Technology:
The Challenge for Trade Unions

Strategy for a democratic socialism must begin with democracy and control in the workplace, argues John Mathews. Confronting technological change means dealing with more than the externals of jobs won or lost — it means looking at the labour process itself and the workers’ ability to enhance their skills and increase their control of their labour.

Enter a typical workplace today and you find alienation, frustration and anger. Work is fragmented into meaningless, repetitive and boring tasks. The worker feels a victim of a giant technological machine, whose workplace appearance is simply the most concentrated expression of a wider social phenomenon.

We hear much of the wonders of microelectronics — of the information society, of an end to dirty, dangerous and demeaning tasks, of a life of leisure for all — and yet in reality we see workers being robbed of their few remaining skills, work being subjected to further "speed up" and paced by electronic monitoring, and a society which is based on work for the few and unemployment for the many being created before our eyes.

It is easy enough to identify this multi-faceted malaise but what is to be done about it?

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Is the organisation of work dictated by the technology employed? Is alienating work the price that we pay for material prosperity? The conventional answer to this is yes. Our levels of productivity, we understand, depend on division of labour, mechanisation and increasingly on automation. Hierarchies of authority, we understand, are built into the very process of production. It is seen as absurd to question these truths; it is tantamount to wishing to return to a mythical golden age of craft production, but without the amenities of modern life.

This idea, that there is a logic to technological development which determines the social form of work and its productivity, is possibly the single biggest obstacle to the achievement of a just and equitable society. The idea is known variously as "technological determinism" or as "autonomous technology".

It is as widely subscribed to on the left as it is on the right; indeed, in "vulgar marxist" terms the "forces of production" are held to be the determining influence on all social development.

The notion of a technological imperative operating through machines, processes, and equipment subject only to considerations of technical efficiency, is pure ideology.

It obscures and, indeed, is meant to obscure, the fact that technology is a social construct, the summation of innumerable choices made in the past, and all reflecting the interests of the developers and promoters of technological innovations.

Modern scholarship has now revealed the social choices involved in the development of hierarchy, division of labour and the technical form for the production apparatus. We know now that non-hierarchical, non-fragmented, skill-enhancing rather than skill-degrading technical options were available, but not developed.

Therefore it remains at least an open question whether the present demeaning organisation of work can be changed — without incurring massive productivity and efficiency losses, and leaving us all freezing in the dark. If this is the case, what direction do we want to see changes, and what should be the strategy for securing them?

Ultimately, we seek a humane and democratic work organisation as the foundation of a humane and democratic society. We seek a situation where workers are dignified, proud of their skills and contributing them to society. How do we move from our present to our desired state?

I believe that workers themselves, organised through their unions, must be the prime vehicle of this transition. The transition must be a process, rather than a simple-
minded revolution or assault on the pinnacles of economic power. It must start with workers securing some degree of control over their own labour process, and then move through further stages of control over production, trade and marketing, then finance and investment. In other words, this is a strategy of gradual achievement of industrial democracy, starting with workers' most concrete and pressing concerns; such as their health and safety, and immediate control over the content of their work.

"But once such a security net is established, then the unions can become instigators and proponents of technological change on their terms — that is where socialist values can begin to contest the hierarchical, authoritarian and inhumane values we see all around us today."

If the unions are to lead this process of transition (and they will either lead it or become its casualties), then they must formulate some criteria by which to define a humane and progressive work organisation. These criteria will not be technically determined, but socially imposed. And it is at the point of technological change that such criteria may be imposed most forcefully.

It is at the point of change that workers may agree to co-operate with a certain type of innovation, but to oppose another type. Through such agreement they are best able to secure satisfactory working facilities, and a measure of control over the new technology. This is not a Luddite position, but one which discriminates between socially progressive and regressive technologies.

Hence the importance of a trade union policy on technological change, and on the labour process (i.e. the content and organisation of work). We are clearly living in a period of dynamic adjustment to the Australian and world economy. There will be more, rather than less, technological change in the future. In place of merely opposing change because of the absence of adequate social security and retraining facilities provided for those affected by change, the unions should be insisting on these "safety net" provisions as a minimum and then formulating positive proposals regarding the direction of change and the technical options to be selected.

Of course, the unions and their members have suffered grievously from the effects of technological change in the past. Unplanned and unregulated technological innovation has thrown thousands of workers out of a job, with only the dubious consolation that a dynamic economy might offer some of them alternative work at some time in the future.

