

The Attitude of Trade Unions Towards Technological Changes

Le comportement des syndicats à l'égard des changements technologiques

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Résumé de l'article

Le comportement des syndicats à l'égard des changements technologiques est une question difficile en cette période de transformations radicales des infrastructures technologiques des processus de fabrication. À l'usine, au bureau, dans les transports et les communications, dans les institutions financières, dans le commerce, au foyer, dans les endroits de loisirs, partout, de nouveaux modes de travail s'installent qui ont des effets prononcés sur l'activité humaine. Quelle a été la réaction des syndicats face à ces modifications?

D'une façon générale, ceux-ci ont réagi passivement. Tous ont adopté la position de ne pas s'opposer aux changements technologiques aussi longtemps qu'on a pu en arriver à des aménagements convenables pour les travailleurs qui étaient défavorablement touchés, mais on ne trouve aucune indication dans les conventions collectives de clauses qui décrivent les mesures à prendre. Dans la plupart des cas, les clauses sont vagues et se rapportent à des cas particuliers. Conclusion: malgré les affirmations catégoriques des dirigeants syndicaux, cette question n'a pas été considérée comme prioritaire dans les dossiers de négociation de la plupart des syndicats. Les faits indiquent que ces derniers n'ont pas pris de mesures pour assurer à leurs membres le maximum de sécurité d'emploi qu'ils assument habituellement.

En général, le comportement des syndicats à l'égard des changements technologiques reflète la situation de l'emploi dans les industries qui relèvent de leur compétence. Ces attitudes seront positives dans les industries où il y a augmentation de l'emploi, même si des changements technologiques importants s'y sont produits; elles seront négatives dans les industries où il y a déclin dans l'emploi, même si les changements technologiques sont sporadiques et minimes; enfin, une attitude d'indifférence prévaut parmi les syndicats dont les membres n'ont pas été touchés par des changements technologiques ou autres.

Une attitude d'indifférence prédomine aussi dans la plupart des entreprises du secteur des services. Les changements technologiques et leurs conséquences ne semblent pas les déranger. En effet, leurs réponses au questionnaire indiquent qu'ils n'y ont pas porté beaucoup d'intérêt. Si l'on considère que, au cours de la prochaine décennie, il est probable que l'électronique envahira les bureaux et les autres formes de service au public, le personnel de ces entreprises devrait se montrer intéressé.

L'absence de négociations sérieuses sur la technologie et ses effets sur les salariés, sur le travail et sur les conditions de travail peut s'expliquer en partie par la résistance tenace des employeurs à s'engager dans un débat sur cette question, mais encore plus au fait que l'attitude des syndicats en a été une de réaction plutôt que d'anticipation. Jusqu'ici, les changements technologiques se sont faits d'une façon relativement lente et les effets de ces transformations n'ont pas été d'une nature et d'une ampleur suffisantes pour toucher les syndicats, d'où une réaction surtout passive et peu significative. Mais la négociation sur les changements technologiques en réaction à ceux-ci n'est pas la forme de négociation la plus souhaitable. Il s'agit alors d'une négociation sous pression à l'occasion de développements défavorables. L'exemple de ce qui s'est passé dans les chemins de fer, aux postes et dans beaucoup de journaux le prouve.

Un bon nombre des syndicats qui ont répondu au questionnaire s'attendent à ce que les changements technologiques aient des effets négatifs sur le niveau d'emploi dans leur secteur d'activité et ils soulignent leur détermination à vouloir protéger les occupations professionnelles de leurs membres. Dans le contexte d'une accélération inattendue dans les changements technologiques, ceux-ci auront d'importantes répercussions sur les relations professionnelles et sur les politiques des gouvernements en la matière.

The Attitude of Trade Unions Towards Technological Changes

Stephen G. Peitchinis

The author presents the results of a survey on the attitude of trade unions towards technological change.

There prevails a view in society at large that unions generally are an obstacle to technological change: it is alleged that unions either oppose the introduction of new equipment or place so many costly conditions to its introduction as to destroy its potential advantage over existing processes. Fear of technological unemployment and loss of union membership are held to be the reasons for the alleged opposition.

