

Technological change and the labour process in New Zealand: a synthesis

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This paper draws together some of the common themes and summarises the key points which emerge from the industry case studies presented in this symposium on technological change.

The empirical evidence and arguments presented in the individual papers in this symposium support the view that a straightforward deskilling thesis is inadequate as an explanation of the changes which technology has brought to the 4 industries examined: meat freezing, printing, the Public Service and banking. Each author has focussed upon those issues which form the basis of an emerging post-Braverman perspective on the nature of the labour process in advanced capitalist economies. It is appropriate in this paper to draw together some of the common themes and to summarise the key points that have emerged from the industry studies.

Worker resistance

One theme to have been discussed at length in all the papers is that of worker resistance to management initiatives. Braverman did acknowledge worker resistance, but believed workers' position in the long term to be hopeless:

. . . the weaving of the net of modern capitalist life . . . finally makes all other modes of living impossible. But beneath this apparent habituation, the hostility of workers to the degenerated forms of work which are forced upon them continues as a subterranean stream that makes its way to the surface when employment conditions permit, or when the capitalist drive for a greater intensity of labor oversteps the bounds of physical and mental capacity. It renews itself in new generations, expresses itself in the unbounded cynicism and revulsion which large numbers of workers feel about their work, and comes to the fore repeatedly as a social issue demanding solution. (Braverman, 1974, p. 151).

The outcome, Braverman argues, is as if there had been no worker resistance, with capitalism developing along its inexorable path. Critics have suggested that in adopting this view, Braverman overstates the power of capital to bring about its desired ends. Moreover, because of the inevitability ascribed to the capitalist process of development, Braverman overlooks the political dimension of technological change; that change involves a process of bargaining and negotiation, and trade-offs have to be made; a point discussed by both Couchman and Hill in their papers. One result of these 2 shortcomings is that Braverman neglects the possibility that some managerial strategies may be developed specifically to deal with worker resistance resulting from managerial attempts to increase control over the labour process (see Friedman, 1977, p. 50-55).

Braverman's framework must therefore be modified in several ways, not so much to admit the possibility of resistance, which Braverman does, but to examine the concrete

forms such resistance might take and the impact that these might have in determining the nature and outcomes of technological change.

A further shortcoming of Braverman's approach is his single-minded emphasis upon the conflict of interests between labour and capital, and his underestimation of the importance of other sources of conflict. In particular he fails to emphasise the extent to which capital and labour frequently co-operate over the introduction of new technology, and the conflicts of interest which develop within each of these 2 groups. As Hill demonstrates, the job structures which emerged at *The Star* in the new labour process of newspaper production, were the outcome of more than simply "capitalist thrust" and "working class resistance"; indeed, they are only understandable through reference to the pattern of relationships of co-operation and conflict which developed among and between several employer and worker groups. This provides a useful counter-argument to the view — all too easily reached in *Labor and monopoly capital* — that universal deskilling has created a large, homogeneous, and unified working class. Nevertheless, and despite the constraints placed upon deskilling by worker resistance, it can be argued that it is still the main tendency within the capitalist labour process.

In New Zealand there has been no serious challenge to management's traditional prerogative to introduce new technology, a prerogative which has been reinforced by recent Court decisions. Nor has change been marked by the bitter conflict and violence that has occurred elsewhere, most notably in Britain and the United States. This is not to argue that workers and their union representatives in New Zealand have been acquiescent. On the contrary, trade unions were ahead of employers in attempting to develop policies to deal with the social implications of new technology. In the 4 industry case studies examined here, the major unions concerned have all been active in taking initiatives in the early stages of the debate over new technology. The Public Service Association (PSA) played a major role in raising the consciousness of employers, unions and government, by synthesising overseas evidence for dissemination throughout New Zealand (see: PSA, 1980, 1981). Since 1980, the Bank Officers Union has worked actively to establish new technology committees which would involve both union and management in negotiations on all aspects of the proposed new systems. So far the Union's efforts have met with limited success. The Meatworkers Union's initiative in proposing 4 day's work for 4 day's pay attempted to link anticipated productivity gains from the peltstripping (and other) technology to worker benefits (NZ Meatworkers Union, 1981). This campaign also met with limited success. Finally, the Printing Union's role was also an active one, as Hill's paper suggests. These unions, and others, made inputs to the Inter-Union Working Party's draft trade union policy on new technology which released in 1980 (Inter-Union Working Policy on Technology, 1980), and adopted at the Federation of Labour's annual conference of 1982.

Concerns and initiatives such as these suggest that although unions have adopted a defensive stance towards the introduction of new technology, they have been far from passive in their attitude towards its likely impact. Nevertheless, the outcome of their various initiatives has been limited, for reasons which are discussed in each of the papers.

