

Cultural economic geography and a relational and microspace approach to trusts, rationalities, networks, and change in collaborative workplaces

Nancy Ettliger*

Abstract

This paper develops a relational, microspace framework to explain how social interaction (in and outside of workplaces) affects decision making, behavior, and performance in collaborative work. The transfer of critical intangible resources such as trust, across persons outside conventional loci of power in overlapping social networks, entails an evolution of different types of trust. Bridging networks informally on a bottom-up basis depends on complementary social relations and the transformation of trusts based on different rationalities formed in different places and social networks. Understanding collaboration can help as much in constructing positive change as in thwarting destructive, discriminatory work practices.

Keywords: networks, trust, collaboration, rationality, relational analysis, microspace, cultural economic geography

JEL classifications: B59, D8, D63, Z13

1. Introduction

Economic geographers have long been interested in changes in the practices of work, whether regarding change in knowledge structures to permit greater firm competitiveness, or changes in the conditions of work to ensure workers' rights. What remains relatively little studied, however, is *how* such changes are brought about, specifically as purposeful strategies.

As we move to 'the new economy', or from the perspective of workers, to 'the new labor internationalism', both of which call for increasing collaboration among people and organizations, there are some nagging intangibles that require critical attention, such as how trust may be established among those who are interacting. This is the topic of this paper.

The two examples of change to which I refer above, achieving enhanced competitiveness and workers' rights, typically are concerns of different audiences and are considered discretely. This paper offers a framework for considering how both occur, specifically when change entails collaboration, an increasingly prominent feature of the work environment. That is, although the framework I develop is intended to have relevance across time and space, it especially pertains to work environments that entail substantial collaboration across as well as within workplaces. Regarding competition,

* Department of Geography, 1036 Derby Hall, 154 North Oval Mall, Ohio State University, Columbus, OH 43210, USA.
email <Ettliger.1@osu.edu >

there are increasing tendencies in ‘the new economy’ toward collaborative, inter-firm relations (Grant, 1998; Grabher, 2002a); collaborative competition is particularly (although not exclusively) critical when manufacturing or services firms must respond rapidly to *customized* demand, often by tapping external sources of knowledge when a specific project requires expertise that is undeveloped internally (Goldman et al., 1995; Preiss et al., 1996; Greis and Kasarda, 1997). Regarding worker well being, the ‘new labor internationalism’ (Waterman, 1998; Waterman and Wills, 2001) calls for more inclusive strategies that require broad coalitions of worker and other interest groups. These macro changes in competitive and political environments frame the problem of how change at a much smaller scale, change in the workplace, occurs through networks of social interaction.

Different types of substantive change (e.g. changes to ensure firms’ competitiveness or workers’ rights) may follow from any one of a number of processes. I develop an argument about one particular type of process, specifically *bottom-up* organization. As I will elaborate, although there are many approaches to organization, I suggest that bottom-up organization may be especially critical to achieving enhanced competitiveness or worker well being in light of changing modes of competition and worker mobilization.

The approach I take is *relational* and *microspace*. It is relational because I am concerned with the spaces of interaction among people and nodes (workplaces) in networks of social interaction. The microspace approach draws attention to *people*. The combination of relational and microspace thinking signifies an epistemological approach in which the unit of analysis is fixed neither at the scale of networks nor people, but moves between the two. The microspace contribution to a relational approach is the avoidance of a reification of firms or other organizations or networks themselves. Although the microspace approach targets people, it is not specific to one particular scale because at issue are people’s *universes of interaction*. That said, my concern is with conceptually linking peoples’ universes of interaction to interpersonal relations that may engender any one of a number of logics or rationalities (economic, social, cultural, political, psychological, ecological) and may derive from a wide range of social relations that are personal as well as public, and imbued with emotion as much as calculation. This approach permits thinking about how people actually relate to one another, and the significance as well as consequences of the variety of thoughts and emotions that pervade social interaction.

As a counter to conventional notions of rationality, I suggest that *multiple rationalities* are critical to the formation of different yet interrelated forms of trust that underpin changes in the workplace. Specifically, I suggest two types of trust, *emotive trust* (based on one’s personal feeling about another) and *capacity trust* (based on one’s judgement about another’s capacity for competent performance in a workplace); capacity trust, I suggest, is often predicated on emotive trust, which may form in a relationship that develops outside a workplace. The relation between the types of trusts and the contexts in which they evolve underscores the importance of people’s universes of interaction; this concept links the relational and microspace approaches and, moreover, analytically permits scaling trust as an *interpersonal* phenomenon across space and time, in contrast to the conventional scaling of trust in the industrial literature as a matter of inter-*firm* relations (e.g. Helper, 1990; Lorenz, 1992; Storper, 1997; Dyer and Singh, 1998). Whereas analyses of trust in the literature in economic geography are consistent with the concept of *social capital* (Coleman,

1990), which refers to the enhancement of collective welfare through cooperation (generally interpreted in inter-*organizational* terms), a microspace approach is consistent with the concept of *relational capital* (Kale et al., 2000), which refers to feelings and emotions such as trust, mutual respect, and friendship¹ that result from close, inter-*personal* interaction among people in different networks. This is an entry point for the development of the burgeoning field of *emotional geographies*² in economic geography. One aim of this paper is to clarify how and why emotions are germane to understanding behavior.

Importantly, examining inter-personal interaction does not preclude a study of inter-organizational relations; it offers a way to view the relations among organizations, specifically through the lense of *people* in different organizations who are interacting. As stated above, I suggest that this lense is critical to understanding behavior. One pronounced difference between the framework I offer and discussions of relational capital and related concepts (Nonaka, 1994; Kale et al., 2000) is that my framework permits analysis *across* spheres of life, in contrast to studies that confine analysis to contexts specifically within firms. I highlight connections between formal organization and public spheres with informal organization and private spheres.

The next section briefly frames the paper in terms of its underlying cultural perspective and explains the potential cross-fertilization of cultural studies and economic geography. Although geographers have picked up the cultural cue, the reverse has not occurred and economic processes as well as significant sites of change, such as the workplace, remain largely outside the purview of cultural studies. I make a case *in principle* for thinking about the workplace as a critical (although not exclusive) context in which change occurs. Section 3 then positions workplaces in peoples' universes of interaction and elaborates on the *multiple rationalities* that are interconnected even though they emanate from different spheres of people's lives. The interconnections occur as people carry their thoughts and emotions across spheres. This section discusses multiple rationalities as a departure from rational choice thinking and links the concept of multiple rationalities to *types of trust*, which themselves often form in different spheres. To exemplify these concepts I offer two anecdotes (to which I refer later in the paper) that are hypothetical yet drawn from a broad empirical reading of social dilemmas of production. Section 4 uses network theories to conceptualize the transformation of trusts across multiple rationalities that are associated with different social networks and form in different spheres of life. This section recognizes network theories that have been popular in the economic geography literature, notably actor network theory (ANT) and global commodity chain (GCC) analysis, but calls attention to another, less well known body of network literature that stems principally from economic sociology. The network literature in economic sociology is analytically useful because it offers insights regarding *types* of networks and ties, and their significance.

-
- 1 Feelings and emotions such as jealousy, hate, envy, and the like also might figure in relational capital, although analyses to date have focused on positive sentiments such as trust and friendship. This point is addressed again in Section 4.4.
 - 2 Anderson and Smith (2001) explicitly called for attention to 'emotional geographies', after which a conference specifically on emotional geographies was convened in Lancaster, UK, at the Institute for Health Research, 23–25 September 2002. Although reference to emotions is not totally absent from the literature to date in economic geography (see for example Leslie and Reimer, 1999), they are nonetheless typically regarded conceptually as extraneous.

The final section before the Conclusion develops a network approach by combining insights from ANT (consistent with multiple rationalities) and the network literature in economic sociology. I argue that bottom-up organization is an effective avenue towards change in the workplace when social relations across overlapping networks are germane to workplace dynamics (specifically pursuing as examples efforts to achieve competitiveness or worker rights). This section concludes with: a discussion of types of power relations and their interrelations with reference to the issues examined in the paper; how power can work toward negative as well as positive change (the latter being the focus of the paper); and how the proposed framework can be understood as a normative agenda. The final section summarizes and positions the main points, and comments on the epistemological as well as ontological potential of a relational and microspace approach in economic geography.

2. The workplace as a context for change in a cultural approach to economic geography

Change is purposefully discussed in this paper in the context of the workplace. This in itself requires some discussion because the underlying perspective here is *cultural*, drawing from the inter-disciplinary literature in cultural studies, which, however, often ignores the workplace and more generally, the economy. Below I briefly define a cultural perspective; distinguish cultural studies from more traditional perspectives on ‘culture’ and related issues; indicate how this paper adopts a cultural approach to economic geography; and explain the potential cross-fertilization of economic geography and cultural studies.

2.1. Cultural studies and the adoption of a cultural approach in economic geography

Cultural studies, at its heart, is a post-structural critical reaction to traditional approaches to ‘culture’. It originated in the humanities, although it began to influence social scientists by the mid-1980s and gained momentum as ‘the cultural turn’ in the 1990s (Cook et al., 2000).³ From a cultural studies perspective, ‘culture’ comprises divergent behaviors, norms, and expectations and is fluid across space and time (e.g. McDowell and Court, 1994; Crang, 1997; Schoenberger, 1997; McDowell, 1998; Thrift, 1999, 2000; Lee, 2000), in contrast to more traditional conceptions of culture as a way of life or a body of knowledge or activity, such as the arts (e.g. Gertler, 1997; Scott, 2000).

