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The Sociology of Economic Life

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CHAPTER 2

Economic Action and Social Structure: The Problem of Embeddedness

Mark Granovetter

INTRODUCTION: THE PROBLEM OF EMBEDDEDNESS

How behavior and institutions are affected by social relations is one of the classic questions of social theory. Since such relations are always present, the situation that would arise in their absence can be imagined only through a thought experiment like Thomas Hobbes's "state of nature" or John Rawls's "original position." Much of the utilitarian tradition, including classical and neoclassical economics, assumes rational, self-interested behavior affected minimally by social relations, thus invoking an idealized state not far from that of these thought experiments. At the other extreme lies what I call the argument of "embeddedness": the argument that the behavior and institutions to be analyzed are so constrained by ongoing social relations that to construe them as independent is a grievous misunderstanding.

This article concerns the embeddedness of economic behavior. It has long been the majority view among sociologists, anthropologists, political scientists, and historians that such behavior was heavily embedded in social relations in premarket societies but became much more autonomous with modernization. This view sees the economy as an increasingly separate, differentiated sphere in modern society, with economic transactions defined no longer by the social or kinship obligations of those transacting but by rational calculations of individual gain. It is sometimes further argued that the traditional situation is reversed: instead of economic life being submerged in social relations, these relations become an epiphenomenon of the market. The embeddedness position is associated with the "substantivist" school in anthropology, identified especially with Karl Polanyi (1944; Polanyi, Arensberg, and Pearson 1957) and with the idea of "moral economy" in history and political science (Thompson 1971; Scott 1976). It has also some obvious relation to Marxist thought.

Few economists, however, have accepted this conception of a break in embeddedness with modernization; most of them assert instead that embeddedness in earlier societies was not substantially greater than the low level found in modern markets. The tone was set by Adam Smith, who postulated a "certain propensity in human nature . . . to truck, barter and exchange one thing for another" ([1776] 1979, book 1, chap. 2) and assumed that since labor was the only factor of production in primitive society, goods must have exchanged in proportion to their labor costs—as in the general classical theory of exchange ([1776] 1979, book 1, chap. 6). From the 1920s on, certain anthropologists took a similar position, which came to be called the "formalist" one: even in tribal societies, economic behavior was sufficiently independent of social relations for standard neoclassical analysis to be useful (Schneider 1974). This po-

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sition has recently received a new infusion as economists and fellow travelers in history and political science have developed a new interest in the economic analysis of social institutions—much of which falls into what is called the "new institutional economics"—and have argued that behavior and institutions previously interpreted as embedded in earlier societies, as well as in our own, can be better understood as resulting from the pursuit of self-interest by rational, more or less atomized individuals (e.g., North and Thomas 1973; Williamson 1975; Popkin 1979).

My own view diverges from both schools of thought. I assert that the level of embeddedness of economic behavior is lower in nonmarket societies than is claimed by substantivists and development theorists, and it has changed less with "modernization" than they believe; but I argue also that this level has always been and continues to be more substantial than is allowed for by formalists and economists. I do not attempt here to treat the issues posed by nonmarket societies. I proceed instead by a theoretical elaboration of the concept of embeddedness, whose value is then illustrated with a problem from modern society, currently important in the new institutional economics: which transactions in modern capitalist society are carried out in the market, and which subsumed within hierarchically organized firms? This question has been raised to prominence by the "markets and hierarchies" program of research initiated by Oliver Williamson (1975).

OVER- AND UNDERSOCIALIZED CONCEPTIONS OF HUMAN ACTION IN SOCIOLOGY AND ECONOMICS

I begin by recalling Dennis Wrong's 1961 complaint about an "oversocialized conception of man in modern sociology"—a conception of people as overwhelmingly sensitive to the opinions of others and hence obedient to the dictates of consensually developed systems of norms and values, internalized through socialization, so that obedience is not perceived as a burden. To the extent that such a conception was prominent in 1961, it resulted in large part from Talcott Parsons's recognition of the problem of order as posed by Hobbes and his own attempt to resolve it by transcending the atomized, *undersocialized* conception of man in the utilitarian tradition of which Hobbes was part (Parsons 1937, pp. 89–94). Wrong approved the break with atomized utilitarianism and the emphasis on actors' embeddedness in social context—the crucial factor absent from Hobbes's thinking—but warned of exaggerating the degree of this embeddedness and the extent to which it might eliminate conflict:

> It is frequently the task of the sociologist to call attention to the intensity with which men desire and strive for the good opinion of their immediate associates in a variety of situations, particularly those where received theories or ideologies have unduly emphasized other motives. . . . Thus sociologists have shown that factory workers are more sensitive to the attitudes of their fellow workers than to purely economic incentives. . . . It is certainly not my intention to criticize the findings of such studies. My objection is that . . . [a]lthough sociologists have criticized past efforts to single out one fundamental motive in human conduct, the desire to achieve a favorable self-image by winning approval from others frequently occupies such a position in their own thinking. [1961, pp. 188–89]

Classical and neoclassical economics operates, in contrast, with an atomized, *under*socialized conception of human action, continuing in the utilitarian tradition. The theoretical arguments disallow by hypothesis any impact of social structure and social relations on production, distribution, or consumption. In competitive markets, no producer or consumer noticeably influences aggregate supply or demand or, therefore, prices or other terms of trade. As Albert Hirschman has noted, such idealized markets, involving as they do "large numbers of price-taking anonymous buyers and sellers

supplied with perfect information . . . function without any prolonged human or social contact between the parties. Under perfect competition there is no room for bargaining, negotiation, remonstration or mutual adjustment and the various operators that contract together need not enter into recurrent or continuing relationships as a result of which they would get to know each other well" (1982, p. 1473).

It has long been recognized that the idealized markets of perfect competition have survived intellectual attack in part because self-regulating economic structures are politically attractive to many. Another reason for this survival, less clearly understood, is that the elimination of social relations from economic analysis removes the problem of order from the intellectual agenda, at least in the economic sphere. In Hobbes's argument, disorder arises because conflict-free social and economic transactions depend on trust and the absence of malfeasance. But these are unlikely when individuals are conceived to have neither social relationships nor institutional context—as in the "state of nature." Hobbes contains the difficulty by superimposing a structure of autocratic authority. The solution of classical liberalism, and correspondingly of classical economics, is antithetical: repressive political structures are rendered unnecessary by competitive markets that make force or fraud unavailing. Competition determines the terms of trade in a way that individual traders cannot manipulate. If traders encounter complex or difficult relationships, characterized by mistrust or malfeasance, they can simply move on to the legion of other traders willing to do business on market terms; social relations and their details thus become frictional matters.

In classical and neoclassical economics, therefore, the fact that actors may have social relations with one another has been treated, if at all, as a frictional drag that impedes competitive markets. In a much-quoted line, Adam Smith complained that "people of the same trade seldom meet together, even for merriment and diversion, but the conversation ends in a conspiracy against the public, or in some contrivance to raise prices." His laissez-faire politics allowed few solutions to this problem, but he did suggest repeal of regulations requiring all those in the same trade to sign a public register; the public existence of such information "connects individuals who might never otherwise be known to one another and gives every man of the trade a direction where to find every other man of it." Noteworthy here is not the rather lame policy prescription but the recognition that *social atomization is prerequisite to perfect competition* (Smith [1776] 1979, pp. 232–33).

More recent comments by economists on "social influences" construe these as processes in which actors acquire customs, habits, or norms that are followed mechanically and automatically, irrespective of their bearing on rational choice. This view, close to Wrong's "oversocialized conception," is reflected in James Duesenberry's quip that "economics is all about how people make choices; sociology is all about how they don't have any choices to make" (1960, p. 233) and in E. H. Phelps Brown's description of the "sociologists' approach to pay determination" as deriving from the assumption that people act in "certain ways because to do so is customary, or an obligation, or the 'natural thing to do,' or right and proper, or just and fair" (1977, p. 17).

But despite the apparent contrast between under- and oversocialized views, we should note an irony of great theoretical importance: both have in common a conception of action and decision carried out by atomized actors. In the undersocialized account, atomization results from narrow utilitarian pursuit of self-interest; in the oversocialized one, from the fact that behavioral patterns have been internalized and ongoing social relations thus have only peripheral effects on behavior. That the internalized rules of behavior are social in origin does not differentiate this argument decisively from a utilitarian one, in which the source of utility functions is left open, leaving room for behav-

ior guided entirely by consensually determined norms and values—as in the oversocialized view. Under- and oversocialized resolutions of the problem of order thus merge in their atomization of actors from immediate social context. This ironic merger is already visible in Hobbes's *Leviathan,* in which the unfortunate denizens of the state of nature, overwhelmed by the disorder consequent to their atomization, cheerfully surrender all their rights to an authoritarian power and subsequently behave in a docile and honorable manner; by the artifice of a social contract, they lurch directly from an undersocialized to an oversocialized state.

When modern economists do attempt to take account of social influences, they typically represent them in the oversocialized manner represented in the quotations above. In so doing, they reverse the judgment that social influences are frictional but sustain the conception of how such influences operate. In the theory of segmented labor markets, for example, Michael Piore has argued that members of each labor market segment are characterized by different styles of decision making and that the making of decisions by rational choice, custom, or command in upper-primary, lower-primary, and secondary labor markets respectively corresponds to the origins of workers in middle-, working-, and lower-class subcultures (Piore 1975). Similarly, Samuel Bowles and Herbert Gintis, in their account of the consequences of American education, argue that different social classes display different cognitive processes because of differences in the education provided to each. Those destined for lower-level jobs are trained to be dependable followers of rules, while those who will be channeled into elite positions attend "elite four-year colleges" that "emphasize social relationships conformable with the higher levels in the production hierarchy. . . . As they 'master' one type of behavioral regulation they are either allowed to progress to the next or are channeled into the corresponding level in the hierarchy of production" (Bowles and Gintis 1975, p. 132).

But these oversocialized conceptions of how society influences individual behavior are rather mechanical: once we know the individual's social class or labor market sector, everything else in behavior is automatic, since they are so well socialized. Social influence here is an external force that, like the deists' God, sets things in motion and has no further effects—a force that insinuates itself into the minds and bodies of individuals (as in the movie *Invasion of the Body Snatchers*), altering their way of making decisions. Once we know in just what way an individual has been affected, ongoing social relations and structures are irrelevant. Social influences are all contained inside an individual's head, so, in actual decision situations, he or she can be atomized as any *Homo economicus,* though perhaps with different rules for decisions. More sophisticated (and thus less oversocialized) analyses of cultural influences (e.g., Fine and Kleinman 1979; Cole 1979, chap. 1) make it clear that culture is not a once-for-all influence but an ongoing process, continuously constructed and reconstructed during interaction. It not only shapes its members but also is shaped by them, in part for their own strategic reasons.

Even when economists do take social relationships seriously, as do such diverse figures as Harvey Leibenstein (1976) and Gary Becker (1976), they invariably abstract away from the history of relations and their position with respect to other relations—what might be called the historical and structural embeddedness of relations. The interpersonal ties described in their arguments are extremely stylized, average, "typical"—devoid of specific content, history, or structural location. Actors' behavior results from their named role positions and role sets; thus we have arguments on how workers and supervisors, husbands and wives, or criminals and law enforcers will interact with one another, but these relations are not assumed to have individualized content beyond that given by the named roles. This procedure is exactly what structural sociologists have criticized in

Parsonian sociology—the relegation of the specifics of individual relations to a minor role in the overall conceptual scheme, epiphenomenal in comparison with enduring structures of normative role prescriptions deriving from ultimate value orientations. In economic models, this treatment of social relations has the paradoxical effect of preserving atomized decision making even when decisions are seen to involve more than one individual. Because the analyzed set of individuals—usually dyads, occasionally larger groups—is abstracted out of social context, it is atomized in its behavior from that of other groups and from the history of its own relations. Atomization has not been eliminated, merely transferred to the dyadic or higher level of analysis. Note the use of an oversocialized conception—that of actors behaving exclusively in accord with their prescribed roles—to implement an atomized, undersocialized view.

A fruitful analysis of human action requires us to avoid the atomization implicit in the theoretical extremes of under- and oversocialized conceptions. Actors do not behave or decide as atoms outside a social context, nor do they adhere slavishly to a script written for them by the particular intersection of social categories that they happen to occupy. Their attempts at purposive action are instead embedded in concrete, ongoing systems of social relations. In the remainder of this article I illustrate how this view of embeddedness alters our theoretical and empirical approach to the study of economic behavior. I first narrow the focus to the question of trust and malfeasance in economic life and then use the "markets and hierarchies" problem to illustrate the use of embeddedness ideas in analyzing this question.[1]

EMBEDDEDNESS, TRUST, AND MALFEASANCE IN ECONOMIC LIFE

Since about 1970, there has been a flurry of interest among economists in the previously neglected issues of trust and malfeasance. Oliver Williamson has noted that real economic actors engage not merely in the pursuit of self-interest but also in "opportunism"—"self-interest seeking with guile; agents who are skilled as dissembling realize transactional advantages.[2] Economic man . . . is thus a more subtle and devious creature than the usual self-interest seeking assumption reveals" (1975, p. 255).