In reality, the evidence suggests that unions generally are not opposed to technological change. They are aware of the close relationship between technological change and productivity, and since rising productivity enables them to deliver to their members increases in wages and improvements in benefits, they cooperate with management in the implementation of technological changes. There are exceptions, of course, but exceptions should be treated as exceptions, not as the basis for general conclusions.

The historical antagonism of workers towards new technology was founded on the reality of frequent displacements of workers by new equipment and changes in processes, and the absence of any legislative provisions or contractual arrangements designed to protect or accommodate displaced workers. Technological changes were deemed to be a managerial prerogative and the prerogative was interpreted to constitute a right to implement technological changes without regard to their effects on workers. If the implementations displaced some workers, that was an inevitable cost of economic progress.

The growth of trade unionism and the development of strong union organizations has tended to reduce worker antagonism towards

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technological change, and fear of technological unemployment. This is related in part to the protection that is associated with membership in a collective organization, and in part to the educative activities of union organizations.

There is evidence also of increasing realization on the part of management that the effective utilization of new technology depends on the knowledge and attitudes of the workers attached to or associated with its operation. Where knowledge is inadequate and attitudes are negative, utilization is ineffective and the attainment of potential efficiency is long delayed. Hence, the attitudes of workers and of their organizations towards technological changes are critical to the introduction and efficient utilization of new technology. Failure to determine their attitude, or having determined their attitude to disregard it, can involve considerable costs.

But, in quest of a positive attitude on the part of workers, management appears to have alienated the workers' organizations. Responses from unions are generally negative towards management, even where they are positive towards the technological changes. The problem appears to be rooted in management's traditional perception of the union as an interloper in its relations with the workers.

Instances are reported of union officers not being consulted or informed in advance of implementation of changes with implications for workers, employment and conditions of work; and in response to rumours of mass layoffs and resultant agitation, management has communicated with the workers directly, informing them on the general nature of on-going changes, the possible employment implications, and on the manpower adjustments that may be required. But, requests by union officers for specific information and consultation emitted responses which manifest typically the interloper thesis, namely, that workers had nothing to fear.

Notwithstanding this attitude of neglect and indifference on the part of management towards the union organizations and their officers, the pronouncements of unions on the subject of technological change have been generally *conditionally positive*. Although the conditions put forth by some of them border on the obstructionist, for the most part they appear reasonable.

In 1976 the Federation of Telephone Workers of B.C. advised its negotiators not to oppose technological changes, but to negotiate appropriate accommodative arrangements for adversely affected workers. Their instructions were to ensure that the most senior employees got the first opportunity to train on the new equipment, process or work method;

that displaced employees, whatever the reason, not suffer any income loss if transferred to lower job classifications; that junior employees be downgraded first; that early retirement be an option; and that marks of any tests involved in qualification for re-training opportunities be checked by an independent party¹.

In 1977 the Quebec Federation of Labour called on the government to introduce legislation which would require employers to give up to two years notice of planned technological changes which would result in layoffs or plant closures². Similarly, at a 1977 UAW Skilled Trades Conference on New Technology references to technological changes were generally positive. Concerns were expressed about adverse effects on employment and skills; about the introduction of new technology during periods of excess unemployment; and about the alleged tendency of "a substantial number of managements to use new technology to displace workers"; but, the delegates resolved to "continue to support the need for technological progress", conditional upon the undertaking by industry to give advance notice of pending changes, and to limit the rate of reduction in employment to the rate of normal attrition. In addition, the resolution urged governments, business and industrial leaders of the United States and Canada to "take rapid, affirmative and effective steps to establish full employment", underlining the condition that the "continuing acceptance of new technology by workers and their unions must be cemented on a base of consistent full employment³."

In 1978 the Ontario Federation of Labour passed a resolution calling for the establishment of retraining programmes to facilitate effective adjustment to technological change:

"Training boards should be set up ... so that a comprehensive training program can be developed to meet the country's needs for skilled labour. Service areas should be brought into this program and retraining should be guaranteed to offset the effects of technological changes⁴."

In the context of these responsible pronouncements, an examination of collective agreements would suggest a remarkable degree of restraint on the part of most unions: even in manufacturing, which is largely organized, only one-third of the collective agreements of major enterprises (with 500 employees or more) contain provisions for retraining and wage or employment guarantees.