Orienting ‘culture’ economically, *cultural capital* from a cultural studies perspective is an active part of power relations, entailing the trading of knowledge for economic wealth (e.g. Sayer, 1997; Schoenberger, 1997; Zukin, 1997); a more traditional interpretation sees cultural capital as knowledge of practices and traditions that may be homogenizing, as in an ‘American’ way of life or way of conducting business, or

3 Like any field of study, cultural studies is large and internally differentiated, and it is not within the scope of this paper to review it; rather, my intention is to highlight aspects of cultural studies that are especially pertinent to economic geography. Examples of edited collections that present a variety of cultural approaches in geography include Barnes and Gregory (1997); McDowell and Sharp (1997); Massey et al. (1999); Ray and Sayer (1999); and Cook et al. (2000).

exclusive, as in the arts as a specific way of life or as exclusive or elitist knowledge. Similarly, a cultural studies approach to *learning* in production systems entails thinking about circuits of power, specifically about becoming an insider (Grabher, 2002b, p. 209), in contrast to the view that learning is about acquiring knowledge (e.g. Malecki, 1999). Whereas the conventional approach views *how* knowledge is acquired in terms of fixed social relations over time (and in space, regarding the emphasis on *localized* knowledge in ‘learning regions’), the cultural studies view forefronts the flux of social relations over time and across space by examining the spatial and temporal intricacies of daily life.

One particular dimension of cultural studies that has influenced economic geography, notably regarding its emphasis on ‘development’, is the critique of essentialism, that is, the rejection of a homogenized and static view of culture, cultural capital, learning, and so forth. The adoption of a non-essentialist view of the world prompts a recognition of *hybridity*, multiple realities operating concurrently in a place (Escobar, 1995). This multidimensionality cannot be essentialized as a concise statement regarding the level of development of a place because places are constituted by multiple, divergent yet interrelated trajectories in a locale (Ettlinger, 1999). In a more abstract vein, and underscoring this paper, a non-essentialist view means that realms of life, such as the economic, the cultural, the social, the political, and so on cannot be individually encapsulated because they are mutually embedded (Massey, 1997). My general purpose here is to offer an analytical framework for examining the interrelation among these spheres.

2.2. Why focus on the workplace?

Although economic geographers increasingly have taken the cue from cultural studies in thinking through the social and cultural constitution of economic processes (e.g. McDowell and Court, 1994; Massey, 1997; Schoenberger, 1997; McDowell, 1998; Thrift, 1999, 2000; Lee, 2000), the reverse process has not yet occurred. What, then, might economic geography contribute to cultural studies?

Consider the importance of ‘the economy’. Ironically the cultural studies literature rarely includes workplaces in analyses of social change, and more generally, is often silent on the economy. There is, however, a part of cultural studies that is explicitly concerned with social change, namely the relatively emergent cultural politics literature, by which I mean a nexus of post-development, feminist, and radical political science studies (e.g. Young, 1990, 2000; Escobar, 1995; Alvarez et al., 1998; Fraser, 1999). This literature is normatively engaged and emphasizes that social change must encompass economic as well as political enfranchisement, and further, that enfranchisement is something that is played out in everyday life (see also Ray and Sayer, 1999). That said, the economy in cultural politics generally is equated with political economy and, specifically, issues of redistribution that tend to be stated as a general problem but are not, however, analysed. Complex issues regarding production processes and workplace relations are overlooked. Further, the types of social change addressed in the general cultural studies literature tend to be associated with social movements or, more broadly, state–society relations, and are limited at the ground level because these changes often leave unaffected the economy at the scales at which people play out their every day lives, notably the workplace. This is ironic in light of the wisdom of the larger cultural studies literature that highlights the importance of everyday life.

In light of *a priori* research predilections, economic geographers perhaps have little need for persuasion about the importance of the workplace as a critical context for change. That said, recognizing the value of cultural studies for economic geography, it makes sense to think through the value of economic geography for cultural studies. My intent at the outset is to briefly make a case *in principle* for the importance of workplaces as contexts for change, generically conceived, be it social, technological, or otherwise. Variation in work dynamics, while important and recognized here, is not, however, the project of this paper; rather, the intention is to examine the epistemological and ontological significance of interactions among people across workplaces and social networks associated with a variety of spheres of life. This perspective *situates* workplaces.

I want to begin by defining 'workplace' inclusively. Whereas workplaces often are conceptualized formally as sites in firms, I prefer thinking about workplaces generically as contexts in which people work. From this perspective, workplaces can be situated in a firm, in a state-supported or governed office, in one's home, in someone else's home, or some 'place' in an informal economy. Further, work can be waged or unwaged (Folbre and Himmelweit, 2000). While recognizing that work dynamics vary considerably among different types of workplaces, let us not, nonetheless, arbitrarily exclude types of workplaces that may be as germane to an economy as other types.

In addition to the inclusive definition, I want to clarify that a workplace is a relative concept from a geographic vantage point. A workplace can be in a firm, but it may refer to a particular work station in a particular location in a particular facility in a firm. As I will elaborate later, this understanding is critical in thinking about social relations across workplaces. Such relations may be intra- and/or inter-organizational.

My argument for why an analysis of change should focus on the workplace is simple: most people spend most of their lives in workplaces, and this is itself significant, for how can change be fully appreciated if it does not permeate the relations that govern much of peoples' lives?⁴ This is a scale issue. For example, people often presume democracy or processes of democratization when most workplaces, where people play out most of their lives, are based on undemocratic, often authoritarian principles; the same holds true for households, communities, neighborhoods (Young, 2000). The daily life dimension and the spheres in which people daily conduct their lives are critical for any evaluation of social change. Although institutionalists pursuing issues of technological change rarely use language that values analysis of everyday life, the notion of wide ranging use of *strategic* technology is nonetheless consistent with everyday life thinking because strategic technologies ripple through a wide variety of industries, with applications in a wide range of workplaces. My overall intention is to offer an approach to explain how change of a variety of types occurs; this initial part of my argument specifies the workplace as a critical, although not an exclusive, sphere of analysis. While I generally concur that the lesson of a scale-sensitive approach is that no one scale should be prioritized but, rather, at issue is the interrelation among dynamics operating at different scales (Swyngedouw, 1997), I believe that certain

4 Certain types of change are possible without regard for the workplace. For example, a social movement organization may successfully petition for specific political changes regarding, for example, political prisoners, and this may be outside the purview of daily work relations. That said, unless the fundamental nature of state authoritarianism is uprooted, then the extent of change is limited in space and time.

questions should necessarily include particular scales and sites of interaction and power relations.

3. Multiple rationalities and implications for types of trust

While endeavoring to make a case for the workplace as a critical scale for understanding change, generically conceived, at the same time I want to situate the workplace within the domain of social relations. The workplace, as a critical stage on which change is played out, is nonetheless one of a number of stages that are connected by social relations. These relations take on different forms – economic, political, kin, and so forth – both over time and across space. It is to this multidimensionality that I now turn. My purpose here is not to restate the general case of multidimensionality, but to comment specifically on some of the implications for explaining individual behavior and social relations in a more *microspace* approach than is usually taken. Towards this end, the first task entails a critique of rationality with reference to its *unidimensionality* to clarify the utility of the concept of *multidimensionality*.

3.1. The problem of ‘rationality’ and its unidimensionality

The concept of rationality pervades modern research, including many Marxist, neoclassical, and institutional approaches.⁵ The analytical significance of this pervasive concept is that it permits anticipation of behavior based on particular conditions. The *problem* is the unidimensionality of such conditions. Specifically, behavior is generally understood in the context of goals of efficiency or profitability. Rationality, as it has been conceptualized, is reduced to, or essentialized as, an economic matter. This much has long been discerned and critiqued by behavioral economists, who developed the concept of *bounded* rationality in a world of imperfect and uneven information (Simon, 1957; Conlisk, 1996). The behavioralist critique of rationality recognizes behavior that may have negative economic consequences either because of imperfect information or because economic motivation can have divergent outcomes when operative at different scales (e.g. an individual or a firm).⁶

Frameworks that have challenged rational choice include theories of labor segmentation (Piore, 1979; see especially Sabel, 1979) and x-efficiency (Leibenstein, 1978). These two frameworks, although distinct, share important differences from conventional neoclassicism, notably consideration of individual workers as the unit of

5 This statement is at odds with Sheppard (2001), who argued that one of the features distinguishing economic geographers from economists is that the former do not subscribe to rational choice whereas the latter do; he provides a footnote indicating that he has had conversations with economists who believe there is such a phenomenon as perfect information. Although I have no doubt that many economists do think in terms of perfect information (and many other ‘perfects’) to facilitate modeling, the economics literature includes many critiques of rational choice (e.g. see review by Conlisk, 1996). Many, and perhaps most economists subscribe to critical, revised versions of rational choice to avoid the obvious problems that result from assuming perfect information. I suggest that most economic geographers of a neoclassical, institutionalist, or Marxist persuasion also subscribe to some notion of rationality that avoids assuming perfect information. Although I concur that most economic geographers differ fundamentally from economists of the ‘new economic geography’ (see for example Martin and Sunley, 1998), I do not concur that rational choice represents the dividing line.

6 For example, a manager acting with her or his own (as opposed to a firm’s) economic interest in mind might pursue strategies that do not lead to firm profit (Håkanson, 1979).

analysis (rather than the household or firm), and the notion of *selective* rationalization, that is, rational choice oriented towards that which is lucrative for *some* workers, principally those in skilled positions with responsibility or accountability (e.g. to stockholders). Pertinent to this paper, the problem with these frameworks is that they adhere to a bounded rationality framework for *some* workers.

Importantly, bounded rationality, like its more rigid predecessor, rationality, as well as labor segmentation and x-efficiency theories, presuppose the *irrational*, which implicitly pertains to any behavior that is not guided by that which is lucrative. The concept of bounded rationality retains the fundamental assumption about motivational logic based on profit or efficiency, and selective rationality similarly retains this assumption for *some* workers.

A fundamental problem with bounded rationality (whether for all or some workers) is the unidimensional approach to behavior and decision making (in this case, economic). Individuals, whether they are skilled or unskilled, or commissioned with or without responsibility and accountability, have relations with people at work, at home, in a residential neighborhood, in professional and in other, possibly non-localized, associations (e.g. based on religion, sports, ethnicity, gender, age...). These social relations, across any one of a number of contexts, are laced with power and charged with thoughts and feelings that may entail collegiality or competition, friendship or animosity, sexuality, and so on. Despite the incessant compartmentalization of formal frameworks, notably in Western culture, people nonetheless carry thoughts and emotions across spheres, and behave and make decisions in one context (e.g. the workplace) that cannot be readily explained in terms of workplace routines or objectives.

