

LEAN ENOUGH

FACTORY RELATIONS OF PRODUCTION UNDER NEOLIBERAL GLOBALIZATION

Matt Vidal

Chapter 1. Introduction

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1.1 The continuing centrality and declining importance of manufacturing

Manufacturing is vital to the economy of the United States of America and will likely remain so throughout the 21st century. The manufacturing sector does not simply produce goods from cars to computers to clothes. It is also the primary source of technological innovation in the economy. Modern factories producing durable goods are technological marvels. In metals manufacturing, for example, modern factories use sophisticated computerized machine tools, massive hydraulic presses, progressive dies with dozens of stations, multiple-tool machining centers, proprietary industrial robots, laser cutters, plasma cutters, self-cleaning and lubricating conveyor belts, and so on. In addition to these and countless other *physical* process innovations, the manufacturing sector has been a fertile source of *organizational* process (managerial) innovations. Frederick Winslow Taylor's "scientific management," an early capitalist managerial innovation developed at the beginning of the 20th century for manufacturing, was heralded equally by Vladimir Lenin and Henry Ford and is now widely applied in the service sector in the 21st century. Another widely celebrated organizational process innovation developed in the manufacturing sector is lean production, the subject of this dissertation.

Equally, if not more important than such process innovations are the new products that are continually turned out by the manufacturing sector, the innovations from which periodically cumulate into industrial "revolutions." Indeed, microprocessor-based and new information technologies have supposedly transformed the old economy into a knowledge economy.

It is debatable whether the most accurate way to describe the 21st century American economy is knowledge-based, postindustrial or, as I prefer, postfordist. What is

hard to debate, however, is that the manufacturing sector has been the primary source of productivity growth in the economy and, indeed, was the material basis of the development of the American middle class in the 20th century. Internal labor markets and family-supporting jobs with long-term security, located in large manufacturing firms and created by a great class compromise between big business and big labor, formed the foundation of strong economic growth in the United States during the 1950s and '60s, generating broadly-shared prosperity.

The American manufacturing sector, however, experienced intense international competition in the 1970s, setting off waves of industrial restructuring as domestic manufacturing employment continued a steady decline. The manufacturing share of total employment went from 25 percent in 1970 to just 10 percent in 2006. Some of the decline in manufacturing employment is surely due to productivity improvement. But certainly the rise in offshore outsourcing has substantially contributed to domestic job loss, particularly the four million manufacturing jobs lost in the seven years between 1998 and 2005. During the 1970s and '80s corporate restructuring occurred through the vertical disintegration of large firms, in which brand-name companies outsourced much of the production to smaller suppliers, keeping only design and assembly in-house. And, particularly in the 1990s, much of the supply of components was outsourced overseas. As Charles McMillion of MBG Information Services has calculated, by 2003 the US market was demanding \$1 billion more per day than the domestic manufacturing sector was producing (2003).

How much can the US manufacturing sector continue to shrink? Is all the manufacturing work eventually going to China and other developing countries with low

labor costs? In my field work on manufacturing, I have heard high-level purchasing managers in major multinational corporations suggest that, with corporate philosophies of asset reduction becoming more common, multinationals will eventually even outsource assembly along with the production of components. Many of these corporations believe their so-called core competence is in design; assembly may or may not be considered a core competence. But it is questionable whether design (or market knowledge) can be sustainably separated from manufacture (Bettis et al. 1992). Indeed, many smaller domestic supplier firms, and many in the labor movement, fear that China will eventually learn to design its own products and compete for serious market share with large, US-based multinational corporations. By outsourcing all of their production offshore, US corporations are sealing their own fate.

I believe that the market and political power of the US multinationals is extensive and intensive enough that they will continue to retain significant market share, if a declining proportion. And I think it is likely that there will always be assembly in the United States along with some production of components by subcontractors. Companies like to do final assembly of products close to the markets where they sell, and they often prefer key suppliers to be located close to their assembly plants. But nightmarish scenarios of industrial decline need to be taken seriously; the global economy is extremely dynamic, economic development is a spatially uneven process of growth and decline, and multinational corporations are a mostly disloyal, often myopic lot. In any case, the sector of smaller, domestically-rooted firms that supply components to the large US multinationals is under threat.

