BEFORE AWARD RESTRUCTURING:

CHANGE AND TRADE UNIONISM
IN THE CLOTHING INDUSTRY FROM 1977

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Abstract

Well before current debates about award restructuring and industry planning, there was a series of fundamental changes in the Australian clothing industry. In the mid-1970s a period of substantial technological change began. There occurred a greater range of changes than at any time since the introduction of the sewing machine in the nineteenth century. Computerization affected cutting and sewing and new operation-specific machinery was introduced. However the impact of these changes has generally confirmed existing divisions in the labour force. In order to understand these developments, which took place on the eve of current debates about skills and award restructuring, changes in the labour process are examined in terms of Craig Littler's framework of job design, division of labour and control. The possibility of re-skilling and the importance of social processes outside the factory - from the home to the state - are noted. Although the processes described here originated in the factory, the critical arena for union response and initiative has thus far remained in and through various arms of the state.
Introduction

Most discussion of award restructuring proceeds with little reference to long term trends or to explicit theorizations of the nature of work. Yet before award restructuring came onto the agenda of the Australian Industrial Relations Commission, some unions and employers had been moving in this direction and, more importantly, global economic restructuring was already underway. Within Australia, the ground was being laid for shifts in attitudes to technological change and tariff protection.

This paper analyzes how technology and work in the Australian clothing industry have changed in the last fifteen years or so since computerization and re-development of existing equipment. It then assesses the nature of trade union responses to these changes. In this context, it will be possible to introduce the background for award restructuring and to draw out the critical role of the state in shaping the world of clothing trades unionism. Fully to understand the issues, it will be necessary to provide a brief history of both the Union and the industry and to refer to some theoretical frameworks which might be used to explain changes in the industry.

Few industries have been so transformed through the introduction of one machine as were the clothing trades with the advent of the sewing machine. Changes thereafter were of degree rather than kind until the late 1970s when substantial development began. Technological change was therefore placed on the industry's agenda well before the processes which we now describe as micro-economic reform began.

The Clothing and Allied Trades' Union (CATU) only began to develop 'pro-active' official policies on technological and organizational change from 1980. This was typical of the limited response of unions of privately employed manual workers. Trade unions in Australia have tended to react to technological change in terms of wage demands for a 'share of the spoils' (Markey 1987).
Clothing trades restructuring may be examined in terms of the categories developed by Craig Littler to explain changes in the labour process in capitalist societies (1982). Littler analyzed changes in the organization of work by examining three levels of work 'structuration', namely the division of labour and job design, the structure of control over the performance of tasks, and the nature of the employment relationship between worker and enterprise (1982: see especially 42, 50-57). He argues that when the details of job design are analysed, skill levels may be evaluated in terms of 'task range' and 'discretionary content'. In other words, skill may be defined by the variety of tasks which a worker is called upon to perform and by the extent to which that worker is free to decide upon how to perform the work. Whether such an approach can be taken from the realm of the theoretical and utilized by unions to 're-politicize' debates about skill is a moot point but one which may well be critical to the outcome of award restructuring.

Discussion of the clothing trade needs to be set in the context of the development of F.W. Taylor's ideas of 'scientific management' which Littler argued affected all three categories of work structure. In the division of labour and job design, Taylor and his followers aimed at divorcing 'planning' from 'doing', maximizing job fragmentation, limiting the worker's preparation, minimizing learning and reducing the handling of materials by workers. Each of these maxims changed the nature of work organization by reducing discretionary task range through increased specialisation and reducing discretionary content by fragmenting tasks. Production was thus cheapened, and control of the process passed more into management's hands. Wright has argued that the Australian clothing trade was indeed the classic case of the triumph of Taylorism (Wright, forthcoming; see also Frances, 1986).

In general, Taylor's ideas about such changes in the division of labour led to a more systematic framework of control. Taylor believed in the importance of task control, time study, precisely measured payment systems and strategies designed to appeal to the worker as an individual rather than as a group member. Finally, the employment relationship needed to be based upon a 'minimum interaction' between enterprise and worker. The firm would have
no responsibility for the career path of the worker. Indeed, changes within the firm would destroy the idea of training and broadly-based skills. In the clothing trade the survival of outwork is one manifestation of this.

The minimum interaction outside work was the opposite of the detailed control which management would exercise within the factory. Thus Littler argues that, above all, Taylorism 'represents the bureaucratisation of the shopfloor, substituting manager-subordinate relations for those of the independent petty-bourgeois contract. The fabric of control and co-ordination is woven afresh out of hierarchy, rules, a systematic division of labour and written records and communications' (Littler 1982: 188).

This analysis needs to be broadened in two ways. Firstly, attention must be paid to processes beyond the workplace. These are particularly relevant in examining the clothing trade because of the marked sexual division of labour in the industry. British research has suggested that 'in explaining the labour-market position of women, discrimination at the workplace is less significant than factors that are deep-rooted in social attitudes and behaviour' (Chiplin and Sloane 1976: 131). A study of white-collar work concluded that the origins of gender discrimination lay outside the workplace (Crompton and Jones 1984: 243). Similar forces have been important in the Australian clothing industry and it will be suggested here that changes in work have tended to reinforce discrimination.

Secondly, we must take account of the state in Australian industrial relations. Since the birth of the factory system in the Australian clothing trade, the state has been significant. As with other manufacturing industries, the clothing industry in Victoria, and subsequently at the Commonwealth level, enjoyed tariff protection. Industry and unions were regulated from the inception of the CATU in 1907. The role of the state has become more important since the mid-1970s because of the high profile of the Industries Assistance Commission (IAC, later the Industry Commission) and, since 1983, the Accords between the Labor Government and the union movement and the development of 'industry plans' which reduced protection to
Australian manufacturers. Clothing is one of the few industries in which a plan, including 'labour adjustment measures', changes in protection, and industry restructuring, has been brought to fruition. In *ad hoc* arrangements between 1977 and 1987 and in the preparation of the plan, the state's role had already expanded greatly. The advent of award restructuring is only the latest form of the general tendency of the Australian state to intervene in industrial relations. In short, the role of the state in industrial change requires considerable attention for a proper understanding of developments in work processes.