1 Letter to all plant negotiators from the Business Agent of the Federation of Telephone Workers of B.C., dated August 3, 1976.

2 Reported in *The Financial Post*, December 3, 1977.

3 UAW, *New Technology*, Vol. 12, No. 2, Spring 1978, pp. 6-7.

4 Reported in *The Financial Post*, November 25, 1978.

THE LESSONS OF HISTORY

Unions face difficult policy choices in relation to technological changes: the historical record indicates that most industries which failed to keep-up with modern technology declined and ultimately failed; whereas industries which kept-up with modern technology survived and many of them expanded. In the former, workers lost their jobs; whereas in the latter, some lost their jobs, some lost their skills, some lost both their jobs and their skills, but many were retrained and most retained their employment. Furthermore, as the industries expanded, and new industries emerged from the new technology, new skills were created and employment expanded.

Notwithstanding the creation of new skills and employment, technological changes disrupt established processes of production, displace workers from jobs to which they are accustomed, and create sufficient uncertainty about the nature of skills and employment to follow the initial stages of implementation, to give rise to a sense of fear. Oftentimes, the sense of fear reaches exaggerated levels, because of lack of information or because of misinformation.

History is replete with examples of resistance to technical change motivated by fear of its economic consequences. It is reported, for example, that the city council of Danzig, fearing unemployment from a ribbon loom invented in the 17th century, had its inventor secretly strangled;⁵ Arkwright's cotton spinning machine was opposed by both spinners and landlords, the first from fear of unemployment and the second from concern that they may have to pay higher taxes for poor relief for spinners thrown out of work⁶.

The historical record indicates that the most difficult accommodations have been those which involved long-established skills, and one skill organizations: whenever new technology threatened the continuing existence of a skill, the union organization faced the dual problem of employment security for its members and its own existence. The negotiation of alternative employments for its members, in the jurisdictions of other unions, or arrangements for severance pay and early retirements, constitute in effect the negotiation of the union's own demise. Few unions elected to do so voluntarily.

Unions facing such a dilemma have commonly insisted that their members be trained to operate the new equipment or be employed in some

⁵ Dudley DILLARD, *Economic Development of the North Atlantic Community*. Prentice-Hall Inc., 1967, p. 246.

⁶ *Loc. cit.*

activity peripheral to the operation of the equipment. For example, the Brotherhood of Locomotive Firemen and Enginemen insisted that firemen should continue to be employed on diesel locomotives as assistants to engine drivers, and the International Typographical Union has insisted that its members continue to be employed in capacities related to the operation of the computerized equipment⁷.

The attitudes manifested in these demands have a historical precedent. During the industrial revolution craft unions took the stand that the machines that were being introduced into craft shops were to be operated by craftsmen, even if their craft skills were not required for the operation. The conflict between The Times of London and the National Graphical Association (NGA) ultimately came to the same issue: who should operate the new computerized equipment. The NGA agreed to accept the equipment if the company were to agree that only NGA members will operate it⁸. Similarly, a regional vice-president of the International Typographical Union explained to us that electronic technology has had the effect of moving the typesetting process from the backroom to the front office. If members of his union were to be trained and moved from the backroom to the front office, conflicts will be reduced significantly.

But, it is instructive to note that in all these cases the problem was not limited to the employment security of workers whose jobs were affected. Indeed, satisfactory employment and other arrangements would probably have been made with only limited conflict. But, arrangements which would have phased out the skills, would have also phased out their organizations. This was expressed very succinctly by a spokesman of the Brotherhood of Locomotive Firemen and Enginemen in testimony before a Conciliation Board:

“We charge the CPR with wilfully exacerbating relationships by injecting and demanding priority for their demand to remove firemen from diesel locomotives. ... The very livelihood of our members, the continuation of our craft, and the continued existence of our organization are at stake. ... This means that firemen are to give up their jobs, see their craft die and their organization disappear. These are not negotiable demands⁹.”

⁷ The assignment of alternative work functions for members of a given union is not as simple an act as it may appear. The alternative work functions may fall within the jurisdiction of other unions, which would give rise to jurisdictional disputes. This problem arose at the Victoria Press in British Columbia in 1977, and in an Arbitration Award dated September 7, 1977, Paul C. WEILER declared: “Technological changes do not ... respect the boundary lines developed between the unions. New equipment may require a reshuffling of work assignments which cuts across and blurs traditional jurisdictional lines.” Such reshuffling will become increasingly necessary as an accommodation to technological change. Procedures acceptable to both unions and management must be developed to facilitate the process.

