

## Labour process theory and the chain system in the New Zealand meatworks

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*This paper applies a labour process perspective to the "chain system" in the New Zealand meat freezing industry. It traces the introduction of the chain system, contrasting it with traditional work methods and uses this historical perspective to provide a critique of Braverman's theory of changes in the labour process.*

### Braverman and the introduction of the chain system

In this paper we shall apply a labour process perspective as developed by Braverman (1974), Wood (1982) and others, to the "chain system" which has dominated work for the last 50 years in the New Zealand meat freezing industry. The industry, because of its central position in the country's trading economy, is arguably the most important we have. The introduction of the "chain" system of line processing to replace the previous method of "solo" butchering, appears at first sight to provide a classic example of the Braverman thesis of extending capital control of labour through the de-skilling of work. Furthermore, it has contemporary relevance, for in 1984 the industry stands uneasily on the threshold of another massive set of technological changes which parallel in some ways the original move to the chain system.

We will first trace the history of the introduction of the chain system, paying special attention to the nature of the two contrasted processing methods and the work entailed by them. We then seek to use this history and other information on chain technology to critique Braverman's theory, for despite its sweeping elegance and apparent completeness, more detailed consideration of specific industries is necessary if we are to develop a thorough analysis of the labour process. As Wood puts it, we need

... to abandon simple, unilinear models of capitalist development and to undertake detailed historical, empirical studies of the interaction of the relations and forces of production in specific industrial contexts. (1982, p. 17).

### Solo butchering and the introduction of the chain system

The traditional method of butchering the sheep and lambs which constituted the major part of the throughput of the industry was the "solo butcher" method. This consisted basically of a single skilled worker using a set of sharp knives to slaughter the animal, remove its pelt, internal organs, head, and legs, and suspend it from a hook for further processing. Solo butchers worked in their own pens, into which the animals were released

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in a controlled way by shepherds. While the butcher did his major work on one carcass, 3 other animals might also be in the pen, their blood draining out until they were suitable for dismemberment.

The pace of work was determined by an experienced worker, "the clock", with whom the other butchers were expected to keep pace. A normal tally was 100 animals per day. Skilled knife work apparently demanded considerable expertise: many men would attempt to acquire the skills by becoming trainee butchers, only to be discarded at an early stage when they proved inadequate. For the successful, it took perhaps 2-3 years to become a fully skilled knife hand. These men, apart from being very skilled, were central to the other process operations in meat works — operations which, being simpler, could be learned quickly and paid at labourers' rates. Solo butchers were paid on a piece work basis, earned more than double these rates, carried high status in the works and in the community, and were dominant in union affairs.

The dominance of the solo butchering system came to an end in the 1930s, when the first "chain" systems — forerunners of the production technology still current today — were introduced. Under the chain system the carcass, suspended from a hook, travels mechanically past a line of workers, each of whom makes a single cut or operation until the whole processing cycle is complete. The skilled, complex task of the butcher is broken into small segments, each completed by its own specialist worker.

The introduction of chains was apparently planned by enterprising management well in advance, but was resisted stoutly for a time by the meat workers. Unfortunately for the men, circumstances were against them. In 1932 the privations of the Depression had already forced meat workers to accept a series of wage cuts. Management at the Borthwick's and Vesty's companies had laid in the equipment necessary to introduce chains. In a history of the Borthwick organisation the change is described thus:

There was one big show-down. It came in the 1932-3 season and affected the whole meat industry both in Australia and New Zealand. First cause was the depression. The freezing works supported by Government (what else could they do?) cut down wage rates. The men, not unnaturally, did not appreciate the real position. They came out. In no time all the works were idle.

Borthwicks and other meat companies took the opportunity to install the chain system, which they had been thinking of for some time. This did not add to the men's willingness to come back.

Borthwicks called for volunteers to run the works. They got them: and so the chains were operated first by amateurs. To begin with they were anything but skilful and output was pathetically low. Also there were plenty of cut fingers: for butchers' knives were sharp. But they learned pretty quickly. The daily kill mounted steadily.

Brooklyn's story is typical of most works in both countries. Some 300 men worked, ate and slept on the premises. A kitchen was rigged up in the old garage and cooks were engaged. There was a small police garrison equipped with searchlights. (In the event no serious violence occurred.) The foremen carried bandages; there was sick parade every morning and the casualty station did good business in the beginning. The first day's kill was 33: the first week's, with one chain working, 4,500: in the fifth week, with three chains, they reached 45,000. (Harrison, 1963, p. 125-6).

