

Labour Displacement and the Enduring Significance of Steelwork

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Labour Displacement in Capitalist Economies

This book focuses on the process and consequences of the displacement of labour in primary steel manufacturing. For most of human history, most of our labour was devoted to food production. The development of agriculture and large-scale human settlements permitted the growth of other occupations, but food production remained the primary labour of the majority of people until the rise of industrial capitalism in the nineteenth century. The development of industrial machinery stimulated both massive labour savings in agriculture as well as the massive expansion of manufacturing of all sorts. Many of those forced off the land were drawn into factories and increasingly became dependent upon purchase of agricultural commodities. Growing inter-firm competition and technological innovations for enhanced profits of manufacture served to stimulate agricultural production beyond basic domestic demand, to provoke trade wars in some goods and to reduce agricultural workers in developed industrial countries to a small fraction of the labour force. Much of the peasant population has also now been drawn off the land in less industrialized or developing countries. The exodus of labour from all forms of agriculture (including crop cultivation and livestock production) continues along with the commodification of more specialized forms of food. Other extractive resource industries such as mining, fishing and logging have followed similar paths.

The expansion of manufacturing continued into the mid-twentieth century. Steel, auto, petro-chemical and electrical industries created new mass-produced commodities that quickly became essential needs for urbanizing workforces. Similar processes of devising a marketable product and an efficient division of labour, then an expansion of product markets and labour forces, were replicated for many material manufactured goods across the globe.

But in recent generations, as automation has increased and market

capacity has been exceeded, a spiral of mass layoffs of workers and the mergers or failures of remaining firms have occurred in many sectors. These processes have been evident for some time in the petro-chemical and auto industries but are also appearing in newer goods-producing industries such as electronics. Between 1970 and the early twenty-first century, the advanced capitalist countries lost significant numbers of manufacturing jobs, over a third of the total employment in this sector (Organisation for Economic Co-operation and Development [OECD] 2003; Pilat, Cimper, Olsen and Webb 2006). Even most newly industrialized countries have now joined this trend, with manufacturing employment declining in nearly all countries since 1990 (International Labour Organization [ILO] 2003); more than 10 percent of factory jobs were lost in the United States, China and Mexico alike between 1996 and 2002 (National Center for Policy Analysis 2003). We are now witnessing the general decline of employment in manufacturing in a way much more rapid than we saw in agriculture in the previous two centuries. Steel manufacturing provides one of the most extreme cases.

The Enduring Significance of Steelwork

Steel remains the most essential material for building the modern world. From thumb tacks to transport trucks, from tin cans to transmission towers — without steel, the world we know would not exist. Hundreds of millions of tons are produced annually, much of it now from recycled scrap steel. It is inconceivable that steel could be replaced any time soon as a vital material for maintaining modern societies. Just as with the transformation of agricultural production, the steel industry will likely become more and more capital intensive and less and less a source of employment. But a leaner, more efficient global steel industry will probably survive into the foreseeable future.

However, the loss of the capacity to control production of steel domestically is likely to have a negative impact on the health of national economies and their capacity to develop high-wage service jobs. Generally, as Cohen and Zysman have observed: “Manufacturing matters. Manufacturing is critical to the health of the economy; lose manufacturing and you will lose — not develop — high-wage service jobs.... Over time, you can’t control what you can’t produce” (1987: xii–iv). Manufacturing industries interact very strongly with service industries, both as providers and as users of intermediate inputs. The manufacturing sector remains a “flywheel,” a main driver of innovation and technological innovation in other sectors, and still accounts for the bulk of business expenditure on research and development (R&D). The R&D undertaken by manufacturing firms has continued to be turned into patentable innovations, most often by the developed countries (Pilat et al. 2006). While conditions are changing rapidly in the global steel industry, with the emergence of leading Korean and Chinese firms, for example, as

innovators rather than mere imitators, those developed countries that continue to control their own advanced manufacturing industries have the best prospects for healthy economies. The interactive centrality of manufacturing also means that the working conditions and wage levels of manufacturing workers have strong effects on those of the burgeoning numbers of service workers. Steelworkers were long regarded as leaders of the industrial core of the working class. This old industrial core is quickly dwindling. How its remaining members cope with capitalist restructuring initiatives in manufacturing industries is still vital to the economic prospects of the working classes of all advanced societies.