But this points out a peculiar assumption of modern economic theory, that one's economic interest is pursued only by comparatively gentlemanly means. The Hobbesian question—how it can be that those who pursue their own interest do not do so mainly by force and fraud—is finessed by this conception. Yet, as Hobbes saw so clearly, there is nothing in the intrinsic meaning of "self-interest" that excludes force or fraud.

In part, this assumption persisted because competitive forces, in a self-regulating market, could be imagined to suppress force and fraud. But the idea is also embedded in the intellectual history of the discipline. In *The Passions and the Interests,* Albert Hirschman (1977) shows that an important strand of intellectual history from the time of *Leviathan* to that of *The Wealth of Nations* consisted of the watering down of Hobbes's problem of order by arguing that certain human motivations kept others under control and that, in particular, the pursuit of economic self-interest was typically not an uncontrollable "passion" but a civilized, gentle activity. The wide though implicit acceptance of such an idea is a powerful example of how under- and oversocialized conceptions complement one another: atomized actors in competitive markets so thoroughly internalize these normative standards of behavior as to guarantee orderly transactions.[3]

What has eroded this confidence in recent years has been increased attention to the micro-level details of imperfectly competitive markets, characterized by small numbers of participants with sunk costs and "specific human capital" investments. In such situations, the alleged discipline of competitive markets cannot be called on to mitigate deceit, so the classical problem of how it can be that daily economic

life is not riddled with mistrust and malfeasance has resurfaced.

In the economic literature, I see two fundamental answers to this problem and argue that one is linked to an undersocialized, and the other to an oversocialized, conception of human action. The undersocialized account is found mainly in the new institutional economics—a loosely defined confederation of economists with an interest in explaining social institutions from a neoclassical viewpoint. (See, e.g., Furubotn and Pejovich 1972; Alchian and Demsetz 1973; Lazear 1979; Rosen 1982; Williamson 1975, 1979, 1981; Williamson and Ouchi 1981.) The general story told by members of this school is that social institutions and arrangements previously thought to be the adventitious result of legal, historical, social, or political forces are better viewed as the efficient solution to certain economic problems. The tone is similar to that of structural-functional sociology of the 1940s to the 1960s, and much of the argumentation fails the elementary tests of a sound functional explanation laid down by Robert Merton in 1947. Consider, for example, Schotter's view that to understand any observed economic institution requires only that we "infer the evolutionary problem that must have existed for the institution as we see it to have developed. Every evolutionary economic problem requires a social institution to solve it" (1981, p. 2).

Malfeasance is here seen to be averted because clever institutional arrangements make it too costly to engage in, and these arrangements—many previously interpreted as serving no economic function—are now seen as having evolved to discourage malfeasance. Note, however, that they do not produce trust but instead are a functional substitute for it. The main such arrangements are elaborate explicit and implicit contracts (Okun 1981), including deferred compensation plans and mandatory retirement—seen to reduce the incentives for "shirking" on the job or absconding with proprietary secrets (Lazear 1979; Pakes and Nitzan 1982)—and authority structures that deflect opportunism by making potentially divisive decisions by fiat (Williamson 1975). These conceptions are undersocialized in that they do not allow for the extent to which concrete personal relations and the obligations inherent in them discourage malfeasance, quite apart from institutional arrangements. *Substituting* these arrangements for trust results actually in a Hobbesian situation, in which any rational individual would be motivated to develop clever ways to evade them; it is then hard to imagine that everyday economic life would not be poisoned by ever more ingenious attempts at deceit.

Other economists have recognized that some degree of trust *must* be assumed to operate, since institutional arrangements alone could not entirely stem force or fraud. But it remains to explain the source of this trust, and appeal is sometimes made to the existence of a "generalized morality." Kenneth Arrow, for example, suggests that societies, "in their evolution have developed implicit agreements to certain kinds of regard for others, agreements which are essential to the survival of the society or at least contribute greatly to the efficiency of its working" (1974, p. 26; see also Akerlof [1983] on the origins of "honesty").

Now one can hardly doubt the existence of some such generalized morality; without it, you would be afraid to give the gas station attendant a 20-dollar bill when you had bought only five dollars' worth of gas. But this conception has the oversocialized characteristic of calling on a generalized and automatic response, even though moral action in economic life is hardly automatic or universal (as is well known at gas stations that demand exact change after dark).

Consider a case where generalized morality does indeed seem to be at work: the legendary (I hesitate to say apocryphal) economist who, against all economic rationality, leaves a tip in a roadside restaurant far from home. Note that this transaction has three characteristics that make it somewhat unusual: (1) the transactors are previously unacquainted, (2) they are

unlikely to transact again, and (3) information about the activities of either is unlikely to reach others with whom they might transact in the future. I argue that it is only in situations of this kind that the absence of force and fraud can mainly be explained by generalized morality. Even there, one might wonder how effective this morality would be if large costs were incurred.

The embeddedness argument stresses instead the role of concrete personal relations and structures (or "networks") of such relations in generating trust and discouraging malfeasance. The widespread preference for transacting with individuals of known reputation implies that few are actually content to rely on either generalized morality *or* institutional arrangements to guard against trouble. Economists *have* pointed out that one incentive not to cheat is the cost of damage to one's reputation; but this is an undersocialized conception of reputation as a generalized commodity, a ratio of cheating to opportunities for doing so. In practice, we settle for such generalized information when nothing better is available, but ordinarily we seek better information. Better than the statement that someone is known to be reliable is information from a trusted informant that he has dealt with that individual and found him so. Even better is information from one's own past dealings with that person. This is better information for four reasons: (1) it is cheap; (2) one trusts one's own information best—it is richer, more detailed, and known to be accurate; (3) individuals with whom one has a continuing relation have an economic motivation to be trustworthy, so as not to discourage future transactions; and (4) departing from pure economic motives, continuing economic relations often become overlaid with social content that carries strong expectations of trust and abstention from opportunism.

It would never occur to us to doubt this last point in more intimate relations, which make behavior more predictable and thus close off some of the fears that create difficulties among strangers. Consider, for example, why individuals in a burning theater panic and stampede to the door, leading to desperate results. Analysts of collective behavior long considered this to be prototypically irrational behavior, but Roger Brown (1965, chap. 14) points out that the situation is essentially an *n*-person Prisoner's Dilemma: each stampeder is actually being quite rational given the absence of a guarantee that anyone else will walk out calmly, even though all would be better off if everyone did so. Note, however, that in the case of the burning houses featured on the 11:00 P.M. news, we never hear that everyone stampeded out and that family members trampled one another. In the family, there is no Prisoner's Dilemma because each is confident that the others can be counted on.

In business relations the degree of confidence must be more variable, but Prisoner's Dilemmas are nevertheless often obviated by the strength of personal relations, and this strength is a property not of the transactors but of their concrete relations. Standard economic analysis neglects the identity and past relations of individual transactors, but rational individuals know better, relying on their knowledge of these relations. They are less interested in *general* reputations than in whether a particular other may be expected to deal honestly with *them*—mainly a function of whether they or their own contacts have had satisfactory past dealings with the other. One sees this pattern even in situations that appear, at first glance, to approximate the classic higgling of a competitive market, as in the Moroccan bazaar analyzed by Geertz (1979).

Up to this point, I have argued that social relations, rather than institutional arrangements or generalized morality, are mainly responsible for the production of trust in economic life. But I then risk rejecting one kind of optimistic functionalism for another, in which networks of relations, rather than morality or arrangements, are the structure that fulfills the function of sustaining order. There are two ways to reduce this risk. One is to recognize that as a so-

lution to the problem of order, the embeddedness position is less sweeping than either alternative argument, since networks of social relations penetrate irregularly and in differing degrees in different sectors of economic life, thus allowing for what we already know: distrust, opportunism, and disorder are by no means absent.

The second is to insist that while social relations may indeed often be a necessary condition for trust and trustworthy behavior, they are not sufficient to guarantee these and may even provide occasion and means for malfeasance and conflict on a scale larger than in their absence. There are three reasons for this.

1. The trust engendered by personal relations presents, by its very existence, enhanced opportunity for malfeasance. In personal relations it is common knowledge that "you always hurt the one you love"; that person's trust in you results in a position far more vulnerable than that of a stranger. (In the Prisoner's Dilemma, knowledge that one's coconspirator is certain to deny the crime is all the more rational motive to confess, and personal relations that abrogate this dilemma may be less symmetrical than is believed by the party to be deceived.) This elementary fact of social life is the bread and butter of "confidence" rackets that simulate certain relationships, sometimes for long periods, for concealed purposes. In the business world, certain crimes, such as embezzling, are simply impossible for those who have not built up relationships of trust that permit the opportunity to manipulate accounts. The more complete the trust, the greater the potential gain from malfeasance. That such instances are statistically infrequent is a tribute to the force of personal relations and reputation; that they do occur with regularity, however infrequently, shows the limits of this force.

2. Force and fraud are most efficiently pursued by teams, and the structure of these teams requires a level of internal trust—"honor among thieves"—that usually follows preexisting lines of relationship. Elaborate schemes for kickbacks and bid rigging, for example, can hardly be executed by individuals working alone, and when such activity is exposed it is often remarkable that it could have been kept secret given the large numbers involved. Law-enforcement efforts consist of finding an entry point to the network of malfeasance—an individual whose confession implicates others who will, in snowball-sample fashion, "finger" still others until the entire picture is fitted together.

Both enormous trust and enormous malfeasance, then, may follow from personal relations. Yoram Ben-Porath, in the functionalist style of the new institutional economics, emphasizes the positive side, noting that "continuity of relationships can generate behavior on the part of shrewd, self-seeking, or even unscrupulous individuals that could otherwise be interpreted as foolish or purely altruistic. Valuable diamonds change hands on the diamond exchange, and the deals are sealed by a handshake" (1980, p. 6). I might add, continuing in this positive vein, that this transaction is possible in part because it is not atomized from other transactions but embedded in a close-knit community of diamond merchants who monitor one another's behavior closely. Like other densely knit networks of actors, they generate clearly defined standards of behavior easily policed by the quick spread of information about instances of malfeasance. But the temptations posed by this level of trust are considerable, and the diamond trade has also been the scene of numerous well-publicized "insider job" thefts and of the notorious "CBS murders" of April 1982. In this case, the owner of a diamond company was defrauding a factoring concern by submitting invoices from fictitious sales. The scheme required cooperation from his accounting personnel, one of whom was approached by investigators and turned state's evidence. The owner then contracted for the murder of the disloyal employee and her assistant; three CBS technicians who came to their aid were also gunned down (Shenon 1984).

3. The extent of disorder resulting from force and fraud depends very much on how the network of social relations is structured. Hobbes exaggerated the extent of disorder likely in his atomized state of nature where, in the absence of sustained social relations, one could expect only desultory dyadic conflicts. More extended and large-scale disorder results from coalitions of combatants, impossible without prior relations. We do not generally speak of "war" unless actors have arranged themselves into two sides, as the end result of various coalitions. This occurs only if there are insufficient cross-cutting ties, held by actors with enough links to both main potential combatants to have a strong interest in forestalling conflict. The same is true in the business world, where conflicts are relatively tame unless each side can escalate by calling on substantial numbers of allies in other firms, as sometimes happens in attempts to implement or forestall takeovers.

Disorder and malfeasance do of course occur also when social relations are absent. This possibility is already entailed in my earlier claim that the presence of such relations inhibits malfeasance. But the *level* of malfeasance available in a truly atomized social situation is fairly low; instances can only be episodic, unconnected, small scale. The Hobbesian problem is truly a problem, but in transcending it by the smoothing effect of social structure, we also introduce the possibility of disruptions on a larger scale than those available in the "state of nature."

The embeddedness approach to the problem of trust and order in economic life, then, threads its way between the oversocialized approach of generalized morality and the undersocialized one of impersonal, institutional arrangements by following and analyzing concrete patterns of social relations. Unlike either alternative, or the Hobbesian position, it makes no sweeping (and thus unlikely) predictions of universal order or disorder but rather assumes that the details of social structure will determine which is found.

THE PROBLEM OF MARKETS AND HIERARCHIES

As a concrete application of the embeddedness approach to economic life, I offer a critique of the influential argument of Oliver Williamson in *Markets and Hierarchies* (1975) and later articles (1979, 1981; Williamson and Ouchi 1981). Williamson asked under what circumstances economic functions are performed within the boundaries of hierarchical firms rather than by market processes that cross these boundaries. His answer, consistent with the general emphasis of the new institutional economics, is that the organizational form observed in any situation is that which deals most efficiently with the cost of economic transactions. Those that are uncertain in outcome, recur frequently, and require substantial "transaction-specific investments"—for example, money, time, or energy that cannot be easily transferred to interaction with others on different matters—are more likely to take place within hierarchically organized firms. Those that are straightforward, nonrepetitive, and require no transaction-specific investment—such as the one-time purchase of standard equipment—will more likely take place between firms, that is, across a market interface.

In this account, the former set of transactions is internalized within hierarchies for two reasons. The first is "bounded rationality," the inability of economic actors to anticipate properly the complex chain of contingencies that might be relevant to long-term contracts. When transactions are internalized, it is unnecessary to anticipate all such contingencies; they can be handled within the firm's "governance structure" instead of leading to complex negotiations. The second reason is "opportunism," the rational pursuit by economic actors of their own advantage, with all means at their command, including guile and deceit. Opportunism is mitigated and constrained by authority relations and by the greater identification with transaction partners that one allegedly has when both are contained within one

corporate entity than when they face one another across the chasm of a market boundary.