For the present and foreseeable future, manufacturing remains central to the US economy in terms of innovation and productivity. But at just 10 percent of total employment and declining, it is hard to see how it can play the key role that it did in the 20th century of creating and sustaining a broad middle class. Thus, *while central in terms of innovation and productivity, manufacturing is declining in its importance to the economy in terms its ability to provide family-supporting jobs for entire economic regions*. This declining importance of the manufacturing sector for overall job and wage growth in the US economy may be inevitable in a globalizing world, where international trade and economic and social integration are steadily increasing. But it is greatly exacerbated by the fact that globalization is being structured by neoliberals in the state and in the boardroom.¹

On the economic side, the globalization of markets and production can make it economical for work to go overseas. Highly labor-intense manufacturing processes can be done more efficiently in regions with low labor costs. And rather than keep work out of developing countries, it is good that more manufacturing work goes to them so long as it is regulated by strict, well-enforced labor and environmental standards. At the same time, it is important to remember that Wal-Mart, competing through relentless cost cutting in the management of its own labor and its supply chains, cannot fill Ford's shoes.

On the political side, there are options. The main political choices involve the policies and practices that shape globalization processes. The current round of

¹ Neoliberal globalization may also ultimately threaten the technological capacity of the US manufacturing sector, for example, if by offshoring production the sector also loses design capacity. But capitalism has continually beaten dire predictions of its unsustainability, and while social science can make predictions, it is not very good at them because society is an open system, ultimately the outcome of multiple causal forces at multiple levels. The declining ability of the US economy to support a middle class, however, is in evidence now with rising inequality and growing underemployment, as anyone who reads the newspaper regularly can see.

globalization is broadly neoliberal, where neoliberalism is understood as a post-Keynesian political project aimed at extending capitalist property rights and investor security, primarily in the service of transnational and financial capital, through flexibilized and weakened labor, mobilized capital, a form of structured trade relations labeled “free,” and a form of state intervention labeled “deregulation.”

There are alternatives to neoliberal globalization. To fully understand these options we need to understand the economics on the ground: how are the actual factories responding to the challenges of a globalizing economy and, indeed, shaping the process of globalization itself? This is a large question with many different aspects. The particular aspect that gets the bulk of my analytical attention is the question of how managers develop and implement organizational strategy.²

Theoretically, my concerns are twofold. First, how do managers conceive their organizational environment and what pressures do they face? Second, how do their organizations – capitalist firms employing labor and managing complex logistical problems (e.g., supply chains) to extract surplus value (generate profit) – respond? Empirically, the central problem, understanding and explaining organizational change in manufacturing, can be framed in two different ways. In ecological terms, is organizational diversity in manufacturing decreasing or increasing (and how are organizational environments structured by isomorphic and polymorphic pressures)? In historical terms, what does the transition from Fordist mass production look like on the ground?

² The macroeconomic concerns regarding economic growth may seem far removed from the microeconomic issues of organizational behavior and change. But to get the former right we need to understand how the people running factories feel and react to market and institutional forces.

1.2 Organizational change in manufacturing: Ecological questions

The Manufacturing Extension Partnership (MEP), a program of the US National Institute of Standards and Technology (NIST), consists of over 60 local centers designed to help small and medium sized manufacturers. It is the only state-funded program of its kind in the US.³ Over 2003 and 2004, the US Department of Commerce and the National Institute of Standards and Technology commissioned two reports by the National Association of Public Administration (NAPA) to assess the effectiveness of the Manufacturing Extension Partnership program. NAPA confirmed the effectiveness of the MEP program in serving its market, but also suggested substantial reforms. As a result the Bush II administration decided to “recompete” the MEP for federal funding in 2004.

