

THE CANADIAN AUTOMATION CONTROVERSY 1955-1969

by

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in partial fulfilment of the requirements for the
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ABSTRACT

THE CANADIAN AUTOMATION CONTROVERSY 1955-1969

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"The Canadian Automation Controversy 1955-1969", examines the era in which Canadians confronted the prospect of "thinking machines" replacing human labour. The automation controversy arose because workers, threatened by the thought of computer-controlled machines replacing people, and business owners, excited by the prospects of lower production costs and increased productivity, sought in each their own way to control the pace and impact of technological change. The leaders of the Canadian Labour Congress came to perceive the automation controversy as a fresh opportunity to increase labour's influence *vis-à-vis* government and business by stressing the risks of technologically-induced unemployment and the need for tripartite solutions in addressing the effects of increasing joblessness. Business, as represented by the Canadian Manufacturers' Association, reluctantly participated in the federal government's Advisory Committee on Automation and Technological Change, that was formed in response to labour's public demands to address the unemployment effects of technological change. The federal government, limited by its faith in technological determinism and unwilling to commit to any substantive political or economic change, succeeded in burying the issue of automation and job loss in this low-profile committee. In the long tradition of

establishing committees in order to "be seen to be doing something", the federal government limited the committee's terms of reference to ensure the effects of automation would be studied, but that not much else would transpire. The truly "contested terrain" of the automation controversy was not the individual workplace, but the entire economic system. The issues generating the controversy -- how to and who should direct society's adjustment to technological change -- are as old at least as the first industrial revolution and as current as nightly newscasts that describe Canada's attempts to cope with "economic restructuring." "Mechanization", "automation", "globalization" --- are only different words to describe the same phenomenon of capital's drive to enhance productivity and increase returns to investment through technological innovation and workers' consequent fears of unemployment. Ultimately, the automation controversy was but one stage of the on-going ideological discourse concerning full employment in Canada and the respective roles and relative power of the State, labour and capital in promoting economic growth.

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Chapter 1

What's in a Word?

Introduction

This thesis examines the link between prevailing ideologies, which include perceptions towards technological change, and political action. It analyzes the origins of the automation controversy, and the differing reactions of the Canadian State, labour and capital to automation. The crux of the automation controversy was that while the terminology itself fell into disuse, the central question it generated -- namely, how to maintain economic security in the face of rapid technological change -- remains central to our current public policy debates. The thesis argues that the three main actors involved in the controversy, represented here by the Canadian Manufacturers' Association, the Canadian Labour Congress, and the federal department of Labour, did not come to grips with the underlying issues generated by the automation controversy (unemployment, structural adjustment) because of their technologically determinist mindsets. Their reactions to the controversy were guided by their beliefs in the widely held precept that societies could not, and indeed, should

not attempt to control the pace of technological change. Instead, business, labour and government engaged in a half-hearted attempt to understand the implications of automation in a tripartite advisory committee to the federal Minister of Labour, that was doomed from the beginning. The failure of the advisory committee underscored the limits of tripartitism in the Canadian context as well as the failure to appreciate and address the magnitude of societal choices encompassed by large-scale technological change. That malcomprehension has persisted under the guise of new words: globalization, economic restructuring, etc. As such, the automation controversy has never really ended, even though the word itself no longer leads media commentary.

The Origins of the Controversy

The 1950's hardly marked the first period in history in which people feared that machines would throw them out of work. What was new, however, was the widespread belief that the nature of the technological threat to employment could be summarized by a single word: *automation*. This neologism, coined by management consultant John Diebold while still a business student at Harvard, was popularized in his 1952 book, *Automation: The Advent of the Automatic Factory*.¹ The book, based primarily on Diebold's research on the automobile industry, had immense impact: by 1965 it

¹ John Diebold, *Automation: The Advent of the Automatic Factory* (New York: 1952).

had already been translated into six languages and was still considered a leading reference work.² Crowned by the popular press as "Mr. Automation", Diebold was responsible for popularizing the term "automation" and also for expanding its meaning beyond engineering concepts to an entire "philosophy" of management. It was a testament to Diebold's stature that he was honoured as one of the "Ten Outstanding Young Men of 1961" and that there were two book-length biographies about him published by the time he was thirty-eight.³