For some time, there has been a preoccupation on the part of analysts of changes in capitalist production systems with “new industrial spaces” (Scott 1988) and the “creative economy” based in communications and service industries (Florida 2002), both of which are now commonly seen to typify knowledge-based economies and to have more relevant, flexible employment relations as compared to older manufacturing centres. This preoccupation ignores the following four fundamental facts:

- 1) as just noted, manufacturing in advanced capitalism both sustains agricultural output and nurtures high-level service activities and often entails high levels of innovation;
- 2) in spite of locational shifts, the most technologically innovative global manufacturing still remains predominantly within the industrial regions established by early in the twentieth century (Storper and Walker 1989; Pilat, et al. 2006);
- 3) even as ownership of manufacturing firms and basic production zones shift away from older industrial sites, established forms of higher value-added production and access to lucrative consumer markets in developed manufacturing regions are likely to be maintained as long as these markets remain profitable (Peck 1996; Treado 2010); and
- 4) the remaining manufacturing industries in developed countries are more and more likely to be increasingly knowledge-based organizations. Computerized production systems emerged in the steel industry, for example, long before knowledge-based economy discourse become common, and steel is now a sophisticated material commodity, engineered to a wide variety of product characteristics and applications which communications and service industries, among others, intimately depend upon (Warrian 2010a).

There have been many obituaries of plant closures and their social consequences (e.g., Bluestone and Harrison 1982; Lerner and Somers 1989; Stock 2001; Cowie and Heathcott 2003). But aside from programmatic state-

ments about the need for further research focused on manufacturing processes (e.g., Committee on New Directions in Manufacturing, National Research Council 2004), employment changes within existing worksites with relatively low capital mobility, such as resource and heavy manufacturing industries, have been given little recent attention by researchers (e.g., Barnes, Hayter and Grass 1990). Employment restructuring at established manufacturing sites may be as important as new employment processes in greenfields or new sectors might be for understanding current production relations in capitalist societies. Steel is the classic case.

The emergence of a “post-industrial society” or “knowledge-based economy” dominated by highly educated information service workers, the “creative class,” has been heralded since the 1960s (see Bell 1973, 1989; Castells 2004; Florida 2002). However, such “knowledge workers” have remained a small minority of the entire labour force (see Livingstone 2002). What we are seeing more pertinently in recent societal change is the familiar story described above. Upheavals in established patterns of production have occurred throughout the history of Western industrial capitalism in one key sector after another: in agriculture during the nineteenth century, in energy generation and transportation in the early twentieth century, in manufacturing today and most likely in the service sector tomorrow. These periodic upheavals share the following basic features:

- 1) competitive capital investment in the key employment sector to the point of massive overproduction capacity relative to consumer markets, followed by extraordinary state intervention and increased concentration of ownership to maintain sector production;
- 2) rapid implementation of major existing technologies that can multiply productivity and drastically reduce operating costs of surviving enterprises; and
- 3) a huge reduction in the key sector’s labour force, coupled with negotiations to revise the social contract between capital and labour.

In short, there has been a persistent tendency toward capital-intensive, labour-displacing forms of technological change for the enhancement of productivity and the assurance of profits in one sector after another. The recent upheaval in heavy manufacturing industries such as steel and the rapid expansion of less-secure service sector employment are the most current manifestations of the fundamental underlying dynamics of the industrial capitalist mode of production which have prevailed in Western societies for roughly two centuries — namely, inter-firm competition in pursuit of profits, competitive negotiations between employers and workers over profits and benefits, and continual revolutionizing of the forces of production.¹