Technical innovation, particularly mechanisation, has frequently been used as a weapon to curb the militancy of key groups of skilled workers. And unregulated technological change has set union against unions as occurred in 1983 when the introduction of scissor lifts in the construction industry threw builders' labourers out of work and set their union against the other building trades unions (resulting in the expulsion for a time of the Builders Labourers Federation from the Victorian Trades Hall Council).

These have all been bitter lessons, and bought dearly. They have resulted in unions throughout industry confronting employers, when technical changes are proposed, with demands for job security and protection, and for retraining of displaced workers. These demands force a degree of social responsibility on the employers and restrict their ability to discard an unwanted workforce at will. In Australia, employment protection standards have lagged behind those secured in many other countries.

The long-awaited decision of the Australian Conciliation and Arbitration Commission in the Termination, Change and Redundancy case, handed down in two instalments in 1984, moves some way to consolidate the position achieved by some unions, and brings Australian employers more into line with their overseas competitors.

In line with ACTU policy, some unions have been able to move beyond mere job protection, and have negotiated Technological Change Agreements with employers. These are now common in the Scandinavian countries, in northern Europe and the UK, and they have been won in Australia as well, notably within Telecom in 1980.

This agreement flowed from a celebrated dispute between Telecom and the telecommunications engineers over the introduction of computer-controlled switching apparatus, with the engineers insisting that the new
technology not be introduced in such a way that an elite corps of maintenance staff be created and the majority slowly lose their skills. They successfully imposed their own job design proposals to accompany the new technology, thus preserving skills and career structure.

In line with the formal agreement, changes in technology within Telecom are carried through now only after specific written agreement on job specifications, skill levels, training and promotion matters has been obtained. Similar agreements now operate within sectors of the railways, and of the Commonwealth and states' public services.

Again, the year 1984 saw a substantial consolidation of these gains in the decision of the High Court of Australia upholding the validity of procedures requiring an employer to consult with a union over proposed technological changes. The entire trade union movement had been waiting for this case to work its way through the courts from the Victorian industrial tribunal where the Federated Clerks first tried to vary their award and insert a clause on consultation over technological change.

The High Court decision opens the way for unions in every jurisdiction to seek to insert similar consultation clauses in their awards and thereby impose legal requirements on employers. (The requirements are modest compared with those enacted in legislation in the Scandinavian countries.)

It is now widely recognised that dealing with technological change requires the unions to attend to more than the external features of the proposed change (numbers of workers, training details, work value considerations). It is now seen as essential that the unions negotiate a framework of participation and consultation — indeed, of joint determination — in which the internal details of any proposed technical change may be hammered out before the change is carried through.

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These details will include the precise technical specifications of the proposed change; the manner of organising work; the job content and skill structure of the work; the different technical options available, and other factors.

Not so long ago, and certainly into the early years of the 20th century, these matters were normally the province of the worker and not of the employer (except in high technology process industries like the chemical industry). Yet that time seems so far away!

Following the inspiration of Frederick Winslow Taylor and his system of "scientific management" ("taylorism"), the employers staged a coup in the early 20th century and expropriated the workers' control over the labour process, putting in its place an immense management apparatus whose role was to issue precise work instructions and monitor every aspect of the production process with a chain of paper moving from desk to desk, and now from computer to computer.

It is this control over the internal details of the labour process, over the content of work, that must engage the unions now. They will be claiming back no more than was lost a few decades ago — but this will set them on a course with far-reaching implications. They will not be attempting to roll back the workplace and technology to the turn of the century — but to claim the latest technical advances and propose new technical advances which place a premium on workers' skills, which provide a flow of current information allowing workers to take meaningful decisions, and which put an end to the slavish, authoritarian hierarchies of work processes modelled on the assembly line.

This demand is not as radical as it may sound. It is stated quite explicitly by Robert Reich in his influential book, The Next American Frontier, published in 1983, where he says: "The industries that will sustain the next stage of America's economic evolution will necessarily be based on a skilled, adaptable and innovative labor force and on a more flexible, less hierarchical organisation of work."
If this is what is being demanded by a liberal US economist, then the unions should be demanding no less. In particular, in connection with each proposed case of technological change, the following issues should be taken up.

- Unions should oppose an excessive fragmentation of work into jobs which become devoid of skill or interest. They should impose a conception of jobs in which workers are enabled to comprehend the entire process of production, and exercise some control over the process leading to a finished product or activity.
- To this end, all job classifications categorising workers as “operators” of a particular machine or piece of equipment, should be opposed. Such designations as “press operator” or “VDU operator” reduce workers to appendages of machines, and deny their skills as workers. Unions should impose job titles which reflect the goal of the job or the end-product produced (e.g. “metal parts fabricator” or “text editor and processor”).

