The Organizational Position Metaphor

Chapter 1
1.1 Organizational Positions and Social Structure

One of the principal contributions of the sociological perspective on organizations is the idea that economic activity is not only governed by individual actions and preferences, but is also determined by social structure. Features of individual organizations, such as age, size, or culture can clearly affect organizational performance and outcomes. While these individual attributes may well be related to organizational outcomes, structuralist perspectives instead focus on how these outcomes are shaped and constrained by structures that are purported to exist independently of individual organizations. Given this focus, identifying the character and attributes of these structures has become a primary objective of organizational and economic sociology.

One set of structural forms that figure centrally into a wide range of this research can be summarized by the metaphor of an organizational position. Theoretical frameworks developed in this vein essentially propose that organizations are located in some conceptual space, and that organizational outcomes are largely determined by the spatial attributes of their position, rather than by their individual characteristics and attributes. While the distinction between these approaches can be subtle, distinguishing between positional and individual mechanisms can yield a wide range of interesting and important insights into understanding the determinants of organizational performance. As such, the attributes of these positions have attracted the interest of organizational sociologists and those who focus on how structures impact the outcomes of individual organizations. While there is considerable agreement that the attributes of these positions are a worthy focus of organizational research, there is less agreement about how the boundaries of these positions should be conceptually defined. Moreover, there is a
substantial lack of research that attempts to empirically identify these boundaries these organizational positions are located.

In this chapter I argue that the idea of an organizational position as it is used in existing research has the conceptual status of a metaphor rather than that of a researchable construct. I review how the organizational position metaphor has been used to theorize about a wide range of questions, and I outline the relevance of fundamental spatial ideas to positional theories of organizational outcomes. I then argue that the inability of this metaphor to explicitly define the character of organizational positions is implicated in the inability of empirical research to produce unambiguous findings about phenomena rooted in a positional logic. After outlining some of the consequences of this claim, I conclude by briefly outlining the remaining chapters of the dissertation.

1.2 A Pervasive Metaphor

A number of developments in the study of organizations are either based on the presupposition of the existence of organizational positions as intermediate-level social locations, or can be characterized as efforts to identify the theoretical features of organizational positions. The population ecology framework introduces one notion of an organization position in the concept of an organizational *niche*. Hannan and Freeman (1977; Freeman and Hannan 1983) define organizational niches in terms of the common set of resources that a given organizational population needs to survive and reproduce (1977: 947), and argue that the characteristics of these niches play a central role in shaping the life chances of organizations. Niche characteristics have been shown to play a role in determining the rates of organizational founding and failure (Hannan and
Freeman 1987, 1988), growth rates (Podolny and Stuart 1995), and innovation
(Swaminathan 1995; Podolny, Stuart and Hannan 1996). DiMaggio and Powell (1983)
offer an alternative conceptualization of an organizational position in the construct of an
organizational field. Responding to Hannan and Freeman (1977), DiMaggio and Powell
define an organizational field in terms of all of the organizations “that constitute an area
of organizational life,” explicitly arguing that this includes not only competitor
organizations, but also other related organizations such as suppliers, customers, or
regulatory agencies (1983: 148). They further argue that organizational fields are the
principal location of the isomorphic behavior that constitutes the major focus of their
research. Burt (1982) also responds to the notion that social positions are only defined in
terms of populations of actors that share similar characteristics. He offers a third
conceptualization of the notion of an organizational position in the concept of an
organizational or social status. Burt argues that networks of social relations determine
the position of an actor, and that a social status can be operationalized as a network
position jointly occupied by structurally equivalent actors (1982: 40). He goes on to
demonstrate that the characteristics of these jointly occupied positions can have
significant outcomes for the profitability of the organizations that occupy them (Burt

The organizational position metaphor as an important feature of the social
structure of economic exchange is not limited to studies that focus principally on
organizational actors. Researchers interested in structural determinants of the economic
development of nations (Wallerstein 1974; Snyder and Kick 1979) are broadly concerned
with how the pattern of international exchange shapes the economic circumstances for
different types of nations in a world system. Individual organizations, a wide range of political actors, and institutional histories are clearly implicated in this process, but the fundamental argument made within this theoretical framework is that the economic opportunities of a given nation are strongly determined by the positional context within which it is located. While the principal concern of many of these theories is the economic development of nations, to the extent that economic development is in part driven by the economic outcomes of the firms that operate within a given national context, from the point of view of individual organizations located therein, positions in the world system also constitute *organizational* positions.