In 2004 NIST held a series of listening meetings to gain feedback on the NAPA recommendations, billed as “Next Generation MEP” meetings. I attended one of these meetings convened by an influential group of large Wisconsin manufacturers. At the meeting six major multinational corporations – five with headquarters or major operations in Wisconsin and one from Illinois – voiced their support for the Manufacturing Extension Partnership in general and the Wisconsin Manufacturing

³ A note on terminology: for various reasons academics use the term “the state” to refer to what is commonly called “the government” in the US, where the state may refer to either the federal or state governments. I use the latter two terms where necessary for clarity, but I generally use the term “the state” to refer to those apparatuses (branches, agencies, offices, courts, police, etc.) that are part of a broader institutional complex able to exert sovereignty, backed by (a) some degree of popular legitimacy and (b) a monopoly over the means of force or violence within a given territory. The state is also understood here as a *relatively autonomous* source of power: in general it can exercise its power and formulate policy independently from control or coercion by individual capitalists or capitalist class fractions, but is constrained to policies that are generally supportive of expanded capital accumulation and the capitalist class as a whole or, at minimum, excludes policies that threaten the reproduction of the status quo. In general the state functions as a “committee for managing the common affairs” of the capitalist class as a whole (Marx and Engels 1978 [1848]), or the ideal *collective* capitalist (Engels 1970 [1880]), though it is also capable of harnessing its power for its own purposes, for example, megalomaniacal pursuits by a state executive, against the interests of the capitalist class and economy as a whole (Marx 1994 [1852]). For contemporary developments of these arguments see Nicos Poulantzas (1969), Göran Therborn (1978), Claus Offe (1984) and, more recently, Bob Jessop (2002) and Vivek Chibber (2003).

Extension Partnership (WMEP) system in particular. The general template of the MEP is to help small manufacturers, most of whom are suppliers to these large multinationals, in large part by implementing lean manufacturing techniques, a process at which the purchasing and supplier development managers from these six multinational corporations think the WMEP is particularly good.

It is the contention of these managers and engineers that lean manufacturing techniques provide the best opportunity to make US supplier firms globally competitive. As one manager put it at the Next Generation meeting, his corporation will find the cheapest parts, with the best quality and delivery, *wherever* they are produced. As a purchasing manager, he doesn't care where they come from, and he's not concerned about access – his purchasing department will find them. Yet, as a US citizen he is concerned about the US manufacturing base. Most of the managers and MEP agents present at the meeting agree that lean production (and the assistance the MEP can provide in that regard) is the best way to help small manufacturers in compete the global economy. At the same meeting, a representative from the National Institute of Standards and Technology suggested to the group that lean production is now an “off-the-shelf technology.” In other words, from NIST's perspective, implementing lean production is an unproblematic process, a ready capability that can easily be diffused from the MEP centers to firms in the private sector. It is time for the MEP program to expand to new areas in helping small and mid-sized manufacturers, in addition to helping them implement lean organizational techniques.

With all their collective experience, these managers and engineers agree in their belief that lean is the most efficient organizational strategy for manufacturing. And there

is quantitative data to support his belief. In terms of productivity, quality and delivery performance, lean manufacturing plants have been shown to significantly outperform traditional mass production plants (Krafcik 1988; MacDuffie 1995; Oliver et al. 1996; Womack et al. 1990). Further, as indicated by the support from the national Manufacturing Extension Partnership program and the six multinational corporations just discussed, lean production has also emerged to be the normative model of best manufacturing practice in managerial discourse in the United States; it is widely adopted by US managers, management theorists, consultants, and industry associations. In short, lean is both a technically-superior and institutionally-embedded organizational system.