However, workers had seen the threat coming. In a letter to the Secretary of the Meat Workers' Union, the Secretary of the Waitara Branch said:

I am instructed to advise that there is a move by Borthwick's here to install the chain system of slaughtering and dressing mutton. The system is operating in America . . . I suppose it is hardly necessary to explain the system, but as I understand it, the carcass is on the move all the time from the pen to the cooler, and the slaughtermen do a certain cut on the carcass while it is travelling . . . The firm here this week asked for a deputation from the slaughtermen to meet the management, and they were shown illustrations of the plant at work in America, and of course it looked very fine and large . . . We have reason to believe that a plant has been landed in Wellington, and that some is either intended for Waitara or Westfield, so no time should be lost in raising opposition before it is too late. (Cited by Kelly, 1931).

In the event, the action of the workers was forceful, and extended across the whole country. The butchers stayed fairly solidly on strike and mounted pickets against the new workers through the summer of 1932-33. They had anticipated technical problems in making the new system productive and for a time it seemed they might be right. But the employers were clearly aided by the prevalent depressed economic conditions, the reluctance of other New Zealand unions to take action in support, and the ready availability of a pool of unemployed men, ready and willing to staff the new "de-skilled" meat chains. An observer evocatively described the new workforce:

... a motley crew with no immediate future; trained accountants, lawyers, engineers and other professional men worked alongside the unskilled. Many had applied for work in the only clothes they possessed: coat, trousers and shirt, no underclothes, no socks. Stockingette mutton bags, with head and arm-holes cut in them, were often used for working singlets. But do not imagine that all was dreariness and depression; men in real adversity are not like that. Here at least was work and an income, which, if not large, was all events better than the dole. (Loach, 1969, p. 89).

The existence of this "reserve army" of unemployed was too much for the meat workers. On 19 December, 1932, for example, the Secretary of the Canterbury union reported that:

At Kaiapoi, there are 30 on the board, 2 of whom are competent slaughtermen, the balance being made up of free labourers. The chain system is in operation, and they are killing between 750 and 800 per day ... at Belfast, there are 23 on the board on the chain system ... and I regret to say a number of our ex members have gone to the bosses' assistance ... at Islington, there are now 45 working on the board killing, 20 of whom were unionists, but not unionist slaughtermen ... to sum up, with the exception of the slaughtermen, who are standing solidly as the Rock of Gibraltar, there is genuine cause for anxiety in respect of the labouring section, as there must now be in the aggregate a couple of hundred who have gone in. This is naturally having an effect on the others who are standing out ... (Revell, 1932).

And so, gradually, resistance collapsed. The meat companies recruited more and more labour; first the displaced Depression workers; then the meat industry labourers, finally some of the ex-solo butchers. The system became more productive, the butchers got further into debt, and the Meat Workers' Union was in a state of considerable disunity (Ferguson, 1983). Eventually the butchers individually admitted defeat and either moved into other industries or drifted back to the works. A former solo butcher reported:

They got the solo butchers back – those that were a bit weaker – to teach the learners on the chain. They went back at half a crown an hour, they were around for two months, and then they had taught the new chums all they knew. After that they were immediately dropped to 1/9 an hour, you could get it elsewhere ...

Another said:

The solo butchers got the first option on jobs, but some thought it was beneath their dignity ... they were glad to get outside ...

Although the slaughtermen had received some support from other unionists – for example consignments of meat were "blacked" at the docks – in the end the fragmentation of the labour force and the ability of employers to take advantage of the juxtaposition of technological rationalisation and economic decline, were too much for them.

By early January the majority of works were operating effectively with free, and ex-union labour. The season was at its peak and the companies had demonstrated that the union's hope that stock would exceed the companies' capacity proved false. The chains operation had rendered the solo butchers irrelevant and impotent ... The problem was to organise the unionists now on the job ... On May 12 1933 the strike was officially declared ended. (Ferguson, 1983, p. 15-16).