These are the methods of explanation to be pursued here, not merely examining the changes in the labour process, but also analyzing control and the employment relationship, in the context of a sexually differentiated labour force and an active state. We begin with a brief examination of the industry itself, after which we will be able to deal with the central issue of developments in the labour process and the trade union reaction to them.

**The Australian Clothing Industry**

*Industry*

In 1991 the industry employed about 47,000 workers in factories and shops (ABS 6248.0). It was, as it always has been, overwhelmingly concerned with the domestic market, a factor which has limited production and, often, development. The average number of workers per establishment is about twenty-eight (excluding those employing fewer than four people), as it has been for some time. A closer analysis reveals that in terms of enterprise groups, concentration is more marked. Bigger enterprises have been more likely to use the expensive machinery that micro-electronic innovation has brought. And if current trends of concentration continue, more workers will be employed in such firms. In 1987-88 the biggest twenty enterprise groups, out of 1772 groups, accounted for 27 per cent of all employees (ABS 8207.0).
The Factory Workforce

Of the 47,200 employed in 1991 about 78 per cent were women, a lower figure than throughout the 1980s. The ethnicity of the workforce changed, reflecting the pattern of post-war immigration. A survey carried out by the CATU in 1978 remains the most comprehensive analysis of the workforce (CATU 1979). The survey, which was used in submissions to the IAC, involved over a thousand firms in Victoria and New South Wales. About 40 per cent of respondents were born outside Australia. Most of these workers had only limited English-language skills. They had no formal skills to equip them for other jobs and as most (58 per cent) were married, their own job situations were not the sole determinant of when and where they might work. In brief, they tended to be geographically and occupationally immobile. Since 1978, Asian immigration has made the workforce still more diverse. The 1986 Census showed that in clothing and footwear, about 25 per cent of workers were born in southern Europe; in all well over half were born outside Australia (DIR 1991). Communication within the Union about change and its implications is thus a complex matter.

The Labour Process

The labour process was transformed by the introduction of the sewing machine in the 1870s and 1880s, by more systematic management and technological development in the 1930s and by 'sectionalization' and scientific management in the post-war years (Ellem 1989). When the 'Singer' sewing machine was first introduced, the industry's characteristic unit of production was a small shop employing mainly male craft workers. It soon became a factory employing mainly women. New sectors of the industry, chiefly the ready-made trade, were occupied by women from the outset. Throughout Australia, dressmaking was almost wholly female. However, men remained in some bastions of craft, particularly in cutting, and from here they were able to continue to dominate clothing trades' unionism.

The basic labour process is alike in the many branches of the industry. There are four main stages of production: marking and cutting, sewing, pressing and examining. The CATU's
survey provided data on the numbers employed at each stage of production. Marking, grading and cutting employed 6.3 per cent of the workforce, whilst 69.8 per cent were sewing machinists. Pressing accounted for 3.9 per cent and examining, finishing and packaging for 7.6 per cent of the industry's employment. (The remaining 12.4 per cent carried out other duties).

The cutters have long been described within the industry as making up the (only) 'craft section' of the trade, and they are almost all males. Until the advent of the newest technology, this was the least automated of the making processes. It had not, however, escaped organizational change because the component parts - marking, grading, and cutting - had long been divided each from the other. However, the cutters' task range remained broader than most and more obviously definable, by whatever means, as skilled. The chief requirements of the cutters' job were planning and accuracy in marking, grading and cutting, with a special emphasis on achieving the maximum use of fabric. The cutters' exercise of discretion in this regard was necessary for the maximization of the firm's efficiency.

Once 'marked in', the 'lay' was cut, up to 200 plies at once, depending upon the nature of the material and the cutting implement. The weight of the lays and the physical difficulty of some sorts of cutting provided part of the basis for men's claims that cutting was necessarily a male domain. The work also required a high degree of planning, mental agility, some knowledge of other parts of production and, cutters argued, a 'feel' for garments in general. The cutters had considerable discretion in how the lays would be marked and cut. Saws, band-knives and the traditional tailors' shears were the tools of cutting. Cutting, then, headed the process of production and was carried out by men whose skills were formally recognised by employers and rewarded by relatively high wages and over-award earnings.

Sewing and machining together the parts thus cut has been women's work almost from the outset of the factory system. The work has long been subjected to a detailed fragmentation, and the machines have undergone constant development since the Singer was first
introduced. By the late 1930s, the traditional, all-purpose Singer had been refined to a range of high-speed machines, designed for specific tasks such as button-holing, seaming, pocket work and, in the shirt-trade, collar and cuff work (CATU 1935). The process of making machines more specialized has continued since the 1930s: 60 per cent of machinists now work on operation-specific machines; the other 40 per cent are classified as general machinists.

The question of skill levels is more complex in sewing than in cutting. The training received is quite different because most women are only trained for a few days, often on just one or two varieties of machine. As will be explained when changes to sewing are discussed, the real training received is the training of the home and sometimes the school. That is to say, the importance of the social construction of skills is particularly evident here.

Pressing seams and garments is not central to this paper because few changes in technology or work organization have taken place in the last ten years. Some computerized safety mechanisms and automatic temperature controls have been developed but no major transformations have occurred. Similarly, the final stages of production, examining, finishing and packaging, are not important for this discussion. There is some indication that they may become of concern if future industry plans emphasize product quality and marketing.