The appeal to authority relations in order to tame opportunism constitutes a rediscovery of Hobbesian analysis, though confined here to the economic sphere. The Hobbesian flavor of Williamson's argument is suggested by such statements as the following: "Internal organization is not beset with the same kinds of difficulties that autonomous contracting [among independent firms] experiences when disputes arise between the parties. Although interfirm disputes are often settled out of court . . . this resolution is sometimes difficult and interfirm relations are often strained. Costly litigation is sometimes unavoidable. Internal organization, by contrast . . . is able to settle many such disputes by appeal to fiat—an enormously efficient way to settle instrumental differences" (1975, p. 30). He notes that complex, recurring transactions require long-term relations between identified individuals but that opportunism jeopardizes these relations. The adaptations to changing market circumstances required over the course of a relationship are too complex and unpredictable to be encompassed in some initial contact, and promises of good faith are unenforceable in the absence of an overarching authority:

> A general clause . . . that "I will behave responsibly rather than seek individual advantage when an occasion to adapt arises," would, in the absence of opportunism, suffice. Given, however, the unenforceability of general clauses and the proclivity of human agents to make false and misleading (self-disbelieved) statements, . . . both buyer and seller are strategically situated to bargain over the disposition of any incremental gain whenever a proposal to adapt is made by the other party. . . . Efficient adaptations which would otherwise be made thus result in costly haggling or even go unmentioned, lest the gains be dissipated by costly subgoal pursuit. *Governance structures* which attenuate opportunism and otherwise infuse confidence are evidently needed. [1979, pp. 241–42, emphasis mine]

This analysis entails the same mixture of under- and oversocialized assumptions found in *Leviathan.* The efficacy of hierarchical power within the firm is overplayed, as with Hobbes's oversocialized sovereign state.[4] The "market" resembles Hobbes's state of nature. It is the atomized and anonymous market of classical political economy, minus the discipline brought by fully competitive conditions—an undersocialized conception that neglects the role of social relations among individuals in different firms in bringing order to economic life. Williamson does acknowledge that this picture of the market is not always appropriate: "Norms of trustworthy behavior sometimes extend to markets and are enforced, in some degree, by group pressures. . . . Repeated personal contacts across organizational boundaries support some minimum level of courtesy and consideration between the parties. . . . In addition, expectations of repeat business discourage efforts to seek a narrow advantage in any particular transaction. . . . Individual aggressiveness is curbed by the prospect of ostracism among peers, in both trade and social circumstances. The reputation of a firm for fairness is also a business asset not to be dissipated" (1975, pp. 106–8).

A wedge is opened here for analysis of social structural influences on market behavior. But Williamson treats these examples as exceptions and also fails to appreciate the extent to which the dyadic relations he describes are themselves embedded in broader systems of social relations. I argue that the anonymous market of neoclassical models is virtually nonexistent in economic life and that transactions of all kinds are rife with the social connections described. This is not necessarily more the case in transactions between firms than within—it seems plausible, on the contrary, that the network of social relations within the firm might be more dense and long-lasting on the average than that existing between—but all I need show here is that there is sufficient social overlay in economic transactions across firms (in the "market," to

use the term as in Williamson's dichotomy) to render dubious the assertion that complex market transactions approximate a Hobbesian state of nature that can only be resolved by internalization within a hierarchical structure.

In a general way, there is evidence all around us of the extent to which business relations are mixed up with social ones. The trade associations deplored by Adam Smith remain of great importance. It is well known that many firms, small and large, are linked by interlocking directorates so that relationships among directors of firms are many and densely knit. That business relations spill over into sociability and vice versa, especially among business elites, is one of the best-documented facts in the sociological study of business (e.g., Domhoff 1971; Useem 1979). In his study of the extent to which litigation was used to settle disputes between firms, Macaulay notes that disputes are "frequently settled without reference to the contract or potential or actual legal sanctions. There is a hesitancy to speak of legal rights or to threaten to sue in these negotiations. . . . Or as one businessman put it, 'You can settle any dispute if you keep the lawyers and accountants out of it. They just do not understand the give-and-take needed in business.' . . . Law suits for breach of contract appear to be rare" (1963, p. 61). He goes on to explain that the

> top executives of the two firms may know each other. They may sit together on government or trade committees. They may know each other socially and even belong to the same country club. . . . Even where agreement can be reached at the negotiation stage, carefully planned arrangements may create undesirable exchange relationships between business units. Some businessmen object that in such a carefully worked out relationship one gets performance only to the letter of the contract. Such planning indicates a lack of trust and blunts the demands of friendship, turning a cooperative venture into an antagonistic horse trade. . . . Threatening to turn matters over to an attorney may cost no more money than postage or a telephone call; yet few are so skilled in making such a threat that it will not cost some deterioration of the relationship between the firms. [pp. 63–64]

It is not only at top levels that firms are connected by networks of personal relations, but at all levels where transactions must take place. It is, for example, a commonplace in the literature on industrial purchasing that buying and selling relationships rarely approximate the spot-market model of classical theory. One source indicates that the "evidence consistently suggests that it takes some kind of 'shock' to jolt the organizational buying out of a pattern of placing repeat orders with a favored supplier or to extend the constrained set of feasible suppliers. A moment's reflection will suggest several reasons for this behavior, including the costs associated with searching for new suppliers and establishing new relationships, the fact that users are likely to prefer sources, the relatively low risk involved in dealing with known vendors, and the likelihood that the buyer has established personal relationships that he values with representatives of the supplying firm" (Webster and Wind 1972, p. 15).

In a similar vein, Macaulay notes that salesmen "often know purchasing agents well. The same two individuals may have dealt with each other from five to 25 years. Each has something to give the other. Salesmen have gossip about competitors, shortages and price increases to give purchasing agents who treat them well" (1963, p. 63). Sellers who do not satisfy their customers "become the subject of discussion in the gossip exchanged by purchasing agents and salesmen, at meetings of purchasing agents' associations and trade associations or even at country clubs or social gatherings . . ." (p. 64). Settlement of disputes is eased by this embeddedness of business in social relations: "Even where the parties have a detailed and carefully planned agreement which indicates what is to happen if, say, the seller fails to deliver on time, often they will never refer to the agreement but

will negotiate a solution when the problem arises as if there never had been any original contract. One purchasing agent expressed a common business attitude when he said, 'If something comes, you get the other man on the telephone and deal with the problem. You don't read legalistic contract clauses at each other if you ever want to do business again. One doesn't run to lawyers if he wants to stay in business because one must behave decently'" (Macaulay 1963, p. 61).

Such patterns may be more easily noted in other countries, where they are supposedly explained by "cultural" peculiarities. Thus, one journalist recently asserted,

> Friendships and longstanding personal connections affect business connections everywhere. But that seems to be especially true in Japan. . . . The after-hours sessions in the bars and nightclubs are where the vital personal contacts are established and nurtured slowly. Once these ties are set, they are not easily undone. . . . The resulting tight-knit nature of Japanese business society has long been a source of frustration to foreign companies trying to sell products in Japan. . . . Chalmers Johnson, a professor at . . . Berkeley, believes that . . . the exclusive dealing within the Japanese industrial groups, buying and selling to and from each other based on decades-old relationships rather than economic competitiveness . . . is . . . a real nontariff barrier [to trade between the United States and Japan]. [Lohr 1982]

The extensive use of subcontracting in many industries also presents opportunities for sustained relationships among firms that are not organized hierarchically within one corporate unit. For example, Eccles cites evidence from many countries that in construction, when projects "are not subject to institutional regulations which require competitive bidding . . . relations between the general contractor and his subcontractors are stable and continuous over fairly long periods of time and only infrequently established through competitive bidding. This type of 'quasi-integration' results in what I call the 'quasifirm.' It is a preferred mode to either pure market transactions or formal vertical integration" (1981, pp. 339–40). Eccles describes this "quasifirm" arrangement of extensive and long-term relationships among contractors and subcontractors as an organizational form logically intermediate between the pure market and the vertically integrated firm. I would argue, however, that it is not *empirically* intermediate, since the former situation is so rare. The case of construction is closer to vertical integration than some other situations where firms interact, such as buying and selling relations, since subcontractors are physically located on the same site as the contractor and are under his general supervision. Furthermore, under the usual fixed-price contracts, there are "obvious incentives for shirking performance requirements" (Eccles 1981, p. 340).

Yet a hierarchical structure associated with the vertically integrated firm does not arise to meet this "problem." I argue this is because the longterm relations of contractors and subcontractors, as well as the embeddedness of those relations in a community of construction personnel, generate standards of expected behavior that not only obviate the need for but are superior to pure authority relations in discouraging malfeasance. Eccles's own empirical study of residential construction in Massachusetts shows not only that subcontracting relationships are long term in nature but also that it is very rare for a general contractor to employ more than two or three subcontractors in a given trade, whatever number of projects is handled in the course of a year (1981, pp. 349–51). This is true despite the availability of large numbers of alternative subcontractors. This phenomenon can be explained in part in investment terms—through a "continuing association both parties can benefit from the somewhat idiosyncratic investment of learning to work together" (Eccles 1981, p. 340)—but also must be related to the desire of individuals to derive pleasure from the social interaction

that accompanies their daily work, a pleasure that would be considerably blunted by spot-market procedures requiring entirely new and strange work partners each day. As in other parts of economic life, the overlay of social relations on what may begin in purely economic transactions plays a crucial role.

Some comments on labor markets are also relevant here. One advantage that Williamson asserts for hierarchically structured firms over market transactions is the ability to transmit accurate information about employees. "The principal impediment to effective interfirm experience-rating," he argues, "is one of communications. By comparison with the firm, markets lack a rich and common rating language. The language problem is particularly severe where the judgments to be made are highly subjective. The advantages of hierarchy in these circumstances are especially great if those persons who are most familiar with a worker's characteristics, usually his immediate supervisor, also do the experience-rating" (1975, p. 78). But the notion that good information about the characteristics of an employee can be transmitted only within firms and not between can be sustained only by neglecting the widely variegated social network of interaction that spans firms. Information about employees travels among firms not only because personal relations exist between those in each firm who do business with each other but also, as I have shown in detail (Granovetter 1974), because the relatively high levels of interfirm mobility in the United States guarantee that many workers will be reasonably well known to employees of numerous other firms that might require and solicit their services. Furthermore, the idea that internal information is necessarily accurate and acted on dispassionately by promotion procedures keyed to it seems naive. To say, as Williamson does, that reliance "on internal promotion has affirmative incentive properties because workers can anticipate that differential talent and degrees of cooperativeness will be rewarded" (1975, p. 78) invokes an ideal type of promotion as reward-for-achievement that can readily be shown to have only limited correspondence to existing internal labor markets (see Granovetter 1983, pp. 40–51, for an extended analysis).

The other side of my critique is to argue that Williamson vastly overestimates the efficacy of hierarchical power ("fiat," in his terminology) within organizations. He asserts, for example, that internal organizations have a great auditing advantage: "An external auditor is typically constrained to review written records. . . . An internal auditor, by contrast has greater freedom of action. . . . Whereas an internal auditor is not a partisan but regards himself and is regarded by others in mainly instrumental terms, the external auditor is associated with the 'other side' and his motives are regarded suspiciously. The degree of cooperation received by the auditor from the audited party varies accordingly. The external auditor can expect to receive only perfunctory cooperation" (1975, pp. 29–30). The literature on intrafirm audits is sparse, but one thorough account is that of Dalton, in *Men Who Manage,* for a large chemical plant. Audits of parts by the central office were supposed to be conducted on a surprise basis, but warning was typically surreptitiously given. The high level of cooperation shown in these internal audits is suggested by the following account: "Notice that a count of parts was to begin provoked a flurry among the executives to hide certain parts and equipment . . . materials *not* to be counted were moved to: 1) little-known and inaccessible spots; 2) basements and pits that were dirty and therefore unlikely to be examined; 3) departments that had already been inspected and that could be approached circuitously while the counters were en route between official storage areas and 4) places where materials and supplies might be used as a camouflage for parts. . . . As the practice developed, cooperation among the [department] chiefs to use each other's storage areas and available pits became well organized and smoothly functioning" (Dalton 1959, pp. 48–49).

Dalton's work shows brilliantly that cost accounting of all kinds is a highly arbitrary and therefore easily politicized process rather than a technical procedure decided on grounds of efficiency. He details this especially for the relationship between the maintenance department and various production departments in the chemical plant; the department to which maintenance work was charged had less to do with any strict time accounting than with the relative political and social standing of department executives in their relation to maintenance personnel. Furthermore, the more aggressive department heads expedited their maintenance work "by the use of friendships, by bullying and implied threats. As all the heads had the same formal rank, one could say that an inverse relation existed between a given officer's personal influence and his volume of uncompleted repairs" (1959, p. 34). Questioned about how such practices could escape the attention of auditors, one informant told Dalton, "If Auditing got to snooping around, what the hell could they find out? And if they did find anything, they'd know a damn sight better than to say anything about it. . . . All those guys [department heads] have got lines through Cost Accounting. That's a lot of bunk about Auditing being independent" (p. 32).

