Technology and the Australian state: the changing political discourse on technology in Australia 1975-1985

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6. THE MYERS INQUIRY PART I

Introduction: State Responses to Contentious Technology

As I discussed in the previous chapter, in the late-1970's there were strong pressures on governments in the Australian state to take action on the social implications of technological change. These were brought to a head by the ATEA-Telecom dispute in 1978. By this stage it was clear that these pressures could no longer be ignored. Important here was the escalating problem of unemployment. In political terms, the problem presented by high unemployment levels in a stagnant economy was their persistence. To the extent that technological change was seen to be significantly contributing to the problem of unemployment, it became a contentious issue in the political arena.

In the next three chapters, I shall examine two particular responses to these pressures, both originating at around the same time but at different levels within the state. The first was the establishment by the Fraser Government of a Committee of Inquiry into Technological Change. The development and outcomes of that inquiry will be discussed in this and the following chapter. The second response was the creation of a Technology Research Unit by the New South Wales Government. That Unit will be the subject of Chapter 8.

These actions by governments within the Australian state were, I argue, particularly significant to the developing political discourse on technological change. In the first place, the actions marked the peak of the "technology as threat" view, and as responses to that perspective represented tangible symbols of concern and willingness to act by state actors. Secondly, these state actions made an important contribution to the refocusing of the debate. It was through these actions that the ideology of technological progress was
reinforced and a rhetoric of control asserted, thereby performing an important reassurance role, as I shall discuss.

Both embodied the framework of technology assessment, a policy tool which attempts "... to identity and evaluate the social consequences of technology, with a view to making more 'rational' decisions about the implementation of technologies". It is a concept which to this day remains a persistent theme in Australian politics. I shall critically evaluate the implementation and political significance of technology assessment in Australia in Chapter 8.

The Rise and Fall of the Myers Inquiry

The Committee of Inquiry into Technological Change in Australia (the Myers Inquiry) was formally established by the Federal Government on 1 December and its membership announced on 20 December 1978. The Committee presented its Report, in four volumes, to the Government in April 1980. This was released to the public on 31 July and tabled in Parliament on 19 August 1980. The Government's formal response to the Committee's recommendations was tabled in the House of Representatives on 18 September: it accepted the thrust of the Committee's findings, but did not commit itself to any substantive actions. There ensued a short-lived but vigorous debate, in which the Report received some faint praise but was more widely condemned. Within one year of publication, but for a few administrative vestiges, the Inquiry was history.

The rise and fall of the Myers Inquiry is covered in this and the following chapter. In this chapter, the nature of the inquiry process and the perspectives that were brought by various actors to it are examined, while in Chapter 7 the Inquiry's findings, the responses to these and the outcome of the process are evaluated.
INSIDE MYERS : THE INQUIRY PROCESS

Public Drama and Private Analysis

The Inquiry was established by the Federal Government with a flourish and somewhat
grandiose rhetoric. The terms of reference were sweeping and the expectations of it were
great. There was a sense of resolving the contentious issues of technological change once
and for all. The public view of the Inquiry was of the three Committee members receiving
and hearing submissions, collecting any other information that was relevant or necessary,
then passing judgement on this as in a courtroom ritual. Assisting them in this public
task, and hidden from immediate view, was a Secretariat, acting as a courtroom clerk to a
judge, as servant to master. Beneath this surface veneer, the reality was somewhat
different.

The Committee members were in fact only part-time and, at the height of the Inquiry, met
on average about once a week. The great bulk of the work of the Inquiry, analyzing the
vast amount of information collected and drafting the reports, was carried out within the
Secretariat which worked full-time during the Inquiry's tenure. There were thus two
aspects to the Inquiry process. On the surface were the public activities of the Committee,
while underlying this and giving critical shape to the Inquiry findings was the secretarial
task of information collation and analysis.4

1. Public Drama: The Committee of Inquiry

The public drama began with the announcement of the Committee membership and played
out until the Committee's findings were released. The Committee of three was the official
body of the inquiry. It was in their name that submissions were solicited, studies were
commissioned and the work of the Secretariat was conducted. Ultimately, it was to them
that authorship of the findings was attributed. The analysis and deliberations, as in most
inquiries, took place out of the public eye, but there was a public element to the inquiry process. This had three main components, which were supplemented with occasional press releases.

The first was the setting up of public hearings at which the committee heard oral submissions. Public relations consultants were engaged to stage manage these hearings and a glossy brochure was produced to introduce the Inquiry and its members. The Committee visited each of the State capitals, and at these selected individuals and groups were invited to make oral submissions. A total of 79 oral submissions were heard (27% from unions, 19% from employers and 18% from state agencies), all from groups or individuals that had presented a written submission. According to members of the Secretariat staff, the invited submissions were selected for one or more of three reasons: either because they were particularly newsworthy, to placate potentially obstructive groups who would create a fuss if not consulted, or because a written submission had been seen as "interesting" and the Committee wanted to obtain amplification of the ideas presented. The Committee's exchange with the submission presenters was facilitated by briefing papers, prepared by the Secretariat from the written submissions, which identified "good questions" for the Committee to ask. This exercise was seen by Secretariat members as little more than a public relations exercise.

The second public component of the Inquiry was the two overseas trips (of three and four weeks) made by members of the Committee. As would be expected, there was considerable publicity attendant on these. On these trips, 90 agencies in 8 different countries were visited. 5 Around half of these were state agencies concerned with aspects of science and technology, while the remainder included various innovative companies, peak employer and trade union councils, and research organisations working in the area of science and technology studies. Both the public hearings and the overseas trips played an important symbolic role in the inquiry process. The former signalled the Committee's openness to ideas and provided a channel for the participatory aspirations of various
groups. The latter symbolised the thoroughness of the Inquiry's search for "answers". Both served to legitimise the process of Inquiry as participatory and exhaustive, and it was hoped that this legitimisation would extend to the findings.

The final act in the public drama was the release of the Inquiry's findings, as contained in the four volumes of the published report. Important here were the public statements by Committee members about the Inquiry and its conclusions. It was through these statements that public and political support for the findings was actively sought. So, if the first two public elements can be seen as legitimising the Inquiry process, the third public element can be seen as rhetorical mobilisation of acceptance of the product.

2. Private Analysis: The Inquiry's Secretariat

But how were these findings formulated? Here we come to the second aspect of Inquiry. This process of analysis and formulation proceeded by means of a two-way flow of advice, information, analysis, discussion papers and drafts between the Committee and the Secretariat. It was an exchange that was largely mediated through the Secretariat's head of staff, an important feature of the process as I shall discuss below. Let us now examine more closely this "subterranean" aspect of the Inquiry.

"Hard" and "Soft" Information Sources

In order to gain a greater understanding of the nature of technological change in Australia and to determine its likely social consequences, information was collected from two main external sources, i.e. from submissions and from commissioned studies by Australian "experts". These sources were supplemented, where necessary, by discussion papers prepared within the Secretariat.
In all, 258 written submissions were made to the Myers Inquiry. The largest proportion of the submissions (26%) came from the tertiary education sector, followed by individuals who claimed no organisational affiliation (19%), state agencies (16%), private enterprise bodies (15%), trade unions (12%), and other community interest groups (13%). Although this was not a particularly large number of submissions, given the claimed urgency and potentially catastrophic nature of the impending "technological avalanche", they did represent virtually the range of opinion on technological change at that time in Australia. Further, as I shall discuss, the views of the main protagonists in the debate were presented.

Intent on being seen as thorough, and keen to gather as many "hard facts" as possible on the nature of technological change in Australia, the Committee commissioned a range of consultant studies. There were 24 consultant reports (of which 10 were published by the Committee), plus 5 background papers prepared by the Secretariat. The Committee also engaged the Australian Bureau of Statistics to conduct a national survey of technological change and its employment effects in Australian enterprises. For the preparation of the expert reports, the Committee drew heavily on economists; i.e. of the 24 consultant reports, 11 were written by economists.

The studies were of two types. The first, comprising of 14 of the consultant reports plus the Secretariat papers, were studies of particular issues relating to technological change. These covered a wide range of areas, including the positive aspects of technological change (e.g. its contribution to economic growth), government policy for promoting technological change, technology assessment, and some of the more controversial issues such as redundancy and the impact on women's employment. The second type of consultant research consisted of 10 case studies of technological change in particular areas of the Australian economy (i.e. in the manufacturing and service sectors, but not primary production). The two new technologies which had been the subject of particular concern
to various participants in the debate, i.e. word processors and computers, were the subject of 7 of the case studies.

