

Notes for ...

A Union Course on New Technologies

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The rapid introduction of new technology into the workplace is posing a major challenge to today's union leaders and members by significantly altering work organization and undermining traditional union industrial strength. The crisis in the workplace has forced some unions to explore new initiatives which would see workers and their unions play a more active role in the design, organization, and implementation of new technology in the workplace. In line with this policy of workers' control of technology, the Canadian Labour Congress has adopted a policy of "user-driven design" and the International Association of Machinists and Aerospace Workers has adopted a "New Technology Bill of Rights". These "Notes" outline one approach to educating union members about the nature of the new technologies and about how they might begin to assert control over the design and implementation of new systems on the job.

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Résumé

L'introduction rapide de nouvelles technologies dans les milieux de travail pose un défi de taille aux chefs et membres de mouvements syndicalistes de par le fait qu'elles modifient de façon considérable les modes d'organisation du travail et qu'elles minent la force traditionnelle des syndicats. Cette situation critique a poussé certains syndicats à explorer de nouvelles voies qui permettraient aux travailleurs et aux syndicats aux quels ils appartiennent de participer davantage aux processus de conception, d'organisation et d'implantation des nouvelles technologies dans leurs milieux de travail. S'inspirant de cet objectif, le Congrès du travail du Canada a adopté une politique de "conception choisie par l'utilisateur" (user-driven design). Quant à elle, l'Association des machinistes et des travailleurs en aéronautique a adopté une charte des droits relatifs aux nouvelles technologies (New Technology Bill of Rights). Ces notes traitent d'une approche à l'éducation qu'on pourrait offrir aux membres des syndicats sur la nature des nouveaux moyens technologiques et sur les options qu'auront les travailleurs en vue d'exercer un contrôle sur la conception et l'implantation des nouveaux systèmes dans les modes de production.

What is technology?

Dictionary definition: "Applied science" or "practical arts in total". A better definition is "the means and processes through which we as a society produce the substance of our existence".

Specifically, technology consists of five items:

- tools (hammer, shovel, typewriters)
- energy forms (steam, electricity)
- materials (plastics, metals, fibre optics)
- techniques (weaving, annealing metals)
- organization of work (assembly line, craft production, batch processing)

What's potentially good about the new information technologies?

- elimination of dangerous jobs
- elimination of tedious, repetitious work
- increased production
- increased leisure time
- new products
- new jobs
- limitless access to information
- assistance for the disabled
- energy efficiency
- conservation of energy
- conservation of materials
- cost reduction
- work at home

Potential threats of the new technologies?

- unemployment
- increased shift and part-time work
- deskilling
- loss in job satisfaction
- invasion of privacy
- health and safety threats from VDTs
- work at home
- people relating only to machines
- alienation
- elimination of jurisdiction (transfer of craft jobs to clerical)

The nature of the collective bargaining process ...

- labour bargains with management (collective agreement or contract) every 1 to 3 years.
- management has the right to choose tools, materials, energy forms, techniques, organization of work, with some minor restrictions re: wage scales and hours, seniority (must offer positions or work to most senior person) ... in return labour will be compensated for work.
- historically ... a small but significant tradition (craft-tradition) within labour bargained over tools (choice of, or who should provide them), and organization of work.

The basic model of collective bargaining remains the same today ... with some notable exceptions, labour has left to management the choice of tools, materials, energy forms, techniques, and organization of work; and has essentially bargained the price of compensation for hours worked, skills acquired, and years of service.

Crisis for labour today ...

- decline in labour's industrial power and ability to win concessions even within this very limited range of goals of traditional "wage package" bargaining.
 - weight of unemployment
 - deskilling (easy replacement of labour)
 - self-service, contracting out
 - automation, leading to large-scale replacement of labour in industry and manufacturing
 - falling aggregate demand in resource industries
- massive reorganization of workplace, which threatens to continue to weaken labour ... growing gap between the positive potential of the technology (and expectation of workers ... progress, more interesting and fulfilling jobs) and reality of unemployment and degradation of majority of workers in workplace.