The economics of the two systems make an interesting contrast. A former trainee butcher at Belfast (Christchurch) supplied these figures:

	Solo system	Chain system
Number of men	52	92 (2½ chains)
Daily payment per man	£1.16/- (100 kill)	14/- (1/9 per hour)
Daily cost (total)	£93.12/-	£64.8/-
Daily output	5200	8000
Cost per unit (pence)	4.32	1.93

These costs do not of course take into account the increased capital costs of the chain system. However, it should also be noted that the increased killing capacity and productivity was secured without any addition to killing space.

#### De-skilling as an outcome

The introduction of chains classically exemplifies Braverman's concept of "deskilling". For Braverman, a worker becomes de-skilled when he or she loses control over the labour process. The principles of scientific management, or (as in this case), the introduction of new technology, separate the worker from involvement in the conception and design of work, leaving to him or her only its actual execution. De-skilling can be viewed both as managerial *motive* and as an *outcome*. As a motive, de-skilling occurs as a conscious attempt by management to use scientific/technological developments to divest control from skilled workers. As an outcome, it removes the special skills of the worker and embodies them in machine design or organisation of production.

The "outcome" aspects of de-skilling through introduction of the chain system are clear. First of all, any craft basis in the art of solo butchering disappeared, rendering the worker "inadequate to carry out any complete production process" (Braverman, 1974, p. 73). The division of the labour of one man into over 30 discrete positions is an example of the "detailed subdivision" of work, which Braverman claimed "subdivides people" (1974, p. 73). It also, as Braverman pointed out (1974, p. 81) enabled the meat companies to purchase each reduced kill at its own minimum price rather than at the higher price commanded by the complex expertise of the solo man. (The solo butchers who continued as labourers in the meat works lost considerably in economic terms, as the figures previously cited show). It removed understanding of the total process from the butcher and located it exclusively with management. It provided managerial/technological control over the *pace* of work. It used machinery to eliminate skill functions of the workers, to integrate them as dominated elements in the production process. Finally, as the history of the 1932-33 dispute shows, it "polarised those whose time is infinitely valuable, and those whose time is worth almost nothing" (Braverman, 1974, p. 83).

This view of the effects of de-skilling, however, relies on an oversimplified "zero-sum" conceptualisation of skill, whereby the more skill is exercised by the worker, the less control available to management. Skill and control, however, are more complex than this:

Skill itself . . . consists in at least three things. There is the skill that resides in the man himself, accumulated over time . . . There is the skill demanded by the job - which may or may not match the skill of the worker . . . And there is the political definition of skill: that which a group of workers or a trade union can successfully defend against the challenge of employers or other groups of workers. (Cockburn, 1983, p. 112).

As in the case of the printing workers studies by Cockburn (1983), the displaced solo butchers found that the skill they possessed within themselves was no longer relevant to the new requirements of the job, which had been reduced to a simple 8-second cycle. Nevertheless, the wielding of the knife was still skilled work (though less so than previously) and required several months' training for the achievement of real competence. Later, informal job rotation systems and managerial requirements for labour flexibility further increased the butchers' control-through-skill. Nowadays a differential payment for the chain slaughterman has been re-established, and entry to the position requires clear evidence of competence on a learners' chain, and acceptance by both management and other butchers.

As far as the social organisation of work and the social definition of skill are concerned, butchers in the new system had increased functional interdependence due to the sequential nature of their operations, and retained their centrality in the overall production process, with various follow-on departments being dependent on them. They also continued to be the largest group of men in most works. In the long term, although the "total" skill and discretion of the solo butcher has disappeared, the men on the chain, far from being denied their craft heritage by the remorseless march of capital, have retained considerable status and control, not only in relation to management, but also in relation to other workers' groups. In many works, both labourers and supervisors still talk of the major power of the butchers' group in industrial relations. In this case, control clearly was not based solely on the skill implicit in either worker or job. The power of contemporary chain workers also shows that managerial rationalisation of technology does not remove control equally from all members of a homogeneous labouring class, nor does it "produce or correspond to a simple, dichotomous class structure" (Stark, 1980, p. 119). Rather, within each class, shifting relationships and antagonisms shaped and focussed characteristics of control. The antagonistic relations between ex-solo butchers and "free" labourers at the time of the change have already been documented.

It can be concluded that skill, as conventionally defined, and control, are not necessarily commensurate with each other.

### De-skilling as a managerial motive

As a managerial *motive*, de-skilling is more difficult to observe directly. Braverman believed that management was an arm of capitalism, and that its essential motive was to *control*.