The consultant papers and case studies were clearly important to the Inquiry. In them was to be found the "hard information", not the "soft" emotive and second hand information that was seen to predominate in the public debate. Informing the pessimistic perspectives in that debate had been number of studies which were seen by members of the secretariat to have been either misinterpreted or erroneous in their conclusions. It was believed that this would be revealed by the commissioned studies, which were seen to be both methodologically sound and "objective". Hence the commissioned studies were generally treated as a resource of "objective" data, and were drawn on where appropriate in the formulation of the findings.

The Secretariat

It was primarily the Secretariat's task to analyse and evaluate the information collected during the course of the Inquiry, and it was on the basis of this evaluation that the Inquiry's findings were formulated. The work of the Secretariat was therefore central to the Inquiry and its outcomes.

The Secretariat was headed by two senior officials from the Department of Productivity (as Head of Secretariat and Second-in-Charge), and administrative services were also provided by that department. However, because of staffing constraints at that time, with no special dispensation for the Inquiry, the remainder of the Secretariat was drawn from outside the department, mainly from other agencies within the state apparatus. Some fairly senior officials from strategically important agencies were drawn into the Secretariat at times, e.g. a Senior Advisor from the Department of Prime Minister and Cabinet, and a Chief Finance Officer from the Department of Finance. The Secretariat began work in January 1979 with a staff of 3, and had largely concluded its task by the time the reports
were completed in April 1980. From April 1979 to April 1980, the Secretariat consisted of at least 10 members at any one time, and during the intensive report-drafting period from June to December 1979, there were 15-16 staff working full-time.

Administratively, the Secretariat was divided into three groups, covering the three main areas of the Inquiry. A technology group, focusing on present and future technologies of significance to Australia, was headed by a Telecom engineer (the first group leader to be appointed, he commenced work in February 1979) and included members from the science and technology agencies of the Federal Government (i.e. CSIRO, Department of Science and the Environment, the Patents Office) as well as a technologist from the private sector. An employment and social group, concerned with the social implications of technological change, did not get a leader until June 1979 and was staffed mainly from state agencies concerned with employment and industrial relations (i.e. the Commonwealth Departments of Industrial Relations, and Employment and Youth Affairs, and the South Australian Department of Industrial Affairs and Employment). An economic and policy group, concerned with government policies and programmes, was of strategic importance in the formulation of policy recommendations as was indicated by the departments from which its personnel were drawn, i.e. the Commonwealth Departments of Prime Minister and Cabinet, Finance, and Industry and Commerce, plus the Industries Assistance Commission.

3. Inquiry Dynamics and the Management of Dissent

Initially, the Secretariat's task involved collating and evaluating the incoming information, and where necessary arranging for further studies to be carried out. To assist it in this massive information management process, a giant wall chart was drawn up with submission number along the top and topics raised down one side, creating a matrix of cells in which crosses were put where a submission discussed a particular topic. In this process, the salient issues were identified and clarified, and the various alternative
proposals for action categorised. An outcome of the analysis was a series of discussion and briefing papers which were submitted to the Committee. The Committee's responses were conveyed back to the Secretariat, and this two-way process contributed to the structuring of the reports.

Later in the Inquiry, Secretariat members were engaged in drafting the reports, drawing on material in the submissions, the consultant studies and, where necessary, any other relevant sources. This was carried out within guidelines set down by the Committee and under the supervision of the Secretariat's head. The head of the Secretariat played a central role here. It was from him that the overall plan of the reports originated, the detail being worked out in discussion with those members of the Secretariat responsible for drafting each component section. Drafts for the Committee's approval were submitted via the head, so he could act (and was believed to have done so by some Secretariat members) as a selective filter during the formulation process ensuring cohesiveness in the report and the dominance of a particular perspective. This "gatekeeper role" was crucial to the Inquiry given the conflicts that inevitably arose within the Secretariat.

Not surprisingly, given the conflicting perspectives surrounding the issue, conflicts on the appropriate course of the Inquiry and its interpretation of technological change arose within the Secretariat. These centred around the social issues arising from technological change and the prominence that should be given to these in the findings. One such conflict concerned the regulation of technological change. The dominant faction within the Secretariat argued that it was undesirable, for economic reasons, to seek to control technological change, while a minority faction advocated the introduction of some form of regulation. To some extent, these dissenting views reflected the different political philosophies and backgrounds of Secretariat members. In this respect, a lack of familiarity with bureaucratic policy formation was believed by some to be an important factor, for it "... lead to unrealistic expectations about what could be achieved."
The internal dissent created a very difficult working environment (as the Head of the Secretariat commented "it was not an easy inquiry to manage"), in which there were walk-outs at meetings, surreptitious phone calls to Committee members, and even a letter by one Secretariat member to an influential senior public servant outlining various dissatisfactions with the Inquiry process. It was also manifest in the higher staff turnover within the Employment and Social Group, and became a public issue when a confidential working paper by a Secretariat member, criticising the Committee for failing to clarify the emphasis of the Inquiry, was leaked to the press.9

However, the dissent was managed, and the end result was a unified view:

"The report is a unanimous view of the three committee members and there are no dissenting opinions in the report." (10)

The controversies had been successfully contained within the Inquiry, and the dominant view sustained. But the dissent within the Secretariat reflected the contentious issues that had dominated the technological change debate. Basically, what was at stake were competing models of the economic order. To the extent that the Inquiry was not seen to have satisfactorily addressed these competing views, it failed to effectively close the debate. Let us look now at the conflicting views which prevailed in the debate and which were presented to the Inquiry.

NEW TECHNOLOGY AS THREAT OR NECESSITY?

1. The Contending Views of Key Actors in the Debate

The Myers Inquiry was a political response to the technological change debate, and particularly to the "technology as threat" perspective that prevailed in the public discourse. It was on this debate that the Committee was asked to pass judgement. In the Babel which
characterised the debate, the perspectives of three main groups were particularly important for it was these groups that presented the dominant competing views. The three central sets of actors were: the trade unions, various state agencies, and employers. These groups presented a number of often conflicting perspectives on technological change and the role that the state should play in this process. An important aspect of the Inquiry process was to assess these conflicting views and, drawing on whatever "hard evidence" was available, determine their veracity.

In this section, I contrast the perspectives advanced by the trade unions and the private sector organisations. With their conflicting interests, technological change was seen in quite different ways by these sets of actors. In the following section I examine the perspectives introduced into the debate by key state agencies.

**Trade Union and Private Enterprise Submissions**

Thirty-one trade unions prepared written submissions, and of these 20 also gave evidence at public hearings before the Committee. Of the 31 unions that made submissions to the Inquiry, the largest proportions had coverage: in the public sector (58%), over white collar workers (55%), nationally rather than at State level (61%), and over members in the service sector (71%). As would be expected, the areas of the workforce that had experienced extensive technological change (e.g. waterfront workers, the printing industry and the building industry) as well as those sectors in which technological change was currently a contentious issue (e.g. telecommunications, clerical work and the finance sector) were represented by submissions from their various unions.

The submissions ranged in size from 2 pages to a massive 261 pages (the median size being 10 pages), and the arguments were presented with varying degrees of sophistication. The two most detailed and informed submissions by trade unions were those of the peak councils (i.e. a joint submission by the Australian Council of Trade
Unions, the Australian Council of Salaried and Professional Associations, and the Council of Australian Government Employees Organisations), and the Federated Clerks Union (FCU). While most of the union submissions focused on the effects of technological change on their members, some considered the broader social implications. Many provided information, in some cases including quantitative data, on their members' experience of technological change, mainly covering the job displacement and work reorganisation effects.

Thirty-eight of the submissions to the Myers Inquiry came from the business sector. Of these, 16 were from individual enterprises (i.e. 8 Australian companies, 4 subsidiaries of foreign-owned corporations, and 3 state-owned enterprises) and 22 were from employers' associations (i.e. employers' federations, industry councils, and non-profit support organisations). What was notable here was the very poor response from Australian businesses, an important locus of much technological knowledge, to the Inquiry. The vast majority of Australia's large corporations, including many of those playing a central role in technological change, made no submission. With a few exceptions, the corporate sector left this chore to industry associations such as the Confederation of Australian Industry and the Australian Chamber of Commerce.

