# Making Sense of Work in the Twenty-First Century

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Two broad developments reshaped work at the end of the twentieth century. The first was the implosion of the Soviet Union and the worldwide triumph of market capitalism. The second was the widespread use of computer-based production technologies and management command-and-control systems. The much-anticipated global economy seemed, at long last, to have arrived (Castells 1996). Local and regional economies became parts of international production chains tightly bound by freely moving capital. Computer-based information systems coordinated in unprecedented detail the movement of capital, goods, and people. The effects were visible everywhere. Asian agricultural economies metamorphosed into large and small economic "tigers." Mexico became the industrial partner of its two North American neighbors, and Brazil energetically turned itself into an exporter of computers, cars, and pharmaceuticals. The former Soviet Union embarked on a process of speedy privatization, and once-peripheral European economies such as Ireland and Italy reinvented themselves as niche producers of high-tech goods and services. Only sub-Saharan Africa remained largely untransformed by the revolution in global markets and technologies.

Some of the transformations were indeed dramatic:

- By the end of the 1970s work and production innovations had catapulted Japan into the front rank of economic superpowers, second only to the United States in terms of gross domestic product. Japanese competition forced European and U.S. producers to make radical changes in work relations and production systems. A new and often bizarre polyglot vocabulary entered the discussions of managers and workers worldwide: "lean production," "just-in-time," "*kizen*," "statistical process control," "Total Quality Management," "*kanban*," "reengineering," "six sigma," "empowerment," "Toyota system," "synchronous production," and "team-based work groups" (Berry 1991; see also Jones 1994; Kraft 1999). In spite of continuous "downsizing," extensive subcontracting, and increasingly global production chains, U.S. and European producers of electronic consumer goods and, most especially, cars were widely written off as the inevitable victims of relentless and superior Japanese manufacturing organization (Womack, Jones, and Roos 1990). Japanese "software factories" threatened even the American redoubt of computer software production (Cusumano 1991).

- Other East Asian nations, notably Singapore, Malaysia, Hong Kong, Taiwan, and Korea, rapidly industrialized. The People's Republic of China managed to talk socialist and act capitalist in ways that won the trust—and investment—of financiers in Tokyo, London, and New York. Labor markets that provided both cheap industrial workers and highly educated technical and scientific specialists gave local and international producers the perfect base from which to enter the global market. Mexico's formal incorporation into a U.S.-dominated trade zone—and the promise to enlarge the North American Free Trade Agreement (NAFTA) to include much of Latin America and the Caribbean—further expanded the arena for U.S. financial and productive investment.
- Former economic or political colonies of rich industrial nations provided special opportunities for investors eager to employ workers who were both cheap and well educated. For example at the end of World War II, Ireland and India were economic backwaters, agricultural economies that imported food and exported people. By the end of the twentieth century, however, these Anglophone nations were important if unlikely producers of computer software for the international market (see Sharpe, Chapter 10; Ó Riain, Chapter 12). Employment also rapidly expanded in the manufacture of computer and telecommunications equipment, and in export-centered service sectors such as insurance claims, data processing and product servicing. Ireland, moreover, had reversed its centuries-old tradition of exporting people and saw more immigrants return than leave. The success of medium- and small-scale manufacturers in Italy's Veneto region had turned northern Italy into an unexpected global power in niche manufacturing and finance. U.S. management theorists such as Pore and Sable (1984) invoked Italian-inspired "flexible specialization" nearly as often as "empowerment" and "process reengineering" as the key to production efficiencies and global competitiveness.
- Thus encouraged, European, Japanese, and U.S. manufacturers accelerated the shift of manufacturing out of the metropolitan countries. By century's end General Motors and Daimler-Chrysler, although rapidly shedding workers in the United States and Canada, were both among the largest employers in Mexico. Brazil, once Latin America's largest agricultural economy, transformed itself virtually overnight into its largest industrial economy, and became a major exporter of cars, computers, and aircraft, sometimes with Brazilian names and sometimes with names like Volkswagen, Chrysler, IBM, Bayer, and Goldstar. On the other hand, production workers in the United States and other high-wage countries were advised to stop working with things and learn how to work with ideas or people. A progressive former U.S. secretary of labor regularly celebrated the shift of the U.S. economy away from mass production to "symbolic analysis" (Reich 1991). Everyone in the United States (and by implication, the United Kingdom, Germany, and other high-wage industrial economies) was to become a computer programmer, or perhaps a lawyer.