Some comments should be made about the work process as a whole. Two obstacles to technological change appear in this context. First, a great deal of time is spent in moving materials and garments from one work section to another and from one worker to another (DITAC 1985: 11). Some overhead, automated conveying systems have been introduced in the Australian clothing industry but they remain rare.

Secondly, there are obstacles to change in sewing because the softness and flexibility of fabrics mean that a great deal of handling around the machine-head is needed. Consequently,
'only ... 10 to 30 per cent of the total assembly cycle for a particular garment is actually spent sewing. The rest ... is devoted to various aspects of handling and other activities'. Reducing handling-time has proved to be a major difficulty for management (ITGLWF 1984: 3).

Substantial changes in technology or the organization of work have been hampered by the objective constraints of the nature of the industry's material and the small part which machining plays in actual production time. This helps to account for the relative stability of the clothing trades' work processes over long periods.

Partly because of obstacles to technological change, employers have pursued other strategies to win or retain market shares. 'Flexible specialization' is one such strategy, linking changes in consumer taste and buying power, retailers' marketing strategies and suppliers' technology. A growing demand for expensive clothing has led to some European retail firms competing with each other more in terms of product style and quality and less in terms of price. Retailers have insisted that manufacturers become more flexible, reducing lead times and changing product to reflect changes in sales (Greater London Council 1986: 33). In the context of constraints on technological change, computerization enabled industry structures to be changed (see also Piore and Sabel 1984: 35-36). However, in Australia the manufacturers are generally much less powerful than the retailers, as Rosewarne (1983) and Greig (1990) have shown. In effect, the real customer was not the atomized consumer but the retail conglomerate. Their point of emphasis, be it style, quality or mere price, became a critical determinant of clothing management strategy.

In Europe, flexible specialization has led to many changes in textile and clothing factories. Two distinct elements have characterized manufacturers' greater flexibility. First, major firms have introduced computer-aided design and computer-assisted machinery which have allowed greater flexibility in marking and cutting and some automation in machining. Secondly, sub-contracting has increased. This has sharpened divisions in the industry, or more precisely in the labour market.
In Australia outwork has been the key alternative strategy. The making-up of garments by individuals working at home is as old as the trade itself. It was not replaced by the expansion of the factory system in the 1880s but expanded with it (Fry 1986). At that time, tailors regarded it as little more than a form of scabbing. Even when organized in unions, outworkers aroused no sympathy amongst the tailors. Thus, in 1890, the Melbourne Tailors' Association persuaded the Outdoor Tailors' Union to withdraw its request for affiliation to the Trades' Hall (Ellem 1989: 54). Although attitudes changed within the Union, the CATU has had no success in policing outwork until very recently. Union estimates suggest that there may be as many as 60,000 outworkers as against the 47,000 in factories (Giles 1986: 122; Interview F. Peterson; also Ellem: 1991)

Outworking conditions make such a mockery of the system of Commonwealth Awards, that hours worked and pays received are reminiscent of the nineteenth-century 'sweated trades' - but outwork survives. For a variety of reasons the domestic circumstances of many women (or perhaps more accurately of their family unit) necessitate their working at home. Some employers obviously favour outwork because under some conditions it is a means to securing a competitive edge. There should be greater Union and legal control of outwork following a decision in the Commission 'to give outworkers the same conditions as factory workers' through a Commonwealth Award from 1 November 1987 (ACAC 1987; Women at Work 1987).

It is possible to see outwork and technological advance as alternative means to the goal of competitiveness. The favoured policy will depend, amongst other things, upon such factors as whether price or 'quality' is the key to gaining a market edge, or the length of production runs. Outwork may even be a response to obstacles to change. Because it has been difficult to improve machines, outwork may be the 'next best' way to cut costs. This is now critical because the outcome of both lower protection and award restructuring will turn on management commitment and strategy. Without a managerial commitment to the industry and, in particular, to quality, then the initiatives of unions and the government will fail.
To conclude, neither profit nor control of the labour process is the only consideration managements make when introducing technological change. Further, technological change is not the only way in which competitiveness can be retained. Many of the recent developments in the industry reflect the cross-currents at work here. For instance, the IAC's guidelines for the industry's future have shown a great deal of concern with flexibility and quality (IAC 1986: Vol. 2: 29-31; Giles 1985: 105-111). Industry restructuring and union change therefore reflect diverse imperatives arising from global economic change and Australian political-economy as well as the details of the labour process in one industry.

**Recent Changes in Technology and Work**

**New Technology**

Since the late 1970s, in advance of both award restructuring and changes to industry policy, new technology has been mainly applied in marking and cutting and sewing. Computerized technology has transformed the cutting room. In 1980 only seven of thirteen establishments inspected by the then Arbitration Commission had, or had ordered, computerised equipment. Even then, though, the impact of the changes was more widespread than would first seem to be the case. Some of the seven firms used the equipment for their subsidiaries. Other firms were able to order computer-marked lays through their employer association, the Australian Confederation of Apparel Manufacturers (ACAC 1980a: 78, 81). The application of new technology spread quickly thereafter. By the end of 1985, computerized marking and cutting systems were being described as 'the industry standard' (DITAC 1985: 9), despite their very high cost, of up to $1.25 million each (ACAC 1980b: 3).

These machines are generally referred to by the most common trade names: the 'Hughes' and 'Camsco' markers and the 'Gerber' cutter. In these systems, individual pattern pieces are 'digitized' at the marking stage. The computer memorises the pattern which is then checked by the operator on a visual display unit (VDU). Pieces or the whole pattern may be called up on the screen and the operator will place them in a 'hypothetical lay fabric and attempt to
achieve the maximum fabric utilisation' (ACAC 1980a: 24). The computerized marker can draw on codes and memories from which it will, amongst other things, make adjustments for different sizes (ACAC 1980a: 24-26). Therefore another function can be computerized - that of grading. This flexibility is essential in an industry with relatively small production runs and of course it becomes more important if the market changes as it has in Europe.