The prevalence of theories that directly or indirectly invoke the idea of an organizational position to explain the outcomes of individual organizations suggests that the idea might correspond to a well-understood construct. Such a construct would be presumably be similarly conceptualized across different kinds of studies and, importantly, be measured in a reliable and reproducible way across these various contexts. While existing research seems consistent with the possibility that the idea of an organizational position should be based on a particular set of concepts, it is not at all clear that either the set of empirical methods typically employed in these investigations or the logic that supports the idea itself can be used to unambiguously identify an actual organizational position. In order to move from the conceptual status of a metaphor to that of being an actual construct, the concepts that underlie the idea of an organizational position must be supplemented with a reliable process by which they can be identified.
1.3 Closeness, Boundaries, and the Position Metaphor

In a general sense, the term “position” can be used to make a metaphoric reference to the idea of physical space. In the context of organizational theories of position, the use of this metaphor suggests that the meaning of relations and theories known to apply to objects arranged in a physical space can be transferred to organizations arranged in a conceptual space. Constructs such as “niche width” (Hannan and Freeman 1977: 946; Freeman and Hannan 1983: 1118) and “niche overlap” (Podolny, Stuart, and Hannan 1996: 665) speak as directly to this transfer as does the labeling of positions in the world system as core, peripheral, and semiperipheral (Wallerstein 1974: 63; Chirot 1977: 13). To the extent that the relationship between the spatial notions upon which these theories are based are left as implicit rather than explicit relationships, important details of conceptual and empirical issues presented by these theories can be masked. Specifically, the meaning of the claim that an organization occupies a particular position is completely determined by exactly how this transference takes place. This issue is most clearly demonstrated by the spatial constructs of closeness and boundaries.

One interpretation of the organizational position metaphor is that organizations that are spatially close to one another will experience similar outcomes. An idea that underlies any theory that incorporates this notion of position is that the similarity or distance between any two organizations can be assessed. A frequently employed conceptual measure of the similarity of two organizations is based on the logic of structural equivalence (Lorrain and White 1971; White, Boorman and Breiger 1976), in which the closeness of two organizations is based on the similarity of their pattern of relationships to other organizations. In defining the organizational fields that serve as
positions in new institutional theory, DiMaggio and Powell are explicit in noting that “the field idea comprehends the importance of both connectedness and structural equivalence” (1983: 148 – emphases in original). Burt (1980: 893) not only identifies the logic of structural equivalence as a part of his definition of an organizational position, but also explicitly incorporates structural equivalence into his empirical measures. Even theories that do not explicitly invoke the logic of structural equivalence can indirectly incorporate it as a similarity measure, as exemplified by the theory of niche competition and crowding (Podolny, Stuart, and Hannan 1996). To the extent that two organizations in a patent citation network are structurally equivalent, they will experience similar levels of crowding, they will be similarly evaluated in terms of status and deference acts, and as such, they should experience similar life chances. The idea of spatial closeness finds less explicit statement within world systems theory, though it is certainly implicated in the assessment of nations that do not fit cleanly into one position or another. For example, Wallerstein (1974: 108) notes the example of how Spain has moved from the core to the semi-periphery, implicitly arguing that the economic conditions faced by Spain have become closer and thus more similar to those of nations that have a semiperipheral arrangement of relations to the world system structure.