But tightly coupled economic and production systems also globalized two of the less celebrated outcomes of market economies. First, the benefits have been unevenly dis-

tributed. Wealth and income have concentrated among the very rich. Typically the top 5 percent of the population own 60-80% of all assets and receive 30-40% of all income. Even in the richest industrial country—the United States—the majority of the population has been able to maintain consumption levels only by sending more household members, mainly women, into the paid labor force; by taking on more debt; and by making an astounding increase in hours worked (Schor 1991; Mischel, Bernstein, and Schmitt 1999). The world's seven leading industrial (G7) countries in particular have experienced a surge in service sector employment and thus a simultaneous expansion of female employment and downward pressure on the family wage.

Second, the triumph of the global market has meant the globalization of cyclical busts and booms. The euphoria that greeted the collapse of the Soviet Union in 1989-91 led to excited talk among economists of new market paradigms in which the economic laws of gravity were repealed. Production, consumption, and stock prices went only up.

The talk was premature. The triumphal march of Asian capitalism was halted, at least temporarily, in the wake of successive speculative bubbles, currency collapses, and gluts of everything from raw materials to sophisticated consumer and industrial goods. By the end of the 1990s the Asian tigers were experiencing a series of unpleasant "structural readjustments" mandated by nervous central bankers. The "Asian flu" quickly spread to other "emerging markets" meaning the poor countries of the former Soviet Union and Latin America, places where North American, European, and Asian capital had also invested heavily. Russia in particular seemed perpetually on the brink of economic collapse and social chaos. As this is written, some of the Asian economies, notably Korea, Hong Kong, and Taiwan (although not Japan), have recovered some lost ground—but just as the U.S. stock markets are entering a particularly erratic and unstable period and the Chinese "miracle" seems to be coming apart.

In short, the postwar triumph of global market capitalism played out more or less the way both its supporters and critics said it would: bringing prosperity and polarization, more consumption and less leisure, more wealth and more debt, expansion and contraction.

## Explanatory Frameworks

The explanations offered for these rapid and often contradictory developments have usually stressed the same large-scale processes: (1) the abolition of barriers to the worldwide movement of capital and commodities, including intellectual property (Porter 1990; Stalk and Hout 1990); (2) the formal or effective integration of nonmarket economies, notably China and the former Soviet Union, into the international production chain (Castells 1996); and (3) large increases in productivity based on varying combinations of technological and workplace innovation, such as information technologies and "business process reengineering." (Hammer 1990; Hammer and Champy 1993; Davenport and Short 1990). Supporters and opponents of NAFTA, of high-tech

global production chains, and of unregulated markets disagreed only about the desirability of the outcomes, not the centrality of the processes.

These and other large-scale transformations have influenced but by themselves do not explain the mechanisms that organize and change work and work relations. How could they, when the changes have been so contradictory and defy easy categorization? For example, the global production chain made possible by cheap and reliable computer-based telecommunications technologies has opened employment opportunities to Anglophone Indian and Irish contract software writers, airline reservationists, and data entry and insurance claims clerks. These high-tech and service workers found themselves employed in what amount to "virtual" branch plants of British and U.S. firms. In effect they were and are contract workers, whose earnings are one-quarter to one-tenth of equivalent workers in the United States and the United Kingdom. "Fringe" benefits such as health and unemployment insurance and pensions, where they exist, are underwritten by their governments, not by their U.S. or UK employers. Many are disposable "contingent" workers whose organizational role is to relieve the wage pressures on IBM, Hewlett-Packard, Microsoft, British Air, Barclays, and other firms based in advanced industrial countries (see Chun, Chapter 6; Meiksins and Whalley, Chapter 11).

Similarly, the unexpected success of industry in the Italian Veneto is based on something at least as unexpected: the labor of Senegalese and other West African emigrants who work in northern Italian factories, mills, and foundries, even as southern Italy continues to have one of the highest unemployment rates in the European Union. In surprising numbers these Senegalese teachers, civil servants, and small farmers have migrated to Italy as a result of the dismantling of family agriculture and the "structural readjustment" policies of the World Bank and International Monetary Fund (Colatrella 1998).Their willingness-to respond to the demands of "flexible specialization" rests in part on their vulnerability as illegal workers with few options in either their old or new countries.