Mainstream theories in both economics and sociology would thus expect increasing homogeneity in organizational form. For economists, whether taking a neoclassical or contractual perspective (e.g., Williamson 1985), competitive forces should discipline firms into adopting the profit maximizing form organizational form. Neoinstitutional sociologists, for their part, expect institutional forces such as professional networks to generate a tendency toward organizational homogeneity (e.g., DiMaggio and Powell 1983). Yet rather than seeing most organizations adopt lean production in its most thorough and efficient form, as a *comprehensive package of complementary lean practices* envisioned in the normative model of lean, I will show that it is implemented in a variety of ways resulting in a diversity of relatively inefficient intermediate cases that are not transitional but stable. Thus, from an ecological perspective, key questions I seek to address in this dissertation include what are the competitive and institutional pressures structuring the environment of organizations in the

manufacturing sector, how are they perceived by organizational members, and how do these organizations formulate strategic responses to their environment.

1.3 Organizational change in manufacturing: Historical questions

These ecological questions, posed at the micro-organizational and meso-institutional levels, are greatly illuminated when put in a broader context of historical and technological change. Specifically, the current round of industrial restructuring can be viewed as part of a broader process of transformation from the Fordist order. At the organizational level, Fordism is used here to refer to the mass production of standardized products, based on supply-driven production of large batches, achieving cost reduction through scale economies, using a Taylorist division of labor that attempts to separate conception and execution through standardization and deskilling.

My analytical focus is at the organizational level of the labor process, but my analysis is motivated and informed by an understanding of Fordism also as a macroeconomic system. Drawing on the work of regulation theory, a French school of political economy, Fordism can be viewed as a stable structural coupling between a regime of accumulation and a mode of regulation. An accumulation regime consists of an economic pattern of growth, in which production, based in a particular labor process, is structurally aligned with consumption. The Fordist accumulation regime combined mass production with mass consumption creating a virtuous circle of growth, where rising productivity was sufficient to generating rising profits and wages (Jessop 1992). However, the accumulation regime only becomes a stable system capable of being reproduced when a mode of regulation – an ensemble of political and social regulatory

mechanisms – is institutionalized to give the accumulation regime coherence and minimize its contradictions. The Fordist mode of regulation involved a class compromise characterized by implicit contracts for lifelong employment (Leborgne and Lipietz 1992), wages indexed to productivity growth, and a Keynesian welfare state that generalized mass consumption norms (Jessop 1992).

External shocks such as the OPEC oil embargos and global economic stagflation in the 1970s combined with market fragmentation and saturation to generate a crisis of Fordism. Organizational forms based on centralization and hierarchical control were rendered problematic in the context of heightened international competition and fragmenting markets. The rigidity and unresponsiveness of vertically integrated firms keeping large inventories and depending on full capacity utilization proved a competitive *disadvantage* vis-à-vis more flexible organizational forms better suited to both the increasingly competitive environment and the fragmentation of demand (Piore and Sabel 1984; Boyer 1997). Meantime, the Keynesian welfare state become less effective for demand management in the face of the emerging unregulated global credit system (Peck and Tickell 2000).

Thus the wave of corporate restructuring that began in the mid 1970s has largely been a transition from Fordist mass production as organizations responded to changing markets and attempted to restore profitability. At the organizational level, key questions concern what the transition looks like on the ground, whether lean production or some other model is the organizational successor to Fordist mass production, and what a transformed postfordist organizational world will look like. These questions ultimately blend into the ecological questions posed above, such that a fuller picture can be painted

by linking the micro-organizational and meso-institutional analysis. Further, the analysis is informed by the macroeconomic and political economy concerns of the broader analysis of Fordism. On macroeconomics, the key questions are how a postfordist accumulation regime, based in a postfordist labor process, is generating (or failing to generate) an economic pattern combining production and consumption, and whether the neoliberal mode of regulation – at the state level and in terms of the governance of globalization – is helping or hindering the accumulation regime? On political economy, my analysis is framed in terms of the traditional Marxist concern with how the forces of production – technology, organizational form – are facilitated and/or constrained by relations of production, the class relations of ownership and control over productive resources.