Accounts as detailed and perceptive as Dalton's are sadly lacking for a representative sample of firms and so are open to the argument that they are exceptional. But similar points can be made for the problem of transfer pricing—the determination of prices for products traded between divisions of a single firm. Here Williamson argues that though the trading divisions "may have profit-center standing, this is apt to be exercised in a restrained way. . . . Cost-plus pricing rules, and variants thereof, preclude supplier divisions from seeking the monopolistic prices [to] which their sole source supply position might otherwise entitle them. In addition, the managements of the trading divisions are more susceptible to appeals for cooperation" (1975, p. 29). But in an intensive empirical study of transfer-pricing practices, Eccles, having interviewed nearly 150 managers in 13 companies, concluded that no cost-based methods could be carried out in a technically neutral way, since there is "no universal criterion for what is cost. . . . Problems often exist with cost-based methods when the buying division does not have access to the information by which the costs are generated. . . . Market prices are especially difficult to determine when internal purchasing is mandated and no external purchases are made of the intermediate good. . . . There is no obvious answer to what is a markup for profit . . ." (1982, p. 21). The political element in transfer-pricing conflicts strongly affects whose definition of "cost" is accepted: "In general, when transfer pricing practices are seen to enhance one's power and status they will be viewed favorably. When they do not, a countless number of strategic and other sound business reasons will be found to argue for their inadequacy" (1982, p. 21; see also Eccles 1983, esp. pp. 26–32). Eccles notes the "somewhat ironic fact that many managers consider internal transactions to be more difficult than external ones, even though vertical integration is pursued for presumed advantages" (1983, p. 28).

Thus, the oversocialized view that orders within a hierarchy elicit easy obedience and that employees internalize the interests of the firm, suppressing any conflict with their own, cannot stand scrutiny against these empirical studies (or, for that matter, against the experience of many of us in actual organizations). Note further that, as shown especially well in Dalton's detailed ethnographic study, resistance to the encroachment of organizational interests on personal or divisional ones requires an extensive network of coalitions. From the viewpoint of management, these coalitions represent malfeasance generated by teams; it could not be managed at all by atomized individuals. Indeed, Dalton asserted that the level of cooperation achieved by divisional chiefs in evading central audits involved joint action "of a kind rarely, if

ever, shown in carrying on official activities . . ." (1959, p. 49).

In addition, the generally lower turnover of personnel characteristic of large hierarchical firms, with their well-defined internal labor markets and elaborate promotion ladders, may make such cooperative evasion more likely. When many employees have long tenures, the conditions are met for a dense and stable network of relations, shared understandings, and political coalitions to be constructed. (See Homans 1950, 1974, for the relevant social psychological discussions; and Pfeffer 1983, for a treatment of the "demography of organizations.") James Lincoln notes, in this connection, that in the ideal-typical Weberian bureaucracy, organizations are "designed to function independently of the collective actions which can be mobilized through [internal] interpersonal networks. Bureaucracy prescribes fixed relationships among positions through which incumbents flow, without, in theory, affecting organizational operations" (1982, p. 26). He goes on to summarize studies showing, however, that "when turnover is low, relations take on additional contents of an expressive and personal sort which may ultimately transform the network and change the directions of the organization" (p. 26).

To this point I have argued that social relations between firms are more important, and authority within firms less so, in bringing order to economic life than is supposed in the markets and hierarchies line of thought. A balanced and symmetrical argument requires attention to power in "market" relations and social connections within firms. Attention to power relations is needed lest my emphasis on the smoothing role of social relations in the market lead me to neglect the role of these relations in the conduct of conflict. Conflict is an obvious reality, ranging from well-publicized litigation between firms to the occasional cases of "cutthroat competition" gleefully reported by the business press. Since the effective exercise of power between firms will prevent bloody public battles, we can assume that such battles represent only a small proportion of actual conflicts of interest. Conflicts probably become public only when the two sides are fairly equally matched; recall that this rough equality was precisely one of Hobbes's arguments for a probable "war of all against all" in the "state of nature." But when the power position of one firm is obviously dominant, the other is apt to capitulate early so as to cut its losses. Such capitulation may require not even explicit confrontation but only a clear understanding of what the other side requires (as in the recent Marxist literature on "hegemony" in business life; see, e.g., Mintz and Schwartz 1985).

Though the exact extent to which firms dominate other firms can be debated, the voluminous literature on interlocking directorates, on the role of financial institutions vis-a-vis industrial corporations, and on dual economy surely provides enough evidence to conclude that power relations cannot be neglected. This provides still another reason to doubt that the complexities that arise when formally equal agents negotiate with one another can be resolved only by the subsumption of all parties under a single hierarchy; in fact, many of these complexities are resolved by implicit or explicit power relations *among* firms.

Finally, a brief comment is in order on the webs of social relations that are well known from industrial and organizational sociology to be important within firms. The distinction between the "formal" and the "informal" organization of the firm is one of the oldest in the literature, and it hardly needs repeating that observers who assume firms to be structured in fact by the official organization chart are sociological babes in the woods. The connection of this to the present discussion is that insofar as internalization within firms does result in a better handling of complex and idiosyncratic transactions, it is by no means apparent that hierarchical organization is the best explanation. It may be, instead, that the effect of internalization is to provide a focus (see Feld 1981) for

an even denser web of social relations than had occurred between previously independent market entities. Perhaps this web of interaction is mainly what explains the level of efficiency, be it high or low, of the new organizational form.

It is now useful to summarize the differences in explanation and prediction between Williamson's markets and hierarchies approach and the embeddedness view offered here. Williamson explains the inhibition of "opportunism" or malfeasance in economic life and the general existence of cooperation and order by the subsumption of complex economic activity in hierarchically integrated firms. The empirical evidence that I cite shows, rather, that even with complex transactions, a high level of order can often be found in the "market"—that is, across firm boundaries—and a correspondingly high level of disorder within the firm. Whether these occur, instead of what Williamson expects, depends on the nature of personal relations and networks of relations between and within firms. I claim that both order *and* disorder, honesty *and* malfeasance have more to do with structures of such relations than they do with organizational form.

Certain implications follow for the conditions under which one may expect to see vertical integration rather than transactions between firms in a market. Other things being equal, for example, we should expect pressures toward vertical integration in a market where transacting firms lack a network of personal relations that connects them or where such a network eventuates in conflict, disorder, opportunism, or malfeasance. On the other hand, where a stable network of relations mediates complex transactions and generates standards of behavior between firms, such pressures should be absent.

I use the word "pressures" rather than predict that vertical integration will always follow the pattern described in order to avoid the functionalism implicit in Williamson's assumption that whatever organizational form is most efficient will be the one observed. Before we can make this assumption, two further conditions must be satisfied: (i) well-defined and powerful selection pressures toward efficiency must be operating, and (ii) some actors must have the ability and resources to "solve" the efficiency problem by constructing a vertically integrated firm.

The selection pressures that guarantee efficient organization of transactions are nowhere clearly described by Williamson. As in much of the new institutional economics, the need to make such matters explicit is obviated by an implicit Darwinian argument that efficient solutions, however they may originate, have a staying power akin to that enforced by natural selection in the biological world. Thus it is granted that not all business executives "accurately perceive their business opportunities and faultlessly respond. Over time, however, those [vertical] integration moves that have better rationality properties (in transaction cost and scale-economy terms) tend to have better survival properties" (Williamson and Ouchi 1981, p. 389); see also Williamson 1981, pp. 573–74). But Darwinian arguments, invoked in this cavalier fashion, careen toward a Panglossian view of whatever institution is analyzed. The operation of alleged selection pressures is here neither an object of study nor even a falsifiable proposition but rather an article of faith.

Even if one could document selection pressures that made survival of certain organizational forms more likely, it would remain to show how such forms could be implemented. To treat them implicitly as mutations, by analogy to biological evolution, merely evades the issue. As in other functionalist explanations, it cannot be automatically assumed that the solution to some problem is feasible. Among the resources required to implement vertical integration might be some measure of market power, access to capital through retained earnings or capital markets, and appropriate connections to legal or regulatory authorities.

Where selection pressures are weak (especially likely in the imperfect markets claimed by Williamson to produce vertical integration) and resources problematic, the social-structural

configurations that I have outlined are still related to the efficiency of transaction costs, but no guarantee can be given that an efficient solution will occur. Motives for integration unrelated to efficiency, such as personal aggrandizement of CEOs in acquiring firms, may in such settings become important.

What the viewpoint proposed here requires is that future research on the markets-hierarchies question pay careful and systematic attention to the actual patterns of personal relations by which economic transactions are carried out. Such attention will not only better sort out the motives for vertical integration but also make it easier to comprehend the various complex intermediate forms between idealized atomized markets and completely integrated firms, such as the quasi-firm discussed above for the construction industry. Intermediate forms of this kind are so intimately bound up with networks or personal relations that any perspective that considers these relations peripheral will fail to see clearly what "organizational form" has been effected. Existing empirical studies of industrial organization pay little attention to patterns of relations, in part because relevant data are harder to find than those on technology and market structure but also because the dominant economic framework remains one of atomized actors, so personal relations are perceived as frictional in effect.

DISCUSSION

In this article, I have argued that most behavior is closely embedded in networks of interpersonal relations and that such an argument avoids the extremes of under- and oversocialized views of human action. Though I believe this to be so for all behavior, I concentrate here on economic behavior for two reasons: (i) it is the type-case of behavior inadequately interpreted because those who study it professionally are so strongly committed to atomized theories of action; and (ii) with few exceptions, sociologists have refrained from serious study of any subject already claimed by neoclassical economics. They have implicitly accepted the presumption of economists that "market processes" are not suitable objects of sociological study because social relations play only a frictional and disruptive role, not a central one, in modern societies. (Recent exceptions are Baker 1983; Burt 1983; and White 1981.) In those instances in which sociologists study processes where markets are central, they usually still manage to avoid their analysis. Until recently, for example, the large sociological literature on wages was cast in term of "income attainment," obscuring the labor market context in which wages are set and focusing instead on the background and attainment of individuals (see Granovetter 1981 for an extended critique). Or, as Stearns has pointed out, the literature on who controls corporations has implicitly assumed that analysis must be at the level of political relations and broad assumptions about the nature of capitalism. Even though it is widely admitted that how corporations acquire capital is a major determinant of control, most relevant research "since the turn of the century has eliminated that [capital] market as an objective of investigation" (1982, pp. 5–6). Even in organization theory, where considerable literature implements the limits placed on economic decisions by social structural complexity, little attempt has been made to demonstrate the implications of this for the neoclassical theory of the firm or for a general understanding of production or such macroeconomic outcomes as growth, inflation, and unemployment.

In trying to demonstrate that all market processes are amenable to sociological analysis and that such analysis reveals central, not peripheral, features of these processes, I have narrowed my focus to problems of trust and malfeasance. I have also used the "market and hierarchies" argument of Oliver Williamson as an illustration of how the embeddedness perspective generates different understandings and predictions from that implemented by economists. Williamson's perspective is itself "revisionist" within economics, diverging from the neglect of institutional

and transactional considerations typical of neoclassical work. In this sense, it may appear to have more kinship to a sociological perspective than the usual economic arguments. But the main thrust of the "new institutional economists" is to deflect the analysis of institutions from sociological, historical, and legal argumentation and show instead that they arise as the efficient solution to economic problems. This mission and the pervasive functionalism it implies discourage the detailed analysis of social structure that I argue here is the key to understanding how existing institutions arrived at their present state.

Insofar as rational choice arguments are narrowly construed as referring to atomized individuals and economic goals, they are inconsistent with the embeddedness position presented here. In a broader formulation of rational choice, however, the two views have much in common. Much of the revisionist work by economists that I criticize above in my discussion of over- and undersocialized conceptions of action relies on a strategy that might be called "psychological revisionism"—an attempt to reform economic theory by abandoning an absolute assumption of rational decision making. This strategy has led to Leibenstein's "selective rationality" in his arguments on "X-inefficiency" (1976), for example, and to the claims of segmented labor-market theorists that workers in different market segments have different kinds of decision-making rules, rational choice being only for upper-primary (i.e., professional, managerial, technical) workers (Piore 1979).

I suggest, in contrast, that while the assumption of rational action must always be problematic, it is a good working hypothesis that should not easily be abandoned. What looks to the analyst like nonrational behavior may be quite sensible when situational constraints, especially those of embeddedness, are fully appreciated. When the social situation of those in nonprofessional labor markets is fully analyzed, their behavior looks less like the automatic application of "cultural" rules and more like a reasonable response to their present situation (as, e.g., in the discussion of Liebow 1966). Managers who evade audits and fight over transfer pricing are acting nonrationally in some strict economic sense, in terms of a firm's profit maximization; but when their position and ambitions in intrafirm networks and political coalitions are analyzed, the behavior is easily interpreted.