Although it is true that manufacturing has continued its long, post-World War II move out of the rich industrial countries, it is not true that that these countries ceased to make things and devoted themselves instead to symbolic analysis and service work. It is more accurate to say that in these nations the relations between workers, managers, and employers were radically transformed, sometimes in ways that made them hard to recognize. For example, the Japanese manufacturing juggernaut of the 1970s and 1980s did not, in the 1990s, come to dominate the global production of telecommunications equipment, machine tools, semiconductors, or, for that matter, cars. Japan's economic stagnation, brought about in part by speculation and financial sector manipulations, began early in the 1990s and quickly reduced it to a shaky regional hegemony. By 1995 Japan was only one of numerous "core" economies in a global system of many regional economies, challenged by a resurgent American manufacturing sector. From below, other East Asian producers, notably Korea, Taiwan, Singapore, and Malaysia, were steadily chipping away at whatever quality and cost advantages the Japanese still claimed. The short-lived Japanese tradition of lifetime employment

for male workers in major enterprises disappeared virtually overnight. Japanese workers are currently being asked by the International Monetary Fund and World Bank to surrender much of what is left of the modest post-World War II social safety net.

We have now arrived at perhaps the most unexpected development of all: the fate of manufacturing in the United States. By the late 1990s U.S. manufacturing as a whole had, quite unexpectedly, reestablished itself as one of the most efficient and responsive in the world. U.S. producers had ruthlessly reorganized production during the early 1990s—the phrase "lean and mean" became popular among U.S. managers about this time—and successfully challenged the Japanese precisely where they were strongest: efficient manufacturing of both mass-production and small-batch high-quality commodities (see Stalk and Hout 1990; Parker and Slaughter 1994; Rinehart, Chapter 8). However, apart from the U.S. business press, few seem to have noticed this phenomenon. Still other factors were also at work. Thanks to aggressive corporate and state policies, American industrial wages and corporate taxes steadily fell to near the bottom of G7 averages, making U.S. manufacturing relatively cheap as well as efficient.

Again defying expectations and common sense, manufacturing employment in the United States remained essentially stable during 1990s. The most spectacular case has been the car industry. Government data for the last forty years show that, in spite of widespread predictions of the collapse of the U.S. auto industry, more Americans are now employed making cars, trucks, buses, and parts than at any time since the end of the Vietnam War (U.S. Department of Commerce, various years; Mischel and Bern-stein 1994; Mischel, Bernstein, and Schmitt 1999).

The reasons for this resurgence are not hard to find. The majority of U.S. autoworkers employed in vehicle and parts production no longer work for the "Big Three" U.S. producers (General Motors, Ford, and Daimler-Chrysler), nor, as a consequence, are they likely to be covered by collective bargaining agreements. While the Big Three together shed over half their manufacturing workers in the "downsizings" of the 1980s and early 1990s, even more were hired for lower wages and fewer benefits by "union-free" transplant manufacturers like Toyota, Honda, Nissan, Mitsubishi, and Daimler-Benz, Some unionized Big Three workers also found themselves employed by "new" parts manufacturers, such as American Axle and Delphi, spun off by General Motors in part to weaken the autoworkers union. Ford has similarly recently spun off a large segment of its parts production. U.S. subsidiaries of foreign parts manufacturers (e.g., Germany's Bosch) have also provided employment to nonunion workers.

The autoworkers who still work' for the Big Three have felt the effects of the changes. Ford, often cited as the "friendliest" of the Big Three to organized labor, convinced the United Autoworkers Union to accept a precedent-shattering tiered wage system. New hires now get significantly lower wages and fewer benefits than more senior workers. The agreement also increases management discretion in the assignment of job tasks and workloads, bringing Ford workers nearer to the pay levels of workers in the nonunion parts makers and in foreign transplants.

Autoworkers everywhere face a new world of work relations (Rinehart, Chapter 8). In Brazil, for example, Volkswagen operates a truck and bus factory that essentially

directly employs no production workers. Production is instead carried out by subcontractors who provide not only vehicle subassemblies, such as dashboards, electrical harnesses, and chassis, but also nonunion assembly workers to install them, and at wages considerably lower than those of Brazilian autoworkers. The Brazilian metalworkers union, which represents auto production workers, opposed the arrangement for obvious reasons, but was unable to stop it. Among VW's subcontractors are several U.S.-based companies, Both Ford and Chrysler are experimenting with similar systems in their Latin American plants. General Motors has announced it intends to build all of its new North American facilities on a variation of Volkswagen's Brazilian model.