While studying the car manufacturing sector, Diebold had encountered a word newly minted by Del S. Harder, Vice-President of Production of the Ford Motor Company. In 1946, Harder described recent innovations on the Ford assembly line as a new manufacturing operation called *automatization*. He was in fact referring to a process that had been underway in the automobile industry since the installation of the first moving assembly lines in 1913. In the late 1930's transfer machines had been added to move work-pieces automatically between work stations. Transfer machines involved thirty-yard long mechanized assemblies in which previously separate tasks were amalgamated into one step. These machines greatly speeded up the production process and reduced the automobile

² Biographer Wilbur Cross notes this in his *The Future Makers: John Diebold, Breaking the Confines of the Possible* (New York: 1965).

³ Wilbur Cross, *John Diebold*, which was part of "The Future Makers" series, on "dynamic younger men who have already contributed to the progress and development of many fields." The other biography was written by Mary Henderson and is entitled *The Managerial Innovations of John Diebold*.

industry's need for assembly line workers.⁴ Ford, once a technological leader, had languished during the declining years of its founder, but in the late 1940's with a new management team at the helm, Harder was understandably tempted to exaggerate the extent to which Ford was breaking with the past by modernizing its operations --- hence his talk of *automatization*.

Rather than adopt Harder's word, Diebold felt compelled to shorten and simplify *automatization* to *automation*. In the introduction of his 1952 book he explained why:

The origin of the word is humble indeed. During the writing of the Harvard report, *Making the Automatic Factory a Reality*, the author found *automatization* both awkward and -- from the standpoint of his weak spelling -- hazardous. To be sure, there was also a growing appreciation of the advantage of recognizing the area of automation as distinct from the technology of control. But it is only fair to confess that it was the ease of spelling that finally overcame the author's reticence to coin a new word.⁵

Despite his somewhat disingenuous explanation, Diebold in fact succeeded in creating a word that captured the public *zeitgeist* -- technology representing simultaneously both a "threat and a promise", at once an electronic marvel but also a potential threat to jobs. "Automatization" is a clunky and bureaucratic sounding word, while automation is simpler to pronounce and conjures images

⁴ Alfred J. Chandler, jr. provides an overview of contemporaries' views on this process in his *Giant Enterprise: Ford, General Motors and The Automobile Industry, Sources and Readings* (New York: 1964). See also James J. Flink's *The Automobile Age* (Cambridge: 1988), p. 243, and Allan Nevins and Frank Ernest Hill, *Ford: Decline and Rebirth 1933-1962* (New York: 1963), p. 354-357.

⁵ *Automation: The Advent of the Automatic Factory* (New York: 1952), p. ix.

of highly trained engineers busily checking dials and monitoring banks of flashing lights, in a word -- progress.

Diebold effectively *translated* Harder's attempt at defining a relatively mature technology as something new (automatization) into a concept that was to have a far-reaching appeal. *Translation* refers to a concept developed by the actors-network approach to understanding technology.⁶ Bruno Latour, a leading theorist in this school of thought, posits that ideas and inventions evolve through a series of translations among interested "actors."⁷ By "translation", Latour intends the more common meaning of interpretation, but also the more obscure use of "translation" that is used in geometry where it means movement from one point to another. Thus, one actor spawns an idea, which is translated (interpreted) by another actor, which may in turn cause a translation in the idea or artifact itself as it is "moved" towards or into something else.⁸ By actors, Latour includes individuals,

⁶ The actor/networks school includes theorists Bruno Latour, John Law, Michel Callon, Edward Constant, and Merritt Roe Smith. Two particularly useful books on this area are: Wiebe Bijker, Thomas P. Hughes, and Trevor J. Pinch, *The Social Construction of Technological Systems: New Directions in the Sociology and History of Technology*, (Cambridge: 1987) and Wiebe Bijker, and John Law, *Shaping Technology/Building Society: Studies in Sociotechnical Change*, (Cambridge: 1992).

⁷ Bruno Latour, *Science in Action*, (Cambridge: 1987).