That such behavior is rational or instrumental is more readily seen, moreover, if we note that it aims not only at economic goals but also at sociability, approval, status, and power. Economists rarely see such goals as rational, in part on account of the arbitrary separation that arose historically, as Albert Hirschman (1977) points out, in the 17th and 18th centuries, between the "passions" and the "interests," the latter connoting economic motives only. This way of putting the matter has led economists to specialize in analysis of behavior motivated only by "interest" and to assume that other motives occur in separate and nonrationally organized spheres; hence Samuelson's much-quoted comment that "many economists would separate economics from sociology upon the basis of rational or irrational behavior" (1947, p. 90). The notion that rational choice is derailed by social influences had long discouraged detailed sociological analysis of economic life and led revisionist economists to reform economic theory by focusing on its naive psychology. My claim here is that however naive that psychology may be, this is not where the main difficulty lies—it is rather in the neglect of social structure.

Finally, I should add that the level of causal analysis adopted in the embeddedness argument is a rather proximate one. I have had little to say about what broad historical or macrostructural circumstances have led systems to display the social-structural characteristics they have, so I make no claims for this analysis to answer large-scale questions about the nature of modern society or the sources of economic and political change. But the focus on proximate causes is intentional, for these broader questions

cannot be satisfactorily addressed without more detailed understanding of the mechanisms by which sweeping change has its effects. My claim is that one of the most important and least analyzed of such mechanisms is the impact of such change on the social relations in which economic life is embedded. If this is so, no adequate link between macro- and micro-level theories can be established without a much fuller understanding of these relations.

The use of embeddedness analysis in explicating proximate causes of patterns of macro-level interest is well illustrated by the markets and hierarchies question. The extent of vertical integration and the reasons for the persistence of small firms operating through the market are not only narrow concerns of industrial organization; they are of interest to all students of the institutions of advanced capitalism. Similar issues arise in the analysis of "dual economy," dependent development, and the nature of modern corporate elites. But whether small firms are indeed eclipsed by giant corporations is usually analyzed in broad and sweeping macropolitical or macroeconomic terms, with little appreciation of proximate social structural causes.

Analysts of dual economy have often suggested, for example, that the persistence of large numbers of small firms in the "periphery" is explained by large corporations' need to shift the risks of cyclical fluctuations in demand or of uncertain R & D activities; failures of these small units will not adversely affect the larger firms' earnings. I suggest here that small firms in a market setting may persist instead because a dense network of social relations is overlaid on the business relations connecting such firms and reduces pressures for integration. This does not rule out risk shifting as an explanation with a certain face validity. But the embeddedness account may be more useful in explaining the large number of small establishments not characterized by satellite or peripheral status. (For a discussion of the surprising extent of employment in small establishments, see Granovetter 1984.) This account is restricted to proximate causes: it logically leads to but does not answer the questions why, when, and in what sectors does the market display various types of social structure. But those questions, which link to a more macro-level of analysis, would themselves not arise without a prior appreciation of the importance of social structure in the market.

The markets and hierarchies analysis, important as it may be, is presented here mainly as an illustration. I believe the embeddedness argument to have very general applicability and to demonstrate not only that there is a place for sociologists in the study of economic life but that their perspective is urgently required there. In avoiding the analysis of phenomena at the center of standard economic theory, sociologists have unnecessarily cut themselves off from a large and important aspect of social life and from the European tradition—stemming especially from Max Weber—in which economic action is seen only as a special, if important, category of social action. I hope to have shown here that this Weberian program is consistent with and furthered by some of the insights of modern structural sociology.

Editors' Notes on Further Reading: Mark Granovetter, "Economic Action and Social Structure"

This article is often seen as having launched the "new economic sociology" (for the distinction between old and new economic sociology, see Mark Granovetter, "The Old and the New Economic Sociology: A History and an Agenda," pp. 89–112 in Roger Friedland and A. F. Robertson, eds., *Beyond the Market Place: Rethinking Economy and Society* [1990]). Additional information about the coming into being of Granovetter's article as well as the term "new economic sociology" can be found in Richard Swedberg, "New Economic Sociology: What Has Been Accomplished, What Is Ahead?" *Acta Sociologica* 40 (1997):161–182.

The focus on embeddedness in "Economic Action and Social Structure" has led to a considerable discussion of this term—what it means and how it can be further developed in economic sociology. An

attempt to trace the intellectual history of the term can be found in Bernard Barber, "All Economies are 'Embedded': The Career of a Concept, and Beyond," *Social Research* 62 (1995):388–413. Polanyi himself argued that "embeddedness" meant that the unity of human beings was respected, but that this unity had been destroyed in modern capitalism since the economy had been separated out as a separate sphere in society and given power over all other activities; see, for example, "Our Obsolete Market Mentality," pp. 59–77 in George Dalton, ed., *Primitive, Archaic and Modern Economies: Essays of Karl Polanyi* (1971). Polanyi's preferred future—a kind of nonauthoritarian socialism—would mean that the economy once again would be subordinate to society.

Granovetter's proposal that embeddedness should be understood in terms of interpersonal relations and networks has to some extent shifted the debate away from Polanyi's main point, namely that economic values predominate over other values in capitalist society. For an argument similar to Granovetter's, namely that Polanyi does not realize the importance of social relations in capitalist societies, see John Lie, "Embedding Polanyi's Market Society," *Sociological Perspectives* 34 (Summer 1991):219–235. Granovetter has also been criticized for focusing exclusively on networks ("structural embeddedness"), to the exclusion of other types of embeddedness, such as cognitive, cultural, and political embeddedness; see Paul DiMaggio and Sharon Zukin, "Introduction," pp. 1–36 in *Structures of Capital: The Social Organization of the Economy* (1990). For an example of cognitive embeddedness, see Michael Piore, "The Social Embeddedness of the Labor Market and Cognitive Processes," *Labour* 7, no. 3 (1993):3–18; for cultural embeddedness, see Viviana Zelizer, *Morals and Markets: The Development of Life Insurance in the United States* (1979); and for political embeddedness, see Peter Evans, *Embedded Autonomy: States and Industrial Transformation* (1995).

For the argument that Granovetter makes too sharp a distinction between economy and society, see Greta Krippner, "The Elusive Market: Embeddedness and the Paradigm of Economic Sociology," *Theory and Society* 30 (2001):775–810. Granovetter and others discuss this critique in a transcript of a conference on Karl Polanyi: "Polanyi Symposium: A Conversation on Embeddedness," *Socio-Economic Review* 2, no. 1 (2004):109–135. Pierre Bourdieu argues that Granovetter ignores structural factors by focusing only on interaction—Pierre Bourdieu, *The Social Structures of the Economy* (2005, pp. 198, 233, 247). In his introduction to a volume of his essays translated into French, "Introduction pour le lecteur français" (Introduction for the French Reader), in *Le Marché Autrement: Les Réseaux dans l'Economie* (*The Market Seen Differently: Networks in the Economy*) (2000; expanded and reissued in a new edition as *Sociologie Economique* in 2008) Granovetter acknowledges earlier inattention to culture and suggests how this should be remedied. (The paper is available in English from the author.)

Granovetter's 1985 article has also been criticized because it focuses so strongly on individuals that institutions are allegedly left out; institutions themselves, it is argued, can also be more or less embedded in society at large. The expression "institutional embeddedness" is sometimes used in this context; see, for example, Joel Baum and Jane Dutton, eds., "The Embeddedness of Strategy," *Advances in Strategic Management* 13 (1996):1–430. Granovetter himself has suggested that it is possible to link up his argument about embeddedness with the concept of institutions through a social constructionist approach; see Mark Granovetter, "Economic Institutions as Social Constructions: A Framework for Analysis," *Acta Sociologica* 35 (1992):3–11. In "A Theoretical Agenda for Economic Sociology," pp. 35–60 in *The New Economic Sociology: Developments in an Emerging Field*, edited by Mauro F. Guillen, Randall Collins, Paula England, and Marshall Meyer (2002), Granovetter uses ideas about trust, power, and social networks to make an argument about how political and economic institutions are both produced by and exercise constraints on individual actors.

That the *degree* of embeddedness matters—that there can be "underembeddedness" as well as "overembeddedness"—is argued by Brian Uzzi in "Social Structure and Competition in Interfirm Networks: The Paradox of Embeddedness" (Chapter 12, this volume). A similar point is also made by Alejandro Portes and Julia Sensenbrenner in "Embeddedness and Immigration: Notes on the Social Determinants of Economic Action" (Chapter 6, this volume). Granovetter addresses the issue of whether embeddedness should be understood as an "umbrella concept" or if one rather should try to devise measures for embeddedness, as Brian Uzzi does, in an interview (in English) in the Norwegian journal *Sosiologi idag*, issue 4 (1998). Additional references to

the debate about the concept of embeddedness can be found in the editors' notes on further readings to the articles by Portes/Sensenbrenner and Uzzi (Chapters 6 and 12).

The literature on networks has grown very quickly during the past few decades. For an easy introduction to the use of networks, see, for example, John Scott, *Social Network Analysis: A Handbook* (2nd ed., 2000), and for a more advanced text, Stanley Wassermann and Katherine Faust, *Social Network Analysis: Methods and Applications* (1994), or Peter Carrington, John Scott, and Stanley Wassermann, eds., *Models and Methods in Social Network Analysis* (2005). A general overview of the role that networks play in the economy can be found in Laurel Smith-Doerr and Walter Powell, "Networks and Economic Life," pp. 379–402 in Neil Smelser and Richard Swedberg, eds., *The Handbook of Economic Sociology* (2005). For an overview of network analysis in a study about finding employment, see the second, enlarged edition of Mark Granovetter, *Getting A Job* (1995); and for a brief introduction to the use of network analysis in the study of interlocks, see the entry for "Interlocking Directorates" by Mark Mizruchi and Christopher Marquis in Jens Beckert and Milan Zafirovski, eds., *International Encyclopedia of Economic Sociology* (2006).

Economists make occasional use of network analysis, as exemplified by James Montgomery, "Social Networks and Labor-Market Outcomes: Toward an Economic Analysis," *American Economic Review* 81 (1991):1408–1418, and Asher Wolinsky, "A Strategic Model of Social and Economic Networks," *Journal of Economic Theory* 71 (1996):44–74. That network analysis—but not mainstream economics—can be used to analyze discrimination in the labor market is argued by Kenneth Arrow in "What Has Economics to Say About Racial Discrimination?" *Journal of Economic Perspectives* 12 (Spring 1998): 91–100. For an attempt by an economist to develop a general theory of social action, see Charles Manski, "Economic Analysis of Social Interaction," *Journal of Economic Perspectives* 14, no. 3 (2000):115–136. The recent surge of interest in social networks by economists is treated in detail by Matthew Jackson in his comprehensive textbook *Social and Economic Networks* (2008). Another textbook on networks is based on a collaborative course offered at Cornell by an economist and a computer scientist: David Easley and Jon Kleinberg, *Networks, Crowds and Markets: Reasoning About a Highly Connected World* (2010).

In an ambitious multivolume work titled *The Information Age: Economy, Society and Culture* (1996), Manuel Castells argues that society in the future—in "the information age"—will have a social structure mainly characterized by networks. This "network society" will be dominated globally by the network of financial capital and on a local level by numerous other networks. While Castells does not view networks as an integral part of contemporary capitalist ideology, this is precisely what Luc Boltanski and Eve Chiapello suggest that we should do in *The New Spirit of Capitalism* (2005).

For an interdisciplinary introduction to trust in society, see Diego Gambetta, ed., *Trust: Making and Breaking Cooperative Relations* (1988). More than a dozen books have also been produced since 1995 as part of the Trust Initiative at the Russell Sage Foundation, including Karen Cook, ed., *Trust in Society* (2003). The role of trust in the economy has been discussed in a number of studies, starting with Georg Simmel's *Philosophy of Money* (English translation 1978) and continuing into modern time with *Trust: The Social Virtues and the Creation of Prosperity* by Francis Fukuyama (1995). Attempts to look at trust in the economy from an embeddedness perspective have been made not only by Mark Granovetter in "Economic Action and Social Structure," but also by Brian Uzzi (in Chapter 12) and Alejandro Portes and Julia Sensenbrenner (in Chapter 6). For other sociological contributions to the understanding of trust and the economy, see, for example, Susan Shapiro, *Wayward Capitalists: Targets of the Securities and Exchange Commission* (1984), and "The Social Control of Impersonal Trust," *American Journal of Sociology* 93 (1987):623–658; and Lynne Zucker, "Production of Trust: Institutional Sources of Economic Structure, 1840–1920," *Research in Organizational Behavior* 8 (1986):53–111.

For the viewpoint of economists, one may start with Kenneth Arrow, *The Limits of Organization* (1978), and Oliver Williamson, "Calculativeness, Trust, and Economic Organization," *Journal of Law and Organization* 36 (1993):453–500. For more recent attempts, see, for example, Ernst Fehr, "On the Economics and Biology of Trust" (Working paper IZA DP No. 3895, 2008), and Luigi Guiso, Paola Sapienza, and Luigi Zingales, "Trusting the Stock Market," *Journal of Finance* 63 (2008):2557–2600.