In Mexico, the Korean Hyundai company and its local suppliers have relied on direct and indirect government intervention to prevent unionization in plants that make vehicles and parts for sale in the United States. In the United States the United Autoworkers Union, invoking the labor protection provisions of NAFTA, has filed complaints about such Mexican practices, but the U.S. government has yet to take any formal action against either the companies or the Mexican government. Hyundai workers in Korea also went on strike, in part to save production jobs that are being exported to Mexico.

## The Politics of Technological Change

The worldwide explosion in productivity is often attributed to recent technological developments, particularly those in computer-based telecommunications and command-and-control systems. The changes we have just described, however, have one thing in common: they are all, in the broadest sense, political or organizational in nature, whether driven by new technology or not. The best-known forms of work reorganization—Total Quality Management, business process reengineering (BPR), team-based high-performance work groups—in fact require little or no technological innovation. Even BPR, which makes the most aggressive use of information technologies, relies at least as much on "flattened hierarchies," compulsory "brainstorming," and production quotas as it does on advanced command-and-control systems to reduce cycle times (Kraft 1999).

Sophisticated information technologies are important, but they are hardly more important than state economic policies that equate corporate profit with general social progress. As socialist states give way to market systems, this transformation simultaneously enlarges markets for goods and the supply of labor, which leads to a downward pressure on wages worldwide along with gluts in raw materials and commodities. Even in the United States average wages continued to sink for a whole generation after the Vietnam War. Increased labor supplies and market competition also provide employers everywhere with both the opportunities and the incentives to reduce wages and experiment with new forms of work organization, with or without advanced production technologies. Managers and engineers learn to achieve higher output through constantly shifting combinations of speedup and ingenious reorganizations of work processes.

Increased productivity, in short, is also the product of old-fashioned work intensification, increasingly systematic appropriation of worker knowledge, and group pressure grounded on threats of unemployment. In contrast to predictions made by academic and business researchers who foresaw the "end of work" and a "jobless future" only a few years ago, the United States now has a larger percentage of the labor force working for wages than at any time since the 1950s—and for astoundingly long hours (Schor 1991; Mischel, Bernstein, and Schmitt 1999).This is in part because the drop in real wages between 1973 and 1996 has made U.S. manufacturing workers extremely attractive to employers in comparison to European, Japanese, and Korean workers.

Clearly, then, a very important "global" change is occurring. But what is it exactly? Without doubt, technological and scientific advances have played a major role. The explosion of technical-scientific knowledge since World War II, particularly in computer-based information technologies, has affected workers and employers around the world in very specific ways. These science-based work innovations require, therefore, very close inspection, which reveals that they are experienced—and confronted—in different ways depending on the time, place, and circumstances.

For example, "virtual" corporations, "virtual" production systems, and even "virtual" education ("distance learning") had emerged as significant components of business enterprises in North America, Europe, and parts of Asia by the mid-1980s. With the help of computer-based telecommunications, firms were able to decouple capitalization, research and design, production, marketing, and customer service from each other and from specific products and enterprises (Stalk and Hout 1990; Castells 1996).The pieces could then be selectively distributed throughout the world, to either branch plants or contractors. In effect, some producers were able to create a high-tech-based system of global sourcing. Enterprise subcontracting, in turn, has its counterpart in the growing numbers of "contingent," that is, temporary, workers called in and dismissed as firms continually shift products and production methods. To complete the loop, integrated "backroom" and "enterprise" software, which controls production scheduling, logistics, process modeling, inventories, quality control, and other end-to-end business activities, now dominates operations and planning departments in postmodern factories, insurance companies, and mass merchandisers, as well as in the transport and telecommunications sectors. The making of backroom and enterprise software by transnational firms like SAP, Oracle, Baan, and IBM has itself become a major commercial product of British, German, and U.S. information technology companies.