Any conclusions about the likelihood of worker resistance to technological change and the effectiveness of such resistance drawn from the industry case studies, must reflect the particular historical period and the circumstances peculiar to the industry to which the conclusions refer. Factors that need to be taken into account in analysing technological change in any industry include the nature of the product, the extent of competition within the industry, conflict and co-operation between employer and worker, hierarchies within the labour market, and the society and particular historical period in which changes occur. Discussion of worker resistance, and the other critiques of labour process theory developed in each of the papers, differs substantially, partly because of the dynamics of the interaction between these various factors are different, and partly because of the authors' different analytical frameworks. Whilst points of comparison and similarity may be made between the different studies, generalisations about technological change in other industries should be treated with caution, since circumstances and the factors involved may differ.

Managerial control

A consideration of worker resistance to management initiatives opens up the issue of alternative forms of control. One of the common criticisms of Braverman is that his conception of control is too narrow and overly concerned with task content. Edwards (1979), for example, has suggested that opposition to Taylorism forced management to search for alternative strategies to control the labour process. A further point is that whilst there are undoubtedly deliberate and conscious managerial strategies that are introduced to gain control, increased control is often a by-product of other managerial decisions. The concept of managerial control is central to any analysis of the labour process. Where the social relations of production are antagonistic, without control management cannot achieve its objectives. The case studies testify to the fact that the adoption of Tayloristic principles of job design is but one mechanism amongst many which operates on the workforce. In this way the case studies endorse similar arguments made by other writers (Edwards, 1979; Friedman, 1977) who stress the variety of control strategies that may be employed.

In both banking and the Public Service, the imposition of a bureaucratic organisation provides a form of structural control. Discretion of employees is limited through a system of rules and regulations, which, as Brocklesby suggests, is a form of control that has been enhanced with the adoption of computer-based technologies. The rigid specification of duties, for example in the form of written job manuals, was always a major feature of Taylorism, at least in theory if not always in practice. This system of control through rules often gains legitimacy through its equation with technical efficiency, but it is important that it is recognised as a powerful limitation on employee discretion. It is possible also to refer to the similarities between the Public Service and banking. Both have adopted highly bureaucratic systems of employment which guarantee a degree of security and offer to sections of the workforce the prospects of upward mobility. It has been argued that this creates a system of structured dependency in which workers are provided with a strong incentive to comply with management's directives. This issue, and the extent to which new technologies are undermining the traditional employment relationship, have been discussed at length in the paper on the banking industry.

In her paper, Hill places considerable emphasis upon the fact that workforces may not be as homogeneous and unified as Braverman's analysis might suggest, and all the case studies provide several useful examples of important workforce divisions. A logical extension of this argument is that, under certain circumstances, internal divisions in the workforce also enhance managerial control over the labour process. The segmentation of labour can be exploited as a useful control strategy for management in so far as segmentation limits the potential development of class consciousness among members of the workforce. This does not mean, however, that labour market segmentation necessarily stems from a pre-planned and class conscious management strategy. For example, in the printing industry it can be argued that the willingness of male craft printers to maintain a separate group identity has been a major cause of segmentation in the workforce. But segmentation can have costs to management also. For example, it may prevent the substitution of one form of labour for another during times of technological change, a fact illustrated by Hill's study of printing, where TTS operators could not be substituted for male printers.

Another issue raised by reviews of Braverman's work is the question of management's reasons for introducing new technology. For Braverman, management is essentially an arm of capitalism, and the key dynamic of capitalism is the seeking of control over the labour process. For this reason, Braverman argues, production technology is *designed* as an instrument of control in capitalist societies. In their paper, Inkson and Cammock suggest that while increased control was ostensibly the reason for the introduction of new technology in the New Zealand freezing industry (i.e. the chain was introduced as a means of undermining the power of the solo butchers), management also had other objectives in introducing the chain. It is clear that new technology is often introduced for reasons which are unconnected with the desire for increased control. As Hill (1981, p. 112)

argues:

... economic efficiency does not result only from the reduced discretion of potentially recalcitrant labour, and new production techniques are frequently developed because they raise profits directly and with little reference to this form of control.

The computerisation of cheque processing in banking was introduced into an industry which displayed few of the overt problems of control which had been a characteristic feature of meat freezing. In banking and printing, it has been argued, the primary motivation for the introduction of new technology was its labour-saving benefits and greater efficiencies. Nevertheless, the case studies do suggest that new technology often has the effect of reducing or abolishing workers' control, even if this is not necessarily the primary intention.

