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Embeddedness and Beyond: Institutions, Exchange, and Social Structure

Victor Nee and Paul Ingram

Specifying the mechanisms through which institutions shape the parameters of choice is important to an adequate sociological understanding of economic action.¹ These social mechanisms, we argue, involve processes that are built into ongoing social relationships—the domain of network analysis in sociology. Yet, how institutions and networks combine to determine economic and organizational performance is inadequately theorized in the sociological study of economic life. The ways in which institutions provide a framework for economic action and the role of network ties in structuring a wide array of economic phenomena are themes pursued by two rapidly growing—but separate—literatures in the social sciences. This essay aims to develop a theory of social norms that explains the relationship between institutions and networks.

We argue that the key to understanding that relationship is revealed at the level of face-to-face social interaction. An institution is a *web of interrelated norms*—formal and informal—governing social relationships. It is by structuring social interactions that institutions produce group performance, in such primary groups as families and work units as well as in social units as large as organizations and even entire economies. Networks of social relations are always in flux insofar as individuals respond to perceptions of costs and benefits in exchanges, and invest in or divest themselves of particular social ties. The production and monitoring of norms, standards of expected behavior that enjoy a high degree of consensus within a group or community, are rooted in such elementary forms of social behavior. Sociological research has focused mainly on norms that comprise informal constraints. Informal norms are rules of a group or community that may or may not be explicitly stated and that rely on informal mechanisms of monitoring, such as social approval and disapproval. Norms governing interpersonal relationships both constrain and facilitate behavior by defining the structure of incentives—material and nonmaterial—for individuals situated in a group. The same processes that account for conformity to informal norms apply to formal norms as well, for rarely, if ever, do formal norms, abstracted from social relationships, exercise a direct effect on individuals (Shibutani 1986). The main difference is that formal norms are explicit rules that rely, in addition, on formal mechanisms—the state and organizations—for their monitoring and enforcement, and the incentives backing compliance are often material, though never entirely so.

In the early stage of cross-disciplinary exchange, sociologists criticized the new institutional economics for overlooking the central role of social relationships in shaping economic action. We concur with Granovetter's assertion (1985) that

economic behavior is almost always modified to some extent by personal connections. However, without incorporating institutional effects, this network-embeddedness perspective is limited in its explanatory power, even while its insight into the underpinnings of economic action remains of fundamental importance. Incorporating institutions into the new economic sociology requires going beyond network embeddedness. A firmer basis for intellectual trade between economics and sociology results from understanding how institutions and network ties are linked. Specifying the social mechanisms through which institutions affect behavior provides the missing link, integrating a choice-within-institutional-constraints approach with the network-embeddedness perspective.

THE CONVERGENT REASONING IN ECONOMICS AND SOCIOLOGY

Ronald Coase's seminal essays, "The Nature of the Firm" (1937) and "The Problem of Social Costs" (1960) introduced the core concepts of the new institutional economics. In these essays, Coase laid out the concept of transaction costs as costs stemming from dealing with social relationships in economic exchange and developed an innovative theory of the firm as an institutional domain in which market exchange is suppressed by a hierarchical authority as a means of economizing on these transaction costs. Rather than aligning themselves with the earlier American institutionalists such as Thorstein Veblen, John Commons, and Wesley Mitchell, new institutionalists in economics have instead positioned themselves as direct heirs of Adam Smith by incorporating the behavioral assumptions of microeconomics into a choice-within-institutional-constraints framework of empirical analysis. As Coase (1984, 230) succinctly put it, "What distinguishes the modern institutional economists is not that they speak about institutions . . . but that they use standard economic theory to analyze the working of these institutions and to discover the part they play in the operations of the economy."

From the start, new institutional economics emphasized analysis of the role of formal norms—contracts, property rights, laws, regulations, and the state—in structuring the framework of choice (Demsetz 1967; Cheung 1974; Alchian and Demsetz 1973; Williamson 1975, 1985; Matthews 1986; North 1981, 1990; Hodgson 1988; Eggertson 1990). Sociologists are most familiar with the writings of Oliver Williamson as a result of Granovetter's critical response (1985) to his transaction cost economics, in which he had extended Coase's theory, asserting that asset specificity and transaction cost economizing explain the boundaries of firms. Granovetter pointed out that this market and hierarchy framework overlooked the importance of social relationships in constraining opportunism and solving the problem of trust. Williamson's response (1994) to Granovetter's criticism was to incorporate network-embeddedness into Davis and North's concept (1971, 85) of the institutional environment: "Transaction cost economics and embeddedness reasoning are evidently complementary in many respects."

A convergence between new institutional economics and sociology is clearly evident in North's claim (1981, 1990) that institutions determine the structure of incentives and thereby the performance of economies. Institutions are important

in economic life because they reduce uncertainty in human interactions and help solve the problem of coordination, especially in modern economies when specialization and the division of labor give rise to the need for sustaining complex exchanges over time and across space. Given the imperative in modern economies for increased reliance on impersonal exchange, institutions provide a basis for credible commitment, without which complex economic transactions become mired in high transaction costs. All societies rely on personalized exchanges to conduct economic transactions, but as specialization and the division of labor develop, so does the advantage of reliable institutions and third-party enforcement of contracts. Whether institutions foster credible commitment to long-term contracts determines to a large extent the economic performance of nations.

The “publish or perish” norm in research universities illustrates the way institutions reduce uncertainty and structure incentives. This norm dates back to the emergence of the American research university and was reinforced by new federal and state funding for research in the post-World War II expansion era. It leaves little uncertainty about what activities are most likely to be rewarded. In the absence of such a norm, assistant professors might not know how to balance the competing demands of teaching, research, committee work, and collegiality in the time leading up to the all-important tenure review. Consequently, it limits the choices of assistant professors striving to increase their chances of getting tenure, especially if senior colleagues at the university maintain a credible commitment to upholding the norm. A history of denying tenure to assistant professors with less than exemplary publication records can be expected to have a stiffening effect.

New institutionalists acknowledge that informal constraints stemming from personal relationships are critical to enforcing the rules of the game. In his analysis of disputes over trespassing cattle in rural California, Ellickson (1991) documents the importance of informal norms in the enforcement of property rights. Although Ellickson employs the reasoning of the new institutional economics, his substantive analysis of trespass-dispute resolution draws him closer to the law-and-society literature in sociology (Macaulay 1963). He argues that because transaction costs are high when formal institutional means are used to resolve trespass disputes—that is, the costs of legal research and litigation—the residents of Shasta County more commonly resort to informal norms of cooperation among neighbors and a live-and-let-live philosophy. They settle disputes over property rights informally, “beyond the shadow of the law.” Ellickson’s crucial insight is that people keep informal accounts of credits and debits along a number of fronts in multiplex relationships, and so long as the overall account is in balance, they overlook problems arising in any one area. Only when accounts get out of balance do tensions mount. Elinor Ostrom (1990) documents the role of informal constraints in the monitoring of rules that enable communities to successfully avoid the “tragedy of the commons” problem in managing communal resources. Such governance structures rely on long-standing social relationships within the community rather than on external authority to solve the collective action problem threatening the depletion of communal resources.

Although new institutionalists point to the importance of informal norms, North admits that economics does “not possess a good explanation for social norms.” He maintains that game theory can at least predict the informal con-

straints that lead to cooperative behavior. However, the problem of multiple equilibria poses a difficult hurdle for game theorists in their attempt to develop a theory of norms. Axelrod (1986) employed computer simulation to demonstrate a variety of “norm games” but could not come up with an explanation from game theory for the emergence and persistence of norms. Although the application of game theory can lead to important insights, it is unlikely, as Ullmann-Margalit (1977, 14) points out, that the theory of games alone can “deliver the goods.” The recognition that economics lacks a theory of social norms provides an opportunity for sociologists to specify the missing link in the theoretical synthesis integrating sociology and economics.