Granovetter's critique of the New Institutional Economics in "Economic Action and Social Struc-

ture" can be supplemented with Charles Perrow, "Economic Theories of Organization," Chapter 7 in *Complex Organizations: A Critical Essay* (1987); Robert Bates, "Contra Contractarianism: Some Reflections on the New Institutionalism," *Politics and Society* 16 (1988):387–401, and "Social Dilemmas and Rational Individuals: An Essay on the New Institutionalism," pp. 43–66 in James M. Acheson, ed., *Anthropology and Institutional Economics* (1994); and Anthony Oberschall and Eric Leifer, "Efficiency and Social Institutions: Uses and Misuses of Economic Reasoning in Sociology," *Annual Review of Sociology* 12 (1986):233–253. William Roy criticizes the functionalist tendency in the works of Alfred Chandler in "Functional and Historical Logics in Explaining the Rise of the American Industrial Corporation," *Comparative Social Research* 12 (1990): 19–44. Oliver Williamson responds to Granovetter's criticism from 1985 in "Transaction Cost Economics and Organization Theory," pp. 84–85 in Neil Smelser and Richard Swedberg, eds., *The Handbook of Economic Sociology* (1994).

Notes

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1. There are many parallels between what are referred to here as the "undersocialized" and "oversocialized" views of action and what Burt (1982, chap. 9) calls the "atomistic" and "normative" approaches. Similarly, the embeddedness approach proposed here as a middle ground between under- and oversocialized views has an obvious family resemblance to Burt's "structural" approach to action. My distinctions and approach also differ from Burt's in many ways that cannot be quickly summarized; these can be best appreciated by comparison of this article with his useful summary (1982, chap. 9) and with the formal models that implement his conception (1982, 1983). Another approach that resembles mine in its emphasis on how social connections affect purposive action is Marsden's extension of James Coleman's theories of collective action and decision to situations where such connections modify results that would occur in a purely atomistic situation (Marsden 1981, 1983).

2. Students of the sociology of sport will note that this proposition had been put forward previously, in slightly different form, by Leo Durocher.

3. I am indebted to an anonymous referee for pointing this out.

4. Williamson's confidence in the efficacy of hierarchy leads him, in discussing Chester Barnard's "zone of indifference"—that realm within which employees obey orders simply because they are indifferent about whether or not they do what is ordered—to speak instead of a "zone of acceptance" (1975, p. 77), thus undercutting Barnard's emphasis on the problematic nature of obedience. This transformation of Barnard's usage appears to have originated with Herbert Simon, who does not justify it, noting only that he "prefer[s] the term 'acceptance'" (Simon 1957, p. 12).

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CHAPTER 3

The Impact of Social Structure on Economic Outcomes

Mark Granovetter[1]

Social structure, especially in the form of social networks, affects economic outcomes for three main reasons. First, social networks affect the flow and the quality of information. Much information is subtle, nuanced, and difficult to verify, so actors do not believe impersonal sources and instead rely on people they know. Second, social networks are an important source of reward and punishment, since these are often magnified in their impact when coming from others personally known. Third, trust, by which I mean the confidence that others will do the "right" thing despite a clear balance of incentives to the contrary, emerges, if it does, in the context of a social network.

Economists have recently devoted considerable attention to the impact of social structure and networks on the economy; for example, see the economists' chapters in Rauch and Casella (2001) (and the illuminating review essay of this volume by Zuckerman [2003]), as well as Dutta and Jackson (2003) and Calvó-Armengol (2004). However, I focus here on sociologists' contributions. Sociologists have developed core principles about the interactions of social structure, information, ability to punish or reward, and trust that frequently recur in their analyses of political, economic, and other institutions. I begin by reviewing some of these principles. Building on these, I then discuss how social structures and social networks can affect economic outcomes like hiring, price, productivity, and innovation.

SOCIAL NETWORKS AND ECONOMIC OUTCOMES: CORE PRINCIPLES

The following four core principles are important, but not meant to be exhaustive or, in any sense, an axiomatic treatment.

1. Norms and Network Density. Norms—shared ideas about the proper way to behave—are clearer, more firmly held, and easier to enforce the more dense a social network. (If a social network consists of n "nodes," people, firms, or other social units, "density" is the proportion of the possible $n(n-1)/2$ connections among these nodes that are actually present.)[2] This argument is one of the oldest in social psychology; for instance, see the classic account of Festinger, Schachter, and Back (1948). It rests on the fact that the denser a network, the more unique paths along which information, ideas, and influence can travel between any two nodes. Thus, greater density makes ideas about proper behavior more likely to be encountered repeatedly, discussed, and fixed; it also renders deviance from resulting norms harder to hide and, thus, more likely to be punished.

One implication of this perspective is that collective action that depends on overcoming free-rider problems is more likely in groups whose social network is dense and cohesive, since actors in such networks typically internalize norms that discourage free riding and emphasize trust. Note that all else equal, larger groups will have lower network density because

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people have cognitive, emotional, spatial, and temporal limits on how many social ties they can sustain. Thus, the larger the group, the lower its ability to crystallize and enforce norms, including those against free riding. The insight that free-rider behavior is especially unlikely within immediate families is a special case of this argument.

2. The Strength of Weak Ties. More novel information flows to individuals through weak than through strong ties. Because our close friends tend to move in the same circles that we do, the information they receive overlaps considerably with what we already know. Acquaintances, by contrast, know people that we do not and, thus, receive more novel information. This outcome arises in part because our acquaintances are typically less similar to us than close friends, and in part because they spend less time with us. Moving in different circles from ours, they connect us to a wider world. They may therefore be better sources when we need to go beyond what our own group knows, as in finding a new job or obtaining a scarce service. This is so even though close friends may be more interested than acquaintances in helping us; social structure can dominate motivation. This is one aspect of what I have called "the strength of weak ties" (Granovetter 1973, 1983).

This argument has macro level implications. If each person's close friends know one another, they form a closely knit clique. Individuals are then connected to *other* cliques through their weak rather than their strong ties. Thus, from an "aerial" view of social networks, if cliques are connected to one another, it is mainly by weak ties. This implies that such ties determine the extent of information diffusion in large-scale social structures. One outcome is that in scientific fields, new information and ideas are more efficiently diffused through weak ties (Granovetter 1983).

There are many more weak ties in social networks than strong ones, and most such ties may carry information of little significance. But the important point here is that such ties are much more likely than strong ones to play the role of transmitting unique and nonredundant information across otherwise largely disconnected segments of social networks.[3]

3. The Importance of "Structural Holes." Burt (1992) extended and reformulated the "weak ties" argument by emphasizing that what is of central importance is not the quality of any particular tie but rather the way different parts of networks are bridged. He emphasizes the strategic advantage that may be enjoyed by individuals with ties into multiple networks that are largely separated from one another. Insofar as they constitute the only route through which information or other resources may flow from one network sector to another, they can be said to exploit "structural holes" in the network.

4. The Interpenetration of Economic and Noneconomic Action. Much social life revolves around a noneconomic focus. Therefore, when economic and noneconomic activity are intermixed, noneconomic activity affects the costs and the available techniques for economic activity. This mixing of activities is what I have called "social embeddedness" of the economy (Granovetter 1985)—the extent to which economic action is linked to or depends on action or institutions that are noneconomic in content, goals, or processes. Among the kinds of embeddedness that sociologists have discussed are embeddedness of economic action in social networks, culture, politics, and religion.[4]

One common example is that a culture of corruption may impose high economic costs and require many off-the-books transactions to carry on normal production of goods and services. Such negative aspects of social embeddedness receive the lion's share of attention, especially when characterized pejoratively as "rent seeking." Less often noted, but probably more important, are savings achieved when actors pursue economic goals through non-economic

institutions and practices to whose costs they made little or no contribution. For example, employers who recruit through social networks need not—and probably could not—pay to create the trust and obligations that motivate friends and relatives to help one another find employment. Such trust and obligations arise from the way a society's institutions pattern kin and friendship ties, and any economic efficiency gains resulting from them are a byproduct, typically unintended, of actions and patterns enacted by individuals with noneconomic motivations.

The notion that people often deploy resources from outside the economy to enjoy cost advantages in producing goods and services raises important questions, usually sidestepped in social theory, about how the economy interacts with other social institutions. Such deployment resembles arbitrage in using resources acquired cheaply in one setting for profit in another. As with classic arbitrage, it need not create economic profits for any particular actor, since if all are able to make the same use of noneconomic resources, none has any cost advantage over any other. Yet overall efficiency may be improved by reducing everyone's costs and freeing some resources for other uses.

But whereas true arbitrage connects previously separated markets that may then become indistinguishable, the use of extra-economic resources to increase economic efficiency need not close the gap between the economy and other social activity, because separate institutional sectors draw their energy from different sources and consist of distinctly different activities. Many authors have argued that economic activity penetrates and transforms other parts of social life. Thus, Karl Marx asserted (for example, in Chapter 1 of *The Communist Manifesto*) that family and friendship ties would be fully subordinated under modern capitalism to the "cash nexus." But despite intimate connections between social networks and the modern economy, the two have not merged or become identical. Indeed, norms often develop that limit the merger of sectors. For example, when economic actors buy and sell political influence, threatening to merge political and economic institutions, this is condemned as "corruption." Such condemnation invokes the norm that political officials are responsible to their constituents rather than to the highest bidder and that the goals and procedures of the polity are and should be different and separate from those of the economy.

In what follows, in part with the help of these core principles, I will trace out the impact of social structure on a series of important economic outcomes. I begin with the allocation of labor.

SOCIAL STRUCTURE AND LABOR MARKETS

Economic models typically assume that workers and jobs are matched through a search whose costs and benefits are equalized at the margin (Granovetter 1995b, pp. 141–146). But in most real labor markets, social networks play a key role. Prospective employers and employees prefer to learn about one another from personal sources whose information they trust. This is an example of what has been called "social capital" (Lin 2001). It has obvious links to theories of asymmetric information (for example, Montgomery 1991), with the difference that unlike in most such models, there is what one might call bilateral asymmetry—both employer and employee have information about their own "quality" that the other needs. In the classic "lemons" model of Akerlof (1970), by contrast, the seller of a used car considers all buyers interchangeable and does not require subtle information about them.

Because all social interaction unavoidably transmits information, details about employers, employees and jobs flow continuously through social networks that people maintain in large part for non-economic reasons. Since individuals use social contacts and networks already in place, and need not invest in constructing them, the cost is less than that of more formal

search intermediaries. Because pre-existing networks are unevenly distributed across individuals, whatever social processes led to these networks will create an uneven playing field in the labor market without any actor necessarily having intended to do so (Granovetter 1995b, pp. 169–177).

Economic job search models can obscure how commonly individuals learn about new jobs in social settings, without having expended resources earmarked for job search, since survey respondents who deny searching for their present job are often excluded from further analysis. The proportion of job finders who are nonsearchers varies from 30 to 60 percent depending on the time and place surveyed. In the few cases where nonsearchers were carefully scrutinized, the large majority had found jobs through personal contacts (Granovetter 1995b, pp. 140–146).

Because novel information flows are more likely through weak ties than strong, acquaintances developed over the span of an entire career play a special role, though this varies across national and other settings (Granovetter 1995b, pp. 160–162; Montgomery 1994; Bian 1997). Whether the use of weak or other ties in finding jobs significantly affects wages, wage growth, job satisfaction, and productivity has been debated but not resolved. Large aggregated data sets sometimes do not show clear effects (as in Mouw 2003), but more focused and specialized samples often do. Because so much of the hiring action in labor markets occurs through social networks of very different kinds in a wide variety of circumstances, it would be surprising if outcomes were uniform. The resources held by individuals' networks, the intentions of employers, and macroeconomic conditions are only three of the important sources of variation in outcomes when networks route people to jobs (Granovetter 1995b, pp. 146–162).

The interdependence among careers and networks of different individuals leads to interesting modeling possibilities. For example, characterize those who constitute one's social network as balls in an urn. Let contacts with useful job information be red balls and others w[illegible] A model of pure heterogeneity suggests that urn composition is constant, and better connected individuals are those with a larger proportion of red balls in their urn. But a state dependence model would suggest that when a person finds a new job through her network, she makes new connections, so that at the next draw, there would be a larger proportion of red balls in her urn. What empirical data suggest really happens is more complex still: that this proportion also depends on whether the people you know have *themselves* changed their own urn's proportions, by moving around from job to job and improving their own networks, which makes them a better source of information. So the composition of one's own urn depends on changes in the urns of those one is connected to, requiring a more elaborate iterative model that takes account of the network's overall structure (Granovetter 1988, p. 194). The point is that when mobility results from network connections, it changes network structure that then feeds back into future mobility patterns. Thus, network structure can be partially endogenized in labor market analysis.

One implication is that where rates of interfirm mobility are quite low, as in Japan during the 1970s and 1980s, few workers will ever have worked with others who are now at different firms. Then, if mobility to a new firm relies heavily on certification to employers of one's ability by someone already in that firm, a lack of mobility between firms will be self-perpetuating, and conversely, when interfirm mobility is high, that greater mobility may also reproduce itself, as in Silicon Valley labor markets (Saxenian 1994).

SOCIAL STRUCTURE AND PRICES

When people trade with others they know, the impact of knowing each other on the price varies with their relationship, the cost of shifting to different partners, and the market situation. To understand how deviations from

competitive equilibrium price may occur requires analysis of both the economics and the sociology of the situation. The theoretical issue is often not one of economic and sociological arguments conflicting, but rather of the weakness of both in understanding how actors with simultaneous economic and non-economic motives will act. Since there are many dimensions along which to classify cases, and insufficient space for a fully systematic account, I offer a few illustrative examples.