⁸ *The Economist*, June 9, 1979, p. 25.

⁹ *The Labour Gazette*, February 1957, pp. 178-179.

Such attitudes should be anticipated from unions whose existence becomes threatened by technological changes. It should not be expected that such unions will readily negotiate their own demise. A different approach would have to be taken in the negotiation of conditions for the implementation of technological changes in such instances, than the approach taken when the existence of the organization is not being threatened.

RESEARCH FINDINGS IN THE U.S.

A United States study¹⁰ classified the attitudes of labour unions towards technological change into five categories:¹¹

1. *encouragement* — when the union urges the employer to adopt new methods to increase productivity in order to stay competitive.
2. *willing acceptance* — when the union does not oppose the introduction of technological innovation.
3. *adjustment* — when the union accepts the changes and focuses on collective bargaining to cushion its members from any negative effects of the change.
4. *competition* — when the members increase productivity through more efficient use of old methods; for example, seeking to retain the traditional methods of operation by accepting wage cuts and/or agreeing to the elimination of certain work rules.
5. *opposition* — when the union conducts one or several work stoppages over the changes or flatly refuses to allow its members to use the new technology.

The study found that 48.9% of unions indicated *willing acceptance* of technological changes, 24.5% demonstrated *opposition*, 23.9% indicated adjustment, 2.7% demonstrated *encouragement*, and 0% indicated *competition*¹². In relation to those who indicated opposition, the study emphasizes that such was the initial reaction to the new technology, and that it was usually followed by either willing acceptance or adjustment¹³.

¹⁰ Doris B. MCLAUGHLIN, *The Impact of Labor Unions on the Rate and Direction of Technological Innovations*, Institute of Labor and Industrial Relations, The University of Michigan-Wayne State University, Ann Arbor, Michigan, February 1979.

¹¹ Originally identified by Summer H. SLICHTER, James J. HEALY and E. Robert LIVERNASH in *Impact of Collective Bargaining on Management*, The Brookings Institution, Washington, D.C. 1960.

¹² Doris B. MCLAUGHLIN, *Ibid.*, Table 1, p. 29.

¹³ *Ibid.*, p. 99.

ATTITUDES OF CANADIAN UNIONS

The majority of unions that responded to our enquiries^{13a} communicated an attitude which can best be characterized as *conditionally positive*: they recognize the desirability of technological change, and accept the inevitability of its implementation, but make their consent conditional upon the negotiation of satisfactory accommodations for workers who will be adversely affected. The following expresses a typical attitude: "In principle we are not opposed to technological change given certain conditions. The employees must be protected from its impact as much as possible. There should be on-going consultations between the employer and the union before any change is introduced; and finally, the employees directly affected should share in the increased productivity resulting from any technological change."

Based on the statements of responding unions, we have classified union policies towards technological changes into five categories as shown in Table 1.

Thus, the critical issues appear to be (a) advance notice to the union of planned technological changes, (b) consultation with union representatives and joint assessment of potential effects on employment, skills and working conditions, and (c) contractual undertakings by management to introduce appropriate measures for the accommodation of workers who will be adversely affected.

Very few unions have indicated satisfactory progress towards the attainment of those goals. Apparently, it is common practice for management to proceed with technological changes without any formal notice to the union and without any attempt at consultation. "It is our experience" writes one respondent "that management prefers to avoid informing its employees of proposed technological changes which might affect their employment until it is absolutely necessary or until it is an accomplished fact."

^{13a} Based on responses to a questionnaire, letters and interviews with union officers. A questionnaire was sent to presidents and directors of research of 325 unions across Canada, including public service organizations. 64 completed questionnaires and 30 letters were received in response. Amongst the questions asked were the kinds of arrangements that exist between unions and companies regarding introduction of technological changes--notice, consultations, joint committees, etc.; arrangements related to adversely affected workers; anticipated technological changes and anticipated effects on employment; and on union policies towards technological changes. Readers wishing additional information will find it in the report on the subject, which can be obtained, free of charge, from the sponsor of the research, the Technology Branch, Department of Industry, Trade and Commerce, Ottawa.