⁸ To illustrate his theory, Latour details a number of case studies including the invention of the "Diesel" engine. Latour is interested in explaining why certain inventions triumph or not and what actors are credited with its success or failure. In the Diesel engine case, Latour asks why Diesel's name is associated with the invention when in fact a number of actors were involved in its creation. These other actors included among others the corporations Maschinenfabrik Ausberg-Nurberg (MAN) and Krupp, as

corporations, institutions and classes of interests like business.

In the case of the automation controversy, John Diebold, who represented mainly business interests, invented a useful term, automation, to describe a technological innovation finding its way from World War II weapons research to industrial applications. As Latour indicates, the key to a successful translation for an idea or invention is the ability to attract other actors to it. This enlistment of interested actors can be accomplished in many ways and may involve a multitude of motivations and other mitigating factors. In the case of automation the word itself was translated from a particular business application (Del Harder's description of changes in Ford's production line) by John Diebold who successfully enticed a much broader range of actors, in fact public opinion itself, by choosing a word that would have resonance with a far wider range of interests because of the mixture of fear and fascination the word evoked. Once launched into the public realm, the word would become subject to a number of translations as various actors attempted to control its meaning, a trajectory predicted by Latour's theory.

Why was Diebold's initial translation so successful? Arguably, he reified the concept from a *process* (automatization) to an *event* (automation). This transformed a "natural" phenomenon (i.e. the seemingly endless progression from one technical innovation to another) into a singular existence. Viewed from the

well as engineers at these two manufacturers. Latour, p. 105.

vantage point of this technological determinist age⁹, one could either oppose or embrace automation as a radical innovation. In contrast, automatization, epitomizing gradual change, could neither be obstructed or hastened, as the determinists believed that one cannot halt the evolution of technological "progress." Diebold's translation of a process to an event created a "crisis" to be resolved. The test for this translation would be whether actors continued to accept his reification. As we shall see over the course of the Canadian automation controversy, business and labour did accept it to varying degrees, whereas the State did not. Eventually, all three actors would cease to translate the word.

While automation was understood by many to be one link in an unbroken chain supporting technological evolution, the key technical breakthroughs that made automation possible actually occurred during World War II, primarily in weapons research.¹⁰

⁹ In other words, the prevailing view in the 1950's was that technological change implied a vast "natural evolution" with one innovation leading inevitably to the next in a straight line continuum of progress. Diebold's translation of automation as something revolutionary implied an aberration in technological "evolution." Not until the early 1970's did scholars begin to de-bunk this accepted belief of technological development. See John McDermott in "Technology: The Opiate of the Intellectuals", in Albert H. Teich, ed. *Technology and Man's Future* (New York, 1972) and Donald Shriver, "Man and His Machines", *Technology and Culture* [13 (1972): 531-555]. Langdon Winner has characterized technological determinism as a belief in "autonomous technology."

See his *Autonomous Technology: Technics-out-of-control as a Theme in Political Thought* (Cambridge: 1977).

¹⁰ A number of contemporary sources recognized the significance of WWII weapons research. See, for example, John Diebold in *Automation: The Advent of the Automatic Factory* (New York: 1952), Howard Boone Jacobson and Joseph S. Roucek, ed. *Automation and Society* (New York: 1959), p. 7 on the use of analog computers in naval and anti-aircraft guns, and p. 12 on the use of

In his detailed history of feedback control, Otto Mayr has described the use of feedback in innovations ranging from water clocks used in ancient Greece to the automatic governor in James Watt's steam engine of the 19th century.¹¹ While Mayr did not devote much attention to 20th century innovations, he has noted the significance of World War II weapons research and that after the war favourable conditions existed to exploit electronic feedback for commercial purposes.¹²

In weapons research, servo-mechanisms (similar to gyroscopes) provided the necessary feed-back control for aiming and firing automatic guns on ships and planes.¹³ Large investments of monies and scientific research were made to perfect these systems because of the tactical advantage to be had in greater precision firing. At the factory level, initial examples of automatic control included petro-chemical plants that automated as early as the

digital computers for use in trajectory and ballistic tables, as well as Robert L. Heilbroner's "The Impact of Technology: The Historic Debate" in John Dunlop, ed., *Automation and Technological Change* (Englewood Cliffs: 1962), p. 16., and in William Francois, *Automation: Industrialization Comes of Age*, (New York: 1964), p.44.