In the long view, the stakes couldn't possibly be higher: the historical sociology of capitalism sees the international capitalist system as a succession of systemic cycles of accumulation, each cycle dominated and stabilized by a global hegemonic state (Arrighi 1999). That is, a national economy, guided and protected by a state, dominates the international economy for a limited period of time, a "long century," only to decline in power as the global economy continues to change and a new hegemon rises to take the place of the old. The first international cycle of capitalist accumulation was dominated by the Italian city-states, primarily Genoa, in the fifteenth century, followed by the Dutch provinces in the late sixteenth century, England in the eighteenth century, and the United States in the late nineteenth century. This history suggests that the United States is in decline as the global hegemonic power, that its increasing turn away from manufacturing toward finance (Krippner 2005) is part of a larger restructuring of the international

political economy in which a new nation-state will initiate a new international cycle of accumulation. It is not hard to image that that nation-state will be China.

1.4 Overview of the argument: An institutional sociology and political economy of lean manufacturing

The argument in this dissertation has many audiences and two primary theoretical targets. I try to answer the ecological questions in a way that contributes to the theoretical development of the institutional sociology of markets. The historical questions are framed and approached with a view to developing an organizational political economy of lean production, with special emphasis on labor process theory. In answering these complementary questions and constructing an explanatory theoretical framework, I draw from a range of disciplines, including sociology, industrial relations, human resource management, organizational science and organizational economics. The dissertation is primarily an intellectual and scientific undertaking and as such is, unfortunately but necessarily, full of esoteric, technical jargon. But it is an analysis of the real world, full of policy implications. I hope it is accessible enough that non-academics can read it if they have the will.

My empirical analysis begins with a basic distinction between supplier firms and their industrial customers. I refer to the latter as multinational prime contractors, who are typically large final-goods producers associated with a brand name (e.g., Harley-Davidson, John Deere) and are often known in industry as original equipment manufacturers. They generally do not produce most of the parts that go into their products, but rather purchase them from a variety of subcontractors who do casting,

machining, stamping, plastic injection molding and extrusion, subassembly and so on. My primary emphasis is on how these generally smaller suppliers understand their environment and develop and implement strategy, but I have also done substantial field work with multinational prime contractors.

The main empirical argument of this dissertation is that that lean production is, both technically and institutionally, the predominant postfordist organizational form. But the transition from Fordism is not resulting in a convergence around a thoroughly implemented model of complementary lean practices. Rather, I find a diversity of intermediate organizational forms that are not transitional but stable. In the second chapter, beginning with the ecological questions, I provide a critical overview of how the problem of organizational diversity has been theorized in various literatures. The most useful approaches for theorizing the diversity I find are neoinstitutionalist sociology, industrial relations and human resource management. Regarding neoinstitutional sociology, I will argue that, because all organizational environments are constituted by social institutions, neoinstitutional theory should drop the distinction between competitive and institutional environments, seeking instead to see how any particular environment is *jointly constituted* by technical and institutional forces. Further, following Christine Oliver (1997) and Ayse Saka (Saka 2004), neoinstitutional theory needs to focus more on the strategic response of organizations to their environments, including an emphasis on internal organizational processes. The industrial relations and human resource management literatures have generated an impressive amount of empirical work on organizational diversity. But I will argue that they can be improved with an explicit focus on micro power relations, in particular how organizational politics work to generate

and sustain heterogeneous outcomes in postfordist restructuring, including diversity within organizational types.

In chapter three I present detailed qualitative data on plant-level diversity among manufacturing suppliers and other small and mid-sized manufacturers in the US Midwest, with a particular emphasis on diversity within organizational type. This organizational diversity, I will try to show in chapter four, has two sources. First, managers vary in terms of technical focus and aspiration levels, and therefore conceive of lean in different ways. Second, even where managers pursue similar approaches, nondiscretionary differences develop as managers are forced to negotiate change and accommodate cultural obstacles in the workforce. In terms of discretionary differences, I develop a threefold typology of approaches to lean production. With a *lean enough* approach, managers adopt lean structures and methods in a limited and fragmentary fashion. A *lean standardization* approach entails a more systematic commitment to improving workflow and process control, moving beyond relatively haphazard inventory and waste reduction efforts. Finally and most thoroughly, a *learning lean* approach implies adoption of a complementary set of lean practices and a high level of commitment to implementing this set of practices system-wide, focusing systematically on lead time reduction.