The anthropologist Sahlins (1972) reviews literature on tribal economies showing that it is typical to trade only with designated others in foreign groups, in part for protection in distant settings. He suggests that such continuing relations make prices sticky when supply and demand shift, and revisions that would clear the market require breaking old relations and forming new ones. A shift of trading partners is more or less difficult under different circumstances, and depends on the economic and noneconomic costs of severing a longtime tie and the available social alternatives. Thus, the "economic flexibility of the system depends on the social structure of the trade relation" (p. 313) and cannot be predicted without knowing that social structure.

Studies of peasant markets often suggest that "clientelization," defined as dealing exclusively with known buyers and sellers, raises prices above their competitive level (for example, Belshaw 1965, p. 78; Davis 1973). This result suggests an information asymmetry advantage of sellers over buyers, which may result from buyers having more trouble in gauging quality of goods than sellers do in gauging creditworthiness of customers (Geertz 1978). The balance of advantage in bilateral information asymmetry should determine its impact on price.

Where it is more complex to assess creditworthiness, sellers may lower their price to achieve the greater certainty that comes with more complex and subtle information resulting from continuing relations. Thus Uzzi's (1999) study of midmarket banking shows that Chicago firms with personal contacts to bankers pay lower interest rates on loans and that banks cultivate such contacts as a business strategy. Ferrary (2003) presents comparable results from a broad study of French banks. Other seller costs beside credit risk may be reduced by detailed personal knowledge of clients. Thus, Uzzi and Lancaster (2003) show that all else equal, prices are lower for corporate clients with continuing ties to law firms because the trust developed over time, and norms of reciprocity, allow the firm and its client to reach agreement on potentially contentious issues such as what to charge for knowledge developed for previous clients and applied to the present case. To say that banks and law firms avoid adverse selection (compare Waldman 2003, pp. 136–137) and the costs of complex contracting through continuing personal contacts is broadly consistent with standard economic arguments, but shows that such arguments may apply only because actors leverage social relations for economic purposes. It is often not straightforward or feasible to do so, and then actors with the insight or capacity to manage such relations will accrue advantages.

Few systematic data exist on buyer-seller attachments, but economist Arthur Okun (1981, p. 148) observed that most markets with repeated purchases are "customer markets" rather than auction markets, since customers "avoid shopping costs by sticking with their supplier." In such markets, prices "rarely, if ever, equal marginal costs . . . and generally exceed them by a significant margin." Arguing that customers pay to economize on search costs is consistent with a range of relationships between customer and supplier, from strong ties of personal friendship to more impersonal situations where customers pay premiums to well-known firms for their products, in return for hoped-for guarantees of quality (Klein and Leffler 1981).

Exactly where buyer-seller relations fall in this range may result in part from how easy it is to assess quality of goods through brand

names or other impersonal standards. Thus, the 1996 General Social Survey shows that for goods where assessment is difficult, such as used cars, legal advice, and home repairs, one-quarter to one-half of purchases in the United States are made through personal networks. Survey respondents reported greater satisfaction with such purchases and believed that people receive better prices from personally known sellers (DiMaggio and Louch 1998). Since no direct data were collected on prices paid, we cannot be sure their judgment is correct. If sellers do in fact offer friends and relatives lower prices than they could get from strangers, this could be one measure of the cost of obligations they feel in these personal relationships. Elsewhere, I have observed that some businesses in developing countries may face significantly higher operating costs as the result of such obligations (Granovetter 1995a).

The discussion thus far concerns only particular buyers and sellers. But larger scale collusion may affect price, and success or failure in such collusion may also depend on personal relationships. Cartels, for example, may raise prices above their competitive level, but are liable to defection. To succeed, they must penalize defectors. One possible penalty is loss of social status in the group, but this penalty is effective only if a member cares about such status. Cartels may fail when members socially distant from the dominant group defect. Although some historians have attributed the demise of American cartels to the sanctions of the Sherman Act in 1890 (Chandler 1977, Chapters 4–5), in practice such cartels had great difficulty in the United States even before the Sherman Act had much effect (in roughly 1910). Lamoreaux (1985, p. 188) suggests that the great merger wave from 1895–1904 in part responded to the failure of cartels to restrain prices. I suggest that the failure of many cartels in the later decades of the nineteenth century occurred in part because of defection by renegade speculators like Jay Gould who were outside the social and moral compass of other cartel members. Little is known of the social organization of cartels, but some evidence suggests that countries whose cartels were more successful, such as Germany, had more socially homogeneous cartel membership (Maschke 1969).

An interesting bit of evidence comes from Podolny and Scott-Morton (1999), who studied British shipping cartels from 1879 to 1929. They find that when considering how to deal with industry newcomers, participants assessed whether they would fit well into the moral community that sustained going rates and practices. They took social status as a good proxy for this probability, assuming that those with high status matching their own were more likely to comply. Consequently, high-status entrants were substantially less likely to face a price war initiated by existing cartel members. Even in the absence of formal cartels, social friendship among competitors may impact price and performance. Ingram and Roberts (2000) studied hotels in Sydney, Australia, and found that friendships among managers had a clear positive net impact on performance and made it easier to resist price wars. They also found that these effects were stronger, the more cohesive the network of friends among hotel managers.

These considerations do not dispute the usual arguments about cartels, but suggest that these arguments may underdetermine outcomes. Formal or informal cartels use a mixture of market and nonmarket punishments and incentives to enforce member cooperation, because members have both economic and noneconomic (for example, friendship and status) goals that they pursue simultaneously. Where important nonmarket forces that affect the success of cartels (or other forms of economic cooperation) operate through social networks, we need explicit study of these social foundations to help explain outcomes. These cases illustrate that norms are more easily enforced in dense social networks and also that preexisting social institutions impose costs and benefits on economic processes that build on them.

That people trade with known others may fragment markets and inhibit formation of a single equilibrium price. Carruthers (1996) studied equity trades in London during 1712 and found that while many trades were impersonal, this was not so for shares of the politically charged East India Company, where Whigs and Tories often preferred trading only with fellow party members to keep shares from opponents. The majority traded preferentially, but active professional traders did not and, thus, could profit from discrepancies by arbitrage. This research is broadly consistent with "noise trader" models as an alternative to the efficient markets hypothesis (Shleifer and Summers 1990), but it points to systematic and rational but non-economic (here political) reasons for traders to deviate from the standard model.

Personalized trading may fragment markets, however, even when goals are purely economic. Baker (1984) studied stock options trading on the floor of a major securities exchange. Prices did not stabilize as numbers of traders increased (as standard theory predicts); instead, Baker observed that options traded by more participants exhibited substantially greater price volatility. The reason was that, seeking trust and social control, each trader dealt with a limited number of known counterparts. That number is limited by bounds on cognition and physical space and was not larger for widely traded options. Thus, when the number of traders on the floor was significantly larger than the number of trading relationships individuals could sustain, communication became difficult and at times, the group broke into cliques. Prices in very large trading groups were more volatile than in small ones, because of the communication problems cited, and proliferation of cliques resulted in additional overall volatility. A more purely economic explanation for the association between size of crowd and volatility is that greater price volatility presents more opportunities for trading profits, which attracts more traders. Baker's data and statistical model show that both causal directions operate in his setting. As in many situations, social and economic forces feed into one another.

SOCIAL STRUCTURE, PRODUCTIVITY, AND COMPLIANCE

Social relations are also closely linked to productivity. Economic models attribute productivity to personal traits, modifiable by learning. But one's position in a social group can also be a central influence on productivity, for several reasons. One is that many tasks cannot be accomplished without serious cooperation from others; another is that many tasks are too complex and subtle to be done "by the book" (which is why the "rulebook slowdown" is a potent labor weapon) and require the exercise of "tacit knowledge" appropriable only through interaction with knowledgeable others. This makes deviance risky. It has been well known since the 1930s that groups of workers arrive at "quotas" for what is an appropriate amount to produce and that "rate-busters" risk being ostracized (Homans 1950). Groups can severely penalize unwelcome newcomers by failing to convey to them the vital subtleties of work practices normally learned through interaction (Dalton 1959, pp. 128–129), and workers with low group status will appear less skillful for lack of assistance from others. On the other hand, in some settings, assistance can be gotten in exchange for status deference, so that those willing to kowtow to experienced workers may improve their performance (Blau 1963). This is the dark side of "mentoring."

Because good relations with others are key, those entering a firm through personal contacts have a head start in appearing and being more productive and avoiding errors that might set back outsiders. Thus, many studies show that quit rates are lower for those who enter through social networks, even net of ability or quality of worker (for example, Fernandez, Castilla, and Moore 2000). Because of measurement difficulties, there are few studies of productivity in relation to entry route, but see Castilla (2002) for evidence that even in the routinized

work of call centers, there are clear effects of this kind.

Group norms and cultures also shape skill and productivity. Where groups attach great value to skill, it can become an eagerly sought-after status currency. Sabel (1982, p. 84) suggests that in the tightly knit social world of craftsmen, social mobility is far less valued than "technical prowess. . . . Titles are not important, *savoir faire* is." Burawoy (1979, p. 64) notes that in the Chicago machine-shop where he worked, skill with the machines was the key to group status: "Until I was able to strut around the floor like an experienced operator, as if I had all the time in the world and could still make out [produce the quota], few but the greenest would condescend to engage me in conversation." Burawoy, a Marxist, laments that this status system leads workers to cooperate "with management in the production of greater surplus value"; employers might instead view this as a fortunate leveraging of social arrangements they did not invest in creating. But for work groups to arrive at such cultural agreement requires some social network cohesion and consequent normative consensus. Variations in such settings are little studied, but first principles suggest that high turnover or social fragmentation in work groups would cut against such consensus. Thus, employers would have reason to recruit through social networks, insofar as they feel confident the prevailing culture supports their own goals.[5]

In the case that Burawoy (1979) describes, employers do not seem aware of their good fortune, but employers are often more perceptive. Indeed, their relations to workers rarely approximate the daily struggle that Marxism predicts. Granovetter and Tilly (1988, p. 202) comment that "many workers have opportunities to embezzle, steal, shirk, sabotage and otherwise diminish an enterprise's profitability. Some of them take these opportunities. But most do not. . . . Why? Systems of control make a difference."

Some systems of control resemble those featured in principal-agent models of the work relationship—that is, direct surveillance and/or some form of payment by results or piecework. However, there are also a range of alternatives, not commonly included in economic analysis, that work through social groups and create compliance in less intrusive ways. A very important example is what we called "loyalty systems"—attempts to elicit cooperation from workers deriving not only from incentives but also from identification with the firm or with some set of individuals that encourages high standards and productivity. Loyalty systems can build on commitment to a profession. Then, "professional ethics and monitoring provide some guarantee that a professional employee will perform reliably" (Granovetter and Tilly 1988, p. 202). Recruiting from within homogeneous social categories can be an employer strategy to derive benefit from the loyalty and social control that already exist within such categories and networks, once these come to operate within the firm. Loyalty systems benefit from the "intense socialization, prior screening of their members, membership in groups outside the firm that guarantee and monitor the worker's behavior, and extensive off-the-job social relations. Thus employers have considerable incentives to homogenize new members of the loyalty system and to recruit them within the same existing social networks" (p. 203).

Loyalty and resulting compliance is, broadly speaking, a political issue. Max Weber noted the inordinate expense of conducting civil administration through coercion alone. Instead, he notes the importance of systems where citizens consider orders from civil administrators to be "legitimate"—they comply with an order or a law not only because it is aligned with their incentives, but also because they consider it *appropriate* to do so. (See, for example, the exposition of Weber's ideas in Bendix 1979, Chapter 9.) Loyalty systems instill in employees similar feelings of legitimacy.

In Freeland's (2001) analysis of General Motors from the 1920s to the 1970s, which draws on extensive archival resources, he emphasizes

that compliance of division managers with orders from headquarters was consummate rather than perfunctory only when they saw them as legitimate. He writes (p. 31): "The more extensive the firm's division of labor, the more problematic it is to secure consent from subordinates. Increasingly, top executives must justify their decisions in order to secure the consent of subordinates who possess high levels of expertise. . . . The simplest way . . . is to allow subordinates to exercise voice in planning and policy formulation, even if they are not formally responsible for doing so." The vital task of maintaining order, he continues (p. 33), "cannot be understood primarily as an exercise in economizing, for the same arrangements that lead to technical efficiency also disrupt social order in the firm. . . . Governance . . . is an inherently political process in which top executives must be willing to forge a compromise between actors in the firm in order to preserve cooperation and promote consummate performance." Freeland stresses that the issue was not one of disagreement over policies, since division heads resisted even policies acceptable in principle, if they had no part in creating them. Full membership in the social organization of decisions was a prerequisite for perceiving them as legitimate.

For these reasons, the corporate governance question of how the structure of firms will affect productivity and profit cannot be reduced to the argument that division managers should stay out of central management, given their likely opportunism on behalf of their own units, while central management should not meddle in division operating procedures, in which they would have little competency or knowledge, as proposed in Chandler (1962, 1977) and Williamson (1975). Indeed, Freeland (2001) finds that General Motors was most profitable in periods when division heads were fully included in central planning and least when they were excluded. Thus, the firm cannot be viewed simply as a formal organization, but also must be understood as having the essential elements of any social community.