THE LIMITS OF NETWORK EMBEDDEDNESS

Economic sociologists have sought to demonstrate the centrality of social networks—from the cross-cutting ties that connect firms to the weak ties that join mutual acquaintances—in providing a framework for a wide variety of economic and organizational behavior (see Powell and Smith-Doerr 1994). Inspired by early breakthroughs in network studies of economic behavior by structural sociologists (White 1970; Granovetter 1974; Burt 1982; Baker 1984), and by Granovetter’s seminal essay (1985) establishing the new economic sociology, they have documented the importance of networks of personal relationships in structuring diverse economic exchanges. In his 1985 essay, Granovetter directly challenged economists to provide realistic models of economic life. Whereas in an earlier assault on the neoclassical model, Polanyi (1944, 1957) had posited that economic exchanges are embedded in a matrix of institutions, Granovetter largely bypassed institutions—perhaps to distance himself from Williamson’s new institutionalism—to establish the new sociology of economic life firmly on network ties, the bedrock concept of modern structural sociology. This decision led him to build economic sociology on the centrality of personal relationships, in contrast to the broader institutional focus of the Polanyi embeddedness framework that emphasized customs, laws, regulations, and the economic role of the state.

While Granovetter criticized the neoclassical model for building a house of cards on the fragile assumption of rationality, ironically, personal relationships as a basis present similar problems. Even the casual observer of social life can testify that personal relationships can be fragile as well as robust, and that they are often unpredictable, as reflected in the saying, “With a friend like you who needs an enemy?” When structural sociologists reify ongoing social exchanges, they assume a “harder” image of the fabric of social life than may be warranted. The imagery of network ties as a “hard” structural arrangement, for example, can lead an analyst to overlook their “softer,” more elusive, and contradictory qualities.

The focus on personal relationships introduced an element of indeterminacy into economic sociology as an explanatory program of research. This indeterminacy stems from the difficulty of knowing *ex ante* whether, and to what extent, personal ties can cement trust between economic actors. As Granovetter (1985) concedes—indeed, even emphasizes—only those you trust are in a position to embezzle from you. It is well known that the risk of malfeasance and opportunism increases as the stakes involved in an exchange become larger. In the absence of a reliable third-party enforcer, there is often no firm basis for

deciding whether an acquaintance or friend is trustworthy. That is why the new institutionalists among economists argue that formal institutional arrangements and their enforcement are necessary to back informal constraints in modern economies where the payoff from malfeasance and opportunism is high (North 1990; Greif, Milgrom, and Weingast 1994). The axiom “never lend money to a friend” stems from experiences on the flip side of the personal-relations-as-the-source-of-trust coin. Just as personal ties give rise to trust, so also do they foster wariness and distrust, often within the same set of relationships over time. This is evident, for example, in the recent case of the mole in the Central Intelligence Agency, in a context of long-standing intergenerational personal relationships characterized by “high network density,” the condition that Granovetter argues promotes trust. The “clubby” atmosphere of the agency fostered trust to the extent that it resulted in a relaxation of counterintelligence procedures, the institutional arrangements established to guard against internal espionage. Trust based on long-standing personal relationships led to a devastating blow to the agency’s counterespionage operations in the former Soviet Union. Thus, long-standing personal relationships can provide a basis for both secure transactions and malfeasance. The empirical studies Granovetter (1993) cites to illustrate embeddedness primarily discuss activities in “tribal and peasant societies.” Yet the pervasive reliance on personal ties in such societies is uncontroversial to institutional economists who point to this phenomenon as one of the causes of underdevelopment (North 1990). But what about modern economies characterized by a complex division of labor and increasing specialization in which credible commitment to long-term contracts is essential? An economic sociology that in effect limits itself to the structure of personal relationships as its only explanatory variable cannot explain the role in such an economy of the formal constraints of the state, of laws, regulations, contracts, and property rights, and of organizations that buttress economic exchanges, in addition to informal constraints like social norms.

Comparing Genoese and Maghribi Jewish traders in the late medieval Latin world, Greif (in this volume) points to the development of impersonal formal institutions as a critical organizational innovation in the rise of the capitalist firm and suggests that reliance on personal ties to establish trust resulted in the segmentation of economic life within an ethnic group. Genoese traders constructed organizations capable of third-party enforcement, for addressing problems of agency relations. These integrated institutional structures employing nonkin agents proved to be a more effective institutional arrangement for trade than the ethnically bounded trading relationships of the Maghribi Jews, who relied on informal arrangements to resolve disputes and ensure compliance in agency relations between traders. Greif points out that the Maghribi Jewish traders eventually disappeared from the Mediterranean world, whereas Genoese traders flourished in late medieval Europe because they constructed enduring formal organizations.

The reliability of institutions provides an alternative basis of trust or credible commitment that is overlooked in the network embeddedness perspective. Investors purchase equity shares in companies or mutual funds not because they have personal ties with management but because a firm has a credible record of profitability and honest accounting. Similarly, the best high school seniors across the

nation apply to top-ranked elite universities not primarily because they are children of alumni but because they are drawn by these universities' reputations (Frank and Cook 1995). Because college admissions offices in the United States maintain a credible commitment to meritocratic admissions, a high school senior is more apt to cram for the Scholastic Aptitude Test than channel time and resources into cultivating personal ties with admission officers. The opposite was true in Maoist China when institutions broke down in the wake of the Cultural Revolution and impersonal procedures were cast aside, and people in all walks of life were forced to resort to extensive reliance on personal connections. Under such conditions, it was impossible for the Chinese to maintain a semblance of meritocracy in their system of higher education.

Granovetter tried to build an institutional foundation for his network embeddedness approach by invoking the social constructionist institutional theory pioneered by Berger and Luckmann (1966). Yet, as he concedes, the phenomenological approach of *The Social Construction of Reality* offers a difficult framework for American empirical sociology insofar as it is oriented to interpretation rather than causal theory. Nevertheless, his understanding of the link between social networks and institutions is on the mark. Institutions, he argues, "*result from actions taken by socially situated individuals, embedded in networks of personal relationship with non-economic as well as economic aims*" [italics added] (forthcoming). Here Granovetter shifts the unit of analysis from the network structure to the behavior of *individuals* interacting in a group setting, the domain of social exchange theory. This is a useful reminder that networks of personal relationships are nothing but ongoing social interactions. Such networks entail dynamic social processes, rather than a static structure.

THE MISSING LINK

The theoretical groundwork for explaining the relationship between social networks and institutions was laid by social exchange theory (Homans 1958, [1961] 1974; Emerson 1962; Blau 1964). Through his case studies, Homans (1950) documented how individuals establish, monitor, and enforce norms as members of a social group.² He illuminated the manner in which informal norms shape the incentives of individuals in primary groups and specified how such constraints determine the behavior of individuals and give rise to group performance. The significance of Homans's ([1961] 1974, 76) theoretical contribution lay in locating the emergence of informal norms and their monitoring and enforcement by reference to mechanisms built into ongoing social relationships:³

The great bulk of controls over social behavior are not external but built into the relationship themselves, in the sense that either party is worse off if he changes his behavior toward the other. This is what Malinowski (1959: 122–23) had in mind when he wrote down one of the most perspicacious statements ever made about society: "Law and order arise out of the very processes which they govern."