Because they have a 'drive' for the cutting process, the new markers have changed the cutters' work, too. Laser cutting-machines have the advantage that they can cut at any part of the lay, whereas a manual cutter can only enter at the edges (Rush and Soete 1984: 183). Furthermore the new equipment is symbiotic in that manual cutting is very difficult with computer-marked lays (ACAC 1980a: 39). Other advances have allowed more plies to be cut at once. The computerised machinery allows huge savings in material and time and it is flexible. As a result, it improves productivity (Giles 1985: 113, 115-16).

At the sewing stage, the extent of technological change is greater than it has been for fifty years. Not only has the range of operation-specific machinery increased, but computerization has also been brought to bear. However, as one observer has remarked, even these developments have been 'principally incremental advances' (Rush and Soete 1984: 189). In sewing, micro-electronic related innovations have yet to make a thorough impact in Australia. Three sorts of change have taken place in sewing: first, an acceleration of the secular trend towards operation-specific machines; secondly, changes to existing machines; and thirdly, the far greater speed of machines now.

A brief review of some of the new machinery is illuminating not merely for an understanding of the nature of change but also for showing how detailed is the division of labour. To take some important instances, the old machines for button-holing have become much faster, and there are new machines for pocket-setting, collar and cuff-running and seaming. There is now a bewildering array of sewing machines. These include 'surgers' with three sewing heads 'operated sequentially by the machinist', 'long seamers' which reduce handling time and
which can be operated two at a time by one machinist, fly-sewers, waistband machines, sleeve setters, lapel-sewers and an immense range of machines for detailed work in the making of shirts (Rush and Soete 1984: 189-90; Giles 1985: 114-15; ACAC 1980a: 27, 45-48; CATU 1983).

The term 'automatic machine' is sometimes used rather loosely. It often describes nothing more elaborate than automatic stacking facilities. Some operations, however, can be automated in that a computerized function may be introduced which allows the machine to be programmed by the machinist for long runs on standard operations such as pocket-sewing, leg-seams or collar work. There is an obvious scope for more innovation to occur in sewing. As has been shown, most machining is now carried out on operation-specific equipment and it is here that computerization has been to the fore. However there are still important constraints on technological change because of handling-time, small production runs and the variety of garments and styles which have to be produced.

The second set of changes which can be identified comes under the heading of work aids, that is, changes to existing sewing machines. These changes aim to reduce handling-time. Modifications have been made by introducing clamps and measures to increase sewing-time through automatic needle-positioning. The most widespread change is the addition of 'under-bed trimmers' as a 'labour-saving' device. With this equipment, the threads are automatically cut at the end of each seam, thereby 'freeing' the machinist from one time-consuming task. In contrast, on old machines, the operators stopped machining, took up scissors, manipulated the garment, trimmed the threads, replaced the scissors and then returned to sewing. Alternatively, some firms employed workers known as 'clippers' to cut threads (ACAC 1980a: 27, 49, 52; Rush and Soete 1984: 189; DITAC 1985: 10).

The third development to affect sewing is the increased speed of machines. The speed of lock-stitching machines has doubled to 6,000 stitches per minute, since the last period of major change, the 1930s. Some chain-stitch machines are now capable of 9,000 stitches per
minute. Work at these speeds places tremendous stresses upon the machinists; ultimately human beings' physicality imposes finite barriers to increases in speed (ITGLWF 1984: 25; ACAC 1980a: 28). This in turn makes other changes more important to management.

Since the 1970s, then, management has introduced computerization and persisted with more traditional forms of technological innovation. The changes in marking and cutting have been greater than at any time since the establishment of the factory system. At the sewing stage, two of the changes, greater speed and work aids, have continued the century-long modification of the machine. The other change, computerization, has been less thorough-going than in marking and cutting.

*Effects on the Division of Labour, Job Design and Skills*

At first sight, the impact of technological change seems to have been a relatively simple case of de-skilling. In some cases, old tasks have been taken from the workers by automation, and in others, pre-programmed machines have apparently turned the sewing machinist into a mere machine-minder. In cutting, it could be argued that the computer has taken over the 'brain work'.

However, the evaluation of skill is subjective and socially-defined. For instance, different managements have differing views of the impact of computerised marking and cutting. One manager claimed that 'the machine does all the work', whereas another believed that 'the Camsco was only as good as its operator' (ACAC 1980a: 34-35). Not surprisingly, all the cutters who were interviewed in 1980 by the Union about computerization agreed with the latter view. One stated that a cutter's 'pre-existing skills were imperative' for the best use of the machine (ACAC 1980a: 35).

There were, though, some areas of near uniformity. All companies paid over-award rates higher than those paid to manual cutters and all but one of the first group of firms to use the systems re-hired their cutters. Even where management had decried the skill levels of the
new work higher rates were paid. Interpreting this evidence in terms of skill levels is
difficult. The re-hiring of workers and the payment of higher rates might have been cost-
efficient because of productivity gains, or might have reflected the organizational strength of
craftsmen rather than technical skills - or perhaps both (ACAC 1980a: 32-34, 36-7, 40-42;
ACAC 1980b: 5-6).

Differences in response and interpretation are at the core of Littler's warning that disputes
about skill levels and changes in technology are essentially 'disputes in the politics of the
workplace' (1982; 30). An explicit exercise like award restructuring makes it essential that
workers are able to defend their skills and payments. The debate about skill levels should be
placed in a clearly defined framework. This task can now be undertaken by looking at the
three levels of structuration which Littler has identified, beginning with the division of labour
and job design. In this way some clearer conclusions about skill levels may be reached.