Gender and skill

One important division which has been discussed in 3 of the case studies is that between males and females. Clerical work in particular has provided very different occupational experiences for males and females. The banking industry and the Public Service both provide evidence to support the contention that there exists a 2-tier system of employment in which there are distinct differences in the treatment of male and female workers. The position in these industries in New Zealand mirrors extensive local and overseas evidence that female employees are disproportionately represented in the ranks of the lower paid, those of lower status, with less security and often with little chance of advancement.

Women offer an attractive employment proposition to management. Firstly, they provide a flexible supply of labour as a result of their historically high rates of attrition. This enables management to adjust easily the size of its labour force to the requirements of new technologies. Secondly, women provide a source of labour which is relatively cheap. Under the law, employers can no longer pay women less than men for doing the same job. But where the majority of women are employed in a narrow range of occupations, the popular belief that "women's work" is less skilled enables their labour power to be bought at rates lower than those which would be paid to men. Doubtless management has also been attracted by the fact that until recently women have not attempted to rectify this inequality themselves, arguably because of limited opportunities, aspirations and expectations. Furthermore, a male-dominated trade union movement has, in the past, chosen not to campaign actively in support of women's rights, though this may now be changing.

Most reviewers of Braverman's work have drawn attention to the way in which his unidimensional conception of skill ignores its subjective component, although the link between gender and developments in the labour process is only now becoming generally recognised. The introduction of ledger machines into banking, typewriters into the Public Service and TTS machines into printing, occurred at a time when significant numbers of women were entering the workforce. The relationship between technological change and the feminisation of the labour force undoubtedly reflects an association between technical deskilling and female employment. In banking, for example, ledger machines simplified the work of ledger keeping, and most of the low-grade, routine machine and data entry tasks, which are typical of modern banking, are performed by women. But there is also evidence that the secondary status of positions occupied by women following changes in technology, can reflect gender-based perceptions of various types of work, rather than a low technical skill requirement. In other words, when jobs which are created as a result of technological change are seen to be stereotypically female, they are subsequently perceived as deskilled, not as a reflection of the technical capacities which are required, but simply because they are carried out by women. As Couchman notes in his paper

“. . . the distinction of women's work from men's work has a marked impact on the perceptions of the skills involved". This may be illustrated by reference to the devaluation of the skill of shorthand writing as it became absorbed into the typists' function, an occupation carried out almost entirely by females. Furthermore, the considerable technical skills which are necessary in the operation of typewriter keyboards are rarely acknowledged. A similar example can be seen in the reluctance of male bank clerks to operate ledger machines, as well as the opposition of craft printers to TTS machines. These examples bear testimony to the perceived lower value placed upon "women's work."

Technological change and industrial relations in New Zealand

What then are the implications of using a labour process framework, and the analysis presented in the 4 case studies, for an understanding of the relationship between technological change and industrial relations in New Zealand? Two interrelated matters suggest themselves for further comment, and both bear directly upon industrial relations issues. The first is the likely impact of new technology upon the nature of work in the future, and the second is the social impact of technological change in the workplace.

New methods of work and changes in technology both involve the making redundant of old skills and the emergence of new ones. Old job structures disappear whilst new ones are created to take their place. The transformation of work is a continuous process with specialisation allowing different elements to be carried out by different workers, and fragmentation and simplification allowing some work tasks to be mechanised. Occupations disappear and new ones are created, as attempts are made to improve productivity and increase control over the labour process. Although initially the work of lower-level employees is affected by these changes, no occupations are immune. Many white-collar and professional jobs become subjected to simplification and routinisation making them little different from traditional manual work:

. . . management functions of control and appropriation have in themselves become labor processes. They are conducted by capital in the same way that it carries on the labor processes of production: with wage labor purchased on a large scale in a labor market and organised into huge 'production' machines according to the same principles that govern the organisation of factory labor. (Braverman, 1974, p. 301).

Whilst some work may be de-skilled, resulting in more lower-order jobs, new technology also creates a demand for new skills. These may in turn become redundant as attempts are made to further rationalise the labour process. The continuous drive for improvements in efficiency and increased managerial control leads to pressures for change in the methods and the organisation of work which may not benefit all the parties equally. Such pressures are resisted by those whose occupational skills will be affected by them, and thus the interests of employers and employees frequently do not coincide.

In addition to its impact upon the nature of work, new technology also has a social impact. Unemployment, redundancy, re-training and margins for skill are all important current social, as well as industrial relations issues. Prescriptions for dealing with these matters range from reformist to revolutionary. Technological change may be seen as a process of "creative destruction": it brings many benefits, but it also has many costs. In a capitalist society, costs and benefits are often spread unequally. For social stability to exist, the problem becomes one of minimising this inequity. It is the State that is charged with maintaining a balance between different interests and in coping with the effects of any inequities that are created. Hence, if capitalism as a form of social and economic organisation is to survive, the role of the State may become increasingly important in containing the inherent destructive forces of the system.

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