User-driven design

- Growing conclusion that labour must take an active role in choices involved in technology ...
- Back to definition of technology ... a human process, full of human choices and decision making.
- If management chooses the tools, materials, energy forms, techniques, and organization of work, will do so on its criteria: control, predictability, maximized productivity of the firm, which

can sometimes run counter to social productivity (e.g. groundwater contamination).

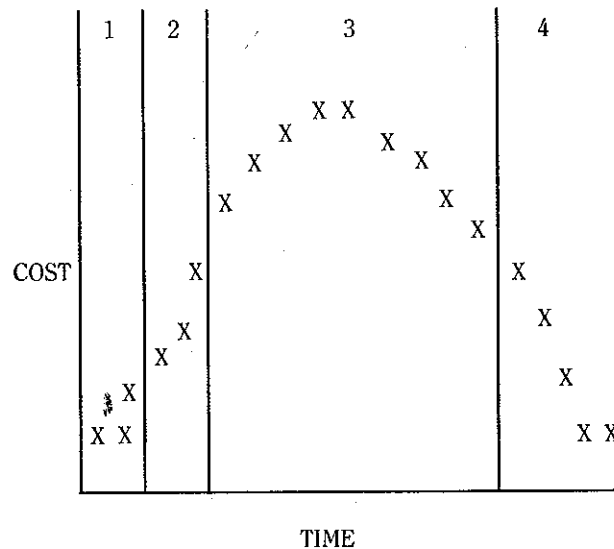
- Labour and society cannot depend on some inevitable positive potential of the new technology which will flower at some point in the future ... the seeds of that flowering must be planted now, and must be dealt with at the machine-design level.
- Flowing from this is a union approach to new technology ... unions in Canada, U.S., Britain, are developing new

approaches (labour movement as a whole, individual unions ... uneven);

- user-driven design ... workers' control, workers' participation in machine design and work organization.
- consumer/producer co-operation ... democratization of production, building coalitions between producers and their organizations (unions in a particular industry and consumers of the goods and services and their advocacy groups)

How Consultants Work and How Companies Introduce Technological Change

It is valuable to review the "systems method" used by consultants and analysts to introduce new systems in order to understand at what stage various decisions are made, so that we can anticipate changes. The traditional model consists of four stages:



1. Initial Investigation or Feasibility Study: This consists primarily of senior management working with outside consultants, or assigning in-house staff to do a work study, assessing problems, and making recommendations for scope of further action. The union and the workers are generally not consulted or informed that a study is taking place at this stage.

2. Conceptual Systems Design: A detailed study of the current way that information is processed and goods or services are produced is undertaken. This is usually done by questionnaires, interviews, gathering of documentation and observation. Then a new system of work flow and methods is proposed with recommendations on hardware and software, a time line, and solutions to problems identified in stages 1 and 2. At this point the union is still usually not informed, but individual workers are often the subject of interviews, questionnaires and studies, and workers can and should alert the union about what's going on.

3. Detailed Design: With the adoption of the recommendations in stage 3, the hardware is now purchased and the programs are written ... at this point, often the union sees very little action on the new systems and can be lulled into believing that it was a false alarm. At this point, though, bargaining power is greatly reduced; after all, the company may be spending thousands or even millions of dollars on the new equipment, and once the contracts are signed with the suppliers and vendors (usually at this stage) it gives the union very little room to negotiate.

4. Implementation: At this stage, usually management will seek some worker and even sometimes union cooperation ... on training, and on the introduction of the new system into the workplace. At this point, as most of the real decisions have been made, the negotiation on impact, alternate design, etc. is quite limited.

Often you are discussing only superficial effects such as input screens, or colours for a new office, while massive changes have taken place in your work, and your work environment.

Critique of Systems Method

This method of introduction of new technology and work organization is generally viewed unfavourably by organized labour, as it relegates union and worker involvement to token participation at the final stage, after the system has been completely designed and constructed.