Like a rider who uses reins, bridle, carrot, and whip from birth to impose his will, the capitalist strives, through management, to *control* . . . Control is indeed the central concept of all management systems. (Braverman, 1974, p. 68).

The introduction of the chain system, in this view, was based solely on the key dynamic of capitalism, control over the labour process. This involved not only dominating the individual worker through technology, but also shattering *collective* control exercised by the labour force. Shields (1982) suggests explicitly that the goal of management in introducing the chain system — and indeed its current goal in seeking further technological change — was "the smashing of the union" (p. 18).

This is supported by subjective opinions we have obtained from participants in the events of 1932-33 — managers, union officials, and workers — whom we have interviewed. Both management and workers to whom we spoke were clear that the major aim was to break the power of the butchers. A former works manager told us:

. . . it was sheer necessity to break the power of the solo butchers . . . they were highly paid, itinerant workers with no loyalties . . . so the chain was introduced as a strike-breaking panacea . . . when the works resumed with the old staff, things were never quite the same, the pecking order had been irretrievably disturbed. Management were determined that they would never again be subject to the vagaries of the solo butchers.

Similarly, a union official said:

. . . to release themselves from the grip of the solo butchers. If the solo butcher didn't turn up, it was 100 a day not killed.

A former solo butcher described it thus:

Borthwick knew the solo slaughtermen, knew they had a fair pressure, because it was a trade. He knew if they could break the solo-slaughtermen up, they would have the world by the tail . . . it was an opportunity to break up a strong union, and they succeeded.

Again, the mechanisms of the labour process appear to have been exactly as stated by Braverman. However, it would be an oversimplification to regard the introduction of chains as resulting *solely* from a ruthless and single minded managerial device for control. As Wood and Kelly (1982, pp. 88-89) point out, control is only one of a number of objectives in the capitalist cycle. Minimising costs, extracting surplus value, ensuring material supply, and developing the market may have high priority at different times. In the peculiar economic circumstances of 1932 (worldwide economic depression, falling export prices, wage cuts, growing unemployment, and a national strike by meat workers), it is easy to see that securing control over the labour force must have seemed an attractive opportunity to management.

In the 40 years following the introduction of the chains, external conditions changed markedly. Prices rose again, the scale of the industry expanded, and unemployment virtually disappeared. In the changed economic climate and with high control over the labour process established, management's balance of concerns changed, and conditions became more favourable to resistance by labour against managerial control. In this process, labour was undoubtedly assisted by other changes in the socio-political context: the advent of the Welfare State under the aegis of a series of Labour Governments commencing in 1935, the favourable attitude of the Government to the development of unionism, and changes in public values concerning the protection of citizens from the ravages of uncontrolled economic forces.

In more recent years, the industry has become internationally more competitive, consumers more sophisticated, governments more interventionist in their protection of local industry, and scientists and technologists more knowledgeable and innovative about improvements in the production process. This has led to the introduction of new groups of engineers, technologists, production managers, quality inspectors and graders, veterinarians and so forth into the process, exercising control through expertise and thereby diffusing control in a way which further blurs the capital-labour dichotomy. The point-of-production changes reflect more than a struggle between capital's desire to control the labour process, and labour's desire to struggle against domination. This is illustrated by the experience of the 1970s, when all New Zealand meat works made considerable technological alterations to meet the specifications of EEC Hygiene Regulations, and the dynamic for change clearly came from external competitive pressures. The New Zealand farmer can produce lamb cheaply relative to the European farmer; the Hygiene Regulations tended to equalise costs by necessitating considerable extra expenditure on new slaughter boards of stainless steel and plastic, and on 4 or 5 new jobs per chain. However, if diversification of the market continues, then the effect may be reversed. Exports to the Middle East require slaughter by the Halal method, in which a Moslem slaughterman kills the animal while facing Mecca and saying a prayer, but does not require adherence to the Hygiene Regulations. Both changes produce subtle alterations in the potential of different groups to exert control, but both are dictated by external market forces.

In the 1980s there are ominous signs that the world's ability to produce meat is expanding beyond its ability to pay for it. For the present, owners may seek simply to survive; the prime necessity for survival may not be to cut costs. In other words, management is in its turn *controlled* by external forces which are reflected in its own pursuits of objectives and manipulation of the labour process.