It is in this respect that social exchange theory differs from Hechter's theory of group solidarity (1987), which sees compliance as the outcome of more or less

formal monitoring and enforcement mechanisms. In contrast to this Hobbesian approach to explaining social order, Homans views social order as a by-product of repeated social interactions and hence as an intrinsic feature of ongoing social relationships. Even in brief exchanges, elementary social processes are evident. This view of social order is the crucial insight that Ellickson's analysis (1991) of "order without law" builds on.

The most elementary exchange involves a dyadic relationship, say between Peter, a new employee, and Mary. Peter approaches Mary to ask for technical assistance on the job, which Mary provides at a cost of her time, which might have been spent on her own work. Peter reciprocates by conferring on Mary a higher grade of social approval. Both parties are rewarded by the exchange of assistance for approval and continue interacting. Their exchange builds up mutual expectations, an understanding that initially is unspoken. Even though Peter is dependent on Mary's help, he does not want Mary to tell their superior the extent to which he relies on her assistance. Mary may expect Peter to reciprocate with a greater willingness to support her in strengthening her position in the firm. *Such an implicit contract, an informal norm, may be sooner or later expressed verbally in statements of expected behavior.* Violation of the norm leads to such forms of punishment as anger or refusal to continue the interaction. By the principle of least interest, the one who is less dependent on the exchange has more power in the relationship and hence plays a greater part in defining its terms. In this case, Peter is more dependent on Mary's willingness to help than Mary is on Peter's approval. As illustrated by this example, informal norms arise in the course of social interactions as standards of expected behavior and are maintained when reward is expected to follow conformity and punishment, deviance. Members of a group reward conformity to norms by conferring social approval. Conversely, members punish failure to conform to norms through their social disapproval and, ultimately, through ostracism. In more complex exchanges, the same processes hold, but the pressure to conform also takes on a collective action dimension (Homans [1961] 1974; Hardin 1982).

Game theory illustrates the opportunity for norms to improve collective outcomes. Ullmann-Margalit (1977) identified two types of norms that emerge in response to problems of collective action and coordination: 1) Norms that arise in situations in which actors confront a prisoner's dilemma problem. The prisoner's dilemma norm alters the payoff matrix to reinforce cooperation and increase the cost of defection. 2) Norms that enable individuals to coordinate their activities. In situations where the interests of actors coincide, some coordination norms—conventions—are stable solutions to past recurrent coordination problems. Others—decrees—are stated at the outset as norms to solve novel but recurrent coordination problems. The emergence of coordination norms is simple to explain because it is easy to show that self-interested individuals who share a common interest can readily agree to rules to facilitate joint production. For example, tennis partners can quickly agree on a time and place to meet for their weekly game. The prisoner's dilemma norm, however, is more challenging to explain.

In the prisoner's dilemma game, two prisoners have the choice of keeping silent or confessing to their crime. Neither prisoner knows what the other will do—cooperate by refusing to confess or defect—because they are unable to talk with one another. Each is told that confession will result in a lighter sentence,

while the refusal to confess to the crime will be penalized by a harsh sentence. If neither prisoner confesses, however, insufficient evidence will dictate that they are convicted only of a lesser crime. If both defect, then both receive the lighter sentence, yet both are worse off than if they had both cooperated by remaining silent. This is seen in the payoff matrix in figure 2.1 by comparing the payoffs in the lower right quadrant (both defect) with the upper left quadrant (both cooperate). The utility of the prisoner's dilemma game is that it presents a stylized account of a recurrent problem in which suboptimal outcomes result from the conjoint actions of self-interested individuals (Olson 1965; Axelrod 1984). The prisoner's dilemma game is widely applicable. As Hardin (1988) asserts, all social exchanges resemble it because of the temptation not to reciprocate a good or service received from another. Ullmann-Margalit (1977) argues that such social dilemmas are prone to generate norms that reward cooperation and punish opportunism or free riding.

The characteristic feature of prisoner's dilemma norms is that they involve higher transaction costs—monitoring—than coordination norms because it is always in the self-interest of individuals to free ride or defect. The definition of the prisoner's dilemma game is $T > R > P > S$. T is the temptation to defect; R is the reward for mutual cooperation; P is punishment for mutual defection; and S is the sucker's payoff (Axelrod 1984). As shown in figure 2.1, the reward for defecting is 5 if the other cooperates, but if both defect each player receives a lesser reward of 1. Both players are likely to defect since 5 is better than 3 and 1 is still better than 0—each player is better off defecting regardless of what the other player does—unless they can agree to a mutual contract that makes it costly to defect. The incentive to jointly produce the norm is the gains from cooperation represented in the upper left quadrant in figure 2.1. The total payoff of cooperation is greater than all other conjoint outcomes. In other words, both players are better off if they succeed in cooperating, so long as the costs of monitoring and enforcing a norm that induces cooperation are not too high. Algebraically this is shown as $2R - C > T + S$, where C is the cost of monitoring and enforcing the norm. Given the higher individual payoff, T , for defection, the joint production of prisoner's dilemma norms depends to a greater

Figure 2.1 The Prisoner's Dilemma

		Column Player	
		Cooperate	Defect
Row Player	Cooperate	R, R 3, 3	S, T 0, 5
	Defect	T, S 5, 0	P, P 1, 1

extent on the effectiveness of monitoring. Cooperation is contingent on C being less than 1. In small groups, *the only means to achieve a solution to the one-shot prisoner's dilemma situation is through mutual agreement*; otherwise the cost of monitoring and enforcement is likely to be too high to sustain cooperation. Largely for this reason, the PD norm cannot be imposed by the fiat power of one actor in the absence of mutual consent.

More generally, norms arise from the problem-solving activities of human beings in their strivings to improve their chances for success—the attainment of rewards—through cooperation. Norms have been around as long as humans beings have existed as a species. Language and norms evolved together: the first sentences were probably norms spoken to enable early man to coordinate group action, as in a hunting expedition. Most informal norms evolve gradually through trial and error, with the behavior that brings about success. Members of a group engage in collective problem solving by socially constructing a definition of a situation that optimizes the welfare of the group's members (Shibutani 1978, 431). When norms have a distributional consequence, the selection of norms involves bargaining—both implicit and explicit—among members. Powerful members of a small group or close-knit community have a greater say in specifying the terms of exchange (Knight and Ensminger in this volume). When a solution to a recurrent problem of collective action or coordination is found, it is repeated until mutual expectations become fixed.

Proposition 1. Individuals jointly produce and uphold norms to capture the gains from cooperation.

This proposition is consistent with Ellickson's welfare-maximizing theory (1991) of norms. It shifts attention away from predicting the content of norms toward specifying instead the social mechanisms that give rise to and uphold norms. Ellickson's welfare-maximizing hypothesis predicts that norms in close-knit groups generally operate to maximize members' welfare, which "includes not only commodities but also other outcomes that people might value as much or more, such as parenthood, leisure, good health, high social status, and close personal relationships" (170). Ellickson applied this welfare-maximizing principle to predict the content of workaday norms. As a legal scholar, he was interested in demonstrating the pervasive reliance on informal norms as opposed to litigation in resolving property disputes in Shasta County. His field work there, however, did not include direct observation of how people actually monitored and enforced informal norms.

In the literature on collective action, the problem of establishing and enforcing the rules that induce cooperation is described as the second-order collective action problem (Taylor 1987; Elster 1989; Coleman 1990). Actors experience costs in applying sanctions and will only assume such costs if doing so results in a greater benefit to themselves. As Oliver (1993, 274) describes this problem, "somebody has to pay for the selective incentive, and paying for the selective incentive is, itself, a collective action in that it provides a benefit to everyone interested in the collective good, not just the people who pay for the incentive." Heckathorn's (1990) formal model of the emergence of compliance and opposition norms provides an explanation for second-order collective action. However, as Macy (1993, 820) points out, Heckathorn's theory of norms is computa-

tionally intensive: actors are required in the model “to make a highly sophisticated calculation of the marginal impact of second-order contributions on the level of first-order public goods.” In any case, the problem of second-order contribution is overstated in Heckathorn’s theory of norms. In small groups—from face-to-face networks to close-knit communities—the problem of second-order contribution is minimal because monitoring and enforcement are by-products of ongoing social interactions.