The submissions from the business sector present a stark contrast to those from the trade unions. There were very few lengthy and detailed submissions, such as those of the peak union councils and the FCU. The largest and most detailed of the business sector submissions came from the state-owned enterprises (i.e. 110 pages from the Commonwealth Bank and 99 pages from Telecom), while the median size of the submissions was 12 pages. With a few exceptions there was a paucity of "hard information" and developed argument in these submissions. Very few presented any detailed information, either on technological change within a particular industry or on its social implications.
2. The Quickening of Trade Union Concerns

Trade union concerns about technological change mounted in the late-1970's, and it was trade union action which precipitated the Inquiry. Two union organisations which had expressed concerns about technological change since the 1950's were the ACTU and the FCU. The development of their concerns, and their responses to these, centrally informed the unions' approach to the Inquiry.

As I discussed in the previous chapter, the concerns of the ACTU about technological change dated back to 1956 with the formation of an Automation Committee. A policy on automation and technological change had been adopted as early as 1969, but it was the economic recession and rising unemployment in the late-1970's which stimulated the ACTU to take a more active interest in this area. The ATEA-Telecom dispute and the establishment of the Myers Inquiry precipitated action within the ACTU.

In January 1979, a recommendation to establish a sub-committee (of the Wages and Working Conditions Committee) on technological change was accepted by the Council. In March 1979 this sub-committee recommended that the peak councils should produce a set of guidelines to assist unions in negotiations on technological change, and that the sub-committee should act as trade union liaison and advisor with the Myers Inquiry. More radically, the sub-committee recommended that: "The feasibility of a moratorium on the introduction of technological change in appropriate industries should be investigated." This caused a media sensation when the Junior Vice President of the ACTU, Mr J. Ducker, revealed in a press statement the sub-committee's recommendations and announced that employment and technological change had become the ACTU's top priority.
A working party of the sub-committee formulated a set of guidelines for submissions to the Myers Inquiry, and this was disseminated to affiliated unions in April 1979.14 The guidelines show that the ACTU took the Inquiry very seriously:

"The Trade Union movement must put a high priority on its submissions or else we run the risk of having an unbalanced major report on the critical subject of technological change.

The Committee report will become an important document in the ongoing debate about technological change and a report which did not take sufficient account of union views could become a significant barrier to union efforts to improve conditions of work and wage levels." (15)

Apart from outlining the areas that could be considered in submissions under each of the Inquiry's terms of reference, the guidelines strongly emphasised the need for "hard evidence":

"In preparing material relevant to the terms of reference it would be most important to concentrate most heavily on your membership and the impact to date of technological change and that which is anticipated. The area of factual studies of the changes to jobs and job opportunities through the impact of new technology already in operation is where we are most lacking in data.

There is an abundance of written material which makes generalised assertions regarding the 'micro processor revolution' or the 'computer holocaust' and so forth. There will be little point to submissions which go no further than restate in general terms the fears of the union movement without heavily reinforcing those fears with practical examples." (16)

So, the ACTU made a substantial contribution to the Inquiry in a number of ways: it contributed to the public debate around the Inquiry's proceedings, it made a major submission (in conjunction with the other peak councils), and it played a guiding role in the formulation of its affiliated unions' submissions.

The FCU had similarly been involved with the issue of technological change since the mid-1950's. In March 1956, the FCU first discussed automation and the Union's Federal Council, echoing the approach of the ACTU at the time, announced:
"This Union welcomes the advent of automation marking a third revolutionary stage in the development of machinery which has largely been responsible for the vastly improved living standards of workers today. However, it believes that in order to avoid the problems and unemployment which were in some cases associated with the unplanned introduction of mass production certain preventative measures should be adopted." (17)

The FCU was actively involved in the industrial relations problems of technological change in the 1960's\textsuperscript{18}, but by the early-1970's other issues had became of greater concern. However, by the late-1970's technological change was back in the foreground of the union's affairs. The Federal Council of the FCU argued in November 1978 that:

"It is now apparent to all that job opportunities will decrease as a result of rapid and widespread introduction of micro-electronic equipment in factories, offices and retail outlets. These developments were predicted with great accuracy by the FCU more than a decade ago.

Unless there is a totally new social outlook, associated with a national policy of long-term planning for new technology, its introduction will accelerate and make permanent major social dislocation with its consequent social problems." (19)

3. The Issues in Contention

Although a range of views was presented to the Inquiry by employers and the trade unions, with differing emphases and areas of concern, a number of common themes within each of the two sets of submissions emerged. The opposing perspectives, and conflicting interests, of these two groups of actors could be seen in these themes.

The Costs and Benefits of Technological Change

None of the unions claimed to be opposed to technological change, and indeed a few enthusiastically encouraged technological development in Australia. Technological change was generally seen as a source (actual or potential) of improved living and working conditions, e.g.:
"... it is the beneficial effects that must be encouraged in order to achieve continued improvement in the quality of life in Australia." (20)

However, the unions argued that technological change had costs as well as benefits, and that the associated costs and benefits should be shared more equitably. At that time, this was not believed to be occurring. Workers, and often the community, did not sufficiently share the benefits and often had to carry the costs in the form of social dislocations such as redundancy and high levels of unemployment. For example, one submission noted its concern:

"... that new developments in technology - particularly computers - are being introduced too rapidly and not in such a way as to maximise the common good. Rather, these changes are being used to boost company profits through lower labour costs and greater productivity by the existing workforce - benefits which are not being shared either with the workers concerned or the general community." (21)

By contrast, all of the private sector submissions emphasised the benefits of technological change, and downplayed the social costs (where it was acknowledged that these existed). For example:

"... Whilst technological change might have been painful in some of its short-term applications, overall it has been beneficial. Historically it has made possible regular increases in real wages and also significant reductions in working hours. In addition, it has provided an extensive range of products and techniques that have enhanced and prolonged life." (22)

"... Benefits from new technology introduction ... will consistently outweigh the disadvantages, as has been the consistent trend in history." (23)

A central theme was that, given the competitiveness of domestic and international markets, technological change could not be resisted. It was repeatedly emphasised that economic reality dictated that any choice on new technology was strictly limited. The language used here was the inverse of that of the unions. While to the trade unions new technology presented a "threat", to the employers it was "essential for survival".
New technology was seen to be the key to competitive production, and hence the ability of Australian companies to participate in world trade, thereby creating high levels of employment and rising standards of living. Technological change was important for the viability and/or expansion of enterprises because it could be employed to contain costs by improving production efficiency and effectiveness, and by increasing productivity. A number of submissions also maintained that technological change not only had benefits for innovating firms and thus for the economy generally, but also for consumers (e.g. by improving customer service and by decreasing the cost of many products) and for employees (e.g. by reducing or eliminating tedious work and by improving working conditions).

The Nature of the "New Technology"

Underlying the competing perspectives were two quite different views on the nature of technological change and the "new technology". Informing the unions' pessimistic outlook was a model of the new microelectronics technology as a unique development, qualitatively different from earlier technological change. Furthermore, the rate at which technological change occurred was seen to be increasing:

"... change has entered a revolutionary phase ... the rate of change has dramatically increased as has the number of areas where it can be applied, resulting in a qualitatively different nature of change compared with past change in Australia, which is having employment effects in all industries, sectors and occupations ..." (25)

Existing social institutions therefore had to be modified in the face of this pervasive radical development.