¹¹ Otto Mayr, *The Origins of Feedback Control* (Cambridge: 1970). p. 132.

¹² *Ibid.*, p. 132. Mayr notes that "after the war the secrecy was lifted, there suddenly became available (1) a mature technology of automatic control which had proven itself in dealing with the problems of radar, fire control, autopilots, guided missiles and so on; (2) a theory that was universal and easy to manipulate; and (3) a staff of scientists and engineers who quickly spread this new knowledge, thus introducing the era of automation and cybernetics."

¹³ See for example, Thomas Parke Hughes, *Elmer Sperry, Inventor and Engineer*, (Baltimore: 1971).

1930's.¹⁴ The production system within petroleum plants made them particularly suitable to automated techniques and the use of analog computers to simulate the flow of liquid products.¹⁵

These innovations, and John Diebold's "translation" of them eventually caught the public's attention by the early 1950's. A review of the *Reader's Guide to Periodic Literature* reveals that the term "automation" entered the public realm as a key word in the 1951-1953 edition of the *Guide*. As early as 1952, some of the scientific journals (*Scientific American*, *Science Digest*) carried articles that examined automation's technical aspects (machine tools, feedback, automatic control), while a few of the business magazines began to dramatize the potential impact of these technological breakthroughs. *Business Weekly* carried the headline "Remote Control Steers to Target" in August 1952, and reported that a "Robot With Paper Brains (that) Runs Any Machine Tool" in November of that same year. In the same year, the mass-circulation *Newsweek* told its readers that "Robots (are) in Our Midst." By the 1953-1955 edition of the *Reader's Guide*, interest in automation was still predominantly with the science and business press, although *Life* did run an article that posed the question: "Automation, Blessing or Curse?", in January, 1955. By the 1955-1957 edition of the *Reader's Guide*, not only had references to automation tripled,

¹⁴ Wilbur Cross, *John Diebold*, pps. 194 and 280.

¹⁵ Fred Aftalion discusses the important innovations in the petro-chemical industry during the 1914-1940 period in chapter four of his *A History of the International Chemical Industry* (Philadelphia: 1991).

its social and economic impacts had become the focus of discussion, with technical issues pushed to very specialized journals.

Once the term automation entered the public realm, popular notions of the word focused on factories where push button machines (no brawn needed) were being run by other machines (mechanical thinkers). Automation fired people's imaginations because of the predicted outcome of its introduction: job loss. It was largely anticipated that North America would undergo a serious economic crisis as had happened following World War I. While the Korean conflict buoyed economic performance in the first years of the 1950's, common wisdom had it that the next unemployment trough might develop by the very next business quarter. The spectre of mass unemployment was particularly unsettling to a generation rife with memories of the Great Depression.

Automation also grabbed the public's attention because of the speed of transformation it engendered. The dust cover of *Automation: The Advent of the Automatic Factory*, the book that first introduced the word automation, breathlessly promised: "a long view into a brave new world", and encouraged buyers to "read this first provocative account of automation, the science that may in the long run have as great an effect on your world and that of your children as the discovery of atomic energy."¹⁶ Within this context, the notion of an automatic factory did not seem too far removed from the realm of science fiction. The North American *zeitgeist* of the 1950's involved a primal fear of the powers let

¹⁶ John Diebold, *Automation*, dust cover of the 1952 edition.

loose by the invention of the atomic bomb with a fierce pride and fascination with the "progress" and material well being made possible through technological innovation.¹⁷

German author Frederick Pollock was struck by America's obsession with all things technical. In a widely translated book on automation, *Automation: A Study of its Economic and Social Consequences*, Pollock argued that "the question of automation was one of the most important topics discussed in the United States."¹⁸ Pollock described near-weekly lectures and conferences organized to discuss automation, while three well-attended automation exhibitions were held in New York, Chicago and Los Angeles in 1955. He also found it significant that seventy-five percent of Detroit workers polled believed that "automation would lead to redundancy and unemployment and that the drawbacks of automation far outweighed its advantages."¹⁹

While automation provoked a sense of uneasiness among workers, business people, for the most part, quickly embraced this latest technological marvel. Automation presented fairly obvious benefits to business: lower costs through improved efficiency and speed, as

¹⁷ For a discussion of the effects of the "atomic age" on North America, see Paul S. Boyer, *By the Bomb's Early Light: American Thought and Culture at the Dawn of the Atomic Age* (Chapel Hill: 1994) and Spencer R. Weart, *Nuclear Fear: A History of Images*, (Cambridge: 1988). On page 170 of this book, Weart notes that public perceptions of the bomb wavered between "the atomic genie who could be either menace or servant ..."

