the state fabric that social networks bring to light. By incorporating personal and informal relations in our models, we can better understand how networks affect strategies, conflicts, and alliances. We might also be able to assimilate the informality of many aspects of politics and more accurately analyze political stability and changes.

This article has shown that networks structure the state and contribute to the presence of more resilience in political organizations than policy analysis has considered. Despite a trend toward stability, organizational and individual actors constantly re-create networks, in part through their decisions, but also through organizational and generational dynamics. The importance of individuals seems crucial, whether for the relations between nodes or for the fact that the state fabric is not created intentionally and instantly, but instead relates to the long-term trajectories of individuals. This dimension of the policy process has escaped the policy network literature, as we discussed in the first section of this article. Contrary to common wisdom, personal relations are an important element of institutional building, as they may favor cohesion. This cohesion is not homogeneous and leads to the formation of groups that dispute policy control in a centralized, polarized, or pluralist way, depending on the state fabric structure and on the political configurations present in each case.

Individuals and groups negotiate their association with nominees to institutional positions, thereby providing them with positional power to administrate the state and to implement policies in exchange for the power resources that emanate from institutional positions. This is one of the key elements that the policy analysis literature has not discussed. The way in which this negotiation occurs in

each case depends on existing political configurations and institutional formats, which suggests that the same relational structure can provide different results when associated with distinct sets of actors and institutions.

In contrast, the state fabric also structures the relationship between public and private fields, thus accounting for most of the state's permeability. This seems to be much more complex, resilient, and accidental than previous approaches have sustained. In this respect, although the state fabric does not define results, it strongly constrains and affects them. Moreover, political choices do matter, and the strategies of top officials affect permeability.

More research is needed to fully understand the relationship between the state fabric and institutions, but apparently, networks and positional power are more important and affect policies more deeply when state organizations are more insulated. In less insulated agencies, implemented policies more strongly express outside elements, and the negotiations involving positional power tend to be less central.

REFERENCES

Ansell, Christopher
2000 "The Networked Polity: Regional Development in Western Europe." *Governance: An International Journal of Policy and Administration* 13 (3): 303–333.

Ansell, Christopher, Renata Bichir, and Zhou Shi
2009 "When Are Policy Networks Oligarchical?" Paper presented at the International Political Science Association World Congress, Santiago, Chile, July 12–16.

Arretche, Marta
2003 "Dossiê agenda de pesquisa em políticas públicas." *Revista Brasileira de Ciências Sociais* 18 (51): 8–29.
2006 "Coordinating Policies in a Fragmented Federal State: The Brazilian Case." International Political Science Association World Congress, Fukuoka, Japan, July 9–13.

Bobbio, Norberto
1997 *Left and Right: The Significance of a Political Distinction.* Translated and with an introduction by Allan Cameron. Chicago: University of Chicago Press.

Breiger, Ronald L., and John W. Mohr
2004 "La dualidad y la agregación de categories sociales." *Redes* 5 (4): 1–18.

Burstein, Paul
1991 "Policy Domains: Organization, Culture, and Policy Outcomes." *Annual Review of Sociology* 17: 327–350.

Cardoso, Fernando Henrique
1993 "Planejamento a política: Os anéis burocráticos." In *A construção da democracia: Estudos sobre política,* 135–162. São Paulo: Editora Siciliano.

Dahl, Robert Alan
1961 *Who Governs? Democracy and Power in an American City.* New Haven, CT: Yale University Press.

Draibe, Sônia
1989 "O welfare state no Brasil: Características e perspectivas." In *Ciências Sociais Hoje,* 13–61. Rio de Janeiro: Anpocs and Rio Fundo.

Evans, Peter
1995 *Embedded Autonomy: States and Industrial Transformation.* Princeton, NJ: Princeton University Press.

Falleti, Tulia G.
2010 "Infiltrating the State: The Evolution of Health Care Reforms in Brazil, 1964–1988." In *Explaining Institutional Change: Ambiguity, Agency, and Power,* edited by James Mahoney and Kathleen Thelen, 38–62. Cambridge: Cambridge University Press.