While the idea of spatial closeness is implicated in a wide variety of theories that employ the organizational position metaphor, there are other ways that the concept of an organizational position can be meaningfully interpreted. One such interpretation is that all organizations that occupy a location within the boundary of a particular position will experience similar outcomes. Organizations are located within a particular spatial context, and the attributes of this context can be evaluated independently of the features
of individual organizations. While the spatial distance interpretation of position is essentially about the relationships between organizations, the context interpretation is essentially about the relationship between individual organizations and their position. This idea is perhaps most strongly articulated by world systems theorists (Wallerstein 1974), who argue that the economic environment of a nation (and, by extension, of firms operating within that nation) is strongly determined by the location of that nation in one of a discrete set of positions in the world system. The idea of a niche as an organizational position articulated by population ecologists (Hannan and Freeman 1977) is also consistent with this interpretation. The population ecology framework is explicit about the relationship between an organization and its niche, but makes no explicit claims about the relationship between two arbitrary organizations net of their co-location within the same niche. The ecological perspective is specific in its focus on attributes of population-as-context as a principal predictor of organizational outcomes (Hannan and Freeman 1977: 935-936), and the effects of population-as-context are demonstrated by empirical research on organizational founding (Hannan and Freeman 1987) and mortality (Hannan and Freeman 1988) rates. The essential spatial characteristic of a context is that it has a boundary—a mechanism that determines which organizations should be considered members of the context, and which organizations should not. The density of an organizational population cannot be determined unless the boundary of the population can be clearly defined.

The centrality of the issues of closeness and boundaries to theories based on the organizational position metaphor can be illustrated by considering a hypothetical structural theory that incorporates neither of these elements. A theory that does not
incorporate a notion of closeness or sameness essentially states that there are no meaningful distinctions to be made about the ways in which organizations differ. Without a notion of boundaries or contexts, a theory cannot state that two organizations should experience the same outcome because they are in the same context. Taken together, the absence of these two elements suggests that such a theory would have to assign every organization to its own unique position, rendering the notion of an organizational position meaningless.

While the spatial ideas of closeness and boundaries are theoretically separable, many organizational theories that invoke the position metaphor in fact employ both of these ideas. While DiMaggio and Powell invoke the idea of closeness through the logic of structural equivalence in defining organizational fields (1983:148), they also argue that the characteristics of an organizational field are important predictors of organizational outcomes (1983: 154-155), suggesting that the field itself can be identified and that its properties can be measured. The identification of the characteristics of a field presuppose, in principle, that its boundaries can be determined. Similarly, Burt explicitly uses the idea of structural equivalence to define an organizational status (1980: 893), but the degree of oligopoly within an organizational status is also a central predictor of the autonomy of an organization. The measurement of the oligopoly of a status suggests that the status itself is a meaningful context, and that its boundaries must be explicitly assessed.
1.4 Assessing Organizational Positions

To the extent that many theories that use the organizational position metaphor rely on both the ideas of closeness and boundaries, empirical studies that investigate the importance of organizational positions should be based on methodology that takes both of these ideas into account. Contemporary empirical structural organizational research reflects an apparent consensus that structural equivalence is an appropriate way to measure the sameness of organizations. While methods have been introduced that can be used to partition organizations into groups based on this same logic, these methods cannot conclusively establish that a particular set of positional boundaries best reflects the structure of an organizational system.

White, Boorman, and Breiger’s (1976) study of the social structure within a monastery, while based on individual rather than organizational actors, is illustrative of this point. White and his co-authors sought to empirically establish that the logic of structural equivalence could be used to define group structure. They defined a blockmodel as a partition of actors into positions based on closeness defined in terms of structural equivalence (1976: 739), and demonstrated this blockmodel analysis approach by examining a number of empirical social networks. One of the networks they analyze is based on the social relationships in a monastery originally explored by Sampson (1968). Figure 1.1 shows the pattern of positive affect expressed by these monks towards one another, and Figure 1.2 depicts these relationships in a sociogram.