TABLE 1
Union Policies Towards Technological Change

	<i>Number of Responses</i>	<i>Percent</i>
1. Conditional Acceptance	23	42.6
2. Resignation	10	18.5
3. Advocacy	9	16.7
4. Opposition	8	14.8
5. Uncertain Position	4	7.4
TOTAL	54	100.0

Conditional Acceptance is defined by the general statement "as long as consultation precedes the introduction of change, and management undertakes to make every effort to minimize the adverse effects on workers." Commonly, such is the policy of unions which face static or declining employment. The policy-goal is to secure the employment of union members, or failing that, to secure adequate severance pay.

Resignation was communicated by unions which had their battles and concluded that technological change cannot be held back. Having accepted the inevitability of it, they shifted their policy from opposition to negotiation of terms and conditions of employment which continue to reflect their concern about the economic welfare of their members.

Advocacy is a common response from unions of workers who are benefiting from technological changes. For the most part such unions are found in high technology industries.

Opposition was communicated by unions which are in the midst of conflict over the adverse effects of technological changes. Their comments indicate that they are today where unions that expressed resignation were fifteen years ago.

Even where some progress has been achieved in securing employment guarantees, conflicts are reported on the implementation of the undertaking. A *general* guarantee of employment leaves with management the discretion to determine the nature of employment, place of employment and conditions of work to which displaced workers are assigned. Union responses indicate varying experiences with the exercise of such discretionary powers. Some expressed general satisfaction with the accommodative arrangements which involved retraining, relocation and re-employment under similar and in some instances, improved conditions. But, a substantial number indicated dissatisfaction. Instances were cited of management agreeing to limit reductions in employment to the rate of attrition, and then assigning displaced workers to inferior jobs in undesirable working conditions to cause them to quit and thereby raise the attrition rate.

Another source of conflict is the identification and separation of the employment effects of technological changes from the employment effects

of other developments: in some cases employment effects which unions attributed to technological changes, and therefore, covered by contractual provisions, management attributed to changes in demand. This has given rise to the suggestion that any and all adverse effects on employment should be subject to discussion, regardless of cause.

UNION CONDITIONS FOR COOPERATION

Although technological changes continue to be regarded a managerial prerogative, the labour-management environment appears conducive to the introduction of contractual provisions which will cushion their adverse effects on workers. Amongst the provisions sought by unions the major ones are:

- (a) Advance notice of technological changes;
- (b) Discussions between representatives of labour and management regarding time, procedures and accommodation of adversely affected workers;
- (c) Guarantees that regular employees not lose their employment as a result of technological changes, even though they may lose their job-related skills;
- (d) Commitment by employers that necessary reductions in employment will be achieved through attrition, at some agreed upon annual rate;
- (e) Separation allowances for workers who elect to retire.

But, an examination of collective agreements reveals a significant gap between what unions have sought and what they have obtained. Generally, they have not been very successful in their efforts to negotiate protective arrangements for their members. Management continues to regard technological change a managerial prerogative, to be exercised largely at will, and regards the adverse consequences of change as the cost of technological progress. The responses indicate that approximately 53% of the respondents had negotiated advance notice to the union of pending changes, the period of advance varying between 90 days (35% of respondents) and 60 days (8.2% of respondents); 8.2% had negotiated "as much as possible" advance notice; 2% negotiated 4 months; and one indicated one year's notice. Although the majority of respondents indicated that their primary goal was to ensure the employment of their members, only 36% appear to have succeeded in the negotiation of retraining, and only three indicated that they had negotiated guaranteed employment; 27% had negotiated severance pay; and 23% had provisions for early retirement.