3.2. Conceptualizing *multiple rationalities* in a multidimensional environment

Behavior and decision making in one place, such as a workplace, derive from a kaleidoscope of thoughts and emotions that emanate from different places associated with different spheres of life and different social networks. An action at work may be very much related to the thoughts and feelings that are embedded in a relationship with a friend, sexual partner, family member, professional colleague, avocational partner, and the like (McDowell and Court, 1994; McDowell, 2001).

I suggest thinking about *multiple rationalities* to conceptualize a particular social relation or individual behavior that may be economically or non-economically motivated and may have economic as well as social, psychological, and political consequences. From this perspective actors are part of a multidimensional environment that is personal as well as public, and economic as well as social, cultural, political, and so forth. All of these dimensions are imbued with thoughts and emotions, each of which has its own logic or rationality. People's concerns and motivations in a public sphere may be intertwined with concerns emanating from a private sphere; the spheres become blurred as thoughts and feelings emanating from one context affect behavior in another, and the different logics or rationalities themselves become blurred. This is not to suggest that boundaries do not occur (Pratt, 1999), but rather that the analytical focus is on the geographic fluidity of thoughts and emotions (Anderson and Smith, 2001). Within a workplace, for example, there are visible spatial barriers that divide workers along occupational lines (as well as along many axes of difference such as gender, race, ethnicity, age, class, etc.), in addition to tangible divisions such as wage differences (e.g. McDowell and Court, 1994; Reskin and Padovic, 1994; Hanson and Pratt, 1995;

Ettlinger, 2000a); that said, as people move across such divisions they take their intangible thoughts and feelings with them, and this has significance for behavior, social relations, and as I will argue, for purposefully constructing change in the practices of work. This perspective counters the emergent literature on *cultural industries* (following traditional views of ‘culture’ and related concepts) in which particular industries are distinguished as ‘cultural’ (e.g. film, music, art, fashion, design) because they commodify culture, are characterized by a high degree of creativity or innovativeness, and/or production entails emotional input (e.g. Lash and Urry, 1994; Scott, 2000; Power, 2002). In contrast, the cultural perspective developed here regards all workplaces as imbued with and as producing ‘culture’ as much as ‘economy’, ‘politics’, and other dimensions of life, and further, regards emotion as ubiquitous and an important element of all workplaces. At issue here is how the intersections among culture, economy, politics, and so on occur, and the actual or potential consequences.

Although the geographic fluidity of thoughts and emotions is a relatively recent concern in academe with the burgeoning of cultural studies and its influence across disciplines, this insight outside academe is not novel inasmuch as it is often used purposefully and strategically in political processes. Relating such processes to the workplace, activists, for example, may target peoples’ feelings about issues outside the workplace to enlist worker support for formal protest against employers. A case in point was the Justice for Janitors Campaign in Los Angeles that appealed to issues pertaining to workers’ residential neighborhood to rally sentiment towards organizing for change in workplace conditions (Savage, 1998). The geographical dimension need not, however, be limited to a locality. As in the case of radical migrant workers (Mitchell, 1998), people’s feelings about their common migrant experiences have been used to marshal support against employers across localities in appeals to a non-Cartesian sense of community.

Actions and behavior are intelligible in terms of a variety of sentiments, and behavior that is not guided by the economically lucrative is neither irrational nor a realm specific to a particular type of worker. Individuals conduct their lives in multiple spheres, including, for example, the household, the workplace if it is outside the home, the residential neighborhood, and more macro scale spheres depending on the reach of an individual’s network beyond neighborhood, city, state, or hemisphere. Importantly, people often develop different values and logics relative to these different spheres as well as to their relations with people in different spheres. Individuals thus carry with them multiple rationalities as they move across spheres, and the rationalities themselves become intertwined.

What is commonly understood as *irrational* is a matter of the operation of *a* rationality, possibly developed in another sphere. This perspective eradicates the rational/irrational binary and replaces it with multiple rationalities associated with multiple connections. The array of rationalities with which individuals work is critical, I suggest, to understanding the formation and relation among different types of trust, which in turn may be critical to achieving particular types of change. Specifically, and as I will elaborate, I *dehomogenize* trust and propose two types. One type is what I term *emotive trust*, which refers to a person’s sentiments about another person; the other is what I term *capacity trust*, which refers to confidence in the capability and performance of another person, whether ‘performance’ entails challenging existing conditions for workers or collaborating on a project. These two types of trust are not meant as an exhaustive list but an attempt to stimulate discussion and further development of the fundamental ideas. *The critical aspect of these two types of trust is their temporal and*

spatial relation. As pursued in the hypothetical anecdotes below and later in Section 4.3, the development of effective capacity trust in a workplace often is predicated on emotive trust that is developed in another sphere, in association with a different social network either in the same locality or elsewhere.

3.3. Two hypothetical anecdotes: multiple rationalities across workplaces and the trust issue

Below I offer two anecdotes that are hypothetical yet drawn from an empirical reading of issues and social dilemmas of production.⁷ Although they differ considerably in terms of the type of change that people are trying to achieve (firm competitiveness, workers' rights) they share a key element, namely the need for collaboration across workplaces. Each hypothetical anecdote is followed by two possible outcomes; that is, there is no inevitability – neither of process nor outcome. At issue are the reasons underlying effective and ineffective efforts directed at purposeful change.

Situation A:

Workers in a plant are angry because they have not received any wage increases despite increases in productivity; this situation has occurred in the context of relatively low wages. Further, increased productivity has rendered some workers redundant, leading to their being fired. The plant is one of several owned by a firm that supplies parts to a large client. The manager of the plant works with the workers on designing a strategy of protest. The manager is disturbed because he knows his plant cannot continue to produce high quality products if workers become increasingly dissatisfied and, ultimately, his responsibilities will be increasingly difficult to meet and he could face possible replacement. The protest strategy, developed by the manager and production workers, is to coordinate protest with other plants owned by the same company. The plan: work stoppage at all or most of the plants would choke the flow of critical parts to the client and would incur serious loss of business; the client would then be compelled to pay a higher price for its parts, permitting the supplier to pay its workers higher wages and reward increased productivity. The general idea is to link productivity with wages.

The problem: the company's treatment of its plants has been uneven in the past, and so it is not necessarily given that increased prices will trickle down to workers evenly across the plants. Further, productivity across the company's plants has been uneven; plants with higher productivity are experiencing higher levels of stress and

7 *Situation A* is drawn from literature recognizing the potential bargaining position of workers in a localized JIT system (e.g. Herod, 2000), although this literature usually is silent on precisely *how* workers in different places are persuaded to make what would seem to be altruistic commitments. Outside JIT systems, the problem of how to develop trust and seemingly altruistic commitments from workers in different places remains unresolved (Cowie, 1999). *Situation B*, as elaborated in the penultimate section of the paper, is drawn from trade literature on an emergent federation of localized firms in Pennsylvania in which firms collaborate in temporary networks. Although the problem of developing trust (in particular what I have termed *capacity* trust) is recognized as an obstacle to collaboration in this federation, to date there are no real clues as to how this problem may be resolved (Sheridan, 1996). Other types of anecdotes are pertinent, although in the interests of space my intention is to select one regarding workers' rights and one regarding competitiveness. An example of another issue that is ripe for exploration is the problem of distrust in the logistics of supply chain management (Engardio, 2001); that is, how can the flow of information across formidable, socially constructed barriers be coordinated with the flow of goods and services?

dissatisfaction, and the plant in question has been significantly more productive than the others. Workers at other plants would be asked to risk their jobs for what might possibly be no benefit to themselves. How, then, can effective connections and trust be established among workers in different places to carry through coordinated protest and achieve workers' rights in one place?

Outcome 1:

The manager at the plant currently under stress gets in touch with the managers at several other plants, which have not been quite as productive and have not experienced the same level of dissatisfaction and stress. The other managers agree to talk with the workers about a coordinated strike. The workers at the other plants are not committed because of the risks. The problem remains unresolved.

Outcome 2:

An alternative scenario: A worker from the plant undergoing stress, discusses the problems at his plant with his cousin, who just came into town to be part of a wedding party. The cousin is employed in another plant owned by the same company. Following a weekend of festivities and family reunion, the cousin returns to his home and work and begins talking to fellow workers, persuading them to join his cousin and her co-workers in protest. His persuasiveness pays off and one of his fellow workers suggests that she talk to a long-time friend of hers who recently moved to another town and currently works at another plant that also supplies the same company . . . Eventually, workers at different plants supplying the same company set up a series of meetings to coordinate a strike.

Situation B:

A manager at a firm that is receptive to customized demand receives an order that entails specifications that cannot easily be accommodated by the plant's personnel. The manager gets in touch with an office that acts as a clearing house for requests for collaboration among a federation of firms. He requests that his firm be matched with another that has the requisite expertise. The central office identifies a match and puts the managers of the two firms in contact.

The manager of the firm matched by the central office faces a dilemma: the firm with which his firm is matched has a reputation for unreliable and often low-quality products; he fears the collaboration will compromise his firm's reputation because the final product will encompass output from both firms. He cannot ask to be paired with another firm because the two firms that have been matched represent, on paper, a unique constellation of core competencies in the federation.

Outcome 1:

The manager of the matched firm agrees to the collaboration on the condition that a team from his firm oversees the whole production process, across different work teams, across the two firms. The manager of the firm requesting the assistance reluctantly agrees, and the collaboration occurs with a great deal of resentment among workers from the firm that received the order. The stress of social tension creates a climate of distrust and overall dissatisfaction that is un conducive to high-quality production because most of the workers want to complete the requisite tasks as soon as possible to avoid interaction with workers and supervisors from the other firm. Collaboration between the two firms is either unlikely in the future or, if it does occur, will be under unpleasant circumstances.

Outcome 2:

Initial circumstances are identical to those in outcome 1: the manager of the matched firm agrees to the collaboration on the condition that a team from his firm oversee the whole production process, across different work teams, across the two firms. The manager of the firm requesting the assistance reluctantly agrees. Despite this reluctance, the collaboration is fruitful and without social tension. Several members of the work teams, across the two firms, are part of the same church group. Knowing this, the manager organizes all work teams so that each encompasses workers across the two firms who also know each other socially from church and church-sponsored community projects. The work process, although intended at the outset as one in which people from one firm ‘oversee’, became more interactive than originally expected, without being overshadowed by relations of authority and subservience.