These data suggest the possibility that the expression of affect among these actors is not the outcome of random individual behavior, but rather the product of some kind of social structure. White, Boorman, and Breiger use their analysis to establish that the
three subgroups identified by Sampson in fact correspond to their proposed model of social structure. They summarize the pattern of liking relationships (White, Boorman, and Breiger 1976: 751) with the blockmodel image depicted in Figure 1.3. In accordance with the common-sense definition of social structure proposed above, this seems to be a very reasonable characterization of the relationships between these actors.

Although this characterization might be reasonable, it is not exact. For instance, while the blockmodel in Figure 1.3 expresses the structural feature that actors in the same group like one another, there are quite clearly pairs of actors for which this is not the case. There are numerous reasons why this might be true in this particular set of data (for instance, the monks were only allowed to identify three people for each relation).

However, blockmodels that exactly characterize individual behavior are very much the

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1 These data have been recoded from the original values in the Sampson (1969) and White, Boorman and Breiger (1976) to the coding used in Holland and Leinhardt (1981). The original analyses considered three levels of tie values—this recoding recognizes any identified tie as equivalent.
Figure 1.2: Sociogram of Sampson’s Monks

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Figure 1.3: Image Matrix for Sampson’s Monks

exception rather than the rule. Moreover, the definition of social structure in networks advanced by White, Boorman, and Breiger does not lead to a uniquely identified structure. White, Boorman, and Breiger also suggest that a five-group structure—in addition to the three-group structure they originally propose—might characterize these data (1976: 752). While this grouping of actors does not define the pattern of relationships with complete accuracy, it does yield some insights into which actors have
similar patterns of relationships. White and his coauthors make an attempt to reconcile these two models of structure, but they are unable to claim that one is a better representation of the structure of the group.

The inability of the blockmodeling method developed by White, Boorman, and Breiger to uniquely identify the social structure of the monks is not simply a failure of their method. It is a problem that is characteristic of any method that does not directly engage the second observation about social structure, that there will be some degree of divergence from an identified pattern or set of rules on the part of some, if not all, actors. Figure 1.4 depicts the fundamental problem faced by empirical social science researchers interested in identifying social structure. While we believe that intermediate-level structures, such as positions and rules of interaction, shape an individual actor’s behavior, we can only directly observe this behavior. The fundamental problem involves finding a method to use these observations about individual behavior to make grounded and rigorous inferences about intermediate-level structures. The fundamental problem involves finding a reliable method for using observations about individual behavior to draw logically supportable conclusions about intermediate-level structure.

While White and his colleagues (1976) analyzed individual rather than organizational actors, the problem of boundary identification presents itself in empirical research on organizations as well. While organizational theorists use different underlying concepts in their conceptualization of organizational positions, there is little systemic variation in the way positions are operationalized in these studies. In the overwhelming majority of cases, organizational positions are operationalized simply as industries. Industries play a significant role in the operationalization of organizational positions as
niches in a number of studies (Hannan and Freeman 1987, 1988; Podolny and Stuart 1995; Swaminathan 1995; Podolny, Stuart, and Hannan 1996) as these studies only examine the effects of organizational position within a single industry over time. Studies of organizational positions as social statuses (Burt 1982, 1983, 1992; Burt and Carlton 1989) frequently examine multiple industries, but explicitly assign each industry to its own position. In a study of changes in the structure of the American marketplace, for example, Burt gives an explicit rationale for identifying industries as a valid empirical operationalization of an organizational status. He notes the strong similarities between the definition of a network position defined in terms of structural equivalence and the
criteria used by the U.S. Department of Commerce to identify industry sectors (1988: 362). Of course, studies that conceptualize states or groups of states as the relevant context for determining organizational outcomes stand as a notable exception to these industry-oriented studies. Nevertheless, the frequent practice of operationalizing organizational positions using industries suggests that the social unit of an industry plays a significant role in determining organizational outcomes across a variety of processes.