Two explanations can be offered for the limited provisions in collective agreements: one is, the continuing resistance of management to discussions on the issue. Technological change is generally regarded a management prerogative, to be exercised at will as part of management's right to manage. Necessary manpower and work adjustments and accommodations are introduced at management's initiative, on an ad hoc basis, with or without negotiation with worker representatives. Apparently, many accommodations have been effected on this basis, and the procedures remain ad hoc, i.e. have not been incorporated in collective agreements. The second explanation is the *reactive* approach to bargaining by unions: where technological changes have been significant, where adverse effects caused agitation amongst workers, and where accommodative arrangements proposed by management were found inadequate, unions reacted forcefully and insisted on the negotiation of appropriate contractual provisions. But, where changes have had limited effects on workers, and generally satisfactory accommodations were implemented by management, the issues did not become subject to negotiation. And where no technological changes of consequence were implemented, the issue did not seem to arise. Had the approach to bargaining been anticipatory, instead of reactive, the evidence undoubtedly would have been different.

Satisfactory accommodations on an ad hoc basis are possible only as long as the technological changes are minor, and effects on workers are minimal. When the rate of technological change accelerates, affecting adversely increasing numbers of workers, the ad hoc, management initiated, approach to accommodation will not be viable. This suggests the need for changes in approaches to the formulation and implementation of accommodative arrangements. If the bargaining process does not evolve satisfactory standing procedures, the legislative process will have to set general guidelines.

The absence of contractual provisions does not mean, of course, that some such arrangements do not in fact exist. It means only that they are not specifically provided in collective agreements. This is in accord with the prevailing attitude of management that technological changes are a managerial prerogative, and accommodative arrangements related to such changes should remain ad hoc and discretionary with management. Sporadic information suggests the existence of widespread ad hoc arrangements, largely negotiated outside the provisions of the collective agreements in force. The question remains whether the matter can be left to ad hoc arrangements. The anticipated acceleration in the rate of technological change seems to dictate a formalization in adjustment processes.

ANTICIPATED EMPLOYMENT EFFECTS OF FUTURE TECHNOLOGICAL CHANGES

We asked unions to comment on the anticipated effects of future technological changes on employment in the establishments over which their organizations have jurisdiction.

The question was designed to determine whether unions were aware of on-going and anticipated technological changes, and whether any efforts were made to assess the potential employment effects of pending changes. We reasoned that unions could not negotiate effectively adjustments to technological changes, if they did not know the nature of pending changes and their potential effects.

The most significant, and most disturbing, information contained in union responses is the very limited communication from management regarding technological changes. The impression is conveyed that workers and their organizations are generally kept in the dark about pending changes in technology, and as a result, there prevails an atmosphere of uncertainty and concern, which is sustained by a continuous flow of rumours.

Equally disturbing is the evidence of lack of concern on the part of most public service unions. Excepting the organization of inside postal workers, the responses from public service employee organizations indicate that the subject of technological change and its actual or potential effects on employment has not been considered, and has not been an issue of concern. This lack of concern should concern the members of public service organizations. It is generally expected that changes in office technology over the next decade will have significant negative effects on employment of office personnel.

It is in the nature of labour-management relations in most establishments to deal with current and critical issues, and leave potential problems for the future, when they become critical. Thus, although a significant number of responding unions indicated that they expect technological changes to reduce employment in their industries over the near future, they gave no indication of interest to make the issue one of priority in the negotiating agenda. This tendency to await until developments reach a critical phase before they are brought to the bargaining table contributes to the crisis environment in which negotiations are carried out. A crisis environment dictates speedy solutions; and speedy solutions are oftentimes not necessarily long-lasting solutions.

The responses of the majority of unions demonstrate clearly that they are *reactive* in their approaches to negotiations, which means that they will

wait for the change to take place, assess its effects, determine what measures management takes or proposes to take in relation to effected employees, and only then attempt to negotiate appropriate "conditions". Yet, experience on the railways, the post office and at a number of newspapers suggests that reactive approaches are not the most satisfactory approaches. Once the equipment is in place and it is operational there is not much that can be done.

A significant proportion of responding unions anticipated negative effects of future technological changes on employment (Table 2): of the 63 unions that responded to the question, close to 38% (24) expected negative effects; and only 11% expected positive effects. The others either did not expect technological changes within their operations, or did not expect adverse effects, or indicated uncertainty about the potential effects.