The changes under review here have by no means exerted a uniform effect, even within each
stage of the production process. In marking and cutting, it is not at all apparent that any of
the principles of Taylorism have been enhanced by the introduction of computerised
technology. At least in the early stages of innovation, there was no more division than
previously between planning and doing. In fact, it is likely that markers and cutters became
more involved in planning, at least while computerization was being set up. Under similar
circumstances, this has also been the case for some white-collar workers in other industries
(Crompton and Jones 1984: 212). Most importantly, fragmentation of work did not occur.
Because marking and grading were combined, the labour process was actually re- integrated,
not divided. Task range and discretionary content have been expanded. In Littler's terms,
then, these changes have led to re-skilling in the work place.

Discretionary content increased because of the unity of the labour process and the need for
prompt decision-making when setting-out lays. There has been no obvious tendency to de-
skilling. Littler's summary is apt: 'it is not at all clear that mechanization, automation and
transformations of the labour process can best be understood in terms of de-skilling' (1982: 187).

For sewing, the impact of change upon the division of labour, jobs and skills is more difficult to assess, although deskilling seems to provide an adequate explanation. It is certainly a popular one. Some recent studies have merely assumed the validity of deskilling instead of fully exploring it. An article in a trade journal observed simply in a passing reference that under-bed trimmers had been 'one of the first "de-skill" developments for sewing machines' (MC 185: 41). An otherwise detailed report by the Commonwealth's Department of Employment and Industrial Relations referred to the 'significant de-skilling' due to automation (Giles, 1985: 120), without explaining precisely how and where the changes had occurred. From the unions themselves a report, sponsored by the International Textile, Garment and Leather Workers' Federation reached a similar conclusion in an equally abrupt manner (1984: 36).

However, the CATU argued that different sorts of skill could be discerned in a machinist's work. Machinists were employed as machinists not as clippers or anything else. Their skill as machinists took up a greater part of their work-time if technological change 'freed' them from other tasks. Therefore, it could be argued that they were enskilled by these changes. This is a fairly standard argument in terms of work value cases in the Commission and one which that body has tended to accept (ACAC 1980a: 52-3, 63, 70; ACAC 1980b: 5). Such decisions may tell us more about union strength, social values and arbitration tradition than about genuine changes in work. Nevertheless, we may see how evaluations might vary in regard to the level of skill.

In 1980 the Arbitration Commission reviewed the impact of automation on operation-specific machinery. It ruled that 'while there is some diminution of basic skills there is an increase in manipulative skill and especially in the tempo of work ... [and] the degree of concentration is accentuated by the great speed of the machines' (ACAC 1980b: 4). This left aside the
underlying questions and assumptions about the prior skills and pay rates of machinists ('basic skills') but it was a view which showed some attempts to define types of skill ('manipulative'), under specific conditions ('tempo of work') and some recognition of the mental skills required ('degree of concentration') also under specific conditions ('the great speed of the machines').

If the focus of the study is confined to the factory itself, it could be argued that recent developments have increased management's control of the production process in sewing, confirmed the divorce of planning from doing and cheapened labour by reducing training times and costs through automation and work aids. However, as was suggested earlier, both the structuring of the labour market and the broader, social division of labour are necessary components of any explanation of the impact of technological change. Taylorism has the minimisation of skill requirements and learning as one of its fundamental principles. However, it would be idle to pretend that it is only changes in job design and technology which allow employers to recruit machinists so readily. They recruit them to perform work which the women have been prepared for as girls and sometimes as outworkers. Therefore, machinists only have to be taught how to use a specific type of machine, not how to sew, and how to adapt to work aids, not how to adapt to machinery itself.

A Government report which examined these questions in detail, noted that a preparation to fill certain types of so-called unskilled jobs could be discerned in 'the neatness, dexterity and attention to detail which is emphasised in the education and socialisation of girls'. The same report claimed that because skills such as sewing were 'gained in the private domain, and by women', they could be defined as 'non-skills' (Giles 1985: 55). It should be emphasized, however, that these definitions are not merely ideological. These skills can be given a low value because they are common. The importance of this is revealed by its converse, that scarcity of skills, often enhanced by craft unions' artificial limitation of numbers in a trade helped to define the craftsman's work as skilled. If scarcity can define skills at one end of the
scale, commonality can do so at the other. Further, through arbitration, the state institutionalized these perspectives, and regulated access to some craft work.

The impact of change in the industry has been quite different for cutters as against machinists, in large part reinforcing existing differences between them and characteristics within each stage of production. For machinists, who constitute the great majority of the industry's employees, the task range and discretionary content in their work had been reduced and the division of labour further intensified on the eve of award restructuring.

**Effects on the Structure of Control**

Taylor's control mechanisms included task control, time study and monitoring and payment systems. In all of these, both recent technology and likely micro-electronic developments tend to create situations in which the fabric of control is 'woven afresh' (Littler 1982: 188). Even with computerization, managements have not sought to wrest any more control of the labour process from cutters.

In sewing, the detailed control of tasks has increased in several ways. The introduction of operation-specific machines was a step in this direction especially when workers were confined to operating only one or two types of machine. Similarly, reducing the range of tasks carried out on plain machines made task control easier for management. Other aspects of the structure of control, especially time-study and rate calculation were re-worked in ways which often favoured management (CATU 1983). For machinists the already substantial control which management exerts has become more noticeable. Changes have been perceived primarily in these terms. In 1980 one machinist summed up responses to early changes in machinery by saying that 'she liked to control the machine and not have the machine control her ... like those ones over there [in the automated section]' ('Nellie' in ACAC 1980a: 48).
Systems of payment have remained broadly stable. Many commentators have tended to emphasise the role of incentives and to equate them with piecework systems. The role of payment systems is rather more complex (Littler, 1982: 59-62). In the clothing trade, there has long been a variety of payment systems. In the inter-war years managements chopped and changed between weekly wages and piece-rates as new machinery and techniques were introduced (Ellem 1989: chapters 4-5). A sexual differentiation became an enduring characteristic of payment systems, with the male cutters being paid wages and most female machinists being paid under various forms of incentive schemes. This dichotomy complicates response and adjustment to new technology. It tends both to reflect and reinforce the lower status and earnings of machinists.