In defending this traditional method, analysts argue that workers are often interviewed in Stages 1 and 2 and are therefore able to have input into design at these stages. But these inter-

views are rigidly structured one-way information gathering sessions with the analyst finding out from the worker as much as possible about the current work method. An interrogation, no matter how pleasantly done, is no substitute for real participation.

From a bargaining point of view, if you wait until implementation you have very little bargaining power ... also from a design point of view, costs of significant changes grow exponentially with time.

Items to be included in a strong technological change agreement

This is not written in the language of a collective agreement, as a technological change agreement will be a section of a wider collective agreement and has to be written as an integral part of the overall agreement, but here are some points that should be considered.

Notice - Want to involve the union at the design and planning stage. Therefore assure longest notice possible, stipulating that union is to be notified when tech change is being considered, and before any contracts are signed with consultants or vendors.

Definition - Include working methods, procedures, quantity of work, machinery, etc, and include a clause about changes affecting one or more worker; **beware** of a management attempt to use words like a **significant number of employees** as they will eliminate employees a few at a time.

Access to relevant information - All information which is relevant to decision making, planning or implementation of technological change will be made available to the union prior to ordering new equipment or implementing changes. To include: the nature of the change, the date of which the employer proposes to effect the change, the approximate number, type and location of employees likely to be affected, the effects the change may be expected to have on the employees' working conditions and terms of employment, and all other pertinent data relating to the anticipated changes.

Ongoing access to information - Management agrees to provide sufficient information to the union to: monitor developments, changes in work flow, changes in working methods and effects on jobs, control any proposed introduction or extension of computer-based systems, analyze health and safety effects and general working environment. This information to include the management's long term plans on the introduction of new technology. This information will be provided (annually, semi-annually or quarterly) on a regular basis and as requested by the union where specific proposals are under consideration.

Guaranteed employment - There shall be no layoffs, or redundancies as a result of introducing new technology. The employer guarantees continuous employment to all employees covered by this agreement.

Guaranteed classification - This is different than guaranteed employment ... an employee shall retain his/her classification and corresponding wage scale, regardless of any reassignment to other duties or any reclassification of duties performed by the employee at a lower level.

Income protection - The employer guarantees full pay and benefits for normal working hours as defined by the collective agreement for the full period of continuous employment.

Penalty clause - The typographical workers have penalty clauses, so that if management reduces the workforce, the money saved by not paying the salary is placed into a fund which is controlled by the union.

Staffing levels - There will be no changes in staffing levels without the consent of the union.

Shift work - Shall not be introduced until agreement is reached to personnel where shiftworking is not currently accepted within the occupation.

Retraining - Any employee either reassigned or reclassified as a result of changes shall be provided with whatever amount of retraining he/she requires during working hours with full pay from the employer and at no additional cost to the employee. Any employees unable to follow retraining course shall maintain their classification, or its equivalent in the bargaining unit. Such training programs will be reviewed regularly to ensure their relevance to any developments which may occur in the use of a particular piece of equipment/system.

Work environment - Particularly important now for office workers, employer to maintain practical safe conditions to avoid injury to employees or damage to their attire. Also, ergonomics clause, to allow union to make recommendations for change in work environment.

Relocation - Relocation of an employee shall require the written consent of the employee. Any expenses incurred by an employee as a result of relocation shall be reimbursed to him/her in full by the employer.

Contracting out - No work (including clerical work) will be contracted out without the prior agreement with the union, for the duration of the contract. **BEWARE** of software packages which can in fact be a sneaky form of contracting out if your bargaining unit includes programmers..

Trial period - Any changes proposed should first be implemented on a trial basis in a small area, for a set period of time, at the end of which the equipment or system would cease to be used until final agreement is reached.

Productivity measures and automatic control - All management attempts to introduce programmed productivity measurement, workplace controls and disciplinary systems etc. are unacceptable. Simplistic productivity measures such as key depressions, lines and pages typed per hours, are to be rejected. Watch out for attempts to introduce piece work into the office or its reintroduction elsewhere.