The notion of being lean enough refers situations in which managers have implemented enough technical lean practices – reducing inventory, standardizing work and improving process control – to see significant improvements in organizational performance. Managers adopting a lean enough approach become satisfied with these relative improvements over their organization's past (Fordist) performance and do not push forward toward organizationally superior lean standardization or learning lean

systems. The changes made with a lean enough approach are good enough to satisfy factory management and industrial customers.

The fourth and fifth chapters introduce political economy into the institutional sociology as I develop an organizational political economy analysis to explain the diversity of intermediate organizational forms in lean postfordism. Chapter four presents an analysis of the politics of production within supplier factories, and chapter five presents an analysis of the relations of production between firms, particularly industrial customers and their suppliers. In chapter four I will argue that the politics of production are a polymorphic set of institutional forces, and I will specify three sets of mechanism central to the postfordist labor process. First, satisficing managers vary in terms of the conceptual framing of their local context and production strategy, and in terms of their levels of aspiration. Second, worker resistance and reticence are important elements shaping organizational change. Finally, I provide a detailed analysis of workplace culture in terms of how the problem of transforming old organizational routines and establishing new ones affects managerial approach and organizational performance. Each of these sets of mechanisms operates to generate discretionary and nondiscretionary differences in organizational form.

In chapter five I will argue that the supply side of the market for durable goods is an institutional market structured in multiplex ways by the relations of production between firms. My argument here is twofold. First, I attempt to show that conceptions of the competitive context and competitive strategy in supplier factories are shaped by the multifaceted institutional structure of relations of production, from differing norms of subcontracting relations across industries to factional conflict over organizational strategy

within firms. Second, I seek to show that these institutional markets, constituted in part by relations of production between customers and suppliers, are permissive of a limited but significant range of variation in the organizational form and performance of supplier factories.

In the concluding chapter, I provide an extended reflection on my findings and a theoretical reconstruction based on my arguments. I present a narrative restatement of the empirical argument and then a theoretical reconstruction within the organizational political economy framework. I then pull out the implications of my organizational analysis for broader macroeconomic issues, providing some theoretical reflections on the (macro) political economy of lean postfordism under neoliberal globalization.

Neoliberalism is exacerbating the problem, as evidenced by the crisis in the supplier segment manufacturing sector, which absorbed most of the four million jobs lost in the years surrounding 2000. Neoliberalism is a political project that workers rightly resist and organize against. But it is fantasy to think that globalization as such could be resisted. And it shouldn't. Increasing cultural and political integration is a good in its own right. Learning from others encourages tolerance, and increasing diversity benefits communities as well as economies. But equally important, criticisms of so-called free trade and free enterprise should not be mistaken for, or turned into, an argument against markets as such. Exchange of goods and services can be beneficial and, as prohibitions on various types of trade have proven, markets cannot be suppressed in any case. The point is to ensure that the "gains from trade" are more equally shared and the many negative outcomes generated by capitalist trade – inequality, poverty, insecurity – are minimized.

The power generated by capitalist control of the means of production has always severely limited the ability of democratic institutions to ensure equal gains from trade. But, short of revolution and a dictatorship of the proletariat, we have to try to improve the system we have with the means we have. This means arguing – and demonstrating – for fair-trade globalization. But even if we can transform neoliberal governance into something approaching more of a fair-trade model, the problem of a domestic regulatory structure that can promote broadly shared prosperity remains. Under any type of open, international economy, lean postfordism will continue to have an economic structure composed largely of a service sector that cannot systematically produce good jobs in the same way as the manufacturing sector did under Fordism. This dissertation certainly does not have all the answers, but hopefully, if nothing else, it sheds some new light on the problems.