¹⁸ Frederick Pollock, *Automation: A Study of its Economic and Social Consequences*, (New York: 1957), introduction.

¹⁹ *Ibid.* According to Pollock's notes, the study referred to was published in the November 5, 1955 edition of *The Economist*.

well as increased uniformity and predictability in production. However, automation represented a significant capital investment and was not suited to all types of enterprises (e.g. mining, most construction and non-standardized consumer goods like furniture making). Automation was best suited to continuous line production facilities such as automobile manufacture (the Big Three automakers being among the first companies to automate) and to processors of fluids like the petro-chemical industry.

Many business leaders reacted quickly to calm fears that automation would lead to mass unemployment. While conceding that automation might cause some "displacement" at the individual firm or sector level, they insisted that in terms of the overall economic outlook automation would not lead to unemployment. To reinforce this perspective, advocates of automation pointed to sectors such as car manufacturing and telephone companies where automation had actually led to an increase in employment. In an address to the Johnstown, Pennsylvania Chamber of Commerce, Benjamin F. Fairless, Chairman of the Board of the United States Steel Corporation, denied that automation would result in job loss. He cited three examples of industries where the introduction of "automation" had not created unemployment, but where, in fact, employment had increased: telephones, automobile manufacturing, and accounting. Fairless argued that increased employment was possible because automation caused productivity to rise, thus lowering prices, in turn creating a larger demand for products, thereby

increasing the demand for more workers.²⁰

In this period of high employment and economic growth, the productivity gains promised by automation appeared highly realistic. Business leaders predicted that not only would increased productivity help to ensure continued employment, new sectors would be opened for maintenance technicians, designers and builders of the automated systems, and in the new industries made possible by automation. The views of Ford Production manager, Herbert A. Franke, were typical of business opinion:

Automation will result in a greater demand for many skilled maintenance and repair technicians. Right now, in spite of automation, Ford Motor Company has by far the highest employment in its history. We find that automation will replace dangerous jobs with safer, easier better jobs that hold more interest for the men doing them."²¹

Business leaders also pointed to automation's other benefits: working conditions would improve with the new automated systems and workers would benefit as consumers from lower prices for goods and services. M.O. Cross, Jr., President of Detroit's Cross Company argued that automation freed workers from back-breaking, mind-numbing work.²²

While many individual business pundits seemed convinced of automation's importance, as a whole there was little consensus

²⁰ *Labour Gazette*, March 1955, p.265.

²¹ Quoted in the *Labour Gazette*, April 1955, p.411. David G. Osborn of the University of Chicago did 12 case studies of automation for the Gordon Royal Commission on Canada's Economic Prospects which confirmed these findings as well (*Financial Post*, April 20, 1957, p.26).

²² *Financial Post*, February 19, 1955, p.24.

among opinion makers as to its real impact and whether it constituted something revolutionary. From its very inception, automation created debates among experts and non-experts alike as to its ultimate significance. Although no one definition could be agreed upon, it was generally concluded that "mechanization" replaced human labour (sheer brawn) but "automation" could replace human "thinking power." A report issued by the New York Department of Labor in 1955 noted that experts did not agree on a definition of automation, but it was "thought to involve: 1) machines that do the work; 2) control devices or 'electronic brains' that supervise and if necessary correct the production process."²³

Dr. Elmer W. Engstrom, Vice-president of the Radio Corporation of America considered "the concept of automation [as] broader than that of machines controlling other machines. Rather, in considering automation, we are now beginning to view industry and commerce on the basis of a complete system, taking into account the whole process from raw material to consumer."²⁴ Given such a sweeping definition, Engstrom argued that North America had not really entered the age of automation, "what we call automation is mechanization with a flavour of automation."²⁵

Differences of opinion as to automation's ultimate

²³ *Labour Gazette*, April 1955, p.411. Paul Einzig in his *The Economic Consequences of Automation*, (London: 1956) discusses at length the difficulty in finding one agreed upon definition of automation.