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- Unions should insist that each job carrying a specific job title should contain a variety of tasks requiring a diversity of skills. As a general criterion, jobs should encompass aspects of conception as well as execution, thereby overcoming the catastrophic division between mental and manual labour enforced by "scientific management".
- Unions should state openly that the fundamental "property" of workers is their skill (otherwise known by management theorists as "human capital"). The central object of trade unions should be the protection of workers' skills and their enhancement via a process of lifetime training and career development. Unions should seek to have employers recognise the fundamental nature of skill, by making skills the centrepiece of negotiations over wage systems, job classifications and work organisation accompanying any proposed technical change. There is nothing in common between a union-imposed gradation of skills, and a management-imposed job hierarchy.
- Unions should oppose all “time and motion” type work study and in particular oppose the electronic monitoring of individual workers, and impose instead group performance targets.
- Unions should root out once and for all divisive wage systems based on individual incentives, premiums and bonuses, which isolate the performance of individual workers, and set workers in competition against each other. These systems were introduced in the last two decades of the 19th century with the sole purpose of breaking the "internal contract" system and boosting productivity via inter-worker competition. The ACTU stated its opposition to such incentive payments systems in 1947, 1949 and again in 1953 — but unions have failed to follow through and obtain their removal, nor have they adequately explained the basis of ACTU opposition to the membership.
- Unions should oppose any proposed work organisation based on a military model of a technical hierarchy. Work should be co-ordinated by “work co-ordinators” elected from the workforce, rather than by supervisors appointed unilaterally by management. (This is not to say that supervisors are incompetent, but only that they are not accountable for their actions to the workers of their shop.) The office of elected “work co-ordinator” greatly enlarges the scope and functions of existing job delegates.
- Unions should insist that work co-ordinators be supplied with all relevant, up-to-date information on current production or activities, to enable them to comprehend the role of their work group in the totality of operations, and to be able to take meaningful decisions. Computerised data systems under workers' control should be demanded.
- Unions should insist that employers allow work co-ordinators to meet together frequently, on their own as well as with management, and that such a works council form the germ of any industrial democracy initiatives.
- Unions should insist on collective ownership of knowledge of the labour process. Workers can only exercise a degree of control over work to the extent that they understand the process — and so it should be a fundamental demand of unions that employers provide the requisite information. In some cases, this will mean refusing to recognise the legitimacy of employers' claims of "commercial confidentiality".
- Unions should develop their own set of criteria by which to judge whether a proposed technological change is likely to be beneficial or harmful. Such criteria might include the following:
1. The technology should require specified skills which, in aggregate, are superior to existing skill requirements.
2. The technology should provide a well-defined career path for workers involved with it.
3. The technology should be such that displaced workers may be retrained to operate it.
4. The technology should create a minimum of job classifications with a uniform skill gradation between them.
5. The technology should not involve excessively repetitive action. Any cycle or task should take at least 10 minutes to perform.
6. The technology should encourage unity of conception and execution by an individual worker, e.g. self-programming of computer-controlled machine tools.
7. The technology should provide adequate stimulus and variety.
8. The technology should favour group, work targets, and not depend on monitoring of individuals nor on a hierarchy of control.
9. The technology should generate current data on its state or performance that is available to the work-group and in particular to the elected work co-ordinator.
10. The technology should be comprehensible, in principle, to all workers involved with it.
11. The technology should not expose workers to uncontrollable risks to health or safety.
12. The technology should be socially useful.

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These points add up to what may be described as a trade union "labour process policy" which may be used to guide unions' negotiations with employers over the introduction of new technology.

What if the unions refuse to adopt these proposals, and continue to confine their activities to matters concerned with the externals of work — pay levels, hours, and working conditions? In this case, the efforts of socialists to establish an equitable, open and democratic society must be hampered by the fact that workers have no experience of these concepts when at work. The process of change needs to start at the most basic level, which is that of the workplace. If democracy is denied there, it cannot flourish anywhere else.

In 1964, the French socialist Andre Gorz published a short manifesto, Strategy for Labor, in which he called on the unions to develop a policy of workers' control over the specific content of work. Twenty-one years on, his text still resonates with relevance. He insisted that: "Formal recognition of the union organisation and of civil liberties on the job remains an abstract demand, incapable of mobilising the workers as long as it is not organically linked to the demand for concrete workers' powers over the conditions of work."

This is still the major challenge facing the unions. It is a challenge that can best be accepted at the point of technological change, for it is at this point that competing conceptions of social utility, the purpose of work, work organisation and skills, can come into conflict with each other. It is through such clashes that the future shape of our social order is decided.