As demonstrated by Homans (1950) in his reanalysis of the Western Electric Bank Wiring Room study, monitoring and enforcement occurs spontaneously in the course of social interactions. His insights are crucial to understanding conformity to norms. He showed, first, that social approval and disapproval are routinely emitted by actors in the course of their everyday interactions. Conformity to the rules of a group is rewarded by social approval, and deviance is punished by social disapproval and ostracism. Hence, the monitoring of norms is a spontaneous by-product of social interactions. Second, not only do actors monitor behavior and enforce compliance to norms to capture the gains from cooperation, but they also attain higher status and power within the group by embodying the group’s norms (see also Coleman 1990). Because the attainment of status and power is an individual outcome, it operates as a reward for complying with the group’s norm. *Conformers have an interest in monitoring the norms of the group insofar as it reinforces the criteria upon which their higher status is based.* Rational choice theorists often overlook this social reward for second-order contributions when they address the “second-order free-rider problem” (Heckathorn 1988; Macy 1993). Third, information about individual actors is shared knowledge among all members of a small group. The cost of monitoring is lower when full information can be assumed for all members. Taken together, Homans’s findings explain why in face-to-face networks and close-knit communities, a third-party “state-like” enforcer is not needed to monitor and enforce social norms. Thus:

Proposition 2. The more frequent the interactions between members of a group, the more effective the monitoring of its norms.

Flache and Macy (1996) suggest that under some circumstances social approval is exchanged not only for compliance but also for social approval, and that this form of exchange leads to noncompliance. Likewise, the pressure to conform in small groups can lead to excessive compliance when zealots dominate close-knit groups (Coleman 1990). However, *more frequent interactions give rise to conditions that lower the cost of monitoring.* In multiplex networks there are many opportunities to provide selective incentives to induce contributions that solve the second-order collective action problem. The variables that account for a group’s capacity to use selective incentives to overcome that problem are probably features of social networks, such as centrality and connectivity, that are already the subject of extensive investigation. The multiple incentive opportunities of interpersonal relationships may also be useful in accounting for collective action efforts between organizations, where the relevant relations are not between the organizations per se but between the individuals that populate them (McGuire, Granovetter, and Schwartz 1993).

Returning to the example of the publish-or-perish norm, we note that although the focal point is often the formal review for promotion, social mecha-

nisms enforcing the norm are manifest in everyday social interactions in the academic community. Through daily interactions, colleagues confer social approval and informally rank faculty members in a status order according to their perception of the members' academic productivity. Thus, although the publish-or-perish norm is backed by formal review procedures designed to gauge and reward research productivity, it is thoroughly embedded in ongoing social interactions in the academic community, so much so that the motivation for research productivity is only partly tied to monetary rewards and is also affected by such nonmaterial rewards as social approval and higher rank in the status order. The label "deadwood" reflects the cumulative withdrawal of social approval, while "active" connotes approval for continuing behavior in conformity with the norm. Conferring higher status on faculty members who conform to the publish-or-perish norm rewards those who contribute more to the department's success in securing valued resources and higher rank. A feature of institutional arrangements giving rise to high performance—as in elite research universities—is the close articulation between the informal norm that provides the criteria for conferring social approval and rank, and the formal institutional arrangements that buttress the informal constraints.

Thus, as elite universities and departments competed for research funding after World War II, they put a higher premium on the research productivity of their faculties. As the more productive faculty members were rewarded by higher social rank and monetary compensation, and became the objects of competitive bidding in the academic labor market, it gradually dawned on more traditional faculty members, who might have devoted more time and effort to teaching and academic citizenship, that the rules of the game had shifted from rewarding the gentleman scholar to rewarding research productivity (publish or perish). This change in norms enabled the university to compete more effectively for federal and state research funding, and also for the best students. The mechanism sanctioning the publish-or-perish norm is found in the actions of individual faculty members, whether in seeking tenure, social approval, higher rank, or better conditions of employment.

Norms are more likely to persist in a group to the extent that they result in the production of collective goods upon which members of the group depend. Success in solving long-standing collective action problems enables individuals to capture gains from cooperation and escape from suboptimal states. The evolutionary account of norms suggests that they emerge through a trial-and-error process by which members of a group negotiate and bargain over competing norms. In this view, the selection of a norm is governed by whether the members of the group are individually rewarded through their cooperation. Such rewards include the good feelings that come from membership in a group (Lawler 1997). The successful attainment of rewards reinforces the norm and provides the incentives for upholding it. Once a norm is established, self-reinforcing processes in the group lock it in, which makes it difficult to jettison and gives rise to "path dependence."

Proposition 3a. The successful attainment of values by members of a group provides effective reinforcement for the joint production and maintenance of informal norms. The more frequently ego's compliance [noncompliance] to a norm is rewarded [met by disapproval] by alter, the more likely ego will uphold the norm.

Proposition 3b. Competitive striving for social approval results in a self-reinforcing mechanism rewarding individuals for second-order contributions in upholding the norms of a group.

This proposition is derived from Homans's ([1961] 1974, 16) success proposition: "For all actions taken by persons, the more often a particular action of a person is rewarded, the more likely the person is to perform that action." And it is consistent with alternative choice-theoretic accounts of the evolutionary emergence of norms and the maintenance of social control (Akerlof 1976; Opp 1982; Axelrod 1986; Heckathorn 1988, 1990; Coleman 1990; Macy 1993; Lindenberg, 1994). It assumes that there are two sources of rewards. First, there are rewards from capturing the gains of cooperation. These rewards are available to all members of the group as a collective good. Second, there are second-order rewards attained from compliance and monitoring activity.

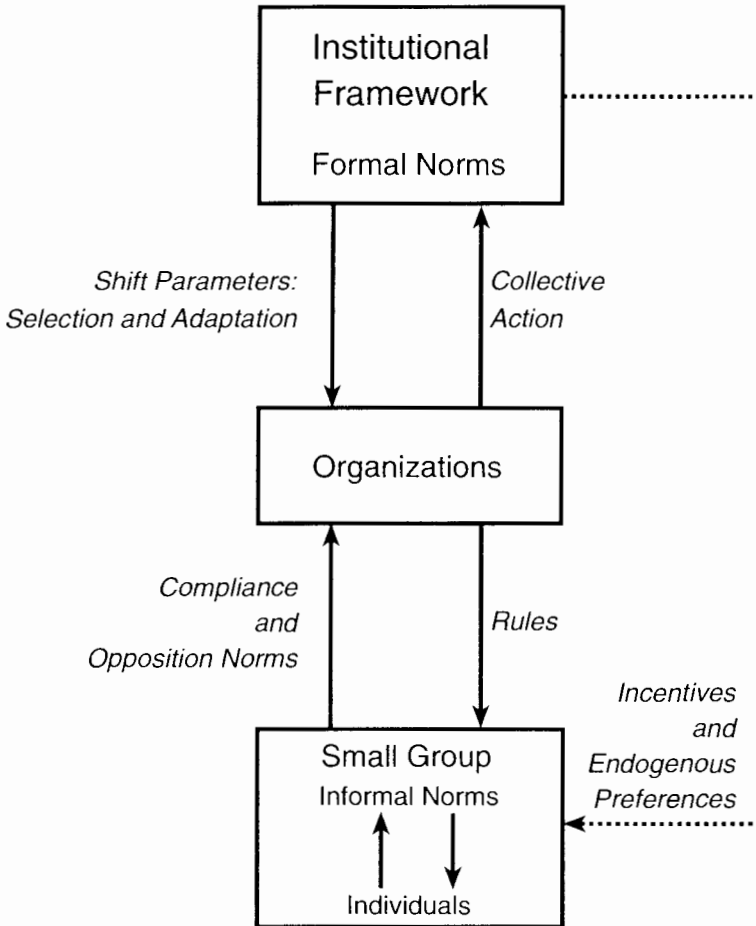
A norm originally selected to solve a collective action problem may later contribute to reentering a suboptimal state. This is due to lock-in and path dependence in the evolution of norms and institutions (David 1985; North 1990). Akerlof (1976, 617) explains by example the evolutionary dynamics of lock-in and path dependence in his model of India's caste order, which persists insofar as "the greatest rewards go to those who do not break social customs." If, however, adherence to a norm over time is consistently met by punishment from the environment, individuals are likely to seek to modify the norm (Shibutani 1986).