All productive capitalist enterprises are at least periodically impelled to invest in new technologies and new product lines and to undertake an intensive reorganization of their workforces in order to survive. The development of the capitalist labour process has entailed a wide variety of employer strategies and tactics in relation to their employees; these initiatives have usually revolved around profitability prospects of particular production processes and secondarily around concern about either controlling or deskilling workers.² Much of the recent literature heralding the “post-industrial society” — or somewhat more modestly arguing that “flexible specialization” production techniques are indicative of a “second industrial revolution” or that a “post-Fordist regime of accumulation” is imminent — tends to exaggerate both the pervasiveness and distinctive character of recent economic changes.³ The recent changes are best understood as a fairly widespread implementation by employers of a new set of technologies utilizing much smaller, recombinable standardized components or modules (especially in microelectronics) along with strategies to motivate workers to use their discretion to operate these devices efficiently, all in order to ensure the profitable production and marketing of diversified commodities. Neither the changing sectoral composition of employment from manufacturing to services nor accelerating rates of change in employment conditions and commodity markets should obscure the continuity of these underlying dynamics. The same capitalist logic of incessant commodification and periodic labour intensification is still at work. The contradictions in this logic are only more evident within key sectors that have reached a condition of overcapacity in relation to available markets and extreme underemployment of labour, as has been the case in many advanced capitalist societies’ manufacturing industries, most notably steelmaking, in the present generation.

In the last quarter of the twentieth century, the global steel industry of developed countries experienced the most massive employment losses in the history of manufacturing. About a million and a half jobs or *two-thirds* of the 1975 employment level were gone by the turn of the century. The United Kingdom and Germany, two of the oldest steel-producing countries, lost nearly 90 percent of their steel jobs (International Iron and Steel Institute [IISI] 2004a, 2004b). For well over a century, expanding steel production was integral to the expansion of industrial capitalism; global steel production and employment levels grew together. But since 1975, production levels have continued to grow while employment plummets. The global economy now has many more steel mills than it knows what to do with, a persistent overcapacity of around 20 percent or 300 million tons per year. Countries with the greatest overcapacity are making strenuous efforts to sell at low prices abroad; plant closures, bankruptcies and mergers abound in most advanced industrial countries; and the remaining steel producers are making keen

efforts to survive through labour-saving technologies and still more layoffs. The rapid emergence of industrializing countries, notably China, as major steel importers created a temporary boom in global demand for steel. But as these countries become steel exporters, overcapacity problems in more industrialized countries are accentuated.

One largely ignored aspect of labour displacement has been the effect on workers' knowledge. Workers expelled from a declining sector are compelled to transfer their skills and learn new ones to get jobs in other industries. What of those remaining? Those in manufacturing restructuring regimes and industries with declining employment face intense new formal training initiatives. The connection of such formal initiatives to workers' actual prior knowledge is rarely addressed. There are growing numbers of studies beginning to examine the relations between formal education and informal learning more generally (see Livingstone and Sawchuk 2004a; Livingstone 2009, 2010). But the cumulative effect of mass layoffs of younger workers and extensive early retirements on the collective level and effective use of remaining workers' knowledge has scarcely been assessed. As the leading case of plummeting manufacturing employment, the steel industry offers deep object lessons, to be examined in this book.

Those in other manufacturing industries as well as those in the service sector — the remaining source of large-scale employment — should pay close attention to steel efforts to survive via enterprise restructuring and labour force renewal. The widespread failure to anticipate the aging of the remaining labour force and the underestimation of the strategic importance of transmitting informal as well as formal working knowledge to future generations of steelworkers could be fatal flaws for the sustainability of many industries.

The Case Studies

The three case studies in this book are all centred on the Hilton Works plant of Stelco located in Hamilton, Ontario. Throughout the last century, Stelco was Canada's largest steelmaker. Hilton Works remains one of the oldest surviving integrated steel plants in North America. In the early 1980s, it had the largest labour force of any plant in Canada. D.W. Livingstone's initial studies of Hilton Works began in the early 1980s as a major part of a research project on how steelworker families and Hamilton families generally were coping with the hard times related to the first mass layoffs in the Canadian steel industry (see Corman, Luxton, Livingstone and Seccombe 1993; Livingstone and Mangan 1996; Seccombe and Livingstone 1999; Luxton and Corman 2001). These studies provide most of the evidence up to the mid-1990s for the first case study. Dorothy Smith's case study was begun in the late 1990s as a project sponsored by the SSHRC research network on New Approaches to

Lifelong Learning (NALL) (see <nall.ca>) and involved interviewing workers at Hilton Works. The final case study, dealing with current conditions and future prospects for jobs in the steel industry, was conducted in conjunction with the SSHRC research network, The Changing Nature of Work and Lifelong Learning (WALL). We believe this book represents one of the most substantial bodies of evidence available on the effects of steel industry restructuring on labour conditions and on the use of workers' knowledge.