²⁴ *Ibid.*, p.505.

²⁵ *Ibid.*

significance sometimes led to sniping among experts. John Diebold took exception to the positions put forward by scientist Norbert Wiener, who was at the forefront of developing the concept of numerical control, so critical to automation. Wiener, despite his pioneering efforts in inventing automatic control devices, became a vocal critic of automation, or as he preferred to call it, of "cybernetics." Wiener's anti-automation sentiments, while dramatic, do illustrate a prescient appreciation of the effects of rapid technological change left unchecked:

Let us remember that the automatic machine, whatever we think of any feelings it may or may not have, is the precise economic equivalent of slave labour. Any labour which competes with slave labour must accept the economic conditions of slave labour. It is perfectly clear that this will produce an unemployment situation, in comparison with which the present recession and even the depression of the thirties will seem a pleasant joke. This depression will ruin many industries - possible even the industries which have taken advantage of the new potentialities. ²⁶

Weiner liked to compare the autonomous nervous system that regulates breathing with sensing mechanisms found in oil refineries where a series of machine controlled processes automatically determine what impurities will be removed from crude oil in order to create grades of gasoline or to produce other petroleum by-products. Diebold argued that Wiener and others like him were committing a disservice by comparing the human body with computers.

²⁶ The Canadian left found Wiener to be a useful supporter for their views on automation. Mr. Cameron, the CCF member for Nanaimo, quoted him at length during a debate on supply. *Debates*, 1955, p. 3970.

Diebold accused them of needlessly invoking the Frankenstein myth.²⁷

These contradictions served to confuse the automation controversy but also allowed various sides to stake out positions. For example, many labour and business leaders identified automation as ushering in the new technical millennium. Other stakeholders in the controversy, primarily government, but also some business leaders, down-played its eventual impact. It is not surprising that business and government attempted to minimize the significance of automation, thus preserving an illusion that the status quo would prevail. On government's part at least, stability meant that little action would (or need) be required. For instance, a sub-committee of the US Congressional Committee on the Economic Report studied automation and technological change and came to few conclusions other than the need for further study. As the automation controversy began north of the border, there would be a similar, non-direct response from the Canadian state.²⁸

That inactivity has assured similar neglect by Canadian historians. That has been true even of those who, like Robert Bothwell, Ian Drummond, and John English, have realized that in the late 1950's in Canada, automation was "a vogue word in the media and among the literati; its function was much the same as 'energy

²⁷ Diebold, *Automation, op cit.*, p. 154.

²⁸ Morris Philipson collected testimony made before this committee and published it in 1962 under *Automation: Implications for the Future*, (New York: 1962).

crisis' in the seventies, or 'informatics' in the eighties."²⁹ This insight begged for a discussion of this epoch-defining word, yet Bothwell *et al* did not go beyond this brief mention of automation in their survey history of post World War II Canadian history. Other Canadian historians, primarily labour ones, have dealt with the more general process of technological change in terms of its impact on the labour process, but none have addressed the particulars of the automation controversy.³⁰ This thesis marks the first exploration of the topic. It is surprising that no one else has examined the topic given the relevance of the automation controversy to the perennial debate on full employment in Canada. In fact, despite David Noble's comprehensive history of automation in American industry, no American historian has treated the topic of automation from the standpoint of the controversy

²⁹ Robert Bothwell, Ian Drummond, and John English, *Canada Since 1945: Power, Politics and Provincialism*, (Toronto: 1989), p. 203.