The first outcome of the two anecdotes is relatively common; the second, relatively uncommon. My focus is on thinking through how and why the common outcome is negative and the other positive, with the ultimate goal of working towards positive change.

The anecdotes show first, that strategic connections between persons in different work-related networks often are founded on relationships in networks that are *unrelated* to work, and are associated with rationalities *unrelated* to work missions. They also are associated with different types of trusts that operate across space and time; one type of trust in one network becomes transformed into another. Specifically, the development of effective capacity trust in the workplace often is *predicated* on emotive trust that is developed in another sphere, in another network.

Second, the positive outcomes of the two anecdotes show that individuals are engaged in multiple networks that overlap. Importantly, different networks are associated with different thoughts and feelings, that is, with different rationalities. The main point is that people carry their thoughts and emotions with them across networks and across workplaces, engendering multiple rationalities that often are blurred at any one time and place, and this blurring affects decision making and behavior. It is the transformation of emotive into capacity trust, across what I refer to as *overlapping networks* (elaborated in Section 4.3), that helps explain the effectiveness of strategies in the second outcomes. Conversely, the top-down strategy in the first outcomes excludes the people involved in the daily practices of work, and overlooks the potential of tapping the multiple rationalities associated with peoples’ overlapping networks. Embedded in top-down organization is a problem of scale, namely the ecological fallacy whereby one presumes that what holds for a unit (e.g. a firm or group of workers represented by corporate executives, labor leaders and the like) holds for each member of the unit. Especially in workplaces that entail or require collaboration, the transfer of critical resources, including intangibles such as knowledge as well as trust, must be transferred to all participants in production if collaboration is to be effective.

Finally, the constructive outcomes of the two anecdotes show that overlap between networks is, however, *insufficient* to cement trust in the workplace. At issue is what constitutes a strategic connection, a *bridge* (elaborated in Sections 4.2 and 4.3), between overlapping networks. In both the anecdotes, beyond simply membership in the same networks, the bridges were constituted by the transformation of emotive trust, which was formed in a non-work related sphere and based on common experiences or feelings, into capacity trust in the workplace.

Principles of network theory help conceptualize the formation and transformation of trusts across strategic bridges among social networks. Yet network theory is fragmented and complex, and requires critical attention as to how it can be applied. Toward this end, I turn now to network analysis.

4. Using network theory to conceptualize the transformation of trusts across multiple rationalities

Network ‘theory’ is something of a misnomer because of the diverse approaches to network analysis; it might more appropriately be conceptualized as a federation of approaches, which in turn may be divided along several axes. Dicken et al. (2001) critically reviewed two quite different bodies of literature, global commodity chain (GCC) analysis and actor network theory (ANT), which have been especially influential in economic geography.

GCC analysis stems from a modernist, institutionalist perspective and explains the production of commodities with reference to networks of firms across nations (e.g. Gereffi and Korzeniewicz, 1994). As Dicken et al. point out, GCC analysis contributes a multi-scalar, cross-national approach to economic organization, but in practice it is limited by a narrow substantive focus on the (emphatically private sector) governance of production as well as a spatially aggregated view of the world that derives from its association with world systems theory and the concepts of core and periphery (as an exception see Leslie and Reimer, 1999, on power dynamics between sites of production and consumption).

ANT stems from a post-structuralist, cultural perspective and focuses on actions and practices in networks (Law and Hassard, 1999; Bingham and Thrift, 2000). In contrast to the rigidities of GCC analysis, which tends to emphasize stylized modes of governance relative to specific commodities, ANT permits thinking about the multiplicity of interconnected processes of everyday life in the constitution, shaping, and reshaping of networks. The actors in networks need not be human, and thus ANT opens discussion of a wide range of issues that include nature–society and society–technology issues. ANT holds that science, technology, art, economics, and so on are interrelated and, moreover, it recognizes the multidimensionality of actors themselves as well as the multiplicity of their connections. These underlying tenets of ANT are consistent with the framework offered here regarding multiple rationalities and overlapping networks.

The approach I develop here differs, however, from ANT in several important respects, relative to its principal limitations. Most generally, it differs because it entails a *combination* of relational and microspace thinking. I concur with Dicken et al. (2001, p. 105) that in practice ANT studies focus on the links among actors *at the expense of* considerations of the actors themselves. The framework I offer regards individuals as well as their contexts (social and otherwise) as relevant to the nature of connections; further, I privilege neither individual actors nor networks, but move between the two. I regard ANT as a useful entry point regarding its sense of multidimensionality and fluidity, but analytically it is insufficient to explain how different types of connections among different types of actors make a difference, and do so in different contexts. Indeed, in concentrating on network relations ANT eschews issues of context and, further, does not in principle differentiate types of actors, thereby also eschewing uneven power relations. In its epistemological departure from hierarchy, ANT misses that hierarchies are real and that they have important social, political, economic, cultural, as well as ecological consequences.

In light of ANT's provocative entry point but limited analytical utility, I wish to draw attention to another body of literature on network analysis that provides insights as to how to analyse networks. Specifically, I draw from literature in economic sociology. My point is not that this literature 'has the answers'; it is, in my mind, fraught with problems, such as a focus more on patterns than processes, and the presupposition of bounded rationality. Yet this literature is provocative precisely in the ways in which ANT is limited, notably regarding *types* of networks and connections. The task, then, is to sift through this literature to identify viable concepts and situate them within a multiple rationalities framework. The framework I offer builds on the strengths of quite distinct frameworks, such as ANT and literature in economic sociology, while recognizing the limitations of each of these frameworks considered in isolation. The effort here is towards a critical synthesis of insights from post-structuralist and modernist thought (see also Bosco, 2001).

4.1. Network literature in economic sociology and its limitations

Economic sociology concerns networks, especially firm networks. One particular article has especially influenced the network literature in geography, namely Granovetter's (1985) article on embeddedness. Granovetter wrote that article specifically to counter the transactions cost literature in economics by specifying the importance of social relations in which economic action is embedded. Yet Granovetter's hallmark article is in another sense emblematic of the larger literature in economic sociology insofar as it is preoccupied with trends in economics. Even Coleman's (1990) *The Foundations of Social Theory* in part considers social capital in the context of material input-output linkages, consistent with transactions cost analysis.⁸ Like the economics literature, the economic sociology literature is more concerned with patterns than processes. Although a strength of a pattern-centered approach is the identification of a variety of relational patterns, it elides, however, the processes (cultural, social, political, ...) by which patterns are formed, change, and dissolve.⁹ Exceptions include Granovetter's (1985)

8 Economic geographers also have conceptualized social capital in terms of inter-firm transactions; see, for example, Scott's (1988) 'social division of labor' in reference to inter-firm dynamics.

9 This contradicts Emirbayer's (1997) 'Manifesto for a Relational Sociology', in which he maintains that the network literature in sociology is fundamentally about processes. In that article (see also Emirbayer and Goodwin, 1994) Emirbayer addresses a general sociology audience and presents the network literature as a departure from sociology's traditional emphasis on static patterns and 'substantialism', whereby research focuses on particular 'things' as opposed to relations between things. Yet the meaning Emirbayer attaches to 'process' differs considerably from the meaning commonly understood by geographers. For Emirbayer, 'process' is given by a 'relational' approach, that is, thinking about the relations among nodes rather than the nodes themselves. The language is confusing because one could easily substitute pattern for process, which indeed Emirbayer sometimes does. Emirbayer clarifies that the theoretical underpinnings of the network approach in sociology stem from a relational view of power consistent with scholars of cultural studies such as Foucault and Bourdieu; however, he goes on to say that the contribution of network analysis in sociology is the development of quantitative methodologies that permit formal analysis of the *structure* of patterned relations. Emirbayer's mission is about developing a relational approach, which he conflates with process, although at the end of his 'manifesto' he cites problems and indicates an agenda, including developing an understanding of 'network dynamics', '... the dynamic processes that transform ... matrices of transactions in some fashion' (Emirbayer, 1997, p.305). See also DiMaggio (1992) for clarification of the 'relational' approach in economic sociology as being focused on concrete social relations amenable to formal, quantitative analysis.

influential article and, more recently, cultural analysis.¹⁰ Ansell (1997), for example, clarified how economic and non-economic dimensions are related by analysing the interaction of network structure with non-quantifiable processes associated with symbolism and discourse.¹¹ That said, the exceptions to main trends in economic sociology are few, and the morass of ‘coded language’ creates confusion.¹²

Further, the economic sociology literature implicitly focuses on public spheres, excludes private spheres, and relies on a narrow rational choice logic. Although Granovetter (1974, pp. 95–103; see also Granovetter 1985, pp. 505–6) problematized rational choice and recognized its constraints on analysis, he nonetheless explicitly embraced it. Rational choice, whether bounded, unbounded, or selective, is epistemologically *inconsistent* with a multiple rationalities framework because it directs attention to generalizable conclusions along only one logical axis. In contrast, the assumption of multiple rationalities renders predictability tenuous in light of the myriad mediating influences from multiple axes of logic stemming from any one of a number of social relations. Indeed, wide ranging examples from across the social sciences, notably in feminist research detail conflicting thoughts and feelings in association with different opportunities and constraints (e.g. Salaff, 1992; Folbre, 1994; Hanson and Pratt, 1995; Folbre and Himmelweit, 2000).

Recognizing the problems of prediction, notably in the human realm, does not, however, preclude theory; rather, it focuses theorization on the conditions that render different outcomes possible. From the perspective of multiple rationalities, getting a job may very well entail the patterns observed by Granovetter (1974) in *Getting a Job*, such as weak ties¹³ that are occupational rather than social. The hiring process may nonetheless be *explained* by logics that are personal not professional. (Have we not all witnessed ‘idiosyncratic’ hiring processes in professional contexts?) The multiple logics framework does not deny the patterns observed by Granovetter (1974). Instead, it permits explanation of the observed patterns as well as the cases that do not fit the generalized patterns. Whereas Granovetter focused on patterns (although he used the term ‘processes’), the multiple rationalities framework, consistent with ANT, focuses on processes.