However, in the employers' submissions a quite different model was advanced. The unions' emphasis on the "new technology" as a unique, revolutionary and seemingly
monolithic development was widely discounted. Instead a process of non-revolutionary, continuous and variable technological change was emphasised:

"... technological change is not going to revolutionise industry overnight, rather it is going to be a long drawn-out and continuous process ... factors, other than the availability of technology, determine whether it will be implemented - particularly cost considerations ..." (26)

This was the process that was seen to be occurring in the present, and was likely to continue in the future, so the past experience of technological change could be seen as indicative of future trends:

"What is lacking in the popular accounts ... is a balance between the undoubted dramatic potential of the microchip, and an appreciation of the historical and economic lessons of the past which can be applied to our current analysis. All past experience tells us that technical change does not impoverish, but generally enriches our range of choice. Population and the numbers in employment have risen steadily, and working conditions and hours have improved. In some cases there are problems of alienation among the labour force, but they are not insuperable." (27)

Given this perspective on technological change, many submissions dismissed the unions' concerns as "unwarranted anxieties", "an irrational reaction", and based on emotion rather than adequate knowledge:

"While to technologists, the benefits are obvious, a majority of the population has neither the background knowledge to appreciate the extent of these benefits nor the motivation to think about them to any great extent ..." (28)

"... throughout history, the responses to periods of high technological changes have yielded the same two responses: those who fear the consequences largely through ignorance and those who identify the social and economic benefits." (29)

What was required to dispel these groundless concerns, and to reveal more clearly the benefits of technological change, was some form of public education. This was seen by employers to be an important role for the Myers Inquiry:
"We conclude that the Committee should do all it can to put the present debate on technological change in better perspective by demonstrating that such change is no new phenomenon and has little bearing on the current level of unemployment ... the Committee should show how the enthusiastic acceptance of such change is crucial to the future of Australia ..." (30)

New Technology and Employment

The implications of technological change for employment was a central, and hotly contested, theme in the debate. To the unions, new technology was a threat because of its possible effects on employment levels and the nature of work. In some industries, technological change was identified as a cause of considerable displacement of human labour. This had clearly been the case, for example, in the waterfront industry:

"Technological change, as applied to the Stevedoring Industry, has caused significant dislocation in the working life of considerable numbers of waterside workers, has created psychological and family disturbances, and has considerably affected port city communities, particularly in smaller port areas." (31)

New technology was seen in most trade union submissions to be contributing to, or exacerbating, the problem of unemployment at a time of economic recession:

"The Peak Councils share a concern that technological change is occurring at a time of depression and depressed labour markets. This particularly affects the unskilled and semi-skilled, whose ability to regain employment seems very limited. The effect of the recession and the dismantling of protection seem to act as a catalyst to change... With industries rationalizing, relocating and implementing policies that economise on labour, the whole nature of the manufacturing workforce is changing ... in the context of a depressed economy, this connotes an unemployment level of disturbing permanence, for not only has there been a shedding of labour but there is also the long-term prospect that productive employment ... will not resurge as the economy improves and will not absorb a growing workforce." (32)

Many unions argued that, while the present effects were bad enough, the future employment effects of unregulated technological change would be worse. The countervailing argument, put by many technology advocates in the debate, that demand
stimulation arising from technological change would generate new employment was dismissed as too optimistic:

“It is argued that in the long run, technological change will stimulate demand insofar as it reduces production costs. This is short-sighted, in terms of oversimplification and optimism not yet borne out by experience. One looks in vain in this country for the new product areas and the translation of lower costs to lower prices. With technological change increasingly affecting the services area, the asserted effect on demand is even more obscure.” (33)

The private sector submissions, on the other hand, did not see the job displacement effects as an actual, or potential future, major problem. Firstly, it was argued that the existing high levels of unemployment had not been caused by technological change but by other economic factors:

“With respect to technology and employment, it is essential to distinguish between the effects of technology and other economic factors (e.g. the economic downturn and the growth in workforce participation rates of married women), and the fact that until recently technological change has mostly been accompanied by full employment conditions. The level of employment appears to be far more a function of the general state of economic activity than the result of technological changes.” (34)

“... we dispute that technological change has been a major contributor to relatively high levels of unemployment ... this has been due to substantial changes in Australia’s economic and employment structure which have created problems for the absorption of a growing labour force.” (35)

Secondly, displacement effects were seen as temporary, and it was argued that any dislocations could be mitigated through existing mechanisms (a process referred to as "minimising friction in transition periods"). According to the employers, the problem of social dislocations could be managed, through cooperation and a process of "creative adaptation." A number of submissions cited the experience of their organisations in this respect. They noted that, although job displacement had occurred, staff had not been retrenched because strategies such as staff redeployment and staff reduction through "natural wastage" had been adequate to deal with the problem.
Thirdly, some employers maintained that any job displacement in a particular industry was compensated for by job creation effects throughout the economy:

"While adoption of labour saving technologies in many industries may cause temporary displacement of some people, it improves the viability of, and thereby secures employment in, the industry concerned as a whole. It also maintains the creation of wealth from which the tertiary sector and non-productive sectors of the community can be supported - these are capable of and are absorbing a growing proportion of the working population. Thus it preserves the option of re-creating employment; negation of technological change denies this option." (36)

Fourthly, and perhaps the most common theme on the relationship between new technology and employment raised by the private sector submissions, the employment costs of not innovating were considered to be greater than any displacement effects of new technology:

"What we would have thought was axiomatic but obviously needs emphasising is that resisting technological change does not save jobs, at least as far as the general level of employment is concerned. The economics of the matter are relatively straightforward. Industry does not introduce new technology for the fun of it ... To the extent that technological change is frustrated, new markets at home and abroad are not opened up and unit costs will be higher than they would otherwise be which has a detrimental effect on competitiveness ... Resisting is not only counter productive with respect to preserving existing jobs, it also prevents the creation of new jobs ..." (37)

"... although technological change is contributing to staff reductions, the likely penalty for denying or unduly restricting such change is the total or partial failure of the enterprise - with all its employment consequences ..." (38)

Technological change was considered by the unions to have not only quantitative effects on employment levels, but also qualitative effects on the experience of employment. Such effects included: job fragmentation, deskilling, a bifurcation of the workforce into a small high-skilled sector and a large low-skilled sector, greater managerial control over the work process, an erosion of working conditions, and a down-grading of the work environment (e.g. through the introduction of new workplace hazards). This was not an issue that was addressed in the private sector submissions.
Technology Decision Making

Another major trade union concern focused on the process of technology decision making. This was seen to be inappropriate, given the radical nature of the new technology with its potential for massive social dislocation. According to the union submissions, technology decision making was treated by managements as their sole preserve, for example:

"It is naive to believe that employers will willingly shed their management prerogatives to the point where they will negotiate an agreement over the introduction of new technologies ..."

The ATEA experience with management attitudes towards the introduction of new technology is that management in the past has ... regarded decisions on the technology to be purchased, the timing and rate of its introduction and the way in which it is to be installed and maintained to be decisions which it has a right to make unfettered by union input ..." (39)

What were considered by the unions to predominantly inform managerial decisions on new technology were economic considerations, with little or no attention being paid to "externalities":

"Employers have introduced new technology without sufficient regard for the impact on employment levels and on working conditions, working environment and the nature of work performed in the industry ... the insurance industry has also largely overlooked or ignored the social impact of unilateral technology decisions ..." (40)

A feature of this economically-driven decision-making, and aggravating its adverse social consequences, was its essentially anarchic nature:

"Technology has tended to be applied in an ad hoc fashion, and where not, its introduction has been insufficiently planned by entrepreneurs and Government." (41)

But the most important aspect of this decision-making framework, and to the unions a major source of contention, was a lack of consultation between employers and employees.
To the unions, consultation and joint decision-making were seen as both desirable and necessary to facilitate the introduction of new technology. As the bank unions argued:

"(We) do not accept that any employer has the right to introduce new technology or to make changes in work organisation, without joint planning with representatives of the workforce affected and consideration of the effect on the whole community of workers." (42)

However, the reality did not match this demand. Most unions reported little or no significant consultation over the introduction of new technology. Further, in those few cases where consultative mechanisms had been established, these were considered to be inadequate; for example:

"If is felt ... that the technological change procedures (currently under review) are inadequate because they do not oblige the employer to provide significant and timely information on the effects of proposed actions. By the time we get the relevant information, management decisions on implementation are well advanced. The union has few realistic opportunities under these arrangements to modify management proposals ..." (43)

Although many private sector organisations argued for "cooperation" between unions and managements on the introduction of new technology, and a number advocated tripartite consultation to facilitate this, managerial prerogative on technology decision-making was not in most cases seen as an issue for consideration.

4. Recommendations

The Trade Union View: A Need for Remedial Action

To the unions the existing situation had many shortcomings, and action was required to address these. In nearly all of the union submissions there was a call for greater government intervention in the process of change:
"Government should control an increasing share of new technology to ensure it is socially beneficial, jobs are created for displaced workers, and environment/energy conservation is maximised." (44)

It was argued that government, as a "third party" should "take a central and positive role", and establish a framework for managing technological change so as to maximise the benefits and minimise any adverse consequences. A range of mechanisms by which this could be achieved was suggested. At the level of economic policy, the unions sought a shift away from the prevailing deregulatory and de-protectionist approach, because this was seen to exacerbate the problematic effects of technological change. Instead, a return to a more interventionist economic policy was advocated, with an emphasis on planning and the maintenance of full employment.