TABLE 2
Anticipated Effects on Employment of
Future Technological Changes

(Survey Results, Summer 1979)

	<i>Number</i>	<i>% of Total</i>
Negative Effects Anticipated	24	38.1
Not Anticipating Technological Changes	15	23.8
Uncertain as to effects on Employment	11	17.5
Positive Effects on Employment Anticipated	7	11.1
Not Anticipating adverse effects	4	6.3
Neither Positive nor Negative effects	1	1.6
Negative effects on Some Occupations, but Positive effects on other anticipated	<u>1</u>	<u>1.6</u>
Total	63	100.0

The expressed anticipations of individual unions are, for the most part, based on their past experiences with technological changes, and not on any particular knowledge about the nature of pending technological changes, or on assessments of their potential effects.

The responses are a mixture of optimism and pessimism, depending on the nature of industry and the respondents' experience. Generally responses from industries on the fore-front of technological change, such as telecommunications, have been positive. The workers employed in such industries have relatively high levels of education and skill, and they are able to retrain and adjust to the requirements of new processes. Negative responses have

generally emanated from unions whose members have been adversely affected and the union organization itself has been negatively affected. The printers, the railway workers, the elevator constructors fall in this category. Their skills have been rendered redundant, and because of age or levels of education, retraining is deemed to be difficult.

This problem suggests a need for a national policy decision on early retirement for such workers. Given a policy on the matter, with provisions for generous economic and social benefits, as befitting citizens who have participated in the nation's economy for periods of 40 or more years, unions will be under reduced pressure to resist technological changes which indicate displacement of workers.

SUMMARY OF FINDINGS AND CONCLUSIONS

1. The available evidence suggests that labour unions have had little impact on the introduction of technological changes. Some delays in implementation have been suggested, and there are some indications of less than optimal utilization of new technology in situations where the cooperation of the unions has not been secured. But, generally it cannot be said that unions have held back the introduction of new technology in Canada, nor can it be said that workers have deliberately under-utilized new technology to minimize its potential adverse impact on employment.
2. The evidence suggests that unions have not provided the degree of employment security for their members that is commonly assumed. Although it is difficult to determine how many workers displaced from their jobs by technological changes would have been retained in employment in the absence of labour-management agreements on transferability, retraining and employment guarantees, the evidence indicates that where alternative employment opportunities did not exist within the firms involved in the change, workers lost their jobs. Hence contractual provisions notwithstanding, where technological changes resulted in reductions in employment, reductions in employment appear to have been effected.
3. Generally, the attitude of unions towards technological changes is a reflection of the employment records of the industries in their jurisdictions: *positive attitudes* exist in industries which have recorded expanding employment, even though significant technological changes take place in them; the attitudes are *negative* in industries which experience declining employment, even though technological changes in them may

- be sporadic and minimal; and an attitude of *indifference* prevails amongst unions whose members have not been affected by technological or any other changes.
4. The attitudes expressed by some unions are the outcome of perceived management attitudes towards the employees: where management attitudes are perceived to be understanding and reasonable, union attitudes are generally *consenting*; where management attitudes are perceived to be indifferent or non-committal, union attitudes are *conditional* and protective.
 5. An attitude of indifference was communicated by most public service organizations. They appear not to be concerned with technological changes and their effects, and, indeed, appear not to have given much thought to the issue. Considering that over the next decade electronic technology is likely to impact severely on office and other forms of service employment, the members of public service organizations should be concerned.
 6. Whether positive, negative, or indifferent, the statements of most respondents are of a general nature: they will not oppose technological changes, provided satisfactory adjustments are negotiated in relation to adversely affected workers; or they will oppose technological changes that affect workers adversely; or they are not concerned about technological changes since they do not expect any in their areas of activity. There is only limited evidence of serious bargaining on technology and its implications.
 7. The absence of serious bargaining on technology and its implications for workers, work and working conditions can be explained in part by the continuing resistance of management to discussions on the issue, but more so to the fact that generally union policies have been *reactive*, not *anticipatory*. To-date technological changes have been relatively slow, and the effects of most have not been of a nature and magnitude to cause unions concern. Hence the largely passive and platitudinous reaction.
 8. Reactive technology bargaining is not the most desirable form of bargaining: it is bargaining under pressure of on-going adverse developments. The example of the railways, the post office, and a number of newspapers attests to the problem. It would be prudent for unions and management to abandon the practice of *reactive* technology bargaining, and negotiate standing arrangements on such matters as employment guarantees, retraining, transfers, and other provisions.