In summary, we may say that the introduction of the chain system produced a major

alteration in capital's favour in the balance of organisational control in the industry. However, a number of other factors — not least the prosperity of the country in general and the meat industry in particular in the 30 years from 1935 — created a more gradual alteration of balance back in favour of labour, though, as we have noted, it is misleading in this case to think of "labour" as a totally homogeneous group.

### Worker resistance and managerial control

It is a common criticism of Braverman that he simplifies the complex dynamics of the labour process into a straight struggle between capital and labour, and "portrays the capitalist class as veritably omniscient and the working class as infinitely malleable" (Stark, 1980, p. 92). His analysis pays scant attention to the extensive literature in industrial sociology which documents effective worker resistance to managerial rationalisation. Segmented assembly-line type technologies like the chain system reduce workers' control-through-skill, but increase the functional interdependence of workers, enabling a craft-based solidarity to be replaced by a work-group solidarity. Further, the organisation of work in a meatworks, like that in any mass production operation, creates large supervisory spans of control, so that workers exercise some of their own control at the immediate location of production. One of the authors has been escorted quite brusquely from a production area into which he had wandered by accident, by meat workers whose control of entry into their geographical patch, by *anyone*, including management, was absolute. Many meatworks have small groups or departments of processing workers which in practice operate as self-governing "autonomous work groups" controlling factors such as employment, allocation of work, and work methods within overall quota and payment agreements negotiated with management. Control of labour does not come about automatically through the introduction of a dominating production process; indeed the production process may encourage the resistance on which counter-control is based.

Another source of collective control by workers is that embodied in formal union activity. In the Depression this strength of the union was firstly swamped by external economic conditions, unemployment, and the progressive reduction of wages. It was finally shattered by the introduction of the chains, which made possible the replacement of skilled unionised labour by unskilled scab labour. However, it seems likely that the combination of the loss of craft control, the loss of collective control, and in many cases the loss of jobs by meatworkers, together fostered much of the worker consciousness and sense of struggle through which (aided by the more supportive environment fostered by the Labour Government of 1935-49) the post-war meatworker union movement regained vitality. The solidarity of the freezing workers' unions is impressive, and especially so at shed level (Eichbaum, 1980; Inkson, 1981). This gives workers a collective control which bears directly on the "substantive" issues of workplace conditions, technical changes, rates of pay and company incentives in which many workers are mainly interested.

It is also important to recognise some individual forms of resistance practised by workers. For example, meat workers interviewed by one of the writers have reported various kinds of individual theft and sabotage, including the deliberate rejection of good export meat by inspectors (Inkson, 1977). Absenteeism, over-utilisation of accident compensation, neglect of quality, indiscipline, passive resistance to supervisors, and tardiness at critical times all appear to be prevalent in the industry, particularly in works where the logic of efficiency is unmodified by a more "human" managerial style (Inkson, 1979). All of them provide the most insignificant and unskilled of meat workers with means for the individual expression of autonomy and counter-control.

To some extent, collective and individual resistance to control is a consequence of, or reaction to, the imposition of rationised systems, which often create quite unforeseen consequences in terms of worker behaviour (Trist and Bamforth, 1951). The assembly-line employee may be "the prototype of the militant worker" (Blauner, 1964, p. 123). The introduction of the chains apparently *reduced* output per man employed,

and led to the development of giant slaughterboards containing up to 6 parallel chains running through a factory space worked by as many as 300 men or more. Management is well aware of the difficulty of maintaining disciplinary control in such circumstances. Immediate gains in profitability through the thoroughgoing application of Taylorism need to be balanced against longer-term effects on product quality, industrial stoppages, absenteeism, time loss in accidents, lowered morale, and labour force instability (Turkington, 1976). Any suggestion of a unilinear managerial sweep towards clear and unconflicting goals is an oversimplification.

In summary, we may say that although the introduction of the chain system provided a classic case of the degradation of work and the imposition of a massive new element of capitalist control over the labour process, control was by no means totally established. Organisation of the labour process involves a constant struggle between contending groups, a struggle which ebbs and flows, and which takes place moreover in an external environment which is itself in flux. Even in 1933, major potential for control remained in the hands of labour, and in subsequent years this has enabled a partial reconstitution of the role and power of meat workers.