Continuing long-term ties do not always unambiguously improve the productivity and profit of individuals and organizations. Uzzi (1996), for example, studied relations between apparel manufacturers and their subcontractors in the New York City garment district. He distinguished between "arm's length" impersonal ties and "embedded" ties, in which repeated interaction had led to trust and mutual understanding. He found that relations of trust are not always superior: for example, subcontractors with networks of ties to manufacturers that were uniform—that is, predominantly embedded ties or predominantly impersonal ties—had a higher rate of failure than those with a mixture of the two types (pp. 692–693). He argues that embedded ties offer considerable advantages in stable situations, but in periods of change, lock firms into relationships and may inhibit adaptation. Arms' length ties lack the benefits of trusting interaction but permit more flexibility when change is needed. Thus, some optimal balance exists among types of ties, and firms achieving that balance are more likely to survive over varying market conditions.

Mizruchi and Stearns (2001) tell a related cautionary tale about the virtues and drawbacks of trust. They studied a leading multinational commercial bank at three locations in the United States, focusing on the use of internal networks in closing deals with corporate clients. Bank officers sought out others in the bank for information (about the clients or about the details of a certain type of deal) and for approval. Under conditions of uncertainty about the nature of the deal or the client, these bankers were more likely to consult their strong ties—those in the bank whom they knew well and trusted—for both information and approval. But surprisingly, this strategy appeared counterproductive in leading to deal closure. The reason seems to be that while one's trusted and close colleagues may readily approve deals, which is a necessary condition for deals to close, they are too ingrown a group to provide a wide range of constructive input that will enable a complex deal to be improved in such a way as

to meet the needs of the client. Mizruchi and Stearns comment that uncertainty "creates conditions that trigger a desire for the familiar, and bankers respond to this by turning to those with whom they are close. Yet it is this very action that makes it more difficult for the banker to be successful. Not only does this illustrate the simultaneous weakness of strong ties and the strength of weak ties, but it also shows how our social instincts can run counter to our best interests" (p. 667). By contrast, accessing a sparse network by going through weak ties for formal approval is superior in that it generates "a diversity of views and potential criticisms that compel the banker to create a higher quality product" (p. 667), which is then more attractive to the customer.

SOCIAL STRUCTURE AND INNOVATION

Many studies, comprehensively reviewed in Rogers (2003), show the powerful impact of social structure and networks on the extent and source of innovation and its diffusion. Here, I focus on innovations especially relevant to markets.

One example is innovation in what is considered a marketable commodity. Contrary to Marxist assumptions, the market does not commodify every aspect of human life. But items proscribed at one point in time can later become routine commodities. Zelizer (1978) traces the case of life insurance, which early nineteenth-century Americans saw as sacrilege, or at best gambling, but which by the late 1800s had established itself as a breadwinner's obligation. She notes that the insurance industry, to achieve this transformation, made use of religious language and secured the support of clergy who urged on their flocks the necessity of providing for family after death, making this a sacred duty. This personal connection seemed indispensable in attaching ritual and symbolic significance to this otherwise rather bloodless commodity.

Because participants in such discussions were no longer living, Zelizer (1978) relied on pamphlets, diaries, and other documentary evidence to understand the normative changes that transformed insurance from profane gambling to sacred obligation. MacKenzie and Millo (2003) studied the more recent emergence of financial derivatives as a legitimate product. Through interviews, they reconstructed in detail the social network process by which the perception of options changed from that of dubious gamble to respected financial instrument. They note that while in 1970, financial derivatives were so unimportant that no reliable figures could be found for market size, by 2000, the notional value of such contracts worldwide was in excess of $100 trillion.

They traced the origins of the Chicago Board of Options Exchange, interviewing the leading participants and options theorists. The CBOE had its origins in the Chicago Board of Trade (CBT), which had traded commodity futures since the mid-nineteenth century. Stock options and futures had also been traded in the nineteenth and early twentieth centuries, but lost legitimacy after the 1929 crash and the Great Depression. When members of CBT approached the Securities and Exchange Commission in the late 1960s about a market for options trading, they met considerable hostility, based on the idea that financial options were mere gambling. But members of the CBT mounted an intensive lobbying campaign, assisted by new economic theory emerging in the 1960s on the valuation of options and other derivatives. MacKenzie and Millo (2003) trace this lobbying activity, arguing that it was difficult, time consuming, and not in the self-interest of those who organized and led it. Some will suspect that those who lobbied in this way profited from the innovation, so that simple economic incentives would be sufficient to explain their activity. But MacKenzie and Millo provide evidence that the key individuals in the effort incurred large unremunerated expenses, and substantial opportunity costs from foregone trading profits, with no obvious prospect of ever recovering these (pp. 115–116). In explaining this activity, they emphasize that the Chicago exchanges were highly personalized

settings, with clear demarcation between insiders and outsiders, where intensive interaction among insiders led to social control and the potential for collective action that transcended economic incentives. Thus, socially cohesive and prominent insiders, allied with economic theorists and mainstream political figures, achieved the institutionalization of this economic innovation.

But not all innovations arise from the social inner circle. Indeed, the socially marginal may at times be best placed to break away from established practice (Granovetter 1973, pp. 1366–1368), as they are not involved in dense, cohesive social networks of strong ties that create a high level of consensus on such practice. Thus, studies indicate that the lower an innovation's champion in a corporate hierarchy, the more radical the innovation (Day 1994).

A striking case is that of "junk bonds." Around 1970, young trader Michael Milken became fascinated by the profit potential of low-rated bonds. At first, his employer, Drexel Firestone, reluctantly tolerated his activity. But when Milken succeeded dramatically, Drexel increased his capital and autonomy. He built a substantial clientele while his firm was the only one willing to make markets in such bonds (Abolafia 1996). When traditional firms became interested, Milken "antagonized them by refusing to share initial offerings with a syndicate" (p. 158). He made junk bonds into a cause, asserting that they provided capital otherwise denied by the financial establishment to mid-sized companies outside the corporate elite.

Resistance to Milken resulted from the 1980s use of junk bonds for hostile takeovers that enabled small companies, led by non-elite raiders such as Saul Steinberg and T. Boone Pickens, to launch takeover attempts against large and prominent corporations. Target firms mobilized their considerable political allies. In 1985, the Federal Reserve curbed the use of junk bonds in acquisitions, and by 1987, thirty-seven states had passed legislation restricting takeover activity. With the role of junk bonds in takeovers curbed, other uses could flourish, and the junk bond market has become a fixed-income staple. But Milken himself was prosecuted vigorously and barred from the securities business for life. His marginal location in key social networks made this outcome more likely. The larger point is that junk-bond-driven takeovers threatened elite social networks that mobilized political support in ways that social outsiders could not overcome.

More generally, innovation means breaking away from established routines. Schumpeter defined entrepreneurship as the creation of new opportunities by pulling together previously unconnected resources for a new economic purpose. One reason resources may be unconnected is that they reside in separated networks of individuals or transactions. Thus, the actor who sits astride structural holes in networks (as described in Burt 1992) is well placed to innovate. The Norwegian anthropologist Fredrik Barth (1967) paid special attention to situations where goods traded against one another only in restricted circuits of exchange. He defined "entrepreneurship" as the ability to derive profit from breaching such previously separated spheres of exchange. The Fur of the Sudan, for example, considered wage labor shameful, and in this group, labor and money traded in separate spheres. Certain products, such as millet and beer, did not trade for money, but were produced only for exchange in communal labor, such as mutual help with house building. In a separate circuit, food, tools, and other commodities were exchanged for money. Barth reports the arrival of outsider Arab merchants who, not bound by the norms specifying the separation of spheres, paid local workers with beer, to grow tomatoes, a cash crop. Unaware of the cash value of beer or labor, the workers produced a crop worth far more than the beer with which they were paid, making the traders wealthy (see also Granovetter 2002, pp. 44–46).

Deployment of resources outside of their usual spheres may often be a source of profit, and new institutional forms can facilitate such

deployment. The origins of "venture capital" in Silicon Valley is an example. Before the 1960s, high technology was funded by financiers largely decoupled from the industry's social or professional networks, who were not fully conversant with the technical detail. But the usual financial tools could not evaluate innovations during a time of rapid technical change. A new model emerged: engineers and marketing specialists from industry, who had accrued enormous profits, used these to become a new breed of financier—the "venture capitalist." Their technical knowledge and extensive personal networks allowed them to assess new ideas more adeptly than traditional bankers. Given their skills, they were also more inclined to sit on boards of directors, and take active management roles, supporting the substantial equity positions their firms took in startups (Kaplan 1999, Chapters 6–7). Taking their financial resources from the industrial and family spheres where they were accumulated, and deploying them in the newly created institutional setting of venture capital, made the early innovators fabulously wealthy. Their early success helped them draw a huge new inflow of funds from such limited partners as pension funds and wealthy individuals, who stood well apart from technical circles, just as early nineteenth-century business families founded New England banks to fund expansion of industries by drawing in nonfamily funds (Lamoreaux 1994).

Can we explain this outcome by a standard efficiency argument, in which environmental changes made new financial practices more profitable? The problem for such an account is that these practices did not emerge uniformly where profits were available. Saxenian (1994, pp. 64–65 and elsewhere) argues that because of differences in culture and social networks between Silicon Valley and the high-technology industry region in the Boston area, finance in the latter region retained its traditional dominance by individuals without technical backgrounds, who could not move quickly to spot and finance new trends, putting the region at considerable long-term disadvantage. To the extent her argument is correct, Boston and other regions will have difficulty emulating the Silicon Valley model, even in the long run. Further empirical study will provide interesting clarification of this clash between economic logic and social constraint.

CONCLUSION

Social structure affects many important economic outcomes other than those addressed here, such as choice of alliance partners (for example, Gulati and Gargiulo 1999), decisions to acquire other firms and strategies used to do so (Haunschild 1994), the diffusion of corporate governance techniques (Davis and Greve 1999), and the persistence of large family and ethnically oriented business groups in advanced economies (Granovetter 2005), among others. In this paper, I have chosen a few examples to illustrate strategies, approaches, and principles.

While economic models can be simpler if the interaction of the economy with noneconomic aspects of social life remains inside a black box, this strategy abstracts from many social phenomena that strongly affect costs and available techniques for economic action. Excluding such phenomena is risky if prediction is the goal. When the black box is opened, it is often with the goal of making networks, norms, institutions, history, and culture fully endogenous to economic models, implicitly assuming that otherwise no systematic argument can be made. But pursuing this daunting agenda makes poor use of economists' comparative advantage. The disciplines that neighbor economics have made considerable progress in unpacking the dynamics of social phenomena, and a more efficient strategy would be to engage in interdisciplinary cooperation of the sort that trade theory commends to nations. My goal here has been to suggest some such linkages, which remain largely unexplored, and pose one of the greatest intellectual challenges to the social sciences.

Editors' Notes on Further Reading: Mark Granovetter, "The Impact of Social Structure on Economic Outcomes"

This paper appeared in the *Journal of Economic Perspectives*, a journal of the American Economic Association, and is directed especially toward an audience of economists. Articles in *JEP* are typically written by economists who specialize in one subfield and aim to convey to economists in other specialties the main results of the author's subfield, without entering into every detail. This article is written in the same spirit but can also be read with profit by non-economists looking for a general introduction to arguments about the impact of social structure on economic outcomes. Because the article compares sociological to economic arguments, it can be best appreciated by readers with some rudimentary knowledge of economic ideas.

Because the article itself is a guide to the literature on its selected topics, we suggest that the reader follow the pointers it contains, and supplement those with the notes for further reading on Granovetter's 1985 article on embeddedness (Chapter 2, this reader). In addition, we note the following sampling of more recent articles on the themes of the article: Roberto Fernandez and Isabel Fernandez-Mateo, "Networks, Race and Hiring," *American Sociological Review* 2006, pp. 42–71; Valery Yakubovich, Mark Granovetter, and Patrick McGuire, "Electric Charges: The Social Construction of Rate Systems," *Theory and Society* 2005, pp. 579–612; Josh Whitford, *The New Old Economy: Networks, Institutions and the Organizational Transformation of American Manufacturing* (2005); and the discussions of social structure and innovation contained in Thorbjorn Knudsen and Richard Swedberg, "Capitalist Entrepreneurship: Making Profit through the Unmaking of Economic Orders," *Capitalism and Society* 2009, issue 4, article 3 (www.bepress.com/cas/vol4/iss2/art3), and the comment on this article by Mark Granovetter (www.bepress.com/cas/vol4/iss2/art8).

Notes

1. I am grateful for the extensive comments of Timothy Taylor, Michael Waldman, and Andrei Shleifer, which significantly improved this paper.

2. For detailed technical exposition of social network analysis, see Wasserman and Faust (1994).

3. This argument plays a significant role in the recent interdisciplinary literature on complex networks. See Barabasi (2002), Buchanan (2002), and Watts (2003).

4. The subfield of "economic sociology" is partly built on analysis of these types of embeddedness. For a representative collection of classic and modern items, with notes and commentary, see Granovetter and Swedberg (2001).

5. Some economic literature suggests that under certain conditions, heterogeneity rather than homogeneity increases productivity in work groups. See, for example, Hamilton, Nickerson, and Owan (2003). Since the heterogeneity referred to in this literature is in individual productivity, this need not be correlated with the social homogeneity that I discuss here, and both effects could operate together.

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