Group size affects a group's ability to establish, coordinate, and enforce effective incentives. When the social relationship is the vehicle for sanctioning, both sides are similarly affected: they lose all or some of the benefits they provide each other. In a dyad, this means that the costs to the sanctioner are great. However, as Simmel observed, the costs to the sanctioner are greatly reduced if the group is a triad or larger (Simmel 1950; see also Krackhardt 1994). If a member of a triad is ostracized, the remaining members are buffered by their interrelationships; they are not made isolates themselves as they would be if they had severed a dyadic relationship. As the group grows very large, however, new practical problems of coordinating collective action to establish institutions arise (Olson 1965). This is why formal norms and third-party enforcers are needed to solve problems of collective action when large numbers of actors—corporate and individual—are involved.

SOCIOLOGICAL NEW INSTITUTIONALISM

We now turn to the challenge of building a fully integrated model of institutions, embeddedness, and group performance. In developing our model, we assume that actors are rational in that they make decisions according to cost-benefit criteria.⁴ However, we do not see humans as hyperrational—as does neoclassical economics—possessing perfect information and unbounded cognitive capacity. As North (in this volume) argues, the neoclassical assumption is "patently false" under conditions of uncertainty stemming from institutional change, which today characterize not only developing societies but also advanced industrial nations. Cognitive constraints make information imperfect and force decisionmakers to use heuristic devices. Moreover, cultural beliefs and cognitive processes embedded in institutions are key to understanding actors' perceptions of self-interest.

Figure 2.2 A Model for the New Institutionalism in Sociology



We also use a “thick” definition of interests wherein actors may value purely social goods such as status and the avoidance of social disapproval and ostracism.

Figure 2.2 adapts Williamson’s (1994) synthesis of new institutional economics, with our modifications to address two limitations in his model. First, he assigns all constraints, formal and informal, to the same level of analysis. More specifically depicting the institutional environment by separating these, locating informal constraints in the domain of interacting individuals (figure 2.2), shows more clearly where these informal norms arise. Second, Williamson assumes an atomistic actor constrained by formal authority. Although he subsumes the embeddedness approach to the institutional environment, his model is unable to specify the social mechanisms through which norms affect individual performance. Such mechanisms are not simply formal governance structures, but rely overwhelmingly on informal norms and are embedded in ongoing social relationships.

Figure 2.2 shows nested levels of constraints. Hierarchically superior levels define structures of incentives and thus establish goals for social units at lower levels. Subordinate social units influence rules at the hierarchically superior level, and account for performance at that level. The two types of causal relationships are distinguished in the figure. The arrows pointing downward indicate constraints placed on one level by a hierarchically superior level. The institutional framework comprises the matrix of formal norms that constrain organizations; organizational rules—a type of formal norm—that constrain groups; and informal norms that constrain the members of groups. Institutions also affect individual action through endogenous preferences. The arrows pointing upward indicate that hierarchically superior levels are constituted and created by levels below. Individuals situated in networks or small groups create and enforce informal norms. Rules are determined by groups within the organization through a bargaining process (see Knight and Ensminger in this volume), and organizational performance is a function of group performance. Organizations in turn affect formal norms through political action, while their performance determines performance at the macro level.

In the new institutionalist paradigm, change in social organization results from path-dependent change in the institutional environment. Such parameter shifts, as Williamson (1991) argues, give rise to changes at the organizational level, as firms adapt their governance structure to capture new opportunities for profit and gain from trade opened up by institutional change and as firms that do not adapt are negatively affected by selection pressures. An example is the rise of local corporatism in China, a hybrid governance structure well-adapted to the needs of nonstate firms in the institutional environment of partial reform (Nee 1992). Failure to adapt to the changing institutional environment selects out large state-owned enterprises, not because they go bankrupt, since they are subsidized by the state, but because their share of industrial output declines relative to that of nonstate firms. Local corporatist firms represent hybrid organizational forms that embody characteristics better suited to an institutional environment shifting to a greater reliance on markets. Another example is the rise of multi-bank holding companies within the U.S. banking industry in recent decades (Mason 1996). The transformation of commercial banks from unit banks to multi-bank holding companies was driven by growing competition from alternative organizational forms in the financial services sector. In response to competitive pressures and declining market share, commercial bankers lobbied to change restrictive unit-bank rules in their state. After states relaxed their controls over commercial banks, the founding rate of the new hybrid organizational form—the multi-bank holding company—increased. Both examples highlight the importance of parameter shifts in the institutional environment for the comparative advantage of alternative governance structures and the emergence of new organizational forms.

Changes in formal norms stem from organizational actors. In North's view (1990), organizational actors, responding to changing relative prices or preferences, seek through collective action to bend and change formal rules in their favor. Corporate actors facing increased foreign competition in their domestic markets, for example, typically respond by lobbying their governments to intervene to provide domestic firms with protection from "unfair" competition. North

emphasizes the capacity of organizational actors to change as they learn and adapt to change in the institutional environment. But, as organizational ecologists have demonstrated, the capacity of organizations to change through learning is limited by powerful inertial forces (Hannan and Freeman 1977), suggesting that pressures for institutional change may come from entrepreneurs championing new organizational forms rather than from dominant organizations (Ingram in this volume). These processes are shown schematically in figure 2.2 as the interactions between formal norms and organizations. Collective action directed at changing the formal rules of the game has been overlooked by organizational ecologists as a key causal mechanism in the emergence of new organizational forms. Economists, in focusing on learning behavior in the existing population of firms, have overlooked the importance of new organizational forms that emerge to exploit new knowledge or technologies as a mechanism of institutional change.

The Origin of Preferences

Although in rational choice theory preferences are critical to explaining action, the origin of preferences has been largely ignored. Economists, who rely most heavily on rational choice and therefore on preferences, have generally taken a complete set of well-ordered preferences as a starting assumption, leaving the explanation of preferences to others (DiMaggio 1990). Veblen (1899) explicitly recognized the relationship between preferences and social structure, and more recently sociologists have argued that preferences are socially constructed (DiMaggio 1990; Friedland and Alford 1991). Burt's model (1982) of the influence of social structure on action is a formal expression of this idea. Certainly, the status and social identity implications of objects explain much of their appeal to consumers. As noted, social approval and disapproval constitute the key mechanisms through which conformity to the norms of a group is achieved. Social approval is taken as an universal preference of human beings and is expressed as status, esteem, respect, and honor (Smith [1776] 1966; Lindenberg 1992).