More specifically, some institutional form of technology monitoring and regulation was proposed:

"It is recommended that the Federal Government take action so that the tremendous benefits which can flow from high technology are allowed to flow to the Australian community in such a way as to benefit all of Australia's residents rather than limited sections of them.

... if this result is to be achieved, it will require a measure of social responsibility which has not previously been evident and which manifestedly cannot flow from unrestrained free enterprise considerations on an enterprise by enterprise basis. Some form of national overview of the introduction of labour-displacing technology is clearly essential." (45)

The mechanism most often suggested here was the establishment of a statutory technology assessment body, proposed in 61% of the union submissions. The functions of this would include: the monitoring of technological change and its social effects, the collection of data, the commissioning of case studies, the dissemination of findings, and the establishment of public inquiries. A more radical proposal stemming originally from the ACTU policy on technological change (adopted in 1975), was raised in a number of other submissions. This proposal was for a Federal Technological Change (Impact of Proposals) Act which would require that employers proposing to introduce a significant
new technology prepare a Technology Impact Statement covering: the nature of the proposed technological change, possible alternatives, likely workplace and employment effects, and possible effects on worker health and safety. This legislation would further require that employers consult with unions and Government following the release of an impact statement.

Consultation on the introduction of new technology was a major demand of the unions, and it was raised in 61% of the submissions. Involvement in technology decision-making was seen as a legitimate request, given that employees could be fundamentally affected as a result of such decisions:

"There must be a broad recognition and acceptance of the legitimate interest of working people and ordinary members of the community in technology decisions which shape their daily lives. If such decisions are allowed to be the exclusive preserve of the technologist and the accountant, then technology assessments will be made against a narrow range of criteria which does not include industrial and social considerations. In our view, this is a recipe for disputation in the workplace and a technology which does not primarily serve human needs." (47)

Fundamental requirements were for consultation from the earliest planning stages and for adequate information to be made available to the unions by management. As voluntary arrangements were seen to be inadequate, a number of unions sought legislation to require that employers fully informed unions about proposed technological change and consulted them on its introduction.

The unions also proposed measures which would ameliorate the hardships suffered by those adversely affected by technological change and which would assist the Australian community to cope with change. Such proposed measures included (a) improved education and training; (b) institutional changes to cope with an anticipated decline in available employment (most notable here was the proposal for shortening working time, but without a concomitant reduction in pay, as a means of creating more employment); (c) improved redundancy provisions - most agreed that there should be more comprehensive
provisions made to ameliorate the impact of redundancy on individuals, including early notification, standardised severance pay ("... sufficiently generous to alleviate employment disruption ..."), retraining and redeployment schemes, and other forms of assistance to ease the transition from one job to another.

The general approach of the unions' submissions to the Myers Committee can best be summed up by a quote from the peak councils:

"The benefits of technological change must not be paid for by a potentially large displaced group. Indeed, without a commitment to a positive and socially oriented approach to technological change, resistance from the potential victims of such change will be inevitable and justifiable. Over the longer term, should the wider social and political implications of technological change be ignored, it will create an unprecedentedly divisive and polarised society of have and have nots." (48)

The Employers' View: Government Encouragement of Change

Almost without exception, the employers' submissions strongly emphasised that, given the desirability and strategic economic importance of new technology, there should be no attempt to regulate or otherwise impede the process of technological change in Australia:

"... It is clear that, with its labour costs among the highest in the world, Australia's only hope of economic survival lies in the continued search for, and the application of, the most advanced technology. Any attempt to inhibit, or delay this ... would be concentrating on industries where we had the least comparative advantage and which are already subject to intense import competition ... within a relatively short period, industrial growth would be brought to a halt, with adverse effects on living standards and employment." (49)

"... policies to slow down or restrict technological change would be counter-productive for they would slow down economic growth, reduce the standard of living and eliminate any possibility of providing adequate employment opportunities." (50)

On this issue, the employers adopted a defensive stance in seeking to protect the prerogative of management to make decisions on technological change against the potential
threat posed by trade union calls for regulation. In doing so, they raised the threat of economic failure which they argued would result from unacceptable state intervention in the economy.

All of the private sector submissions made at least some recommendations, and these fell within two main categories: one set urged greater government support for technological development and a second proposed various social adaptations to facilitate change. There was widespread agreement in the employers' submissions that "Australia's best interest will be served by facilitating the continued introduction of new technology", 51 and it was agreed that the government had a role to play in this. But the appropriate locus for technology decisions, according to many, was in the private sector, while it was the government's role to create a favourable climate:

"... Governments themselves are not the source of technology but can be the catalyst to ensure national technology development and the resulting international competitiveness ... The delivery, application and maintenance aspect of technology will in the main be from private enterprise sources given incentives and a favourable climate from Government policy." (52)

Generally, the recommendations were not much more specific than to assert that government policies should facilitate technological change through such measures as increased support for industrial R & D, improved linkages between state research and industry, and financial incentives to encourage innovation.

That Australian society should adapt to technological change followed from the employers' belief that there was little choice, because of economic imperatives, but to adopt new technology:

"Australia does not have a choice whether to go along with technological change or not. The question is how well we can adapt to it and capitalise on the opportunities." (53)
To facilitate this adaptation, first and foremost, measures were required to instil acceptance of technological change, as I noted above. Secondly, there was a call for greater workforce flexibility, for it was argued that ".... the rigidity of Australia's industrial framework will require change if the benefits of technology are to be fully realised ....". Flexibility was sought in working arrangements (to maximise employment levels), remuneration (e.g. bringing rewards more into line with productivity), and in working life generally (through the increased locational and occupational mobility of the workforce). Education and training were seen to be critical for the achievement of this flexibility, but the existing systems were considered to be inadequate and in need of upgrading.

Finally, recommendations were made to foster a more cooperative industrial relations environment, which would "assist the transition from the old to the new technology" and "minimise the friction in transition periods". These recommendations derived from the pragmatic viewpoint that:

"Industrial relations is the most important single factor in determining whether and how an industry adapts to technological change ... an adversary industrial relations environment will ensure that technological change will be slow and painful ...." (55)

However, despite the rhetoric of the employers on cooperation, the experience of the unions and the observation of one private sector submission that many employers were reluctant to give early notice and consult with union officials because this was seen as "... an open invitation to cause industrial disruption ..."56, would indicate that, in practice, the issue of consultation remained problematic.
PERSPECTIVES FROM WITHIN THE STATE

Competing Perspectives Within the Bureaucracy

Forty-one agencies within the Australian state apparatus made submissions to the Myers Inquiry: of these, 26 were from agencies of the federal government, there was one from each of the 6 State Governments, 4 were from other State government agencies, and 4 were from national quasi-state organisations. The submissions ranged from brief commentaries of 2-4 pages to in-depth detailed analyses. As would be expected, a wide range of perspectives, often conflicting, was presented in these submissions.

Four Commonwealth agencies played a particularly important role in the technological change debate, both before and during the Myers Inquiry. These agencies were:

a) the Department of Science and the Environment, which had an interest in the social implications of technological change and which was an enthusiastic advocate for technology assessment in Australia;

b) the Treasury, which had a strong influence on the formulation of the Federal Government's economic policy;

c) the Department of Industrial Relations, which played a key role in formulating policy on the industrial relations implications of technological change and which had been centrally involved in the major industrial disputes over the introduction of new technology; and

d) the Department of Productivity, a technology-oriented department created in 1976 which had appropriated the management of the Inquiry process and whose views, as I will argue, came to dominate the Inquiry's findings.
The views of these agencies, as presented to the Myers inquiry, provided four different perspectives on the nature of technological change and its social implications, and on the appropriate role for the state in this area. They represented four interpretations of the state's interest, and hence the basis for policy prescription, in the process of technological change. The perspectives advanced were informed by prevailing viewpoints held within each department and represent competing "world views" which aligned and conflicted with those of the contending actors outside the state. Their contributions to the development of the debate and to the inquiry process were therefore clearly important.