1.5 The analytical approach

The primary data analyzed in this dissertation are semi-structured interviews and ethnographic observations. According to my field work log, between January 9, 2002 and May 6, 2005, I spent 318 hours in the field on 131 different occasions, conducting formal interviews on 76 occasions and doing ethnographic field work on 55 others. The total amount of “people” that I interviewed and observed over this time period is around 450, but there is substantial overlap in this figure, as it double or triple counts individuals who I have interviewed or observed on multiple occasions. The interviews and observations were conducted in 31 firms, seven of which are multinational prime contractors that do over a billion in sales per year; 23 of which are small and mid-sized supplier firms (three

of whom also have proprietary products but are mainly suppliers to industrial customers); and one large firm, doing some prime contracting for a brand-name product and some subcontracting of plastic parts. The multinational prime contractors sell agricultural, lawn, recreational, and industrial equipment, as well as trucks, engines, and air conditioners. The suppliers sell a variety of metal forgings and fabrications, plastics, and subassemblies to industrial customers across a wide range of durable goods industries, from automotive to computers.

In total, I conducted formal, semi-structured interviews with 109 individuals, including 47 managers or engineers (14 of whom work for multinational prime contractors), 59 workers (7 of whom work for multinational prime contractors), and three Business Agents representing union plants I observed. The management interviews were typically around two hours each, with some going as long as three hours, and the worker interviews were typically half an hour, with some extending to an hour. I received plant tours in most cases. With a few exceptions, the interviews were recorded and transcribed. The transcriptions were then coded into N6 qualitative software for analysis. My N6 project for this data has 108 nodes, coding the data into subjects such as history, technology, work organization, human resources, metrics, and so forth, with many such nodes having more detailed breakdowns within.

I also spent significant time doing ethnographic observation on 54 distinct occasions. This ethnographic work includes observation of labor-management meetings and training sessions (including a half-day “Lean 101” training for front-line employees by the Wisconsin Manufacturing Extension Partnership; and a half-day presentation on “High Performance Work Organization” by the International Association of Machinists)

in supplier factories. I also attended a series of meetings in which an engineer from the Wisconsin Manufacturing Extension Partnership facilitated a value stream mapping exercise in a supplier firm with a cross-functional team of managers and supervisors over a multiple-month time period. Further, I attended series of half-day and all-day meetings of the Wisconsin Manufacturers' Development Consortium, a supplier networking meeting, a series of strategy meetings of unions affiliated with major Wisconsin-based multinational prime contractors, meetings of the Wisconsin Regional Training Partnership, and economic development meetings with state and federal officials.

My approach to qualitative analysis in the vein of Michael Burawoy's extended case method (Burawoy 1991). I do not seek to construct generalizations by abstracting from time and place, but rather to better understand broad economic and social processes by examining their operation and effects in a historically- and geographically-specific case study. My case is the manufacturing sector in the US Midwest under neoliberal globalization. I use interviews and observations with people specific contexts – workplaces, training sessions, meetings of cross-functional teams, meetings of representatives from multiple organizations, etc. – to illuminate how these managers, engineers and workers understand and negotiate their environments. My analytical strategy relies heavily on presenting quotations from my interviews as a way of disciplining the theoretical argument; the argument is limited by the extant data. By talking and listening to managers, engineers and workers, I seek not to understand psychic states as such, but social relations and social institutions.

The extended case method seeks to reconstruct theory by examining the operation of structural tendencies in particular contexts. My approach is not positivist in the sense

of seeking empirical regularities, as if our theoretical understanding emerges fully-formed exclusively through direct observation of the world. Rather, my approach is realist (Bhaskar 1979), seeking to understand *through theoretical abstraction* the causal processes and mechanisms that shape empirical world we observe. Like magnetic fields, these social relations and institutions are causal mechanisms that cannot always be observed directly but must be theorized by examining their effects.