Structurally-inclined organizational scholars have made significant progress in demonstrating how industries as intermediate social actors can shape outcomes for individual organizations, yet surprisingly little attention has been paid to how the boundaries of these industries should be determined. A set of studies of density-dependent effects in the newspaper industry (Carroll and Delacroix 1982; Carroll 1987; Carroll and Hannan 1989) illustrates the complexity of this issue. Carroll and Hannan (1989: 529) note that in some contexts newspapers have a national market, while in other cases their markets are more appropriately defined at the level of a metropolitan area. They also note that there was more than one kind of newspaper publication, particularly in the early history of the industry (Carroll and Hannan 1989: 528-529). Similarly, it is difficult to establish that organizations that publish materials similar to newspapers such as periodical magazines or directories do not compete for resources and legitimacy in the same niche as newspaper-publishing organizations do.

Studies of social statuses determined by network relations (Burt 1982, 1983, 1988, 1992; Burt and Carlton 1989) face a similar set of complexities. In these studies industries are typically classified by Standard Industrial Classification (SIC) codes published by the U.S. Department of Commerce. Some of these studies analyze
industries defined by fine-grained four-digit SIC codes (Burt 1982, 1983), whereas others analyze these industries aggregated into their coarse-grained two-digit counterparts (Burt 1988, 1992; Burt and Carlton 1989). These researchers have provided suggestive theoretical and historical arguments to support their choices in defining the boundaries of industries as organizational niches and social statuses. However, very little is offered in terms of empirical methodological support for these theoretical claims.

1.5 Boundary Assessment and its Consequences

The location of the boundaries of organizational positions has implications for constructs related to the structure of organizations and the industries in which these organizations are embedded. For example, Zuckerman (1999, 2000) conceptualizes the organization of a firm with respect to industry boundaries as a role performance. He argues that firms that make different choices about how to organize with respect to these boundaries are perceived with varying levels of legitimacy, and demonstrates the economic consequences of these choices. This logic is based on the assumption that industry boundaries are known or at least can be determined, and indirectly illustrates how different definitions of industry boundaries can affect the characterization of firms. Along similar lines, the assessment of the extent to which a diversified firm is horizontally or vertically integrated (Chandler 1977) is driven by the allocation of different lines of business to particular industrial groupings. Other firm-level features, such as the extent to which the portfolio represented by a diversified firm is characterized by structural exposure or closure (Piskorski 2001), are likewise dependent on the location of industrial boundaries. The characterization of a firm with respect to its industrial
participation is clearly dependent on where the boundaries between industries themselves are drawn.

In addition to affecting the way properties of firms and organizations are determined, the definition of industry boundaries can also directly affect the determination of industry-wide characteristics. Measures of the gender and/or racial segregation of an industry (Fields and Wolff 2000; Huffman and Cohen 2004) and measures of industry concentration are clearly dependent on which firms are designated as members of a given industry. Finally, measures of market constraint (Burt 1982) are potentially very sensitive to how industrial boundaries are defined, as the market constraint of a given industry is not only determined by the definition of its own boundary, but also by the boundaries of the other industries it engages in exchange with. The potential impact of industry concentration and market constraint on the performance of firms and industries has been thoroughly demonstrated (Burt 1982, 1983, 1992). Given the dependence of both industry concentration and market constraint on the process by which economic activity is grouped into industries and by which borders are defined between these industries, further exploration of this process seems warranted.

1.6 Conclusions and Overview

The organizational position metaphor plays a significant role both in the development of theory about the organization of economic activity. Whether organizational positions are realized as industry categories or as collections of nations of presumably similar economic status, the idea of an organizational position plays a fundamental role in a wide range of empirical work. Formal measures such as structural
equivalence and the blockmodeling approaches outlined in this chapter add meaningful substance to the metaphor in fleshing out how a construct of an organizational position might specifically relate to the underlying spatial ideas of closeness and boundaries. As useful as these two ideas are, structural equivalence and the blockmodeling approach together still leave the conclusive determination of the character of an organizational position dramatically underspecified. As a result, while empirical studies can possibly demonstrate the relevance of a set of organizational positions to a particular outcome, existing formal approaches have not and cannot establish the validity of the organizational positions themselves.