1. Government Intervention and the Management of Change
(The Department of Science and the Environment)

The submission of this department was informed by three aspects of its role in developing policy on science, technology and the environment: a) its interest in, and advocacy of, technology assessment, b) its interactions with the OECD, and c) its newly-acquired environmental monitoring and assessment functions. Under the cloak of scientific objectivity, the department sought to provide "... an analytic and balanced view, avoiding the extremes of bland optimism and stultifying pessimism, which at times seem to bedevil this debate." 57

To do so, it presented a review of studies initiated by the OECD on the economic and social effects of technological change. From these studies it was concluded that, contrary to conventional interpretations, the contemporary high levels of unemployment were due to fundamental structural changes in the world's economies. As a major influence on the changing patterns of employment, it was argued that the rate and direction of technological change would be an important determinant of future employment levels.

Given the unique nature and scale of the structural economic change, it was maintained that the problems of adjustment to this change could produce "unacceptable social
repercussions”. There was thus a role for government in the process of technological change:

"This analysis suggests that steps to influence the direction of technological change become of central importance and should accompany complementary measures aimed at relieving social stress. To assist in the relief of unemployment, and for future technological change and employment opportunities to be in harmony, it may be necessary for Governments to encourage some types of change and to discourage others, as well as to examine continually the effects of proposed changes ...

We believe that without Government involvement in programs of assistance to industry and in the management of change, the benefits of technological change to the Australian community cannot be maximised." (58)

The submission proposed a number of mechanisms by which this state management of technological change could be achieved. Firstly, more research on technological change was advocated, "... to increase understanding of the costs and benefits to Australia ...". Secondly, the department recommended that technology assessment procedures be adopted in both the public and private sectors. Thirdly, it was argued that environmental assessment procedures should be used as a means to evaluate the benefits and adverse consequences (both social and environmental) of new technologies. Finally, the submission addressed the government’s role in stimulating technological change. Here it was recommended that "...there is a need for the injection of broad social and economic criteria into the determination of priorities for Government programs for support of technology and innovation".59

This was the most interventionist prescription from a Commonwealth agency, and was a position that came closest to that advocated by the trade unions. As such, it was completely at odds with the arguments of the employers, with their concern to minimise government regulation of technological change, and neither was it in tune with the Fraser Government’s economic policies. Informing these policies was another and much more influential agency within the state apparatus, the Treasury.
2. Laissez-Faire and the Primacy of Markets
(The Treasury)

Underlying the Treasury's submission was a particular model of the capitalist economy, derived from subjective preference theory in economics. Central to this theory is a belief in the efficacy of markets to achieve the common good. According to this, where market forces - as conveyed to economic actors through market signals - can operate freely, the economy is "self-equilibrating". That is, various "adjustment mechanisms" work towards an equilibrium of supply and demand of economic resources, producing adaptations to the changes that are ever-present in a market economy which responds to changing community wants and desires. However, these mechanisms may not work effectively where government intervention distorts market signals or where there are "inflexibilities" in the economy, such as wages that do not respond to market forces, or labour which is not mobile.

According to this approach, technological change is an economic activity, just like any other, and as such is responsive to economic incentives and disincentives:

"Technology can be broadly conceived as the way in which societies adapt to their environment, the way in which the endowments of nature are used to enhance material standards of life. Technological progress comes about largely because people respond to economic incentives to innovate and develop improved products and production techniques to satisfy community wants in more efficient ways. It is thus responsive to changing human needs and to the way these are signalled in the economy." (61)

Importantly here, the rate of diffusion of new technology is determined largely by economic influences, so there is a distinction between technical possibility and economic application. From such a perspective, Treasury dismissed the unions' argument that contemporary technological change was a unique and revolutionary process. Firstly, Treasury argued that technological change comprised not only of "revolutions" but also of "... an underlying mass of continuous, pervasive but less spectacular changes"62, and
that to focus on the former resulted in a loss of perspective. Secondly, the uniqueness of technological change as an economic activity was discounted. To Treasury, it was just one of a wide range of changes that occur in modern economies:

"... technological changes are only a subset of the whole range of changes that are constantly taking place in modern economies. For this reason it is very difficult, at the macro economic level, to regard technological change as a separate or unique phenomenon in the labour market." (63)

While market forces guided technological change, the introduction of new technologies contributed to economic growth, although its contribution was extremely difficult to quantify. Technological change also played an important role in economic change by contributing to productivity improvements and by influencing relative prices. Because of this, it affected labour markets, so labour displacement effects could result from at least some technological changes. However, the adjustment mechanisms within the self-equilibrating economy ensured that compensatory job creation would offset any labour displacement effects:

"While technological change can have the effect of displacing labour from particular jobs, it is only one of a large number of influences giving rise to economic change. By contributing to productivity growth and the rise in real incomes, technological change sets adjustments in motion which tend to create new opportunities, often in the industry concerned but more importantly in the economy generally." (64)

According to Treasury, the high levels of unemployment in Australia in the 1970's had not been caused by technological change, but were due to "more general economic forces", including: an increase in labour force participation rates, predominantly those of married women; high and persistent levels of inflation; and the rapid rise of real labour costs.

With the restoration of economic growth (given appropriate economic policies to foster recovery), the Treasury argued, technological change would not be an impediment to full employment. This claim rested on two propositions. The first was that there were "unsatisfied wants" in the community. The second was that technological change
contributes to productivity growth and thereby to the growth in real incomes required to satisfy unfulfilled needs:

"The two in combination inherently tend to generate growth in economic activity and, if overall economic management is able to provide an environment in which that potential growth can be realised, full employment. Labour-saving (or, for that matter, capital-saving) technological change provides, by generating real income growth, one of the means to support the employment of more labour overall." (65)

On the relationship between technological change and unemployment, then, the Treasury concluded:

"... technological change has not caused, nor is it likely to cause, unemployment in any overall and continuing sense. Along with a host of other influences on the pattern of economic activity technological change has been and remains a constant source of new opportunities for the utilisation of capital and labour. The very process of increasing the efficiency with which resources are used - the essence of technological change - provides the basis, through the improvements in real incomes achieved, for such new opportunities. It has thus been, and remains, an important source of increased productivity, higher real incomes, enhanced living standards and economic growth." (66)

What then should be the role of the state? Not surprisingly, the Treasury, with its doctrinaire belief in the ability of markets to accommodate change, rejected any suggestion of government regulation of technological change:

"It is the thesis of this Submission that government intervention of a general kind to modify or slow the introduction of new technology will not support overall employment; on the contrary, it would impair the efficiency and competitiveness of the economy with potentially very significant adverse implications in the long run for improved living standards and job opportunities." (67)

For a start, the pervasiveness, complexity and uncertainty of the process of technological change would render its centralised direction impracticable. Further, the past experience of government intervention in productive processes, as exemplified by domestic industry protection policies, was not considered to be very encouraging. To Treasury, any consideration of proposals for government intervention had to determine whether the
proposed intervention would produce a more acceptable overall outcome than the
decentralised decision making of markets. Given its bias towards anarchic markets, the
suggestions for a centralised technology assessment mechanism were discounted by
Treasury as impracticable and inferior to existing decentralised mechanisms.

Neither could the Treasury find any compelling argument in favour of measures to
compensate those adversely affected by technological change. Instead it concluded:

"Proposals to compensate the 'losers from change' ultimately have to be
judged on political grounds. Such proposals are, however, inherently
inequitable in that they create a privileged class of welfare recipients: as a
criterion for assistance, cause gets substituted for need." (68)

Clearly, the Treasury's analysis provided an interpretation of technological change and its
social significance totally at odds with that of the unions. But it was an approach that was
cosonant with the Government's economic policy, and it was supported by the
submission of another influential Commonwealth agency with an economic policy
function, the Department of Finance.

3. Pluralism and the Mediation of Industrial Conflict
(The Department of Industrial Relations)

This department's approach in its submission was informed by a pluralist interpretation of
industrial relations. This frame of reference, deriving from pluralist political theory, was
extremely influential in industrial relations theory and practice in the 1960's and 1970's.69
Fox has summarised the approach of pluralists as follows:

"They make ... the working assumption that, given 'good will' and such
external stimulus, help, and structural support as may prove necessary,
managements and unions will always and everywhere be able ultimately to
negotiate comprehensive, codified systems of regulation which provide a
fully adequate and orderly context making for the promotion and maintenance
of orderly behaviour." (70)
According to this view, underlying the conflicts arising from different groups' pursuit of their own self-interest, there is a fundamental commonality of interest, "a philosophy of mutual survival". Thus, consensus, and the achievement of consensus through appropriate institutional forms, is a theme that repeatedly crops up in the pluralist discourse.