10 I exclude here analyses that treat culture as a variable (e.g. Erickson, 1996) rather than a dynamic set of interrelated processes.

11 Ansell (1997) included a formal statistical analysis, although he presented this in just a few pages in the last section before the conclusion as further support for and reinforcement of the claims offered by the qualitative analysis. That is, he used quantitative analysis to demonstrate, not arrive at, interpretation.

12 Although one might argue that all language entails implicit meaning, what I refer to as ‘coded language’ across studies of networks refers to formal norms of reference among members of one group (such as a discipline or subdiscipline) that differ significantly from those used elsewhere and thus mislead if taken at face value. A pertinent example of coded language and related problems is the interchangeable usage of ‘process’ and ‘pattern’ in studies of sociology, such as Granovetter (1974), DiMaggio (1992), and Emirbayer (1997). DiMaggio’s (1992) call for an integration of cultural and relational (network) analysis is especially instructive insofar as he defined ‘culture’ in terms of persons’ attributes and equated cultural analysis with a substantialist approach, in contrast to more dynamic approaches to culture in the new cultural geography (Crang, 1998; Mitchell, 2000).

13 ‘Ties’ in economic sociology are synonymous with terms such as ‘linkages’, ‘relations’, and ‘relationships’ in other literatures.

4.2. Using insights from economic sociology in economic geography

Despite the limitations of main trends in economic sociology, this literature is nonetheless instructive for geographers regarding the identification of a wider range of network patterns than is generally recognized. Granovetter's (1973, 1974) publications pre-dating his article on embeddedness specified different types of ties and networks (Granovetter, 1973; see also Granovetter, 1974). This work, which is foundational to the larger economic sociology literature, clarified that different types of ties contribute differently to effectiveness (read: competitiveness when specifically applied to firms). From this perspective, 'strong' ties in a particular context may be dysfunctional or ineffective where weak ties are effective, and vice versa. Whereas strong ties signify a dense network, consistent (although not synonymous) with what geographers have referred to as *local* embeddedness (Hanson and Pratt, 1995), 'institutional thickness' (Amin and Thrift, 1997), an 'associational economy' (Cooke and Morgan, 1998), 'relational assets' or a 'learning region' (Malecki, 1999; Storper, 1997), weak ties entail *infrequent* relations between people and organizations, and are critical *bridges* between networks. Whereas strong ties imply cohesion, generally conceptualized by geographers in a locality or territory (although this need not be so), weak ties imply efforts to gain access to information or influence people in other networks (possibly in other localities). Each type of tie has a different type of value.

Granovetter's weak/strong tie dichotomy was later developed, notably by Burt (1992), who forwarded a theory of entrepreneurialism in which competitiveness depends on bridges to different networks to achieve a strategic network of networks. These bridges represent unique, non-redundant connections between entrepreneurs who would not otherwise interact. Unlike studies focusing on social embeddedness that emphasize closed networks and strong, dense ties (typically associated with a locality in the geographic literature), Burt emphasized *open* networks and weak, sparse ties (which may function across space), and he highlighted their utility among 'rational actors' in accessing new information. Others sociologists, such as Uzzi (1996, 1999) and Granovetter (1995) more recently, have highlighted a dialectic between closed and open networks. Drawing from the literature in economic sociology, the management literature has pointed out the complementarity specifically of redundant and non-redundant ties (e.g. Nonaka, 1994; Kogut, 2000). Whereas redundant ties reflect the benefits of long-term trust and provide opportunities for multiple associations within a network, non-redundant ties reflect informational efficiency and provide opportunities for exploring and acquiring tangible and non-tangible resources outside a network; both types of ties are critical to competitiveness.

The range of types of networks indicated by economic sociologists allows for a broader conception of the relation between space and network type. To date, the geographic literature has emphasized a localized vision of embeddedness (see Perry's (1999) comprehensive, critical review), although some studies (e.g. Meyer, 1998; Ettlinger, 2000b; Hanson, 2000; Llobero et al., 2000; Bosco, 2001) have tapped Granovetter's earlier and later work and the larger literature in economic sociology to examine different types of networks and their implications. The significance of *open* networks is an extension of the range of geographic questions beyond 'locality' to also include 'space' and the relation between the two. Embeddedness is not necessarily a local matter because it can have many geographies, from being localized and rooted in local social tradition to being spread across space, whereby social relations are embedded in the network itself and are not necessarily bound to a particular locality.

Further, multiple networks may form in particular localities, and in this regard localities are internally differentiated and are not necessarily the cohesive units that the local embeddedness and related literatures suggest. Finally, the range of patterns clarifies distinct types of networks as well as ties, with different types of consequences.

The identification of patterns without consideration of processes is potentially flawed, however, because pattern-centered research often encourages dichotomies such as closed and open networks or strong, dense, and redundant ties versus weak, sparse, and non-redundant ties. The danger is the implication of a one to one correspondence between types of social relations and spatial patterns, often leading to spatial fetishism (the attribution of causality to spatial structure or form relative to a process or event) and thereby obscuring the numerous processes that may be associated with a particular pattern. The framework here, however, employs a more open conceptualization of network types. A closed network can occur across space (e.g. gated cyber communities, non-localized industrial consortia) and an open network can occur within a locality (e.g. the case of multiple, bridged networks in a locality). Further, closed networks can evolve into open networks and *vice versa*, suggesting that the fluidity of a network over time has consequences for different spatial expressions of a single network (Bosco, 2001).

Open networks are especially important to an examination of *change* because this conceptualization permits thinking about the linking or bridging of different networks: *networks of networks*. Empirically, the relation between network bridging and change has been borne out in a variety of case studies, from studies of technological change among firms (Meyer, 1998) to social movements and their effectiveness (Bosco, 2001). The significance of ‘links’ or ‘ties’ or ‘bridges’ is that new information flows into one network from another or that people in different networks interact, affecting knowledge structures or power relations, and thereby engender change. Although this literature on diffusion is rich in analyses of patterns of transfer, the framework here, and elaborated below, addresses *how* information diffuses between networks.

4.3. Constructing change from a network perspective: multiple rationalities, types of trust, and overlapping networks

Although network analyses from all bodies of literature recognize the multiple connections associated with each node in a network, I wish to emphasize the corollary, in the context of multiple rationalities: at any one point in time individuals engage in multiple networks associated with different rationalities, and these different networks may overlap; thus, I refer to *overlapping* networks. The overlap of networks refers to the intersection of different networks in which individuals are engaged (e.g. professional, kin or ethnic relations, friendship, networks based on proximity as in residential neighborhood, non-professional associations, professional associations unrelated to a current project or tactical goal); this concept is consistent with the concept of redundant ties, which suggests a multiplicity of opportunities for connection. The different networks and the variable nature of bonds that tie people together are themselves intelligible in terms of the multiple rationalities that govern behavior, actions, and sentiments.

An overlap between networks does not, however, necessarily constitute a *bridge*, which specifically refers to a connection that is *effective*; that is, there are countless connections that people make with others that may not, however, signify a strategic link

across which critical tangible and intangible resources flow. Recalling the second outcome of the second anecdote in Section 3.3, common membership to a church may be insufficient. The fact that individuals across the two workplaces were members of the same church *and* had shared experience on church-sponsored projects may have been critical; further, the overlay of professional and church-based relations was fortuitous, although when recognized, the overlay was strategically manipulated to achieve a fruitful outcome. Whereas Burt and others have conceptualized bridges in terms on non-redundant ties, the concept overlapping networks prompts consideration of work-related, non-redundant ties between people who happen to know each other in other spheres of life (neighborhood, church, sports, and the like); the non-redundant ties are, in such cases, fortuitous, and overlay redundant ties.

With regard to the flow of resources across networks, here my principal concern is with intangible resources, notably trusts, and how one type of trust developed in one network may be transformed into another type of trust in another network to bring about change in work practices. This is not to suggest that different forms of trust are specific to different networks; different types of trust may indeed form within networks. The main concern here, however, is thinking through how trust is transformed from one type to another, across networks, in association with different rationalities. This is one among many avenues to change and is specific to the construction of change via collaboration, notably among workers across workplaces.

Using a relational approach to multiple rationalities consistent with ANT, and drawing from the network literature in economic sociology regarding variation in networks and ties among networks, I now reconnect with the microspace approach and emphasize that bridges between networks are ties not between workplaces, firms, social movement organizations, or other forms of collective action, but between *people*, who normally conduct their lives in different spheres, in different social networks that may overlap, sometimes fortuitously. Formal avenues by which connections between networks or organizations can be made include, for example, explicit recruitment. Yet, many critical connections within the formal economy, and certainly outside it, may be made *informally*. Thinking about overlapping networks may be useful in identifying the ways in which strategic connections, bridges between networks, may be facilitated and achieved informally. Nonaka (1994) suggested that the creation of tacit knowledge often occurs in informal contexts, although he confined his analysis to the public sphere in formal organizations. I suggest that informal, subtle connections among people in overlapping networks across different public and private spheres of life (home, church, neighborhood, workplace ...) may be critical to effecting change in a workplace through collaboration, as individuals use thoughts and sentiments associated with one network to cement confidence among people engaged in a project or mission in another network. Further, the multiple rationalities that bind people within and between networks are critical to bridging because different types of connections may complement one another and thereby implicitly figure in the development of a strategic tie. An individual from one network seeking information or collaboration might tap the membership of another of her or his own networks to facilitate trust across network domains. Thus, an individual from one organization such as a firm, or a group of workers, may seek to connect with someone from another firm or with a group of workers to access information or secure collaboration relative to a specific goal. The goal might be related to any one of a number of missions, from enhancing competitiveness to formal or informal protest against exploitation. The point here is

that the strategic connection, the bridge, might be achieved on the basis of ties between people in different organizations that are *unrelated* to the mission at hand; the relation may be based on a kin or friendship link, an avocational tie, community membership, or a professional association disconnected from the current venture.