Informal Norms and Formal Organizational Rules

Organizations solve problems of collective action through formal sanctions—by imposing costs on free riding and rewarding compliance. As with informal norms, individuals decide on the basis of accounts of past rewards and costs whether to contribute to the production of a collective good. The state provides the clearest example of a formal organizational structure that “raises the cost for individuals who refuse to join groups, pay membership dues, and generally refuse to participate in collective action” (Eggertsson 1990, 66). However, many other formal organizations use rules with a third-party to secure control.

In an organizational context, informal norms contribute with the realization of organizational goals through their effect on compliance to the formal rules of the game. The interaction between informal norms and formal organizations is complex. *When the formal norms of an organization are perceived to be congruous with the preferences and interests of actors in subgroups, the relationship between formal and informal norms will be closely coupled.* This close coupling of informal norms

and the formal rules of the organization is what promotes high performance in organizations and economies. First, when the informal and formal rules of the game are closely coupled, they are mutually reinforcing. This is illustrated in the case of research universities in the congruence between formal review procedures gauging and rewarding research productivity and the informal norm of "publish or perish." It is also seen in the congruence between informal norms of fair play and formal rules in competitive games. In developed market economies, formal rules and regulations governing economic transactions are buttressed by informal norms of honesty and fair exchange. When formal and informal norms are closely coupled, it is often difficult to demarcate the boundaries between formal and informal social control. Second, the close coupling of formal and informal norms results in lower transaction costs because monitoring and enforcement can be accomplished informally. The cost of reliance on social rewards to achieve conformity to norms is low since it is produced spontaneously in the course of ongoing social interactions. By contrast, the greater the reliance on the state for monitoring, the higher the transaction cost. Litigation and policing are costly means to secure cooperation. Third, the close coupling between formal and informal norms reduces uncertainty in social transactions. Uncertainty increases when the formal rules of the game are inconsistent or at odds with the informal norms of subgroups. Thus:

Proposition 4. The close coupling between informal norms and formal organizational rules results in high organizational performance.

The close coupling of informal and formal norms in organizational settings often stems from the responsiveness of organizational leaders to the interests and preferences of employees in seeking to improve productivity. For example, organizational leadership instituting and enforcing formal norms against sexual and racial harassment in the workplace may be responding to the increased representation of women and minorities in the modern firm and the perceived increase in transaction costs of not solving problems of coordination in an increasingly heterogeneous workforce. Subsequently, feedback reinforces or alters preexisting informal norms about appropriate behavior governing gender and ethnic relations in the workplace. Similarly, firms conscious of the soaring cost of employee health insurance may reinforce the emergent expectation that nonsmokers have a right not to be exposed to indirect smoke by prohibiting smoking in the workplace. What may have originated as expected behavior among individuals interacting in face-to-face groups becomes instituted and enforced as formal rules that in turn reinforce the informal norm.

The significance of close coupling between informal and formal norms can be seen in the contradictory evidence regarding the effectiveness of formal organizational rules. Adler and Borys (1996) point out that formal organizational rules sometimes result in increased employee alienation, turnover, stress, and dissatisfaction, while in other cases formal rules have been shown to reduce the very same negative outcomes. This conflict occurs even when the nature of tasks and technologies in organizations is controlled for. Adler and Borys's explanation of this conflict corresponds with ours: sometimes formal organizational rules are aligned with the interests of employees, enabling them to do their jobs better,

while at other times formal organizational rules merely coerce employees. When formal organizational rules reflect the interests of employees, they will also be consistent with the informal norms that evolve among employees to further the same interests, and close coupling will exist.

Contingency theorists of organizations point to the type of technology and the level of interdependence between work tasks as determinants of the appropriate level of formalization in an organization (Woodward, 1980; Thompson, 1967). Transaction-cost theorists point to the congruence of goals between employees and employers as influencing the relative effectiveness of formal and informal organizational rules (Ouchi, 1980). Our focus on close coupling does not deny either of these positions. We agree that the relative effectiveness of formal and informal norms depends on features of the task and the relationship between employees and employers, but we contend that in all but the most trivial organizations, high performance requires the close coupling of both formal and informal norms. In this view we join Barnard ([1938] 1964), who insisted that the informal organization was “indispensable” to the effective performance of the formal organization.

Proposition 5. When the formal rules are at variance with the preferences and interests of subgroups in an organization, a decoupling of the informal norms and the formal rules of the organization will occur.

According to Meyer and Rowan (1977), decoupling of the practical activities of organizations from their formal rules and myths “enables organizations to maintain standardized, legitimating, formal structures, while their activities vary in response to practical considerations” (58). For certain types of organizations, particularly those for which there is not a competitive market for their output (for example, schools and government agencies), formal organizational rules will be largely ceremonial, designed to satisfy external constituents that provide the organization with legitimacy. Independent of this ceremonial formal structure, informal norms will arise to guide the day-to-day business of the organization.

Blau’s (1963) case study of a federal law enforcement agency provides an illustration of decoupling between informal norms and formal organizational rules. Since reporting attempts at bribery apparently weakened the agents’ ability to secure the cooperation needed to complete their investigations, which was their *raison d’être*, it became the informal norm that agents in the agency ought not report such attempts. The norm against reporting bribery attempts was perceived to be so important to the agents’ success that it was rarely violated. During Blau’s field work, only one agent violated the norm, and he was subsequently ostracized. As Blau observed, the cost of violating an informal norm is to risk the social relationship itself, or at least to experience social disapproval and diminished status in the group.

Informal norms will evolve into “opposition norms” if institutions and organizational sanctions are weak relative to contradicting group interests. Opposition norms encourage individuals to directly resist formal norms. Of the three relationships between formal and informal norms that we identify, this has the most negative implications for performance. In state socialist societies where the state-managed economy was widely perceived to be inefficient and at odds with the

interests of economic actors, opposition norms emerged to organize the informal economy (Stark 1990).

Proposition 6. When the organizational leadership and formal norms are perceived to be at odds with the interests and preferences of actors in subgroups, informal norms opposing formal rules will emerge to “bend the bars of the iron cage” of the formal organizational rules.

Shibutani (1978), in his ethnography of Nisei soldiers, provides a vivid account of the emergence of opposition norms. Documenting the misadventures in World War II of a company of Japanese-American soldiers, he shows that even a coercive force as awesome as the U.S. Army can be rendered ineffective. The war record of Nisei soldiers was outstanding, and the men of Company K were drawn from the same manpower pool as the 442d Regimental Combat Team, which was legendary for its heroics. However, the record of Company K was very different. Trained as infantrymen, its members were assigned to the Military Intelligence Service Language School (MISLS) at Fort Snelling in Minnesota to learn Japanese so they could act as interpreters. They became known not for heroism on the battlefield, but for insubordination, incompetence, laziness, and violence against officers and each other.

From the beginning, the members of Company K refused to acknowledge the right of Nisei noncommissioned officers (NCOs) to give orders to other Nisei. They disobeyed other orders as well: they frequently left Fort Snelling without passes; they brought alcohol and women into the fort; they were rowdy in formation; and they talked back to officers. MISLS had strict regulations for classroom conduct backed by military authority, but the members of Company K disregarded them. Many falsely claimed that they knew no Japanese and refused to recite in class or to study; most slept in class. Rather than learning Japanese, they passed the time by administering “hotfoots” and “hot seats” to unsuspecting classmates.

Then there was their intramural violence. A small group of soldiers spent most nights drunk and looking for fights. One of them would pick a fight with almost anyone he encountered. His victim had the choice of taking a beating or fighting back and being set upon by the whole gang. Anyone who attempted to come to his rescue was also beaten. Even Company K's first sergeant was thus attacked (the perpetrator in that case was court-martialed).