This pluralist approach was consonant with the department's involvement in the state mediation of industrial relations. Important to this was the belief that, although conflicts of interest existed in enterprises, the overt expression of these had been, and could further be, moderated through the development of conflict-regulating institutions. Given this orientation, the department's concern was that the industrial relations machinery operated effectively to resolve conflicts in an "orderly" way. "Order" is another theme that recurs in the pluralist discourse.

The department emphasised the importance of technological change to the Australian economy. It affirmed the contribution technological change could make to economic restructuring, and so saw technological change as "... a significant element in the blueprint for economic growth". Given its strategic economic importance, any attempt to restrain technological change could only have adverse consequences for the efficiency and international competitiveness of Australian industry, and consequently would inevitably have negative effects on employment.

However, the department also argued that the successful introduction of new technology depended on the industrial relations environment:

"... the relations between employers and employees in industry and the manner in which conflict arising from technological change is resolved can make an important contribution to what technological change will, in reality, achieve." (72)
The attitudes of the contending parties within the industrial relations arena were seen as important influences on the ease of introduction and outcomes of technological change. For example, anxieties and uncertainties arising from anticipated dislocation effects influenced employee attitudes, and this had consequences both for the process of introduction and for management-labour relations. Historical experience had shown that very strong opposition could be mounted against technological change, with resultant conflicts and a deterioration in the ability of the industrial relations mechanisms to resolve these. In sum, an adverse industrial relations environment could impede the introduction of new technology, with resulting negative economic and social consequences.

Technological change was seen not only as an important ingredient for economic revitalisation, but also as a source of dislocation within the workforce. Two types of dislocation were considered: the effects on aggregate employment levels and on the nature of jobs. In the first area, it was noted that in the past, the overall effect of technological change had been to increase employment opportunities through its contributions to economic growth and development. As for possible future employment effects "... it is difficult if not impossible, on the basis of available data and information to make a competent judgement about the net aggregate impact of technological change on future employment opportunities". There was therefore seen to be a need for more research on the current and likely future employment effects of technological change.

Although the department was somewhat optimistic about the likely future employment effects, it did recognise that technological change could produce dislocations through its impact on the nature of jobs and workforce skills. The introduction of new production technologies often required workforce "adjustments", including: job displacement (and, associated with this, the need for redeployment and retraining), changes in the organisation and nature of work (most notably in the skills required), and alterations in the pattern of working life (e.g. through the introduction of more shift work). Such dislocations, were the source of "adjustment problems", and as such were a cause of
concern to employees and their unions. From its pluralist viewpoint, the department could accept that the unions, in reacting to new technology initiatives, were merely pursuing their own self-interest:

"The Department does not accept that such concerns and conflicts reflect absolute opposition to technological change ... rather it believes generally that union officials are prepared to accept technological change provided that their members are not disadvantaged." (73)

So, according to the pluralist approach adopted, what was required was an adjustment process that would "... assist in balancing the many and various interests of individuals and groups affected. A proper and equitable balance of interests is of paramount importance if the potential benefits of technological change are to be realised." The locus for this adjustment process was the industrial relations system, hence the central contention of the submission:

"This submission argues that in order to create an industrial relations environment that is both receptive and conducive to technological change, attention needs to be given to minimising the adverse (and maximising the beneficial) effects of new technologies, particularly as they are perceived in the workplace. Failure to do so may lead to undue resistance, to increases in the effective costs of technological change and will therefore have an important bearing on what, in practice, technological change will achieve." (75)

Given this diagnosis, the department's recommendations were aimed at setting the right industrial relations climate, within the existing institutional framework, to facilitate the introduction of new technology. Central to the achievement of this climate was the need for a consensus between employers and employees. It was this consensus, rather than any legislation, that was required "... to provide a proper basis for effective consultation between the parties." Through this consultation it was optimistically believed that the "orderly introduction of technological change", balancing the various interests and avoiding unnecessarily disruptive impacts on groups and individuals, could be achieved. The medium recommended for this process of consensus formation, and the appropriate locus for consultation at the national level, was the tripartite N.L.C.C.
A number of other measures, as means to facilitate the adjustment process, was also considered. The unions' call for greater participation in technology decision-making, was assessed along with the employers' arguments for resisting union incursions on their prerogative. No definitive recommendation on this issue was made, other than to note "... there is a need for consensus between the parties on their respective responsibilities in the process of technological change." The unions' claim for compensation for those retrenched as a result of technological change was not supported. Instead it was argued that any question of compensation should be dealt with by the existing industrial tribunals.

The department's approach fell somewhere between the approaches of those of the Department of Science and the Environment and the Treasury. Conflicts of interest over the introduction of new technology were recognised, but it was believed that these could be reconciled through an appropriate institutional framework. A laissez-faire stance was discounted, for dislocation effects created problems of adjustment for those affected by change and this (or an anticipation of this) could provoke reactions which had adverse consequences for industrial relations and the economy. Nevertheless, government intervention in this approach was reduced to providing the conflict resolution apparatus and acting where necessary to protect the "national interest" (e.g. through public exhortation, and advocacy in the process of tripartite consultation). State regulation, based on legislative prescription, did not feature in this perspective. Instead there was considerable reliance on voluntary compliance and the achievement of a working consensus under the auspices of tripartite consultation. It was a perspective that was very similar to that of the Department of Productivity.

4. Consensus and the Facilitation of Change
(The Department of Productivity)

Central to the Myers Inquiry was the Department of Productivity. This department provided the administrative back-bone for, and contributed key personnel to, the Inquiry's
Secretariat and it made a major submission. It was the views presented in that submission which predominantly shaped the Inquiry's findings, as I shall show in the next chapter.

The productivity improvement activities of the department had two focuses. The first was the human element within the workplace, and the second was the promotion of technological change in industry as one means to stimulate the export orientation and competitiveness of Australian industry. From these focuses there arose three major themes on technological change. These themes were important, for not only were they the basis for departmental action, they also informed the department's submission to the Myers Inquiry.

Firstly, technological change was promoted as a central element in industrial revitalisation and development. Secondly, technological change was seen to be the source of understandable, but unwarranted, anxieties. This reaction was seen to be a threat to economic recovery, and it was a reaction that was considered to derive largely from ignorance. A third theme, and related to the second, was the need for consultation and cooperation on technological change between employers and employees. The department's approach was to encourage contending groups in the workplace to recognise their mutual interest, and on the basis of this to develop agreed methods of joint consultation. Through such consultative mechanisms it was believed a consensus on technological change could be achieved, and the interests of all parties harmonised.

Arising from the department's focuses, three major themes can be identified in its submission.

Firstly, the department strongly affirmed the strategic economic importance of technological change to Australia. According to the submission, technological change had historically been an important determinant of economic growth and increases in the standard of living. Further, it had allowed dramatic improvements in the hours and
conditions of work, and had provided a wider range of cheaper and higher quality products. Technological change was important in the economy for its contributions to economic growth and to productivity growth. It was thus a crucial element in achieving international competitiveness and consequently to the creation of new employment opportunities. Given this perspective, the Department of Productivity argued that "...Australia should step up the level of its technology, particularly in the manufacturing sector, by means of increased encouragement of technological and management innovation ...".76

Secondly, however, the facilitation of technological change required that attention also be paid to the "human element" in industry. This focus stemmed from the recognition that "... the rate of technological change is greatly influenced by management competence and workforce acceptance ...", and "... the effective introduction of certain new technologies will depend to an important degree on their acceptability to the general community ...".77 This acceptance was influenced by beliefs about the effects of technological change. In relation to this, the pessimistic prognoses of the unions about the massive job displacement potential of new technology were dismissed as unfounded:

"The Department considers that claims that technological change will be widespread, abrupt and severe are not supported convincingly by the available evidence. Any form of growth will continue to induce changes in the industrial structure and, thereby, changes in the occupational, locational and demographic structure of employment. This process is essential for industry to adapt quickly to market pressures so that a competitive position is maintained in an increasingly competitive world." (78)

The pessimistic views, and the fears and uncertainties associated with them, were believed to derive from a lack of adequate knowledge, as the submission argued "... many fear job loss without good reason ...". According to the department's view, although in some cases technological change could cause the short term displacement of labour, there was an overall "favourable relationship" between technological change and employment. It was also emphasised that unemployment would result from a lack of technological
change. An important role for the Government (and immediately for the Committee of Inquiry), therefore, was to educate the community and the workforce "... to improve understanding of the benefits and consequences of change ...".