Overall, then, familiar patterns of the sexual division of the workforce and the differences in respective structures of control have been replicated by the recent changes in the industry. In the machining section, the narrowing of task range and the role of computerization have helped to create a situation in which relations within the factory may be further bureaucratized.

**Effects on the Employment Relationship**

In the final category of analysis, the employment relationship, much of the discussion thus far may be drawn together. Within the factory, employers have worked for a model of 'minimum interaction' between themselves and the work-force. The impact of new technology in the sewing area certainly has this effect; indeed it would seem to be one of its aims. Although the Commission has ruled fairly favourably towards the Union on skill levels, this does not affect the underlying problems of control and of the nature of employment. The most notable of these problems for the Union is that operation-specific and modified machines may be seen as a means to maximising the substitutability of labour, given that women have to adapt only to a new variety of machine, not to a technology wholly new to them. Similarly, another part of the Taylorist credo - the lack of a career system - remains a conspicuous feature of the industry with women coming and going from the trade
rather than engaging consistently in paid work. In short the tensions in the 'flexibility debate' are quite clear here: between the hope of multi-skilling and the threat of greater exploitation and substitutability.

For most factory workers in the clothing industry, the changes of the last decade or so have confirmed the trend towards the substitutability of labour, and towards minimizing factory training. Outwork is important here for revealing how the trade as a whole operates in a manner which keeps labour disposable and interchangeable. This points to the need for outwork to be regulated and ultimately for effective and agreed industry policies to be developed. Without such intervention to underpin award restructuring and a new 'high-tech' industry, outwork could continue, while retailers and overseas competitors will dictate terms to manufacturers - if any remain.

**The Union Response to Technological Change**

Traditionally, the CATU responded to technological change with suspicious acceptance and with demands for pay increases. In the 1980s the Union began to look closely at questions of industry structure and technological change and then to take on the award restructuring agenda. The CATU’s response is best understood in a historical framework.

Divisions within the Union, from its founding in 1907, have often hindered the development of coherent policy. There were divisions between the state unions which founded the CATU and between the craft and industrial bases of the trade. The unions were essentially of and for craftsmen, but the workforce increasingly consisted of female process workers. The changing ethnicity of the workforce has added to these divisions. The typical official is an Australian-born English-speaking male, whilst the typical member is a female who is as likely to be an immigrant as Australian-born. Structural contradictions, too, have left their legacy. The craft unions favoured a loose federation of relatively autonomous state branches. The CATU’s Federal Office has tended to be poorly funded and has been given little authority by the branches. These characteristics - which began to change in the 1980s (see
Ellem, 1989: chapter 8) - had determined both the nature and effectiveness of the Union response to change in industry.

In the mid-1970s, with the establishment of the IAC and with inter-union organization in areas such as occupational health and safety (OHS), the CATU began to change. Paradoxes and difficulties remain. For example, there have been greater problems of communication and organization as migrants become more characteristic of the membership and as Asia becomes an important place of origin. Under the unfavourable economic conditions which have prevailed for over a decade, with constraints on rank-and-file access and language barriers, membership has fallen. The membership of the Union now (1991) consists of some 25,800 members (Oral information: S. McCreadie).

The first response to technological change was to defend members through work value cases. In the Commission in 1980 the CATU argued for traditional goals on well-established grounds, namely for a re-assessment of wages because of changes in work value, productivity, and skill levels. Most of the arguments came to be about the extent to which new equipment was typical and about changes in the level of machinists' skills.

The basis of the Union's argument about changes in work value has been discussed in the sections on changes in work. The CATU argued that in terms of the Arbitration Commission's traditional view of skills, there was a case for awarding higher rates of pay following computerization and automation. As we have seen, the Commission agreed. As in most other cases, the decision did not relate very clearly to questions about how skill should be defined in the first instance or to questions about control and training.

The second major area of CATU response to recent change has been in relation to OHS issues posed by new (and established) equipment and practices. Eradication of some simple or tedious tasks from the sewing process or the greater use of operation-specific machines may mean that some movements become more frequent or that movement is concentrated
within a narrower range. For instance in one industrial-clothing establishment, the supervisors apparently believed that a particular machine which reduced handling-time would eliminate fatigue and, therefore, tenosynovitis. In fact it led to more concentrated movement which is the basis of such injuries (CATU 1983). There are special problems here for outworkers who labour for long hours at low piece-rates. They are particularly prone to injuries whether working old or new machines. In the factories, some of the changes mean that two or three machines can be operated by one machinist - standing up; VDU's have already caused concern in white-collar unions with eye complaints and headaches being added to the more familiar hazards of tenosynovitis and back pain (ACAC 1980a: 45-48, 58; Giles 1985: 93). The Union has appointed safety officers and established committees in the factories, whilst seeking greater access to corporate planning. Within the federal office and most branches, officers have been appointed with special responsibility for the OHS area (Interviews: F. Peterson, A. Booth).

Thirdly, the Union has negotiated redundancy packages. Originally these were ad hoc or local responses and very few workers were affected. However, from 1979, the Australian Council of Trade Unions (ACTU) began to develop detailed policies for technological change and for redundancy (Interviews: F. Peterson, A. Booth; Markey 1987). Partly as a consequence of this many unions, including the CATU, now have award clauses to regulate termination of employment.