This behavior persisted in the face of military rules because the informal norms of the company were more binding on soldiers than the military rules. Not all of the soldiers in Company K were embittered by the army, but all were forced to participate in these misdeeds. Peer pressure was powerful. “Dissidents are brought into line and heroes elevated through spontaneous expression of approval and disapproval, such as the show of displeasure through sarcastic remarks or changes of facial expression, ridicule, gossip, refusal to reciprocate favors, and sometimes ostracism” (Shibutani 1978, 433). Physical threats were also used, such as the application of hotfoots to the “eager beavers” who tried to pay attention in class. The soldiers went to great lengths to avoid censure from their comrades. For example, the company liked to torment its officers by marching so quickly that the officers could not keep up. Although many of the privates also

had difficulty maintaining the pace, they pushed themselves to do so despite colds, blisters, and other impediments, often collapsing at the end of the march.

The opposition norms that developed among the Nisei soldiers have their analog in restriction-of-output norms. It is a common perception among workers paid under piece-rate systems that payment rates will be pushed downward if output is high. Thus, such workers share an interest in discouraging high output rates. In support of this interest, informal norms develop to punish "rate-busters" (Roy 1952). Roethlisberger and Dickson's study (1939) of a work group in the Western Electric Company documented a game called "binging" where a man would punch someone else in the upper arm as hard as he could, and the recipient of the punch would return it. Men were more likely to be binged when they exceeded the group's informal output norms. The slowest producers were often heckled and ridiculed. There were also positive sanctions, in the form of higher social status, for compliance with group norms. Homans's reanalysis (1950) of William Whyte's *Street Corner Society* (1943) recognized a similar relationship between status within the group and adherence to its norms.

COOPERATION AND PRODUCTIVITY AT CLEO

A case study from physics illustrates all the levels in the model presented in figure 2.2, and almost all the links between them. The Wilson Synchrotron is one of four high-energy physics laboratories in the United States. Its research scientists are members of Cornell's Large Experimental Organization (CLEO), consortium. As of the summer of 1997, CLEO consisted of about two hundred and fifty participants from twenty-three universities.

CLEO is a particularly successful research organization of its type. Some of its success is due to fortuitous circumstances. The accelerator was not considered to be state of the art at the time it was built but turned out to be well-suited for studying what is known as the "bottom quark," which was discovered in 1978 at Fermi National Accelerator Laboratory. However, much of the success of CLEO, and in some ways the success of all organizations of its type, is puzzling at first glance. The operation of CLEO seems to violate expectations in a competitive academic field: scientists who wish to join are welcomed; work proceeds without concern that jealous colleagues will steal ideas or sabotage results; and cooperation between the members is high. How do these features persist when an important finding can mean the difference between a successful career and failure?

The research scientists of course seek peer recognition, from which all other rewards derive (Merton 1957). The joint good they require is the data collected and perhaps the stimulating atmosphere available at the Wilson Synchrotron. Data collection, a stimulating atmosphere, and productivity require that there be a critical mass of active scientists at the facility. Because the group of scientists at the facility was initially small, and because there is a high attrition rate, CLEO must constantly admit new scientists to produce its joint goods. However, it may not be in the individual interest of the members of CLEO to admit new members. At any point in time, CLEO's scientists have exclusive access to the facility and the data. When they admit a new member, their own right to the data is reduced. It is possible that a potential member could choose to study a problem that an existing member might eventually have studied. Thus, CLEO members

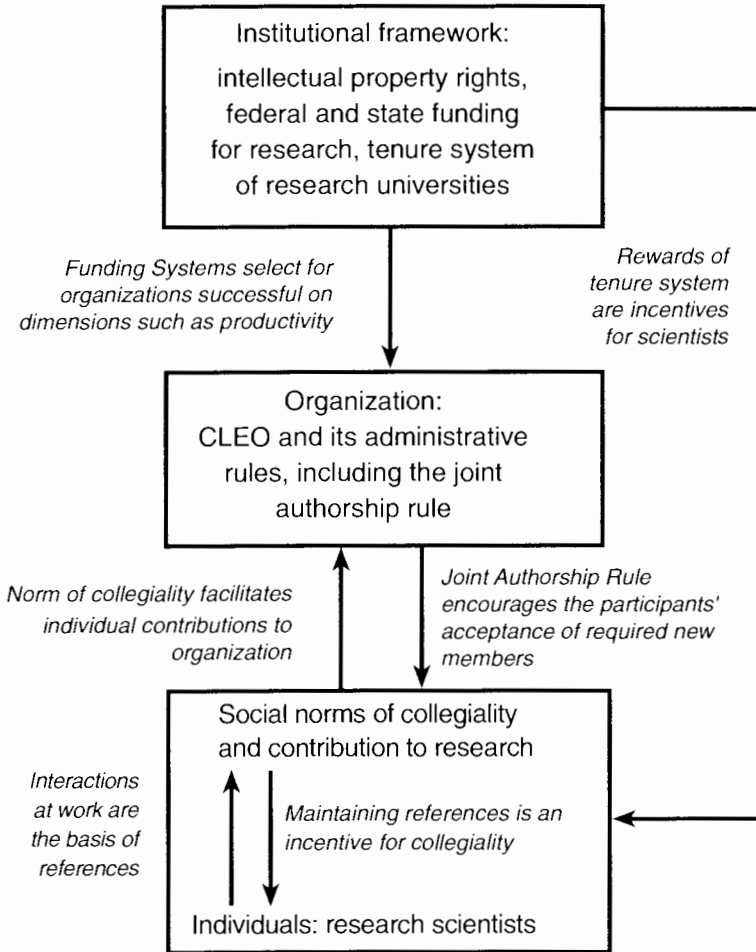
might rationally refuse to admit new entrants and simply reserve use of the Wilson Synchrotron exclusively for themselves. Sociologists who doubt that rational individuals might make that decision should think about the data in their own field that is underutilized because those who own it wish to maintain their exclusive right to it.

An organizational rule makes it possible to overcome the interest individuals would have in excluding new entrants—a rule concerning the authorship of papers using Wilson Synchrotron data. Although such papers are typically written by a smaller group of scientists, there is a rule here (as at other high-energy physics laboratories) that every member of the consortium must be listed as a coauthor, and that the coauthors must be listed in alphabetical order. As a result, those wishing to join CLEO are welcomed because they contribute to the production of joint goods, and they cannot take credit for an idea away from the existing CLEO members. If CLEO were considering a paper on a topic on which a potential entrant wishes to conduct research, the present members might decide to get around to the topic themselves eventually and put out a publication with all members, listed as coauthors, or they might decide to welcome the new member, with the idea that the paper will thus be published somewhat sooner, again with all CLEO members listed as coauthors. The reader might wonder why scientists do not simply break the rule and use data collected at Wilson in single-author papers. Such malfeasance is impossible. A scientist who “stole” data from Wilson to avoid adding two hundred and fifty names to his work would be quickly found out since there is no credible alternative source for the data.

The coauthorship rule explains why members of CLEO are happy to have extra help, but why is anyone willing to provide it? Certainly membership in this prestigious organization confers status, but why would a scientist choose to labor on the consortium’s projects rather than simply free ride on the efforts of others? After all, the scientist’s name will go on the published results regardless of his or her participation. The answer is that informal processes discourage free riding. Whereas publications shared with two hundred and fifty others say almost nothing about an individual scientist to outsiders on tenure review committees or in foundations, what such outsiders can do is ask his or her colleagues at CLEO about the participation of the scientist. *It is the reputation of the scientist among his or her immediate colleagues that counts.* This arrangement makes the participants highly dependent on the group and results in the extremely cooperative and collegial relationships that partially account for CLEO’s success. To maintain the goodwill of their colleagues, and thereby to maintain critical social capital, CLEO members obey the normative controls on behavior that support the joint authorship rule.