The perspective of this article, then, is that the point, or moment, of technological change is a key strategic point of intervention where socialist values can contest the mechanical-financial values of the employers and prevail. The perspective is one of a strategy for achieving socialism, as a value system and process, at the perpetually moving point of change (or at the "cutting edge", or "at the margin" to use the terminology of both engineering and economics).

This is a strategy that is radically opposed to the notion that socialism is a social system that can be achieved overnight, as a result of a transfer of political power — for such a strategy, apart from being simple-minded and non-
achieved through democratic means, is responsible for the fetishisation of politics by socialists in the past, and the terrible neglect of the real and pressing workplace issues that should have been taken up but were not, for fear of becoming "contaminated" by the capitalist system. It was this attitude that Andre Gorz railed against in 1964, and which appears now to be, at long last, in decline.

Certain things have to be done. Before workers and unions can drop their hostile and defensive attitude to technological change (an attitude wholly justified by the terrible costs that workers have borne as a result of 200 years of unregulated technical change) an adequate social security net needs to be established to compensate those who are most directly affected by changes. Such a security net was recommended by the Myers Committee (Committee of Inquiry on Technological Change in Australia — CITCA) in 1980[10], and supported in ACTU policy - but it does not seem to be part of the ALP social security platform, and there are no current steps being taken to establish it.

Some of the long-standing demands of the unions, for a measure of job security, for severance payments when workers are made redundant, and for prior consultation before change takes place, have been met by the recent Termination, Change and Redundancy case decision of the Conciliation and Arbitration Commission. These are steps in the right direction. But, until there is a humane and generous community response to the victims of technological change, it is unrealistic to expect the unions to markedly change their role as defenders of the status quo. But once such a security net is established, then the unions can become instigators and proponents of technological change on their terms — and that is where socialist values can begin to contest the hierarchical, authoritarian and inhuman values we see all around us today.

John Mathews worked for some years on occupational health and safety questions for the ACTU. His paper Technology, trade unions and the labour process, from which this article was extracted, was prepared while the author was on a visiting fellowship in the Department of Humanities at Deakin University, Victoria. Copies of the full paper can be obtained from the Department of Humanities, Deakin University, Victoria 3217.

NOTES AND REFERENCES

1. On the notion of "autonomous technology" and its critique, see Langdon Winner, "Do artifacts have politics?" Daedalus, 109 (Winter 1980), pp 121-136. This text discusses the social shaping of technology as well as the more familiar theme of technologies having social effects. Winner likens technologies to laws, in that they exercise ongoing restraints over people's behaviour. These themes are dealt with more discursively in Langdon Winner, Autonomous Technology: Techniques-out-of-control as a theme in political thought, Cambridge, MIT Press, 1977. In this text, Winner adopts a somewhat bemused stance in relation to some of the more extreme statements that "technology is out of control", e.g. Jacques Ellul, The Technological System, New York, Continuum, 1980.

2. For an interesting medieval example, see Marc Bloch, "Advent and triumph of the water mill," in Land and Work in Mediaeval Europe. London, 1967. For examples in the modern industrial era, see the source cited in section 2, the Labour Process, below.

3. On the Luddites and their rehabilitation from stupid machine breakers to intelligent workers opposing a particular type of technological change because they were expected to bear all the costs of transition, see E.P. Thompson, The Making of the English Working Class, London, Penguin, 1968.


5. Australian Conciliation and Arbitration Commission, Decision: Termination, Change and Redundancy Case, Melbourne, 2 August 1984, Print F6230; Supplementary Decision, Sydney, 14 December 1984, Print F7262.

6. See Decision of High Court re Commercial Clerks Award, Canberra, 1984. This case stemmed from a Decision of the Industrial Relations Commission of Victoria, granting a variation of the Commercial Clerks Award (no 3 of 1982) to provide for consultation over technological change. This decision was appealed by the employers, and the appeal upheld by the Supreme Court of Victoria, Judgment re Commercial Clerks Award, 12 May 1983 (case M16405 of 1982). The Federated Clerks Union then appealed this decision to the High Court.


10. Report of the Committee of Inquiry into Technological Change in Australia, Technological Change in Australia, Canberra, AGPS, 1980. The committee was established by Prime Minister Malcolm Fraser on 1 December 1978, and consisted of Professor Rupert Myers (chairman), Mr. A. Coogan, and Mr. W. Mansfield (federal secretary of the Australian Telecommunications Employees Association).

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