### The chain system: worker alienation and adaption

The above critique of Braverman focuses on the limitations imposed on capitalist control of the labour process by both external forces and internal resistances. A second critique focuses on Braverman's "objective" definition of the worker's condition — determined by the external, omniscient social scientist — as against the acceptance of the "subjective" views of participants as important data pertaining to their condition. Braverman, like Marx, dismisses attitude material as "false consciousness" — an irrelevant product of capitalist socialising institutions.

Nevertheless, there are clear parallels between the subjective experiences of meat workers and the objective degradation processes described by Braverman. The point of contact between the 2 approaches is based on deskilling as an outcome, and on the loss of the worker's sense of esteem through the fragmentation and dehumanisation of his job. Since the industrial revolution, the destructive potential of rationalised production systems has been insistently stressed by various social philosophers and behavioural scientists. For example:

Everlastingly chained to a little fragment of the whole . . . man himself develops into nothing but a fragment. (Schiller, 1795, p. 20).

Reacting to the rhythms of technology . . . [the worker] approaches most nearly the condition of *thingness*, the essence of alienation. (Blauner, 1964, p. 20).

The process, it is evident, separates skill and knowledge even in their narrowest relationship . . . the worker is no longer a craftsman, but an animated tool of management. (Hoxie, 1918, pp. 131-2 cited in Braverman, 1974, p. 136).

According to Braverman, the key to the worker's protection from degradation is his craftsmanship, that is, his practice of an integrated and absorbing skill. Mills (1951, p. 220) described craftsmanship as an "ideal type" of work, in which the integration of worker, process, product, and culture is complete. But in capitalism, it seems, the ideal is constantly subverted. Tressell (1911) for example, pointed to the exploitation and deskilling which even a craftsman faces if the supply of the craft exceeds the demand for it. In the meat industry, we take leave to doubt whether even the original "solo butchers" ever saw themselves as craftsmen or experienced the absorption and integration mentioned by Mills. After all, they duplicated the same cycle of activity between 80 and 100 times in a day. The few men we have spoken to who worked as solo butchers prior to the change (which reached some works as late as 1956) apparently took pride in the quality of their work, but remember the transition mainly as one in which they lost a lot of money, and as a change from a heavy, arduous job to one that was rather easier. Apprecia-



tion for the *craft* of solo butchering apparently came from those who never did it: for example, two men who had watched solo butchers in action:

I watched (the slaughterman), it was a work of art. Never a blemish. Solo slaughtermen's lamb would shine, they called it "the bloom", it used to melt in your mouth.

I remember a slaughterman at Islington, to watch him work on lamb, it was artistry, poetry in motion.

In contrast, an ex-slaughterman concluded:

In the finish there's not a hell of a lot of difference between the work of the solo butcher and the chain slaughterman. A good foreman meant a lot in both cases.

Although our evidence concerning the subjective experience of solo slaughtermen is rather sparse, we have more information, from modern sources, of how chain workers experience their jobs, for in recent years, a number of New Zealand social scientists, such as Geare (1972), Inkson and Simpson (1975), Inkson (1977), North (1978), Eichbaum (1980) and others have investigated worker job satisfaction, alienation, and adjustment. It is apparent from this material that chain workers indeed experience their working activity as highly technology-controlled, monotonous, and lacking in discretion. However, the evidence from these studies is that workers can *adapt* to objectively alienating or degrading conditions in ways which *subjectively* reduce alienating effects. By focussing on the "cash nexus" of rewards for work as compensation for lack of discretion, by channeling energy into the collective pursuit of better wages and conditions, by taking a "unitary" view of union-management relations, by bargaining with management to develop the practice of "responsible autonomy" (Friedman, 1977) and participation in the workplace, workers retain self-esteem and, at least subjectively, degradation is avoided.

At root, worker adaptation is a *psychological* phenomenon. In a situation where, as Braverman says, the job has been reduced to an empty and mindless physical drill, self-esteem can be maintained only by modifying dissonant elements, or by exaggerating the importance of elements where individual or group control is possible. Inkson and Simpson (1975) provide a case study of groups of meat works labourers and meat inspectors systematically modifying their images of the job to make it palatable. The labourers stressed money rewards, the inspectors control and status. The groups also attempted to exert control over the workflow and over each other by ritual antagonistic behaviour, thereby securing further adaptation to the situation. Conditions in the industry may predispose it to "dehumanisation" but people are apparently very adaptable. This adaptability, looked at from a different point of view, may in fact represent another set of resistances by labour to domination by capitalist rationality.