Tightly coordinated global production chains, extensive subcontracting, and contingent labor—the linchpins of the international movement of capital and commodities—have meant increased flexibility for multinational enterprises (Porter 1991). Increased flexibility for employers translates into longer work days not just for minimum-wage contingent workers in sweatshops, but also for technical and administrative workers in twenty-four-hour-time-zone production chains (Kraft and Roux 1998). Global production processes enabled by computer technologies also mean profound employment insecurities for all workers, now made vulnerable to global whipsawing. Firms with

marketing and sales departments in New York or Frankfurt and research and design facilities in the Silicon Valley or Geneva can continually shop for the cheapest contract manufacturers in Ireland or Brazil or Penang or China. High-fashion clothing designers in New York and Milan hire manufacturing subcontractors in the United States and Italy, who in turn can choose between sweatshops in China—or Chinatown. In the end, the return of sweatshops, as much as the free flow of capital, information technologies, and virtual organizations, may prove to be the defining characteristic of the new global system of production (see Bonacich, Chapter 7).

## From Labor Process to the Critical Study of Work

How then are we to make sense of these often contradictory developments? Most of the essays in this volume trace at least some of their roots to the class-based labor process theories of, among others, Michael Burawoy, Richard Edwards, Andrew Friedman, Paul Thompson, and Hugh Wilmott. Labor process analysis is most closely identified, however, with Harry Braverman's *Labor and Monopoly Capital* (1998), which confronted conventional industrial sociology with a powerful if largely unexpected challenge. Braverman's unapologetic gloss on the first volume of Karl Marx's *Capital* reasserted the primacy of some old-fashioned—and for some, even quaint—Marxist propositions. Human labor is purposive and thus a two-edged sword: it makes possible the ability to plan both our own work and the work of others. The uniquely human capacity to separate mental and manual labor thus provides both the means and the opportunity to exploit people as well as nature. Furthermore, the logic of production in capitalist systems is grounded ultimately in neither efficiency nor even productivity, but in the need to protect and extend class relations: the organization of production must guarantee not merely an adequate level of production but also an acceptable form of social reproduction. The relations and tools of capitalist production, therefore, follow no inevitable laws of nature or trajectories of scientific progress. They are bound only by the requirement to continuously replace each generation of workers with another and to expand "productive," that is waged, relations to all spaces, public and private, where they do not yet exist. All efforts by capitalists and their agents—managers, engineers, human relations specialists—to organize and manage production must satisfy these dual requirements of production and social control. The whole capitalist labor process is simultaneously technical, ideological, and political: the production process itself is a form of class struggle (Baldoz et al. 1998).

Braverman's emphasis on "scientific management"—the continuous and systematic decomposition of work carried out by managers—was one of two issues that quickly came to be identified with the entire argument in *Labor and Monopoly Capital* (*LMC*). The other was "deskilling," a term that, as far as we have been able to tell, does not even appear in *LMC*, but which was effectively added to the text by Braverman's readers. It has taken the better part of two decades for Braverman's other insights—the use of production organization and technologies as class weapons, the blurring of

the line dividing the personal from the public, the incorporation of more and more activity into productive labor—to find their rightful place in both academic research and practical application (Baldoz et a1.1998).

The essays in this collection demonstrate the ways in which a new and more fully developed critical study of work extends and qualifies traditional labor process analyses. Most were written for the "Work, Difference, and Social Change" conference held at the State University of New York at Binghamton in May 1998. The essays are more likely than earlier discussions of labor process to incorporate race, gender, and other forms of social inequality in their analyses. Several address household and emotional labor as well as the original labor process distinction between mental and manual labor. Most of the essays recognize that production has become more fluid and decentered, venturing out from factory floors and office cubicles to virtual workplaces and computer-era cottage labor. At the same time they pay attention to the intersections of local, regional, and global economies and labor markets. Finally, they acknowledge that the world includes Asia, Africa, and South America as well Europe and North America. In short, while these examples of the critical study of work retain from labor process theory its focus on the unequal social relations of capitalist production, they individually and collectively offer a more flexible approach to the study of workplace relations and the organization of production—and indeed of the notion of work itself.

Part I considers whether labor process analysis can help us make sense of the social relations of work in constantly changing production processes. The essays in this section reflect both the rich legacy of labor process theory and equally provocative approaches in the more recent critical study of work. In so doing, it links the organization of work at the local level of the shop floor and community to larger processes at the wider level of the state and global economy.