Shorter work time - In light of the increased productivity anticipated from the use of new systems, the company agrees to negotiate on the reduction of the work time without loss of pay; improvements in holiday entitlement; a lowering of retirement age on full pension; and accumulated time off.

Technological change committee - Develop a system within the union on the issue of technological change similar to what is currently done around health and safety: Special reps at union office particularly versed with this issue. Stewards on the job site whose specialty is tech change, with all the powers to investigate, time-off, etc. that health and safety or other stewards receive. Important to provide special education to such stewards and reps.

Paid educational leave - Concept of a sabbatical for workers, paid for lost wages as well as tuition paid by employers.

Health and safety - Include health and safety standards; better than occupational standards until better legislation is passed.

Right to privacy - Prevent companies from using medical records, or other material to discriminate against workers.

Right to audit company computer systems - Union-appointed auditor to assure that company is not maintaining private information on individuals.

Ongoing Consultation - management/union committee formed to work on ongoing basis on issue of technological change (rather like health and safety committees)

Other issues such as attrition, severance pay, and other cushioning measures ... These are not substitutions for a job, but their spirit is to make permanent layoffs as expensive as possible to discourage employers from creating redundancies. For the most part, technological change clauses are non cost items for the company as long as they don't introduce tech change ... with adverse affects. They are easiest acquired before a tech change is contemplated, and companies will frequently fight very hard to have them removed once they are gained. Even if you don't feel you can get a clause into the collective agreement, in many cases raising the issue at the bargaining table has helped to alert unions to changes contemplated by management, long before management was prepared to inform the union.

The challenge

- World changing rapidly under our feet, not a matter of simply choosing to struggle or not, middle of new industrial revolution.
- Labour must use its power or lose it, change will transform labour
- **Unique chance in history for an alternative vision of society**
 - learning to think critically about technology, not autonomous, not automatic progress, technology a participatory sport, not a mass viewing sport.
- Social decision-making around technology
 - empowerment of people ... at work and in society in general
 - how to work with experts, what is social choice and what is technical.
- Atari chief scientist, "The best way to predict the future is to create it".

Technological Impact: The Hidden Bias in Machine Design

Computers and micro-electronics hold out the potential for us to create a liberating new society with more leisure time, more meaningful work, and the relegation of boring, repetitious, dangerous jobs to machines. The new technology is for the most part smaller, cheaper, faster, more reliable, more energy-efficient, more flexible and uses less resources than the manual or electro-mechanical technology that it is replacing. But it is in no sense assured that the positive potential of this new technology will be realized. There is a second path of development, a path which leads to a more oppressive, more divided society with ever-increasing unemployment and continuous electronic monitoring, where a tiny minority understands and controls the technology, and makes decisions for the rest who have very little choice but to accept things the way they are.

Most people who lecture on technology and the future describe us as being at a cross-roads, at a time when decisions can be made. I think we passed that juncture a number of years ago and are running all out.

In my work as a consultant and educator on technological change with the labour movement, I see machines replacing people, machines monitoring people, machines regulating the pace, quality, and rhythm of work. I see workers who used to take some pride in their work, who used to have some control over their work, become mindless, helpless appendages of machines, relegated to jobs which

consist of feeding or minding a machine for 7½ or 8 hours a day. Their old skills are obsolete, their work experience irrelevant.

The whole direction of the introduction of computers, numerically controlled tools, and robots has not been to aid workers, but rather to monitor them, to replace workers altogether, or to further reduce workers' control over their work. The world is turned on its head. Technology, which is the social creation of humankind, should be its servant. In today's world, however, technology is increasingly becoming master. People, the creative resource, find their creativity and imagination suppressed. Work becomes drudgery. People - a costly, unpredictable variable - are seen as the wild cards in production which must be controlled or eliminated in order to make way for more predictable planning.

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