### Conclusions and current situation

One of the strengths of the attention paid in labour process analysis to technological changes such as the introduction of the chain system is the clear identification of *mechanisation*, scientific management, etc., as *instruments of capital*. In the literature of management and organisational behaviour, technological change tends to be anthropomorphised, being seen as a natural and irresistible power, bearing down upon organisations with its own force, neither initiated nor controlled by capitalism or any other human agency. The imagery of capitalism bolsters such a view: in reviewing the introduction of the chains at Borthwick's, for example, the company biographer writes:

(The men) were suspicious of the new method – though here again they were playing King Canute: you can get in the way of change but you can't stop it. (Harrison, 1963, p. 125).

On this view, the redundancies, reduced wages, and monotonous work encountered by meat workers in 1932-33 were an inevitable and irresistible Act of God. Braverman

shows the inadequacy of such an analysis by locating technological change in its economic and political framework, and by identifying a particular type of change as a deliberate act of capitalism. But Braverman's analysis is in turn rendered inadequate in that it attributes to the capitalist process a similar inevitability to that attributed by others to the technological process. Presumably, the view implied by the writers in Wood's (1982) volume, that technological progress is determined by human agents, but that the process is not one of endless rational capitalist triumph, but rather one mediated more by industrial and political forces and by elements of workers' control and struggle, has much to commend it.

Interpretation of the effect of the introduction of chain technology in 1932 and its retention to the present day as the dominant mode of production in the meat industry is problematic. The "pure" theory of the labour process, as expounded by Braverman, absorbs the technological change into the elegant sweep of its capitalist control/deskilling hypothesis. "Revisionist" approaches, such as those in Wood's (1982) volume and in this paper, recognise that workplace relations are complex, that capitalist control is limited by labour and class power, and that the process of deskilling may be articulated in a unique way in each separate setting. "Adaptation" theorists stress the various ways in which degradation in the objective sense can be counteracted at a subjective level by appropriate alterations in conditions of work. "Industrial relations" practitioners on both sides tend to see technological change primarily as an opportunity or threat to achieving economic objectives, and are not primarily concerned with the degradation effect.

Parallel with these differences in conceptualisation are differences in response. It appears to us that "revisionists" by and large stop short of the view that only fundamental redemptive change in the ownership and control of the means of production can change the basic conditions of work and protect workers' domination and degradation by capital. In the meat industry, the growth years 1935-1975 enabled management to make good profits from the industry while continuing to treat employees as "casual labour". Employees in turn developed the materially-oriented solidarity which the combination of deprived working conditions and management attitudes might have been expected to produce. Now, in the 1980s, new technology is available with the potential to make many workers redundant. For example, negotiations are currently in progress surrounding the "pelting machine" — a local invention, which in a single cycle can cleanly remove the pelt of a sheep or lamb — a task currently performed by a sequence of men on the chain. Significantly, these negotiations centre mainly on protection of security through relocation of labour or through redundancy payments to those displaced. The inevitability of change is apparently conceded: Braverman himself noted the tendency of union resistance to focus on the detail of Scientific Management, such as stop-watches, rather than on the deprivation of labour control.

In this context, adverse economic conditions and low international meat prices are again significant. One effect of this may be to shift the focus of the struggle away from the workplace. Perhaps unions are becoming more conscious of the limited power individual employers have in the national and international context. In the perspective of a worldwide international market for meat, continuing technological rationalisation of the industry may be inevitable: to fail to keep pace with our competitors in these matters may be to price ourselves out of an apparently shrinking market. The New Zealand meat industry can be seen as a national asset of the State in which "competing" organisations will sink or swim together and have their pricing and marketing determined on an increasingly centralised basis. Future debates will take place more and more in the national political arena. Meantime, the companies and the Government are anxious to safeguard the future through the introduction of new technology. Cost-cutting, previously a bonus for management, becomes a necessity; previously a nuisance for workers, it now threatens their very existence. It is at this point, with the closures at Southdown and Patea already accomplished, with management intent as it was in 1932 to increase productivity and get rid of the problem of labour militancy in one fell swoop, with labour exposed by its expectations developed in better times, and with the "cash nexus" the only real point of contact between many of the participants on both sides, that the processes described by

Braverman are about to become repeated in the industry in a way which could even be as dramatic as the apocalyptic events of 1932.

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