Fiorina, Morris P.
1977 *Congress, Keystone of the Washington Establishment.* New Haven, CT: Yale University Press.
Freeman, Linton C.
2002 *The Development of Social Network Analysis: A Study in the Sociology of Science.* North Charleston, SC: Booksurge.
Granovetter, Mark
2003 "A Theoretical Agenda for Economic Sociology." In *The New Economic Sociology,* edited by Mauro Guillén, Randall Collins, Paula England, and Marshall Meyer, 35–60. New York: Russell Sage Foundation.
Hagopian, Frances
1994 "Traditional Politics against State Transformation in Brazil." In *State Power and Social Forces: Domination and Transformation in the Third World,* edited by Joel S. Migdal, Atul Kohli, and Vivienne Shue, 37–64. Cambridge: Cambridge University Press.
Heclo, Hugh
1978 "Issue Networks and the Executive Establishment." In *The New American Political System,* edited by Anthony King, 46–56. Washington, DC: American Enterprise Institute for Public Policy Research.
Hedström, Peter, Rickard Sandell, and Charlotta Stern
2000 "Mesolevel Networks and the Diffusion of Social Movements: The Case of the Swedish Social Democratic Party." *American Journal of Sociology* 106 (1): 145–172.
Heinz, John P., Edward Laumann, Robert Nelson, and Robert Salisbury
1997 *Hollow Core: Private Interests in National Policy Making.* Cambridge, MA: Harvard University Press.
Hjern, Benny, and David O. Porter
1981 "Implementation Structures: A New Unit of Administrative Analysis." *Organizational Studies* 2 (3): 211–227.
Knoke, David, Franz Pappi, Jeffrey Broadbent, and Yutaka Tsujinaka
1996 *Comparing Policy Networks: Labor Politics in the U.S., Germany, and Japan.* Cambridge: Cambridge University Press.
Laumann, Edward O., and David Knoke
1987 *The Organizational State: Social Choice in National Policy Domains.* Madison: University of Wisconsin Press.
Linz, Juan J., and Alfred Stepan
1996 *Problems of Democratic Transition and Consolidation: Southern Europe, South America, and Post-Communist Europe.* Baltimore, MD: Johns Hopkins University Press.
Mainwaring, Scott P.
1999 *Rethinking Party Systems in the Third Wave of Democratization: The Case of Brazil.* Stanford, CA: Stanford University Press.
Marques, Eduardo Cesar
2000 *Estado e redes sociais: Permeabilidade e coesão nas políticas urbanas no Rio de Janeiro.* Rio de Janeiro: Revan; Fundação da Emparo à Pesquisa do Estado de São Paulo.
2003 *Redes sociais, instituições e atores políticos no governo da cidade de São Paulo.* São Paulo: Annablume.
Nunes, Edson
1984 "Bureaucratic Insulation and Clientelism in Contemporary Brazil: Uneven State-Building and the Taming of Modernity." Ph.D. diss., Department of Political Science, University of California, Berkeley.
Santos, Wanderley dos
1979 *Cidadania e justiça: A política social na ordem brasileira.* Rio de Janeiro: Campus.
Schneider, Ben Ross
1991 *Politics within the State: Elite Bureaucrats and Industrial Policy in Authoritarian Brazil.* Pittsburgh, PA: University of Pittsburgh Press.
Sikkink, Kathryn
1993 "Las capacidades y la autonomía del Estado em Brasil e Argentina: Un enfoque neoinstitucionalista." *Desarrollo Económico* 32 (128): 543–574.
Stepan, Alfred
2001 *Arguing Comparative Politics.* Oxford: Oxford University Press.

Stepan, Alfred, ed.
1989 *Democratizing Brazil: Problems of Transition and Consolidation.* Oxford: Oxford University Press.
Tendler, Judith
1997 *Good Government in the Tropics.* Baltimore, MD: Johns Hopkins University Press.
Tilly, Charles
1992 "Prisoners of the State." *Historical Sociology* 133: 329–342.
Wasserman, Stanley, and Katherine Faust
1994 *Social Network Analysis: Methods and Applications.* Cambridge: Cambridge University Press.
Watts, Duncan J.
1999 *Small Worlds: The Dynamics of Networks between Order and Randomness.* Princeton, NJ: Princeton University Press.
Weyland, Kurt
1996 *Democracy without Equity: Failures of Reforms in Brazil.* Pittsburgh, PA: University of Pittsburgh Press.