Figure 2.3 shows how the CLEO case relates to the general model illustrated in figure 2.2. Formal norms affecting high-energy physics research, such as the tenure system and the research-funding process, influence the preferences of research scientists and determine the criteria for rewarding organizations. CLEO’s joint authorship rule organizes incentives in such a way that the participants in CLEO are willing to admit the new blood that is a prerequisite for organizational success. Social exchange at the group level, particularly positive scholarly references and high status in the organization in return for hard work results in

Figure 2.3 The Model Applied to CLEO



informal norms of collegiality and contributions to the joint goods the organization requires. These in turn facilitate the success of CLEO in meeting the criteria set out by the institutional environment. CLEO receives required funding, and its members can continue to work toward their goals. The correspondence between the organization's formal rules, informal norms, and the institutional framework of the modern research university results in high performance.

CONCLUSION

New institutionalists in economics have built a lively research program around the assumption that institutions matter in determining performance in organizations and economies. Without a theory of the origin of norms and the mecha-

nisms through which institutions shape individual behavior, however, new institutionalists in economics cannot develop a satisfactory explanation for variation in economic performance. The formal normative framework of an economy accounts for only part of the story. Because economic performance entails cooperative behavior by individuals in groups, much of the variation in economic performance can be accounted for only by examining the effects of informal constraints on economic performance. Economic sociologists have studied the social network underpinning economic behavior. Yet without a theory that links networks of personal relationships to institutions, much of the economic life that characterizes modern economies eludes their explanation. Sociologists working in the social exchange tradition have contributed much to our understanding of exchange within network structures, but they have not sufficiently incorporated an institutional dimension in their work either.

By specifying the mechanisms that link norms to social networks, we supply the missing link that furthers the promise of mutually productive intellectual trade between economics and sociology. The production and maintenance of norms is a spontaneous byproduct of the interdependent activities of individuals. Social approval and disapproval provides the reward and punishment that uphold the norms of a group. Such positive and negative feedback built into ongoing social relationships provide the self-reinforcing mechanisms. New institutional economics is not imperialist insofar as its project is to elaborate a choice-within-constraints theory of economic life. The constraints are institutions, involving the state, regulations, laws, property rights, organizations, ideology, and informal norms—all domains to which sociology has contributed a rich store of knowledge. These constraints, new institutionalists in economics maintain, are what shape the structure of incentives and thereby determine economic performance. Hence, constraints that sociology has been studying for many decades help explain economic performance. This view is quite different from that advocated by, for example, Gary Becker (1976), who argues that the neoclassical core explains all economic and social behavior. Such an assumption has been associated with the imperialist extension of rational choice theory into political science and sociology.

In sum, we have constructed a theory that provides a foundation for a sociological new institutionalism. We locate our actors in a network of personal relationships characterized by certain norms, in accordance with which they evaluate—and reward and punish—each other. High performance is determined by the extent to which institutions give rise to a structure of incentives that elicits cooperative behavior. The incremental rewards exchanged between individuals in permanent or semipermanent social relationships provide the social mechanisms essential to the conduct of economic life. Such rewards are mainly nonmaterial, motivated by the preference for social approval and rank, which often confer material benefits in turn.

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NOTES

1. We follow common usage by defining “economic” as pertaining to the allocation of scarce resources among competitive users (see Nicholson 1989). We apply this definition liberally, and our view of economic action is therefore more inclusive than that of some sociologists. Economic action includes not only market action, but allocative action within organizations of all types and even the allocation of nonmaterial scarce resources such as time, attention, and cognitive capacity.
2. Homans ([1961] 1974, 68–69) anticipated the embeddedness perspective of the new economic sociology and the link with the choice-within-institutional-constraints approach of new institutional economics:

No doubt some persons do in fact trade regularly with others—the personal will keep breaking in—but economics can afford to disregard its effects. That is, classical economics does not concern itself with the permanent or semipermanent relationships, the repeated exchanges, between particular individuals or groups that make up so much of the subject matter of the other social sciences, including sociology. Economics can explain many features of behavior provided that it takes certain things called institutions—the market itself, for instance—as simply given. Yet these institutions, however difficult it often is to account for all their detailed characteristics, are at least the product of the very things economics disregards—the relatively permanent relationships between individuals or between groups, which form social structures. The general propositions of our present subject are not, we believe, different from those of economics, but we use them to try to explain just those features of social behavior which classical economics takes for granted.

3. Network analysis in its infancy at Harvard drew liberally from Homans's earlier work (1950), but veered away from his later work, turning to utilitarian social theory and methodological individualism. Yet that later work was entirely consistent with the Homans of *The Human Group* in its aim to explain, rather than to describe, the emergence of norms from concrete social relations and the manner in which norms provide a structure of incentives and thereby influence group performance.
4. It is hardly controversial that actors have preferences and that they consider their interests when choosing action. Likewise, most social scientists will accept that constraints are considered along with interests. That individuals have preferences and that these preferences compel them to act is the basic rational choice model. Despite its influence in all the social sciences, this model remains contentious. The problem is that it is easy to find examples of individuals failing to act rationally and difficult to believe that individuals can be as rational as the strictest rational choice model assumes. Refinements of the basic rational choice model, however, increase its application to sociology.

Frank (1988) argues that apparent failures of rationality, such as altruism, revenge, and honesty, can be explained with a commitment model. Generating credible commitment is a challenge actors constantly face. The familiar example of the commitment problem is provided by Schelling (1960): A kidnapper has a change of heart and would like to release his victim. If, in return for freedom, the victim had some way to make a credible commitment not to reveal the identity of the kidnapper, his life would be spared. However, the victim will have no incentive to

keep any such promise once free, and the kidnapper reluctantly decides the victim must be killed. The victim is effectively doomed by his own rationality. Frank argues that many apparent failures of rationality are actually mechanisms to generate commitment. For example, many petty thefts occur because criminals realize that the cost of reporting a theft, filling out a police report, identifying the criminal, and appearing in court is greater than the cost of replacing many stolen items, and they therefore anticipate that victims will not pursue justice. This suggests that an individual known to have an irrational taste for vengeance will be less likely to be stolen from. Frank's work shows that some behavior that appears irrational can be seen as rational with a more sophisticated understanding of the commitment problems individuals are actually trying to solve.

There are other apparent deviations from rationality that cannot be so neatly explained. It appears that individuals often simply make mistakes in relation to the expectations of the rational choice model. Cognitive psychologists such as Tversky and Kahneman (1974, 1981) have investigated these failings of rationality. They have identified a number of systematic biases in decisionmaking behavior. For example, individuals appear to weigh losses heavier than gains and to value the components of pairs of events separately. So an individual might report being unhappy at coming home from a holiday and finding an unexpected gift of a hundred dollars and an unexpected bill for eighty dollars. People also overestimate the occurrence of events that are salient in memory, and underappreciate the importance of base rates in answering questions of the type "What is the likelihood that object A belongs to class B?" They also fail to properly disregard sunk costs (Thaler 1980). These and other examples of failings of rationality are systematic and thus show that the classic rational choice model is insufficient. But they suggest the possibility of developing a behavioral model of rational choice. By asserting that institutions matter, the new institutionalist paradigm maintains that a sufficient theoretic model of choice needs to incorporate the effects of institutions on individual and group performance.

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