Michael Burawoy (Chapter 1) maintains that the labor process research inspired by Braverman's *Labor and Monopoly Capital* played a necessary role in refocusing attention on the specifics of the production process. He reviews the ethnographic research he has completed over the past twenty years as an active participant at various work sites across the globe. He focuses on his comparative studies of different work regimes in both capitalist and socialist countries, seeking to understand the fragility of socialism during the twentieth century. Of particular concern for Burawoy is the "flexibility of capitalism," or its ability to adapt and transform itself in an ever-changing global economy. Finally, his essay provides welcome insights into the nonproductive and subjective aspects of work and work relations, notably workers' consciousness and the role of state policies.

The essay by Jeffrey Haydu (Chapter 2) reminds us that the emergence of a class of modern managers at the end of the nineteenth century required self-conscious class awareness on the part of what he calls the "business community." Managers needed more than to gain the prerogatives over design, pacing, and detail they now take for granted; they also had to learn they needed these things in order to prevail over workers. The details of work organization and work relations, therefore, must be carefully examined and understood in the context of ongoing struggles between workers and

employers. Haydu challenges the tendency of labor process theory to treat employers as individual vehicles for larger economic forces. He argues that employers' collective identities are also important ingredients in the development of the labor process. Using a historical case study, Haydu examines how struggles over worker control were influenced by the formation of a business community, an important strategic and ideological weapon used to impose capitalist discipline in the workplace.

The essays in Part II examine work relations in the burgeoning service sector, whose growth has compelled scholars to ask new questions. For example, the interactive nature of service work raises important issues about the standardization and routinization of workers' emotions and attitudes into just another product to be bought and sold on the market. Because so much service work falls to women (and often to immigrants as well), the essays pay particular attention to the intersections of race, gender, and ethnicity. Their topics range from the gendered and racial organization of reproductive labor, to the emotional labor carried out by women working at cosmetics counters in Taiwan, to the subtle forms of resistance practiced by female supermarket cashiers in Brazil and Quebec. The studies address jobs that are high-tech and low-tech, work that requires either relatively little or a great deal of self-conscious activity from workers, and work that is hardly considered work at all.

Evelyn Glenn (Chapter 3) examines how reproductive labor—the array of activities and social relations involved in maintaining people on a daily basis as well as intergenerationally—is both gendered and racialized. In the United States, black, Latina, and Asian women historically have performed reproductive labor not only for their own families but also for white families. The particular forms of race and gender divisions have changed over time as production and reproduction have been continuously reorganized under capitalism. Glenn identifies three major eras of such work: (1) the period before World War II, when reproductive labor was still centered in the household and women of color were concentrated in domestic work; (2) the period after the war, when reproductive labor was increasingly commodified and women of color were shifted into public reproductive work in institutional settings; and (3) the current period, when globalization is creating transnational divisions of labor and women from the "periphery" are migrating into metropolitan centers.

The essay by Pei-Chia Lan (Chapter 4) explores issues of control in the workplace through her ethnographic research of cosmetics counter saleswomen and direct sales vendors of beauty products in Taiwan. Lan combines a structural analysis of the political economy of work with an analysis of the symbolic practices and emotional labor involved in selling beauty products. In order to be successful, cosmetics saleswomen must use their bodies to display themselves in a manner that projects a commodified and idealized image of beauty. Lan argues that control mechanisms are embodied in the discipline and performance of the body that these workers must exhibit.

Angelo Soares (Chapter 5) examines the subtle forms of resistance used against both managers and demanding customers by supermarket cashiers in Quebec and Brazil. Soares found that the interactive nature of the cashiers' jobs makes the orga-

nization of worker resistance more complex compared to traditional forms, such as strikes and other collective action. Cashiers are situated at the focal point of supermarket work, simultaneously mediating the demands of store managers and customers. Traditional notions about the passivity of the job, which is generally considered to be "women's work," tend to render invisible the largely individualized forms of resistance. Soares amplifies and clarifies the more subtle forms of resistance in the workplace and enables us to appreciate the complexities of performing interactive service work.