However, it was also acknowledged that there were "adjustment problems" arising from the structural changes associated with technological change. Firstly, "imbalances in the labour market", as a result of changing demands for occupational skills, required some remedial action "... because of the need to have appropriate skills in the labour force to exploit advances in technology." Measures proposed to address these imbalances included: the provision of adequate education and training, the use of selective immigration to rectify skill gaps, and the institution of a national manpower planning policy to ensure that imbalances were dealt with systematically. Secondly, technological change could affect the working environment:

"It can be appreciated that in the development of healthy and efficient organisations in the long term, management, system designers and production engineers alike need to take account of the impact of new technology on the people in the organisation." (79)

This approach was informed by a "human relations" perspective, with a concern for the "quality of working life" (QWL). According to this viewpoint, the interests of both employers and employees could be harmonised in the introduction of new production technology. That is, work and the conditions of work could be designed so as to improve the QWL, thereby creating an environment in which employees would work more effectively and productively:

"The effect of technological change on the quality of working life is not automatically negative or positive, but is a function of the type of technology, its method of introduction, and the degree to which the needs of the workforce are taken into account. This department believes that due consideration must be given to the human factors from the time the new technology is planned to the time it is introduced, and that unless positive steps are taken to use the opportunities created to improve the quality of working life, there will be adverse effects on working conditions and productivity." (81)
Thus, the department had dual objectives with respect to technological change. On the one hand, it sought to stimulate a national increase in productivity by encouraging the introduction of new technology. On the other hand it sought to improve the quality of working life. To achieve these objectives required a consensus between management and labour. Consultation and employee participation, as means to achieve this consensus, was the third major theme that can be identified in the department's submission. Central to this was a belief that mutual understanding and cooperation should be encouraged. Consultation, through tripartite mechanisms and the involvement of employees in technology decision making, was the institutional medium through which this consensus could be achieved. The basis for this consensus was believed to be a full understanding of the benefits of technological change, and hence its acceptance by the community and the workforce:

"... it is fairly obvious that communication is of major importance. Lack of information frequently leads to stress, rumours and uncertainty, and causes hostility. On the other hand, if information on the nature, extent and likely impact of proposed new technology is made available to interested bodies within the community, the stage is set for informed debate, a logical assessment of the relevant issues, and the possibility of reaching a consensus view." (82)

Consensus and employee participation were thus proposed as means to facilitate the introduction of change. But the role of the government in this area was not to legislatively prescribe, rather it was to encourage by assisting in the tripartite formulation of voluntary guidelines. These voluntary guidelines would aim to promote "... a greater understanding of the human aspects of technological change."

The Department of Productivity's submission was very similar to that of the Department of Industrial Relations. It rejected the interventionism advocated by the Department of Science and the Environment, yet did not fully subscribe to the laissez-faire of Treasury. The department advocated some assistance to facilitate change and ease the adjustment
process, but argued that this could most satisfactorily be achieved within industry, with the government largely playing a guiding and facilitating role.

OVERVIEW: THE CENTRAL THEMES IN THE DEBATE

The submissions of the three key sets of actors - trade unions, employers and state agencies - contained the central conflicting themes in the technological change debate. These conflicting themes centred on two major areas. The first concerned the nature of contemporary technological change and its societal implications. To the trade unions and the Department of Science and the Environment (DSE), the new technology was unique and radically different from previous technological change. Because of this, it had considerable potential for major social dislocation. By contrast, the employers and the other three state agencies stressed that technological change was a continuous process, mostly not revolutionary in nature, and any disruptions associated with its introduction were likely to be short term and counteracted by the adaptive mechanisms inherent in the market economy.

The second area of conflict was on the desired role of the state in the process of technological change. Here three different viewpoints can be identified. One of these was the interventionism proposed by the unions and the DSE, which held that state regulation of technological change was necessary to ensure the equitable distribution of associated costs and benefits. Opposing this was the laissez-faire stance advocated by Treasury, and to some extent the employers, which was based on a belief in the ability of markets to reach socially desirable outcomes with a minimum of state intervention.

In between these two was the view of the Departments of Productivity and Industrial Relations (also supported by many employers), that while laissez-faire was not acceptable because of the transitional problems associated with change (problems which could invoke
reactions and conflicts that resulted in less desirable outcomes), the appropriate role for the state was facilitative rather than prescriptive.

It was on these conflicting perspectives that the Inquiry was asked to pass judgement. The Inquiry's assessment of the process of technological change in Australian industry, and the responses of various interested parties to that assessment, form the subject of the following chapter.
NOTES AND REFERENCES


3. See, for example, the 1987 report of the Senate Standing Committee on Science, Technology and the Environment Technology Assessment in Australia, Canberra: AGPS.

4. The information on the Inquiry process was obtained from interviews with members of the Secretariat (including the Secretariat's head), supplemented where necessary by published documents on the Inquiry.

5. Appendix E (pp.239-245) in Volume One (Technological Change and its Consequences) of the Inquiry's 1980 Report Technological Change in Australia (Canberra: AGPS) lists the overseas organisations and individuals visited by the Committee.

6. Appendix C (pp.222-238) of the Inquiry's Report (op. cit.) lists the submissions made to the Inquiry.

7. Appendix B (pp.220-221) of the Inquiry's Report op. cit. lists the consultant work undertaken for the Inquiry.

8. The two reports of particular concern were the French Nora and Minc Report (1980), and the Australian Study of the possible future effect of computers by Thornton and Stanley (1978).


12. Minutes of ACTU Executive Meeting, 5 March 1979, 5.0 Technological Change Committee.


14. ACTU Circular No. 137/1979, 12 April 1979, Re: Committee of Enquiry into Technological Change.

15. ibid p.3.

16. ibid p.4.

17. Submission No. 161 to the Myers Inquiry, Federated Clerks Union.

18. Of importance to Australian industrial relations were the Mobil Oil (1962) and H.C. Sleigh (1968) cases which set principles for prior notification on proposed technological change; see the above cited FCU submission for a history of the union's activities in this area.
20. Submission No. 146, Professional Officers Association (Australian Public Service), Queensland Branch.
22. Submission No. 197, Australian Retailers Association.
24. This was an argument that was developed for the Australian Industries Development Association (AIDA) in a consultant study by Stubbs (1980).
25. Submission No. 161, Federated Clerks Union.
29. See note 23.
30. Submission No. 238, Broken Hill Propriety Ltd.
31. Submission No. 34, Waterside Workers Federation of Australia.
32. Submission No. 90, Peak Union Councils.
33. ibid.
34. Submission No. 167, Australian Bankers Association.
35. See note 26.
37. See note 30.
38. Submission No. 231, Australian Mutual Provident Society.
40. Submission No. 166, Australian Insurance Employees Union.
41. See note 31.
42. Submission No. 28, Policy Coordinating Council of the Australian Bank Employees' Union and the Commonwealth Bank Officers' Association.
43. Submission No 200, Australian Postal and Telecommunications Union.
44. Submission No. 59, Australian Teachers Federation.
45. See note 42.
46. ACTU Policy on Technological Change.

47. Submission No. 171, Australian Public Service Association (Fourth Division Officers).

48. See note 32.


50. See note 26.


52. See note 23.

53. Submission No. 96, Melbourne Chamber of Commerce.


55. See note 26.

56. Submission No. 190, Victorian Chamber of Manufactures.

57. Submission No. 180, Commonwealth Department of Science and the Environment, p.iii.

58. ibid p.6.

59. ibid p.7.


61. Submission No. 242, Commonwealth Department of Treasury. Also published as Treasury Economic Paper No. 7 Technology, Growth and Jobs (Canberra: AGPS), p.5.

62. ibid.

63. ibid p.8.

64. ibid p.18.

65. ibid p.2.

66. ibid.

67. ibid p.31.

68. ibid p.38.


70. Fox (1973) p.196.


72. Submission No. 255, Commonwealth Department of Industrial Relations (Part II).
73. Submission No. 136, Commonwealth Department of Industrial Relations (Part I) p.1.

74. See note 72.

75. ibid.

76. Submission No. 184, Commonwealth Department of Productivity, p.8.

77. ibid p.9.

78. ibid p.11.


80. See Davis and Cherns (1975).

81. See note 76, p.27.

82. ibid p.48.