By dehomogenizing trust we recognize different types of trust embedded in different types of ties.¹⁴ Emotive trust, which may be facilitated by redundant ties (be they strong or weak) may help solidify opportunities for collaboration and information sharing. Accordingly, a bridge, constituted by capacity trust, may be informally constructed between two workplaces through a relationship between persons in each workplace, based on their mutual membership and emotive trust in another network. Emotive trust formed in one network is transformed into capacity trust in another. The distinct types of trust are nonetheless interrelated as one evolves into another over time and across spatially distinct spheres of life. Interpreting this complementary relation between trusts in terms of time-space (May and Thrift, 2001), networks have the potential to be open over time and space, even though they may be spatially bounded or localized at a particular point in time.

Importantly, the *absence* of emotive trust may *preclude* strategic ties between people and ultimately networks or organizations. This is significant especially from the perspective of coalition strategies among workers (and unions, more formally) or collaborative strategies among firms, *and may help to explain why interactive maneuvers fail or are suboptimal*. The reification of organizations or networks in discussions of ‘reciprocity’, ‘trust’, and the like in worker coalitions or inter-firm ties, and disregard for microspaces and *people* more generally, overlook critical opportunities for effective connection. The argument here suggests that *bottom-up*, relational strategies based on the multiple rationalities of interpersonal relations are more effective in a collaborative environment than connections between top-down, hierarchically organized networks whereby ties are sought between bosses, leaders, executives, or representatives based on a single logic and disconnected from the people who are supposed to interact.

In the case of social change among workers, and as shown in the first anecdote in Section 3.3, effective mobilization either within communities or across space may depend on social relations embedded in an emotive-based network. Multiple logics and overlapping networks may be a critical means by which bottom-up organization occurs.

14 Sako (1992) also dehomogenized trust in a study of inter-firm relations in Britain and Japan. He discussed ‘contractual trust’ (based on ethical standards of holding to a promise or agreement); ‘competence trust’ (based on performance, and similar to what I call ‘capacity trust’); and ‘goodwill trust’ (based on faith that another has a moral commitment to maintain a trading relationship). I consider contractual trust as embedded within goodwill trust; Sako does not because he contrasts different types of corporate culture (arms-length relations as in the case of British firms versus obligational relations as in the case of Japanese firms) and considers goodwill trust a vital element of obligatory relations yet outside the purview of arms-length relations. I disagree because arms-length relations in the absence of goodwill trust often means that contracts are broken; thus, goodwill trust is a vital element of any sustained relationship even though the nature of relations may differ significantly in different contexts. Sako’s ‘goodwill trust’ is similar to what I call ‘emotive trust’ because he recognizes the importance of familiarity, non-economic ties, and he also mentions emotion. That said, his approach to dehomogenizing trust nonetheless differs from mine overall because he uses bounded rationality to frame his trusts. As a consequence, Sako considers behavior predictable in the context of trusts operating according to an economic logic. In contrast, multiple rationalities in my account render behavior unpredictable. Theory in my approach is not about predicting behavior, but rather concerns theorization of the conditions that render a particular outcome possible.

Formidable barriers to worker mobilization, especially on an inter-community basis, include corporate strategies such as capital flight following local conflict, when firms are locally *disembedded* by virtue of negligible sunk costs; in such cases, communities of workers are pitted against one another in a zero sum game of comparative wages (Grabher, 1994; Ettlinger, 1999). Such circumstances engender *distrust* among workers of different communities, the predicament of labor. Under such circumstances bridges may perhaps be most effectively forged on the basis of emotive trust underlying ties among persons in different networks that are independent of a particular coalitional venture.

In the case of firm competitiveness, and as shown in the second anecdote in Section 3.3, inter-firm collaboration and accessing critical, non-codifiable information externally is increasingly common under conditions of demand for customization, rapid delivery, and escalating competition. Overlapping networks may be crucial to such interaction, although to date the issue is unexplored. We do know that there are competitive horizons beyond JIT production, notably *agile* production. Agility refers to firms' ability to tap external resources to quickly design, produce, and deliver customized orders, and it requires the construction of ephemeral networks in a *virtual* corporation (Goldman et al., 1995; Preiss et al., 1996; Greis and Kasarda, 1997). A relatively emergent case in point is the Agile Web, an umbrella organization of under 30 small manufacturers in eastern Pennsylvania, formally established in 1995; the Web is a federation of firms encompassing a permanent stream of collaboration in which select companies network on particular projects and dissolve those linkages to form new networks for other projects in a continual process of network formation, dissolution, formation, and so on. The main selling point of the Web, and the central value placed on the Web by customers is the appropriate set of diverse competencies for specific, customized orders. According to Ted Y. Nickel, the CEO of the Agile Web, beyond surface problems such as legal matters and the development of standard agreements, a critical issue for agile-style collaboration is 'personal trust and confidence that has been built up by these folks being together and working together' (cited in Sheridan, 1996). As a caveat, Preiss et al. (1996) in their work on agility and virtual corporations have discussed a significant 'trust gap' in US corporate culture and, further, US firms continue to invest more in technology than in people relative to their counterparts in other countries (see also MacDuffie and Kochan, 1995; Ettlinger and Patton, 1996; Ettlinger and Tufford, 1996). Investment priority in technology rather than people has consequences in any case, but especially for new forms of organization that respond to new types of stimuli, such as customized demand. In the words of W. Scott Wade, a Texas Instrument executive 'on loan' to the Web, 'The only way you are going to make rapid decisions is by giving information to the lowest level in the organization structure that is required to make a decision. If you have hierarchical information you can't be rapid' (cited in Sheridan, 1993). Very much at issue here are *bottom-up* processes that must crystallize to insure effective interaction. Although the Agile Web has been effective, Steve Yohe, the President of one of the Web's firms (SurTech Industries in York, Pa) indicated that, 'The trust issue has been a little harder to work through than we thought. And the trust and cooperation issues still have to be worked on. We aren't yet responding to the customer as quickly as we'd like' (cited in Sheridan, 1996). To date, technical matters such as software and communication standards and measurement issues have received the lion's share of attention regarding 'the new economy' (Luking-Reiley and Spulber, 2001) without much regard for the critical social relations

that underpin inter-firm transactions. The framework offered in this paper suggests that effective inter-firm collaboration and access to non-codifiable information may depend on whether individuals forging inter-firm ties can strategically overlap different ties from different networks associated with different rationalities.

4.4. A caveat, and towards thinking normatively about the instrumental use of overlapping networks

Stated explicitly in terms of power relations, this paper has interwoven different conceptualizations of power. Allen (1997, 1999) has provided a useful classification of concepts of power, including: power as being located in a position (e.g. manager, labor representative); power as produced through networks; and the practices of power in everyday life. Although Allen (1999) argued for certain notions of power over others (power through networks and the practices of power *instead* of the location of power), I regard all the concepts of power as different forms or expressions of power that are in operation at all times; at issue is the *interrelation* of forms of power.

I argued at the outset that the workplace is a critical context for change because this is where people carry out most of their daily lives; practices of work are themselves practices of power that may be subject to, or require, change. The power to construct change in the practices of work can be created or produced specifically through overlapping networks associated with multiple rationalities. The practice of power in daily life *through* overlapping networks is a matter of transforming trusts. I have considered bottom-up organization, where power is 'located' away from the top of a formal hierarchy, as especially critical to effective change. Empirically, however, this mode of organization is much less common than top-down organization, helping to explain inefficiencies or why work-related missions may fall short of their goals. The transfer of intangible resources such as trust, across persons outside conventional loci of power in overlapping networks, entails a type of trust, emotive trust, that may cement capacity trust in the daily practices of work. Although persons in leading, managerial, or supervisory positions across workplaces may also interact and thereby transfer and transform emotive trust among themselves, this may be inconsequential to the *practices* of work if workers themselves are not fundamentally involved in the transfer of intangibles; hierarchy matters.

The examples pursued thus far, whether regarding competitiveness or workers' rights, pertain to the construction of positive change via the transformation of trusts across social networks. That said, similar processes can occur towards the construction of negative change; power relations associated with 'old boy networks', nepotism, and many other isms that entail discriminatory practices come to mind. Daily practices of power can engender multiple inequities and can propel negative change. Thoughts and feelings can give rise to jealousy, anger, and fear just as much as trust. The variety of thoughts and feelings have consequences for positive as well as negative outcomes. This paper has focused specifically on trust, which itself may have positive or negative outcomes. I have focused on positive outcomes, yet I suggest no inevitability. My theoretical concern is with the conditions that render particular actions possible, not with predicting behavior.

If we embrace the judgement that inclusive and equitable social relations are morally appropriate as well as potentially conducive to an economic rationality (Ettlinger 2000a, 2002), then we aim to construct positive change and thwart destructive change.

Both these efforts require understanding the dynamics as well as the instrumental value of overlapping networks, types of trusts, and multiple rationalities. Resolving problems of inequities wrought of power relations in informal, overlapping networks cannot simply be a matter of relying on formal bureaucratic rationalism because such organizational forms are based on a unidimensional rationality that presumes a unidimensional worker consistent with the model of majority workers, thus embedding *a priori* vehicles of exclusion for minorities (Ettlinger, 2000a; Rankin, 2001). Beyond constructing positive change, at issue is dismantling the power of networks oriented to destructive change by recognizing their existence, unraveling their dynamics, and obstructing the mechanisms by which inequities are rendered. Although most if not all workplaces are formally organized, the informal organization of social relations, especially in the context of collaboration, may be instrumental to change in the practices of work regarding both constructive and destructive pathways. Without this understanding, purposeful constructive change may be a far sighted goal and destructive change may routinely prevail.