Part III considers the nature and organization of industrial work. Here too there is a welcome emphasis on the interplay of cultural, ethnic, and gender differences. As a group these essays underline the continuing relevance of production and industrial workers in the global economy. Although essays by Jennifer JiHye Chun, Edna Bonacich, James Rinehart, and Edward Webster examine very different kinds of industrial employment, from the manufacturing of computer parts to the production of automobiles and garments, they share a concern with how flexible production affects workers. Academics, policy makers, and media commentators often celebrate the advantages of flexible production for employees, employers, and the "new" economy. The authors, however, find that the "new" workplace bears a strong resemblance to the old: in spite of changes in names and labels and the introduction of "quality circles" and "empowered" workers, managerial control is still ultimately grounded in some combination of Taylorism and fear. Flexible production often intensifies employment instability and insecurity while diminishing the wages and organizational power of workers.

Chun (Chapter 6) reports on her ethnographic fieldwork of computer component assembly in the Silicon Valley. What she calls "despotic" management often characterizes work relations in this field as firms strive to be "flexible." She examines two different types of "flexible despotism" that correspond to subcontracting regimes and contract manufacturing regimes. Subcontractors use numerical flexibility to quickly expand and contract their workforce, exploiting ethnic and community ties both to recruit and to elicit the workers' consent. In the more technologically advanced and automated assembly lines that dominate-the Silicon Valley, contract manufacturers deemphasize informal ties and discipline workers using a well-rehearsed rhetoric of "global competition" to threaten workers with job loss. Chun does more than debunk the mythology associated with the Silicon Valley and flexible specialization, however, for she also highlights the complex social dynamics of work relations under coercive "flexible" production.

Bonacich (Chapter 7) focuses on sweatshop workers in the Los Angeles—area apparel industry. Although the conditions of sweatshop work are relatively well documented, she examines problems and prospects associated with organizing workers in this growing yet largely invisible sector of the American economy—indeed, one that is not supposed to exist in a high-tech economy. According to Bonacich, the mobility and flexibility of production systems in the apparel industry hinder trade union organizing. Through subcontracting, firms become decentralized to the extent that workers often do not know the identity of their employers. The apparel industry

also disproportionately employs an immigrant workforce made up predominately of women who are economically and politically marginalized. In spite of these and other barriers, organizers have achieved success by linking the interests of apparel workers with those of consumers concerned with the conditions under which clothing is manufactured. The results have been a series of successful campaigns organized by Union of Needle Trades, Industrial, and Textile Employees (UNITE) to reform and challenge apparel industry employers.

Rinehart (Chapter 8) examines the gap between descriptions and realities of "post-Fordism" in the Canadian and U.S. auto industry. The automobile industry represents an ideal case study, because it, more than any other, has embraced and developed the principles and practices of post-Fordism, such as worker participation programs, reengineering, benchmarking, and lean production programs. Rinehart concludes that the combination of post-Fordist restructuring and the introduction of advanced technologies does not improve the quality of work life. Neither does it create a worker-friendly environment or provide the framework for harmonious labor-management relations. In the North American auto industry, in spite of—or because of—new production technologies and management programs to help workers "work smart," the new system of control looks remarkably like the old one.

Edward Webster (Chapter 9) adds a cross-cultural perspective to the essays in this section by studying the effects of one of the most significant global historical events of the decade: the end of official apartheid in South Africa. According to Webster, black shop stewards were among the most politically active South Africans, both within the workplace, in their opposition to (white) management, and beyond the workplace, in their resistance to apartheid. Yet following the end of official apartheid, many of them became highly cooperative with management. Relying on a nationwide survey of shop stewards, Webster concludes that their willingness to cooperate with management was a result not merely of their "contradictory class locations" but also of the often contradictory intersections of race, class, and resistance in the workplace. The militancy of the shop stewards was in large part fueled by the structure of segregated workplaces. The end of apartheid, however, removed an important element of solidarity between workers and their shop stewards. As overt racial conflict decreased, management became more equipped to elicit cooperation and compromise of shop stewards. Consequently much of the informal workplace structure of apartheid remains in place.

The essays in Part IV examine global and local implications of the proliferation of advanced technology and high-tech work. In doing so they appropriately bring together many of the recurring themes of the book. The worldwide spread of new technology, flexibility in production and organization, and the rapid growth of service and information work require an appreciation of the complexity of the social nature and organization of work. Richard Sharpe analyzes changes in structural employment of the worldwide computer software industry. Peter Meiksins and Peter Whalley and Seán Ó Riain examine microlevel work relations within high-tech, contingent employment and in "virtual" high-tech organizations. This final group of essays also reminds us that

many of the most optimistic accounts of the new world of work are premature. If new technology in old workplaces has not eliminated old problems, workplaces boasting new products and new production regimes don't seem to have fared much better.