9. Another source of conflict arises from attempts to redistribute work functions amongst workers. When technological changes take over or eliminate some work functions, and compel the redistribution of the remaining functions amongst different occupations, *jurisdictional disputes* arise. It is imperative that procedures be created to cope with the resultant conflicts. The acceleration of technological changes will undoubtedly necessitate considerable redistribution of work functions amongst occupations. This has been one of the most serious problems in disputes involving adjustments to major technological changes.
10. A significant proportion of responding unions expect future technological changes will have negative effects on employment in their industries, and indicate a determination to safeguard the employment of their current members. In the context of the anticipated acceleration in technological changes, this has important implications for labour-management relations and for public policy on the issue.

Le comportement des syndicats à l'égard des changements technologiques

Le comportement des syndicats à l'égard des changements technologiques est une question difficile en cette période de transformations radicales des infrastructures technologiques des processus de fabrication. À l'usine, au bureau, dans les transports et les communications, dans les institutions financières, dans le commerce, au foyer, dans les endroits de loisirs, partout, de nouveaux modes de travail s'installent qui ont des effets prononcés sur l'activité humaine. Quelle a été la réaction des syndicats face à ces modifications?

D'une façon générale, ceux-ci ont réagi passivement. Tous ont adopté la position de ne pas s'opposer aux changements technologiques aussi longtemps qu'on a pu en arriver à des aménagements convenables pour les travailleurs qui étaient défavorablement touchés, mais on ne trouve aucune indication dans les conventions collectives de clauses qui décrivent les mesures à prendre. Dans la plupart des cas, les clauses sont vagues et se rapportent à des cas particuliers. Conclusion: malgré les affirmations catégoriques des dirigeants syndicaux, cette question n'a pas été considérée comme prioritaire dans les dossiers de négociation de la plupart des syndicats. Les faits indiquent que ces derniers n'ont pas pris de mesures pour assurer à leurs membres le maximum de sécurité d'emploi qu'ils assument habituellement.

En général, le comportement des syndicats à l'égard des changements technologiques reflète la situation de l'emploi dans les industries qui relèvent de leur compétence. Ces attitudes seront positives dans les industries où il y a augmentation de l'emploi, même si des changements technologiques importants s'y sont produits; elles seront négatives dans les industries où il y a déclin dans l'emploi, même si les changements technologiques sont sporadiques et minimes; enfin, une attitude d'indifférence prévaut parmi les syndicats dont les membres n'ont pas été touchés par des changements technologiques ou autres.

Une attitude d'indifférence prédomine aussi dans la plupart des entreprises du secteur des services. Les changements technologiques et leurs conséquences ne semblent pas les déranger. En effet, leurs réponses au questionnaire indiquent qu'ils n'y ont pas porté beaucoup d'intérêt. Si l'on considère que, au cours de la prochaine décennie, il est probable que l'électronique envahira les bureaux et les autres formes de service au public, le personnel de ces entreprises devrait se montrer intéressé.

L'absence de négociations sérieuses sur la technologie et ses effets sur les salaires, sur le travail et sur les conditions de travail peut s'expliquer en partie par la résistance tenace des employeurs à s'engager dans un débat sur cette question, mais encore plus au fait que l'attitude des syndicats en a été une de réaction plutôt que d'anticipation. Jusqu'ici, les changements technologiques se sont faits d'une façon relativement lente et les effets de ces transformations n'ont pas été d'une nature et d'une ampleur suffisantes pour toucher les syndicats, d'où une réaction surtout passive et peu signifiante. Mais la négociation sur les changements technologiques en réaction à ceux-ci n'est pas la forme de négociation la plus souhaitable. Il s'agit alors d'une négociation sous pression à l'occasion de développements défavorables. L'exemple de ce qui s'est passé dans les chemins de fer, aux postes et dans beaucoup de journaux le prouve.

Un bon nombre des syndicats qui ont répondu au questionnaire s'attendent à ce que les changements technologiques aient des effets négatifs sur le niveau d'emploi dans leur secteur d'activité et ils soulignent leur détermination à vouloir protéger les occupations professionnelles de leurs membres. Dans le contexte d'une accélération inattendue dans les changements technologiques, ceux-ci auront d'importantes répercussions sur les relations professionnelles et sur les politiques des gouvernements en la matière.