5. Summary and conclusion

Economic geography has progressed in recent years by being open to conceptual crosscurrents within the social sciences as well as humanities. The accentuation of a relational approach to human behavior and change is one such 'turn' (Massey, 1991; Massey with the Collective, 1999; Amin, 2000). This paper is an effort to extend relational thinking by developing a network approach while at the same time adopting a microspace approach. While 'relational' directs attention to the interactions among people and networks, the microspace dimension calls attention to the nodes, *people*, and their *universes of interaction*. The microspace approach helps avoid reifying networks. Analysis is not fixed at a particular unit of analysis, such as network(s) or person(s); rather, it is fluid, and moves between the two to permit analysis of *interpersonal* interaction, in contrast to more conventional approaches in economic geography that focus on inter-organizational relations. At issue is *not* the study of interpersonal instead of inter-organizational relations, but rather an approach that permits analysis of inter-organizational relations through the lense of people and their universes of interaction. Such interactions occur across networks that may crosscut formal organizations such as firms as well as informal organizations. I suggest that interpersonal relations, especially in the context of collaboration to purposefully construct change (whether to enhance competitiveness or workers' rights), may be critical to achieving change in the daily practices of work. Understanding interpersonal interactions and their significance entails recognizing multiple rationalities associated with different spheres of life, and further, recognizing the overlap of individuals' networks. In contrast to conventional notions of rationality (unbounded, bounded, or selective), individuals carry thoughts and feelings across spheres of living and across networks, such that behaviors and interaction in one place are affected and become blurred with those in another. Overlaps of networks are themselves insufficient to constitute effective or strategic 'bridges', across which critical tangible and intangible resources flow. In this regard, the framework offered here differs from conventional diffusion frameworks that tend to focus more on patterns than on processes and thereby readily miss complex and *open* processes associated with knowledge transfer (Fransman, 1994); change is more than a matter of access to new information.

In particular, I suggest that strategic bridges are founded on *emotive trust* borne of shared experience that is developed in one network and becomes transformed into *capacity trust* in another network. Such processes in the reverse, the transformation of capacity into emotive trust over time and across spheres of life, also are conceivable. In the interests of space, however, I have confined my discussion to one type of transformation as well as to a positive (as opposed to negative) orientation of change. My hope is that this paper may stimulate interest in researching other transformations (e.g. the transformation of capacity into emotive trust) and a broader range of emotions to include negative sentiments (e.g. jealousy, insecurity) to understand the similarities and differences among contexts that engender different types of transformations, entail different types of emotions, and have different outcomes. Irrespective of the specific focus, identifying strategic bridges and related processes must entail a research strategy that draws from narrative accounts of peoples' interactions, thoughts, and feelings.

Another avenue towards comparative future research pertains to the limited scope of this paper regarding its Cartesian frame of reference. The anecdotes I have offered and discussed entail face-to-face contact (albeit in different spheres of life in different locations). Just as pertinent, however, yet less well known empirically in economic-related contexts, are sources and practices of cohesion *across* space through, for example, imagined communities or virtuality.¹⁵

Beyond the epistemological value of relational and microspace thinking, I suggest ontologically that informally developed social relations, specifically on a bottom-up basis, are critical to achieving change in the daily practices of work in a collaborative environment. This paper has focused on the purposeful construction of positive changes while recognizing that such outcomes are not inevitable, and further, that destructive pathways are as likely. Embracing the normative view that inclusive and equitable social relations are morally appropriate as well as potentially conducive to an economic rationality, relational and microspace thinking are as important to fostering constructive change as to thwarting destructive change associated with discriminatory practices.

Acknowledgements

An earlier version of this paper was presented at the annual meeting of the Association of American Geographers in Los Angeles, 2002, in one of several sessions organized by the guest editors of this issue of *JEG*, Jeff Boggs and Norma Rantisi. This paper has benefited from constructive and thoughtful comments from many people, including Neil Wrigley, Jeff Boggs, Norma Rantisi, anonymous reviewers for *JEG*, as well as Fernando Bosco, James Murphy, Wendy Patton, Dominic Power, Dan Reff, and Melissa Wright. I am solely responsible for all shortcomings.

15 Although virtuality in particular is no stranger to economic-related literatures, there is little in this literature that deals with issues of social relations. We know, for example, that virtual team work in firms can both reinforce old patterns of inequity as well as create new ones (Symons, 1997), yet to date there has been scant concern for how virtual teams can be effective in light of the social problems that are enhanced or created. Apart from virtuality, the concept of 'imagined community' associated with material markers such a national flag (Anderson, 1991) has interesting potential for analysis of cohesion among people collaborating in different workplaces in the absence of face-to-face contact; see for example Bosco's (2001) analysis of how members of a social movement organization maintain cohesion across space through using material markers as well as ritual practices.

References

- Allen, J. (1997) Economies of power and space. In R. Lee and J. Wills (eds) *Geographies of Economies*. New York: Arnold.
- Allen, J. (1999) Spatial assemblages of power: from domination to empowerment. In D. Massey, J. Allen, and P. Sarre (eds) *Human Geography Today*. Malden, MA: Blackwell.
- Alvarez, S. E., Dagnino, E., Escobar, A., (eds) (1998) *Cultures of Politics, Politics of Cultures: Revisioning Latin American Social Movements*. Boulder: Westview.
- Amin, A. (2000) Spatialities of globalisation. Paper presented at the Conference on Economic Geography, Singapore.
- Amin, A., Thrift, N. (1997) Globalization, socio-economics, territoriality. In R. Lee and J. Wills (eds) *Geographies of Economies*. New York: Arnold.
- Anderson, B. (1991) *Imagined Communities: Reflections on the Origins and Spread of Nationalism*. London: Verso (revised edition).
- Anderson, K., Smith, S. J. (2001) Editorial: Emotional geographies. *Transactions of the Institute of British Geographers*, NS, 26: 7–10.
- Ansell, C. K. (1997) Symbolic networks: the realignment of the French working class, 1887–1894. *American Journal of Sociology*, 103: 359–390.
- Barnes, T., Gregory, D. (eds) (1997) *Reading Human Geography: The Poetics and Politics of Inquiry*. New York: Arnold.
- Bingham, N., Thrift, N. (2000) Some new instructions for travelers: the geography of Bruno Latour and Michel Serres. In M. Crang and N. Thrift (eds) *Thinking Space*. New York: Routledge.
- Bosco, F. (2001) Place, space, networks and the sustainability of collective action. *Global Networks: A Journal of Transnational Affairs*, 1: 1470–2266.
- Burt, R. (1992) *Structural Holes: The Social Structure of Competition*. Cambridge, MA: Harvard University Press.
- Coleman, J. S. (1990) *Foundations of Social Theory*. Cambridge, MA: Harvard University Press.
- Conlisk, J. (1996) Why bounded rationality? *Journal of Economic Literature*, 34: 669–700.
- Cook, I., Crouch, D., Naylor, S., Ryan, J. R. (eds) (2000) *Cultural Turns/Geographical Turns: Perspectives on Cultural Geography*. New York: Prentice Hall.
- Cooke, P., Morgan, K. (1998) *The Associational Economy: Firms, Regions, Innovation*. Oxford: Oxford University Press.
- Crang, P. (1997) Introduction: cultural turns and the (re)constitution of economic geography. In R. Lee and J. Wills (eds) *Geographies of Economies*. New York: Arnold.
- Crang, M. (1998) *Cultural Geography*. New York: Routledge.
- Dicken, P., Kelly, P. F., Olds, K., Yeung, H. W.-C. (2001) Chains and networks, territories and scales: towards a relational framework for analysing the global economy. *Global Networks*, 1: 89–112.
- DiMaggio, P. (1992) Nadel's paradox revisited: relational and cultural aspects of organizational structure. In N. Nohria and R. G. Eccles (eds) *Networks and Organizations: Structure, Form, and Action*. Boston: Harvard Business School Press.
- Dyer, J. H. H., Singh, H. (1998) The relational view: cooperative strategy and sources of interorganizational competitive advantage. *Academy of Management Review*, 23: 650–679.
- Emirbayer, M. (1997) Manifesto for a relational sociology. *American Journal of Sociology*, 103: 281–317.
- Emirbayer, M., Goodwin, J. (1994) Network analysis, culture, and the problem of agency. *American Journal of Sociology*, 6: 1411–1454.
- Engardio, P. (2001) Why the supply chain broke down. *Business Week*, 19 March: 41.
- Erickson, B. H. (1996) Culture, class, and connections. *American Journal of Sociology*, 102: 217–251.
- Escobar, A. (1995) *Encountering Development: The Making and Unmaking of the Third World*. Princeton: Princeton University Press.
- Ettliger, N. (1999) Local trajectories in the global economy. *Progress in Human Geography*, 23: 335–357.

- Ettlinger, N. (2000a) Frontiers of flexibility and the importance of space and place. Paper presented at a workshop on 'The Firm in Economic Geography'. Portsmouth, UK.
- Ettlinger, N. (2000b). Labor market and industrial change: the competitive advantage and challenge of harnessing diversity. *Competition and Change*, 4: 171–210.
- Ettlinger, N. (2002) The difference that difference makes in the mobilization of workers. *International Journal of Urban and Regional Research*, 26: 834–843.
- Ettlinger, N., Patton, W. (1996) Shared performance: the proactive diffusion of competitiveness and industrial and local development. *Annals of the Association of American Geographers*, 86: 286–305.
- Ettlinger, N., Tufford, M. (1996) Evaluating small firm performance in local context: a case study of manufacturers in Columbus, Ohio. *Small Business Economics*, 8: 139–157.
- Folbre, N. (1994) *Who Pays for the Kids? Gender and the Structures of Constraint*. New York: Routledge.
- Folbre, N., Himmelweit, S. (guest eds) (2000) Special issue on children and family policy. *Feminist Economics*, 6 (1).
- Fransman, M. (1994) Information, knowledge, vision and theories of the firm. *Industrial and Corporate Change*, 3: 713–757.
- Fraser, N. (1999) Social justice in the age of identity politics: redistribution, recognition, and participation. In L. Ray and A. Sayer (eds) *Culture and Economy after the Cultural Turn*. Thousand Oaks: Sage.
- Gereffi, G., Korzeniewicz, M. (eds) (1994) *Global Commodity Chains and Global Capitalism*. Westport, CT: Praeger.
- Gertler, M. (1997) The invention of regional culture. In R. Lee and J. Wills (eds) *Geographies of Economies*. New York: Arnold.
- Goldman, S. L., Nagel, R. N., Preiss, K. (1995) *Agile Competitors and Virtual Organizations: Strategies for Enriching the Customer*. New York: Van Nostrand Reinhold.
- Grabher, G. (1994) The disembedded regional economy: the transformation of east German industrial complexes in western enclaves. In A. Amin and N. Thrift (eds) *Globalization, Institutions, and Regional Development in Europe*. New York: Oxford University Press.
- Grabher, G. (guest ed.) (2002a) *Productions in Projects: Economic Geographies of Collective Collaboration, Regional Studies*, 36 (3).
- Grabher, G. (2002b) Cool projects, boring institutions: temporary collaboration in social context. *Regional Studies*, 36: 205–214.
- Granovetter, M. (1973) The strength of weak ties. *American Journal of Sociology*, 78: 1360–1380.
- Granovetter, M. (1974) *Getting a Job*. Cambridge, MA: Harvard University Press.
- Granovetter, M. (1985) Economic action and social structure: the problem of embeddedness. *American Journal of Sociology*, 91: 481–510.
- Granovetter, M. (1995) The economic sociology of firms and entrepreneurs. In A. Portes (ed.) *The Economic Sociology of Immigration: Essays on Networks, Ethnicity, and Entrepreneurship*. New York: Russell Sage Foundation.
- Grant, R. M. (1998) Prospering in dynamically-competitive environments: organizational capability as knowledge integration. In A. Y. Illinitch, A. Y. Lewin, and R. D'Aveni (eds) *Managing in Times of Disorder: Hypercompetitive Organizational Responses*. Thousand Oaks: Sage.
- Greis, N. P., Kasarda, J. D. (1997) Enterprise logistics in the information era. *California Management Review*, 39: 55–78.
- Håkanson, L. (1979) Towards a theory of location and corporate growth. In F. E. I. Hamilton and G. J. R. Linge (eds) *Spatial Analysis, Industry and the Industrial Environment*. Vol. I, *Industrial Systems*. New York: Wiley.
- Hanson, S. (2000) Networking. *Professional Geographer*, 52: 751–758.
- Hanson, S., Pratt, G. (1995) *Gender, Work, and Space*. New York: Routledge.
- Helper, S. (1990) Comparative supplier relations in the US and Japanese auto industries: an exit-voice approach. *Business and Economic History*, 19: 153–162.