In addition to institutional responses, most workplace groups within the CATU have, since the Union's foundation, engaged in struggles about new equipment or job design and looked warily upon the activities of 'time and motion men'. Recently, however, resistance to change has been sporadic and has been described as 'subterranean' (Giles 1985: 104). The Union's 'official' policy has always been to try to assert a measure of union control over the industry as a whole. Protecting the volume of employment was paramount. The Union tended to accept the consequent changes in work, often by controlling resistance to technological change (IAC 1986: Vol. 2: I 22-29).
When the Union built on this by accepting that efficiency, not tariffs and quotas, would keep the industry alive, officials had to accept technological change and control resistance to it. This is to assume neither a compliant officialdom nor an inherently militant rank-and-file, but it does point to a long established, and not fully resolved, tension within the CATU.

Redundancies in the 1970s led the CATU to a fourth response, that is, industry planning. The Amalgamated Metal Workers' Union began to argue that more planning was required in industry. By the time a Labor government was elected in 1983, a commitment to tripartite planning and co-operation had been agreed in the 'Accord' between the Labor Party and the ACTU (Ewer et al 1987). The Union became interested in 'non-technological' issues which affect employment, such as trade, industry structure, competitiveness, investment levels and product quality (CATU 1987; Interview: A. Booth). Its broader response has developed in three related ways. First, technological change has been placed in the framework of industry development. Secondly, the Union's ties with the state have been institutionalised through the Accord and the Industry Commission. Thirdly - and in these conjoined settings - award restructuring has become central to the Union's agenda.

Industry 'futures' are, more than ever, being made (or un-made) not merely by the relationships within and between capital and labour but actively by the state. This is now much more involved than merely blanket tariff protection or investment subsidies. The Textile, Clothing and Footwear (TCF) industries came under the state's purview with an assistance program initiated in 1977 and a wider, seven year plan announced in 1980 to operate from the beginning of January 1982. The IAC and the Hawke government considered that this plan, which was still based on bounties, tariffs and quotas did not sufficiently encourage competitiveness and restructuring.

A new TCF Industry Plan was announced in June 1987. The government reiterated that it was disappointed with progress since 1982. However it did record that the success which had been achieved had been in 'improving manufacturing efficiency through spending on new
equipment' (Button 1987: Attachment A, 2). The new Plan, which began in 1989, takes the state's role a great deal further. The Plan and union response to it are thus central to a consideration of technological change in the future.

The government accepted that there were limits to technological change. Thus, the Plan stresses the need for design skills, research and development, product innovation, prompt delivery, responsiveness to the requirements of buyers, quality and product promotion. Notwithstanding the state's role in underpinning and seeking to re-orient the industry, the Plan seeks to reduce firms' dependence on government decision-making. This fact and the means required to achieve some of the Plan's goals (notably product innovation and flexibility) may well mean a re-establishment of the individual firm's drive for efficiencies. In turn, this may encourage further technological, organizational and structural change in the industry. The tensions and difficulties within this have already been discussed. Since the inception of the Plan, there have of course been two quite fundamental developments; first, award restructuring itself which now appears very clearly as the workplace manifestation of overall industry reform; and, secondly, the government's abandonment of the agreed timetable for tariff reduction and therefore, in effect, of that particular plan itself.

Tariffs were to be reduced to 60 per cent - some effective rates had been 225 per cent - and existing quota systems will be phased out. This is designed to enforce a greater 'emphasis on fashion, quality and responsiveness to the market' (Button 1987: 10; also Attachment C). This will mean that jobs will be different, and undoubtedly fewer, in the clothing industry. Now tariffs are to be reduced more quickly and more sharply, falling to 25 per cent by the year 2000. Some provisions for reviewing progress have been removed and the industry is more exposed to general recessionary impacts than before (McCreadie and Booth, 1991).

The response of the three TCF unions to the development of the Plan was first articulated in terms of concern about job losses. The unions claimed that if the IAC's 'preferred option' of a 50 per cent tariff were introduced, 60,000 jobs would be lost. Some employers agreed with
them, whereas the IAC put the figure at only about 20,000. Thereafter, the unions organised
Australia-wide protests, stop-work meetings and campaigns demanding higher protection
than that proposed by the IAC, better control of the industry and monitoring of any plan.
Simultaneously however, the CATU made clear its support of new technology, changed work
processes and a more efficient industry (TCF Unions 1986; Ragmag n.d.). Since 1991 this
has become still more problematical although the Union has maintained its commitment to
restructuring the industry with a clearer need than ever to shift to high value-added products
(McCreadie and Booth 1991).

The Union's leadership had certainly been satisfied with the 1989 Plan, declaring 'We've
Won' to its rank-and-file, and condemning those employer representatives who saw the
industry's 'demise' in the Plan (Ragmag March 1987; Rag Trader February, April 1987).
Indeed one employer journal accepted that 'given the long notice and gradual move to lower
protection ... nobody can say they did not have plenty of warning and didn't have a chance to
plan their future' (Rag Trader January 1987). This optimism was based on the premise that
the Plan was set in stone. However the worsening position of the Australian economy -
which in itself made the industry's unprotected future shakier - allowed the government to
renege on the deal.

Employers' response in terms of actually re-shaping the industry is harder to gauge. They
have certainly fulfilled the predictions about falling employment with over 3000 'notified
redundancies' in the clothing sector in 1990 alone (Werner 1990). Meanwhile investment
levels fell alarmingly in from 1989-90, after rising in the second half of the 1980s (ABS
5626.0). Meanwhile the easy option of locating off-shore has been taken by a number of
major employers.