References

- Arrighi, Giovanni. 1999. *The Long Twentieth Century*. London: Verso.
- Bettis, Richard A., Stephen P. Bradley, and Gary Hamel. 1992. "Outsourcing and Industrial Decline." *Academy of Management Executive* 6:7-22.
- Bhaskar, Roy. 1979. *The Possibility of Naturalism: A Philosophical Critique of the Contemporary Human Sciences*. Atlantic Highlands, NJ: Humanities Press.
- Boyer, Robert. 1997. "How Does a New Production System Emerge?" in *After Fordism*, edited by R. Boyer and J.-P. Durand. London: Macmillan Press.
- Burawoy, Michael. 1991. "The Extended Case Method." in *Ethnography Unbound*, edited by M. Burawoy. Berkeley: University of California Press.
- Chibber, Vivek. 2003. *Locked in Place: State Building and Late Industrialization in India*. Princeton, NJ: Princeton University Press.
- DiMaggio, Paul J. and Walter W. Powell. 1983. "The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields." *American Sociological Review* 48:147-160.
- Engels, Frederick. 1970 [1880]. *Socialism: Utopian and Scientific*. Moscow: Progress Publishers.
- Jessop, Bob. 1992. "Fordism and Post-Fordism: a Critical Reformulation." in *Pathways to Industrialization and Regional Development*, edited by M. Storper and A. J. Scott. London: Routledge.
- . 2002. *The Future of the Capitalist State*. Cambridge, UK: Polity Press.
- Krafcik, John F. 1988. "Triumph of the Lean Production System." *Sloan Management Review* 30:41-52.
- Krippner, Greta R. 2005. "The Financialization of the American Economy." *Socio-Economic Review* 3.
- Leborgne, Daniele and Alain Lipietz. 1992. "Conceptual Fallacies and Open Questions on Post-Fordism." Pp. 332-348 in *Pathways to Industrialization and Regional Development*, edited by M. Storper and A. J. Scott. London: Routledge.
- MacDuffie, John Paul. 1995. "Human Resource Bundles and Manufacturing Performance: Organizational Logic and Flexible Production Systems in the World Auto Industry." *Industrial and Labor Relations Review* 48:197-221.
- Marx, Karl. 1994 [1852]. *The Eighteenth Brumaire of Louis Bonaparte*. New York: International Publishers.
- Marx, Karl and Friedrich Engels. 1978 [1848]. "Manifesto of the Communist Party." in *The Marx-Engels Reader*, edited by R. C. Tucker. New York: W.W. Norton & Company.
- McMillion, Charles W. 2003. "The Driving Forces behind the Loss of Manufacturing Jobs." *Manufacturing & Technology News* May 16.
- Offe, C. 1984. "Contradictions of the Welfare State." London: Hutchinson.
- Oliver, Christine. 1997. "Sustainable Competitive Advantage: Combining Institutional and Resource-Based Views." *Strategic Management Journal* 18:697-713.
- Oliver, Nick, Rick Delbridge, and James Lowe. 1996. "Lean Production Practices: International Comparisons in the Auto Components Industry." *British Journal of Management* 7:S29-S44.

- Peck, Jamie and Adam Tickell. 2000. "Searching for a New Institutional Fix: the *After-Fordist* Crisis and the Global-Local Disorder." in *Post-Fordism: A Reader*, edited by A. Amin. Oxford: Blackwell.
- Piore, Michael J. and Charles F. Sabel. 1984. *The Second Industrial Divide: Possibilities for Prosperity*. New York: Basic Books.
- Poulantzas, Nicos. 1969. "The Problem of the Capitalist State." *New Left Review* 58.
- Saka, Ayse. 2004. "The Cross-National Diffusion of Work Systems: Translation of Japanese Operations in the UK." *Organization Studies* 25:209-228.
- Therborn, Göran. 1978. *What Does the Ruling Class do When it Rules? State Apparatuses and State Power under Feudalism, Capitalism and Socialism*. London: NLB.
- Williamson, Oliver E. 1985. *The Economic Institutions of Capitalism: Firms, Markets, Relational Contracting*. New York: Free Press.
- Womack, James, Daniel Jones, and Daniel Roos. 1990. *The Machine that Changed the World*. New York: Rawson Associates.