- Kale, P., Singh, H., Perlmutter, H. (2000) Learning and protection of proprietary assets in strategic alliances: building relational capital. *Strategic Management Journal*, 21: 217–237.
- Kogut, B. (2000) The network as knowledge: generative rules and the emergence of structure. *Strategic Management Journal*, 21: 405–425.
- Lash, S., Urry, J. (1994) *Economies of Signs and Space*. Sage: London.
- Law, J., Hassard, J. (eds) (1999) *Actor Network Theory and After*. Malden, MA: Blackwell.
- Lee, R. (2000) Shelter from the storm? Geographies of regard in the worlds of horticultural consumption and production. *Geoforum*, 31: 137–157.
- Leibenstein, H. (1978) On the basic propositions of x-efficiency theory. *American Economic Review*, 68: 328–332.
- Leslie, D., Reimer, S. (1999) Spatializing commodity chains. *Progress in Human Geography*, 23: 401–420.
- Llobrero, J. T., Meyer, D. R., Nammacher, G. (2000) Trajectories of industrial districts: impact of strategic intervention in medical districts. *Economic Geography*, 76: 68–98.
- Lorenz, E. H. (1992) Trust and the flexible firm: international comparisons. *Industrial Relations*, 31: 255–472.
- MacDuffie, J. P., Kochan, T. A. (1995) Do U.S. auto firms invest less in human resources? Training in the world auto industry. *Industry Relations*, 34: 147–168.
- Malecki, E. J. (ed.) (1999) *Making Connections: Technological Learning and Regional Economic Change*. Brookfield, VT: Ashgate.
- Martin, R., Sunley, P. (1998) Slow convergence? The new endogenous growth theory and regional development. *Economic Geography*, 74: 201–227.
- Massey, D. (1991) A global sense of place. *Marxism Today*, June, 24–29.
- Massey, D. (1997) Economic/non-economic. In R. Lee and J. Wills (eds) *Geographies of Economies*. New York: Arnold.
- Massey, D., Allen, J., Sarre, P. (eds) (1999) *Human Geography Today*. Malden, MA: Blackwell.
- Massey, D. with the Collective. (1999) Issues and debates. In D. Massey, J. Allen, and P. Sarre (eds) *Human Geography Today*. Malden, MA: Blackwell.
- May, J., Thrift, N. (eds) (2001) *Timespace: Geographies of Temporality*. New York: Routledge.
- McDowell, L. (1998) A tale of two cities? Embedded organizations and embodied workers in the city of London. In R. Lee and J. Wills (eds) *Geographies of Economies*. New York: Arnold.
- McDowell, L. (2001) Linking scales: or how research about gender raises new issues for economic geography. *Journal of Economic Geography*, 1: 227–250.
- McDowell, L., Sharp, J. P. (eds) (1997) *Space, Gender, Knowledge*. New York: Arnold.
- McDowell, L., Court, G. (1994) Missing subjects: gender sexuality and power in merchant banking. *Economic Geography*, 70: 229–251.
- Meyer, D. R. (1998) Formation of advanced technology districts: New England textile machinery and firearms, 1790–1820. *Economic Geography*, extra issue for the 1998 annual meeting of the Association of American Geographers 31–40.
- Mitchell, D. (1998) The scales of justice: localist ideology, large-scale production, and agricultural labor's geography of resistance in 1930s California. In A. Herod (ed.) *Organizing the Landscape: Geographical Perspectives on Labor Unionism*. Minneapolis: University of Minnesota Press.
- Mitchell, D. (2000) *Cultural Geography: A Critical Introduction*. Malden, MA: Blackwell.
- Nonaka, I. (1994) A dynamic theory of organizational knowledge creation. *Organization Science*, 5: 14–37.
- Perry, M. (1999) *Small Firms and Network Economies*. New York: Routledge.
- Piore, M. J. (ed.) (1979) *Unemployment and Inflation: Institutional and Structuralist Views*. White Plains, NY: M.E. Sharpe, Inc.
- Power, D. (2002) Cultural industries in Sweden: an assessment of their place in the Swedish economy. *Economic Geography*, 78, 103–127.
- Pratt, G. (1999) Geographies of identity and difference: marking boundaries. In D. Massey, J. Allen, and P. Sarre (eds) *Human Geography Today*. Malden, MA: Blackwell.

- Preiss, K., Goldman, S. L., Nagel, R. N. (1996) *Cooperate to Compete: Building Agile Relationships*. New York: Van Nostrand Reinhold.
- Rankin, K. N. (2001) Governing development: neoliberalism, microcredit, and rational economic woman. *Economy and Society*, 30: 18–37.
- Ray, L., Sayer, A. (eds) (1999) *Culture and Economy after the Cultural Turn*. Thousand Oaks: Sage.
- Reskin, B. F., Padovic, I. (1994) *Women and Men at Work*. Thousand Oaks: Pine Forge Press.
- Sabel, C. F. (1979) Marginal workers in industrial society. In M. J. Piore (ed.) *Unemployment and Inflation: Institutional and Structuralist Views*. White Plains, NY: M.E. Sharpe, Inc.
- Sako, M. (1992) *Prices, Quality and Trust: Inter-Firm Relations in Britain and Japan*. Cambridge: Cambridge University Press.
- Salaff, J. W. (1992) Women, the family, and the state in Hong Kong, Taiwan, and Singapore. In R. P. Appelbaum and J. Henderson (eds) *States and Development in the Asian Pacific Rim*. Newbury Park: Sage.
- Savage, L. (1998) Geographies of organizing: justice for janitors in Los Angeles. In A. Herod (ed.) *Organizing the Landscape: Geographical Perspectives on Labor Unionism*. Minneapolis: University of Minnesota Press.
- Sayer, A. (1997) The dialectic of culture and economy. In R. Lee and J. Wills (eds) *Geographies of Economies*. New York: Arnold.
- Schoenberger, E. (1997) *The Cultural Crisis of the Firm*. Cambridge, MA: Blackwell.
- Scott, A. J. (1988) *New Industrial Spaces: Flexible Production Organization and Regional Development in North America and Western Europe*. London: Pion.
- Scott, A. J. (2000) *The Cultural Economy of Cities: Essays on the Geography of Image-Producing Industries*. London: Sage.
- Sheppard, E. (2001) How economists' think: about geography, for example. *Journal of Economic Geography*, 1: 131–136.
- Sheridan, J. H. (1993) Agile manufacturing: stepping beyond lean production. *Industry Week*, 242, 19 April: 30–38.
- Sheridan, J. H. (1996) The agile web: a model for the future? *Industry Week*, 245, 4 March: 31–35.
- Simon, H. A. (1957) *Administrative Behavior* (2nd edn). New York: MacMillan.
- Storper, M. (1997) *The Regional World: Territorial Development in a Global Economy*. New York: Guilford.
- Swyngedouw, E. (1997) Neither global nor local: 'glocalization' and the politics of scale. In K. Cox (ed.) *Spaces of Globalization: Reasserting the Power of the Local*. New York: Guilford.
- Symons, F. (1997) Virtual departments, power, and location in different organizational settings. *Economic Geography*, 73: 427–444.
- Thrift, N. (1999) Capitalism's cultural turn. In L. Ray and A. Sayer (eds) *Culture and Economy after the Cultural Turn*. Thousand Oaks: Sage.
- Thrift, N. (2000) Performing cultures in the new economy. *Annals of the Association of American Geographers*, 90: 674–692.
- Uzzi, B. (1996) The sources and consequences of embeddedness for the economic performance of organizations: the network effect. *American Sociological Review*, 61: 674–699.
- Uzzi, B. (1999) Embeddedness in the making of financial capital: how social relations and networks benefit firms seeking financing. *American Sociological Review*, 64: 481–505.
- Waterman, P. (1998) *Globalization, Social Movements, and the New Internationalisms*. Washington, DC: Mansell.
- Waterman, P., Wills, J. (eds) (2001) *Antipode*, special issue on New Labour Internationalisms, 33, 3.
- Young, I. M. (1990) *Justice and the Politics of Difference*. Princeton: Princeton University Press.
- Young, I.M. (2000) *Inclusion and Democracy*. New York: Oxford University Press.
- Zukin, S. (1997) Cultural strategies of economic development and the hegemony of vision. In A. Merrifield and E. Swyngedouw (eds) *The Urbanization of Injustice*. New York: New York University Press.