The union response to the IAC's draft proposal was important in itself because for the first
time the TCF unions worked together closely. The unions had been discussing amalgamation
in a very haphazard and uncommitted way for 80 years, but only very recently have they
made any progress. By 1987, the Textile and Boot Unions had amalgamated and a co-ordinating committee for the TCF sector unions had been established and in 1992 the CATU joined the others in a new TCF Union.

More clearly than ever before, the CATU had accepted industrial change and new technology, not merely as accomplished facts, but as desirable goals. In this context, merely to examine 'union response' to changes is no longer adequate. Union policy is now more important, as are the broad social, economic and political conditions in which it is made. The Union had taken up issues like restructuring and amalgamation for its own reason before or independently of the ACTU and government strategies. However the outcome for members is now tied to those wider deregulation agendas with all their attendant dangers.

Conclusions

Broadly speaking, changes in work, however radical their appearance, have meshed with traditional modes of organization in the clothing industry. These could be characterized as being informed by the principles of Taylorism. Changes affected two very different sorts of work. On one hand, a small male craft section, marking and cutting, saw more technological development than at any other time. On the other hand, the 'mass' section of the industry, the female machinists, witnessed changes which were in line with innovations in machinery and control which have a history as long as the sewing machine itself.

Obstacles to change remain because the flexibility of material has proved an insurmountable problem. There were pressures from government, and retailers, emphasising style and quality. Technological change alone was not necessarily the solution to these needs. Limitations to, and the real nature of, the changes become apparent when the technological developments are analysed in terms of work organization and skill. There was no uniform trend towards either complete managerial control or deskilling. In marking and cutting, the trends were, if anything, quite the reverse. Having made very substantial investments in
computerized equipment, there was no reason for firms to save small amounts by inviting conflict with craft labour or to by-pass what could be very useful skills possessed by markers and cutters - skills saving material and time. Management control was not weakened by such innovations, but neither was it enhanced.

In sewing, the outcome was more complex. There, the starting points, in terms of job design, control and skill recognition, were very different from those in cutting. The logic of systematic management was very apparent in the way in which operation-specific machines allowed a more detailed division of labour. Similarly, automation removed some measure of the worker's discretion and work-aids on machines narrowed the worker's task range. These changes meant that, on some definitions, de-skilling was taking place, although, for work value purposes in the Arbitration Commission, the Union was able to show that certain skills were more highly utilised when simple tasks were deleted from a machinist's work.

In terms of the employment relationship between worker and enterprise, the impact of new technology was less ambiguous. It reinforced the already considerable differences between cutters and machinists. Women might be trained on only one type of operation-specific machine. Employers could, generally, rely on the availability of a female labour supply able to adapt quickly to machines with automatic facilities or fewer functions. For cutters, though, the immediate impact of change was retraining and, at least for a time, the knowledge that the company was reliant upon their skills.

It is clear that any explanation which begins and ends inside the factory is inadequate. Two perspectives help to overcome this limitation. The first concerns other aspects of the industry, especially outwork. The second concerns the social and sexual division of labour and the role of the state.

Within the industry, outwork has long been perceived by major employers and the Union as a threat to the reputable company and to union conditions. Only recently have the problems of
outworkers themselves become matters for genuine concern. Turning to outwork is the oldest form of cost-cutting. It is relevant to technology because when obstacles to technological change cannot easily be overcome, an alternative way to cheapen production has been to 'put it out'.

In Europe 'flexible specialisation' has been identified as a product of changing relationships between buyer, retailer and manufacturer. It has led to both technological advance (mainly in marking and cutting) and sub-contracting (of sewing). How this unfolds in Australia is made more complex and important by the removal of protection.

The second set of perspectives necessitates looking beyond the industry in order to explain changes within it. Discussions about skill are largely artificial if they ignore social definitions and, in particular, the training received by girls. The brevity of formal training periods and the achievement of maximum substitutability of labour have depended on the training of school and home. The recognition and payment of that skill remains limited because, unlike craft skills, it has never been artificially limited. Underpinning this was the different career paths and expectations of women as compared with men. In short, social structures have helped the 'scientific managers' to realise their goals.

The second part of the question posed in this paper required an analysis of trade union response to changes in work. Three sorts of reaction were identified. First, there was a traditional response of accepting change and trying to make the best of it through wage increases. Disputes about control were not like the bitter earlier struggles of the craftsmen or machinists. Rather, they were centred on the details of piece-rates and other payment schemes. Just as the thrust of changes in technology was a familiar one, so were the initial responses of the Union. Award restructuring changes this by putting on the agenda the question of how work should be organised and skill rewarded. The results are as yet unknown although the Union is at the forefront of campaigns to assess fully the nature of work.
Secondly new concerns emerged. In areas such as OHS and termination, the CATU fell in with other unions in looking at 'non-wage' implications of technological change. This is not to say that the impetus for these developments was necessarily located in the industry itself. Rather, in the CATU, the employment of research officers and the gathering of knowledge about health issues perhaps reflected broader changes in the policies and concerns of the trade union movement as a whole.

Thirdly, these new responses ultimately led to the question of planning and consensus. The CATU not only accepted technological change but moved to encourage it. At first it was notably successful in defeating the IAC's 'favoured option' for the TCF industries but the re-working of the Plan undid much of this achievement.

Since the early 1980s, the Commonwealth government has explicitly encouraged industry restructuring in the TCF sector. This has already meant that the ways in which unions respond to economic and industrial change have been transformed. Because of tariff protection, the individual employer was never the sole concern of union policy-making in Australia, but now the state's importance has reached new levels - paradoxically as tariffs are removed. What has not been addressed properly is the question of control (let alone ownership) of the industry. For all the intervention and the tripartism since 1983, the cardinal question about the level and location of investment remains problematical. It is still perhaps the greatest obstacle to the hope that restructuring will reward those who sell their labour power in the clothing trades.
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*Rag Trader.*

Ragmag


*Women at Work.*