Sharpe (Chapter 10) discusses the growth of the worldwide software and computer industries. According to him, the content of work and the organization of production are contingent upon a constantly shifting balance of investment capital and the availability of an "appropriate" workforce. "Primary" software production creates software development tools, the intellectual equivalent of capital goods that are sold chiefly to other software companies. These tools in turn enable "secondary" production, in which firms design and develop software applications for corporate or individual consumers. A workforce of elite technical workers in core countries produces the design and short-run prototypes. In the early stages of this process management cedes control over pro-duction, motivating professionals with "inspiration," largely because they have no choice. Following the initial period of development, management attempts to regain control of the production process by adopting selective measures that weaken the orga-nizational power of workers. Secondary production—using the products of primary production to make shrink-wrapped "applications"—opens new possibilities for tak-ing back control. Chief among these are contingent employment and the use of routine intellectual labor, which offer a perfect opportunity to move production offshore and to manage using more traditional forms of control. Former economic or political colonies with English-speaking elites are the preferred destination for such secondary production, a situation that literally shapes the industrial geography of software pro-duction. By its very nature, the value chain of this most symbolic of high-tech work thus cannot be global at all, but selective.

Meiksins and Whalley (Chapter 11) report on interviews with a subset of U.S. technical professionals employed in contingent work arrangements. They, like Sharpe, find that the high-tech industry has shifted the composition of its workforce, employing fewer traditional full-time and salaried technical workers and more part-time, temporary, or contract employees. Meiksins and Whalley examine specific methods U.S. employers use to control this growing segment of the high-tech workforce. Because traditional techniques, such as career ladders and loyalty measures, seem inappropriate for workers employed in alternative arrangements, managers use a variety of other control methods. For example, employer networks are often used to locate and evaluate prospective workers. Hence a temporary or contracted worker is compelled to meet or exceed work requirements to solicit a favorable recommendation from her or his employer: Management may place contingent workers in project teams, subjecting them to performance pressures placed upon them by their peers. Management also uses sophisticated communications technologies to monitor the work of contingents. Employers may increase market pressures to perform by strategically limiting opportunities for alternative work, thereby increasing competition for jobs. These and other measures enable more effective managerial control of employees who, because of their alternative employment arrangements, may have no direct stake in the future of the organization in which they are employed.

Ó Riain (Chapter 12) turns to another form of high-tech employment: a transnational and "virtual" software firm. A participant-observer, he worked as a technical writer on a team of software developers in an Irish branch plant of a Silicon Valley company. Discussing the dynamics of globalization, he challenges the argument that transnational firms and new technologies diminish the significance of place and break down traditional organizational hierarchies. Ó Riain found that one of the main structural characteristics of production relations was the project deadline. In spite of the physical absence of a manager, the deadline effectively compelled team members to work long hours to complete a project on time. Place became more salient as team members worked closely and developed complex interdependencies. Although solidarity and work intensification characterized the predeadline phase of the project, team members, some of whom were contract workers, became fragmented during the postdeadline period as they jockeyed for position on forthcoming assignments. The frantic pace of work also burned some workers out. Thus, fragmentation, instability, and reorganization of the team in the postdeadline phase allowed the firm to reassert its hierarchical control, even in the absence of direct supervision.

This collection of essays brings together a set of richly nuanced accounts of the changing nature of work in an increasingly integrated international economy. Although wide-ranging in geography and workplace, they are unified in their concern for the predicament of workers in the global workplace. Much of the current discussion of the benefits of globalization, technological innovations, and the opportunities for the unfettered movement of capital ignores the injuries visited by the global "boom" on the majority of the world's population who work longer hours for declining wages. The essays in this volume give voice to the growing ranks of those whose daily experiences with globalization require a more balanced and critical assessment.

Whether in a circuit board factory in San Jose, a supermarket checkout in São Paulo, or a cosmetics counter in Taipei, the nature and organization of work will continue to shape and be shaped by evolving technologies, new forms of work intensification, and ever more tightly managed commodity chains. The complexity of these issues is reflected in the variety of approaches taken by the essays in this volume. Together, they demonstrate that a revitalized critical study of work can help us make sense of both the complexity of global production and the details of workplace relations.