In Chapter 1, Livingstone presents an overview of changing conditions in the global steel industry between the 1970s and the turn of the century and summarizes global and Western-nation steel production, employment, organizational and technological changes. He paints a picture of the Canadian steel industry, of Stelco, and of Hilton Works situated in Hamilton, Canada's "Steel City." Canadian steelmakers had been relatively efficient at the outset of the global steel crisis. But when the global effects of overcapacity hit Canada in the early 1980s, the familiar pattern of labour displacement occurred. Young steelworkers were laid off, and early retirements were encouraged. This in-depth analysis of Hilton Works during the 1980–2003 period offers unique insights into the challenges and choices that labour force renewal has faced in virtually all sectors of capitalist production. On the basis of company and union documents and interviews with steelworkers, processes for reorganizing the workforce at Hilton Works are analyzed in detail. The remaining workforce entered the twenty-first century with most workers nearing retirement and virtually no new hires for a generation.

Chapter 2 by Dorothy Smith and Stephan Dobson is based on extensive interviews primarily with steelworkers who worked at Hilton Works during the period from the late 1970s to the mid-1990s, the period when traditional, largely informal processes of transmitting knowledge and skills to the next generation of workers were progressively displaced. Formal training initiatives, many involving the participation of community colleges, were disconnected from these vital informal learning processes, jeopardizing the reproduction of skills and knowledge based on the experience of the steel labour force. Most of these interviews were conducted in the period leading up to Stelco's entry into the bankruptcy process in early 2004.

In the final chapter, Livingstone and Warren Smith assess current global and local conditions in the steel industry, including a detailed account of the restructuring process at Hilton Works since the beginning of the bankruptcy process. They consider twenty-first century options for organizational restructuring and labour force renewal in developed countries' integrated steel industry⁴ in general and for the remains of Stelco and Hilton Works in particular. Alternatives include different ownership options (further foreign takeovers; repurchase by domestic private capital; creation of government [or crown] corporations; worker ownership) and different models of manage-

ment-labour relations (hierarchical or consultative management; industrial democracy or worker self-management). Stelco may be distinctive in terms of initiating, in 2004, a bankruptcy process while making record profits, as well as in its chronic incapacity to consult workers on either technological change or industrial relations problems. Indeed, some would suggest that the Stelco/U.S. Steel model now represents an extreme case of centralized hierarchical control with relatively limited sustainability prospects. But the insights of labour activists and other workers at Hilton Works as well as a review of recent general research literature and industry and union documents do identify some preferable and feasible alternatives for steelwork.

While their numbers drop, steelworkers still matter at the moment. The ways in which restructuring and labour force renewal occur in the steel industry can have profound implications for sustainable working-class employment in manufacturing and advanced capitalist economies generally. The case studies in this book offer insights into roles that steelworkers and their knowledge have played in shaping and could play in reshaping the modern steel industry.

Notes

1. The classic exposition of these essentially contradictory relationships in industrial capitalist production systems is in the writings of Karl Marx, particularly Volume 1 of *Capital* (Marx 1954). See also Castells (1980) and Livingstone (2009).
2. Most research on changes in the capitalist labour process since Braverman (1974) has focused on forms of management control (e.g., Edwards 1979) or issues of deskilling and reskilling (e.g., Wood 1989) in and of themselves. The contingent character of these specific relations in association with enterprise profitability prospects has very frequently been ignored, as is well documented by Cohen's (1987) critical review.
3. For a general critique of the "post-industrial society" thesis, which stresses its mystifying infatuation with new information technologies and its obscuring of underlying social relations of capitalist production, see Robins and Webster (1988). See also Hrynyshyn (2002). For a general critique of the related "flexible specialization" thesis, see Williams et al. (1987). Critical discussions of a "Fordist" regime or mode of development, and hence of the inadequacy of the concept of "post-Fordism," may be found in Foster (1988).
4. The integrated steel industry includes plants that begin the steelmaking process with coke and iron ore, as distinct from mini-mills that begin with scrap steel.