The theoretical and empirical identification of organizational positions is in part complicated by the fact that the blockmodeling methods originally proposed by White, Boorman and Breiger (1976) could more completely capture the ideas of closeness and boundaries upon which the organizational position metaphor is presumably based. Subsequent developments by social network researchers have greatly expanded the scope of blockmodel analytic techniques in a number of ways that are quite germane to the problem of identifying organizational positions. Chapter 2 reviews some of these developments, and presents a specific blockmodeling approach that should be particularly well suited to studying how exchange between firms, industries or states might be implicated in determining the structure of the organizational positions that these actors may occupy.

Advances in blockmodeling techniques allow the ideas of closeness and boundaries to be more fully incorporated in the identification of organizational positions, but a definitive identification of these positions requires methods that (with Stine [2004]}
as a notable exception) typically have not been employed in the social sciences. Methods from other scientific domains could well be applied to resolving some of these questions. In particular, researchers from the field of information science (Rissanen 1983) have studied a set of problems that share a fundamental structural similarity to the problem of resolving the ideas upon which the organizational position metaphor is based. These information theoretic approaches offer a way to examine a set of behavior and discern the structural regularities implied by individual acts in a way that is transparently grounded in probability theory. Chapter 3 outlines how these ideas can be applied in the general case to the analysis of the positional structure of exchange in social network.

Chapter 4 presents an empirical investigation of the determination of a set of organizational positions in the context of inter-industrial exchange. The methods developed in previous chapters are used to investigate the pattern of exchange between fine-grained industrial aggregations. The fundamental question addressed in this chapter is whether or not these fine-grained industrial aggregations represent organizational positions, or whether the pattern of exchange implies that the organizational positions consistent with the theory developed thus far are better represented by more coarse-grained industrial aggregations.

Chapter 5 continues the exploration of organizational positions in the context of inter-industrial exchange by investigating how the organizational positions identified in Chapter 4 affect the predictions of substantive theory. The discussion of the organizational position metaphor presented in this chapter attempts to show how a number of organizational theories like population ecology (Hannan and Freeman 1977), new institutional theory (DiMaggio and Powell 1983) and structural autonomy (Burt
1980) use the ideas of spatial closeness and contextual boundaries. As noted above, the mechanisms of structural autonomy are predicated on using structural equivalence to define the closeness of organizations, and the competitive contexts within which organizations act play a no less fundamental role. A series of empirical studies of structural autonomy (Burt 1983, 1988, 1992) demonstrate how these mechanisms operate, and Chapter 5 explores how choices in the organizational position identification process would affect an analysis of these effects.

Chapter 6 presents a set of analyses that demonstrate how the methods introduced in Chapters 2 and 3 can be used to identify organizational positions where states rather than industries serve as the fundamental context of economic activity for organizations. One of the fundamental claims of world systems theory is that there are a given number of positions in a particular world system. Snyder and Kick (1977) present an early analysis that seeks to empirically validate this claim using blockmodel analyses. While their analysis is useful in showing how the logic of structural equivalence is empirically consistent with some of the claims of world systems theory, their analysis suffers from the same inability to unambiguously identify a set of positions that other positional analyses suffer from. The analyses in Chapter 6 seek to supplement their findings, and demonstrate how the methods introduced in this dissertation can be used to directly analyze the dynamic processes by which states are assigned to positions in the world system.

Chapter 7 summarizes the major theoretical arguments and empirical findings from the preceding chapters. In particular, I discuss how the findings of this dissertation speak to sociological theories of structure in a somewhat broader sense. In addition to
recapitulating the major findings of this research, I also take some time to discuss some of its limitations and scope conditions. I conclude with a brief outline of how these ideas can be expanded in a future research agenda.