³⁰ These labour histories have tended to look at specific industrial sectors. For example Ian Radforth in *Bushworkers and Bosses: Logging in Northern Ontario, 1900-1980* (Toronto: 1987) and Richard A. Rajala, "The Forest as Factory: Technological Change and Worker Control in the West Coast Logging Industry, 1880-1930," *Labour/Le Travail, Journal Canadian Labour Studies Review* (Vol. 32, Fall 1993) have looked at the logging industry; Wallace Clement in *Hard Rock Mining: Industrial Relations and Technological Change at INCO* (Toronto: 1981) at mining, and Michèle Martin in "Hello Central?" *Gender Technology, and Culture in the Formation of Telephone Systems* (Montreal: 1991) has looked at automation in the telecommunications industry. Harry Braverman's, *Labor and Monopoly Capital: The Degradation of Work in the Twentieth Century* (New York: 1974), ground-breaking work marked the origins of the labour-process school of thought by chronicling the deskilling effects of technological change on workers.

itself.³¹

While the issue of automation may be a ground-breaking one for scholars, the theme of government intervention in industrial development and industrial relations in Canada is much more familiar territory. In the Canada of the mid-1950's it was assumed that the State could and should be responsible for regulating the vagaries of the business cycle through macroeconomic management. The federal government's commitment to Keynesian economic principles had been enunciated in the 1945 White Paper on Employment and Income. This paper's origins have been chronicled by historians Robert Campbell, Robert Bothwell, Ian Drummond, John English, and Jack Granatstein, who have described how Mackenzie King's Liberals, spurred by the CCF's growing popularity in the polls, adopted a more interventionist economic policy.³²

³¹ David Noble, *Forces of Production: A Social History of Industrial Automation*, (New York: 1986). Noble contends that the Cold War era created an ideal opportunity to subjugate labour militancy and provided a context in which this could be claimed to done in the national good. He describes how the interests of the scientific, business and military communities were served by the large investments in automation. Grace Palladino develops a similar thesis with regard to labour militancy in her 1987 article on New York elevator operators in "When Militancy Isn't Enough: The Impact of Automation on New York City Building Service Workers, 1934-1970," in *Labor History* (vol 28 (2), 1987). In contrast, Laurent Cesari's work on the United Autoworkers of America (UAW) leads to the conclusion that ideology, and not automation, had more to do with labour's relative complacency in the post war era. Laurent Cesari, "Le syndicat 'United Autoworkers of America' et l'automation, 1945-1977" in *Mouvement Sociale* (vol. 117, 1981).

³² See Robert M. Campbell, *The Full Employment Objective in Canada: Historical, Conceptual and Comparative perspectives* (Economic Council of Canada: 1991), Robert Bothwell, Ian Drummond, John English, *Canada Since 1945: Power, Politics and Provincialism* (Revised Edition) (Toronto: 1989), and Jack Granatstein, *The Ottawa Men: The Civil Service Mandarins 1935-1957* (Toronto: 1982).

Beginning with the creation of Unemployment Insurance in 1941, through to the National Housing and Family Allowances Acts of 1944, King's government put into operation a system designed to check the excesses of capital and guarantee a measure of security to Canadian workers.

This stability was further reinforced by the labour peace engineered during World War II. A number of labour historians have described the "great compromise" made possible by the development of the Rand formula and other mechanisms to support the industrial relations system in Canada.³³ Craig Heron in, *The Canadian Labour Movement* depicts an essentially conservative labour leadership, "inclined to don the mantle of labour statesmen and attempt to dampen down militancy."³⁴ This conservatism extended to a public endorsement of the cold war policies of the Canadian government, including support of Canada's entry into the Korean War in 1950.³⁵ The post-war era was founded on a desire for greater

³³ See, for example, Bryan D. Palmer, *Working Class Experience: Rethinking the History of Canadian Labour, 1800-1991* (Toronto:1992), Craig Heron, *The Canadian Labour Movement: A Short History*, (Toronto: 1989), Don Taylor and Bradley Dow, *The Rise of Industrial Unionism in Canada - A History of the CIO* (Kingston: 1988), Desmond Morton, *Working People: An Illustrated History of the Canadian Labour Movement* (Ottawa: 1980), Irving Abella, *The Canadian Labour Movement, 1902-1960*, (Ottawa: 1975), and Charles Lipton, *The Trade Union Movement of Canada 1827-1959* (Toronto: 1973).

³⁴ Craig Heron, *The Canadian Labour Movement*, p. 79.

³⁵ Charles Lipton notes that both the Trades Labour Congress (TLC) and the Canadian Congress of Labour (CCL) executive councils supported Canada's entry into the Korean War and denounced resolutions made from the floor at the 1950 conventions that supported the "Stockholm peace pledge" and "ban the A-bomb." Lipton, *The Trade Union Movement of Canada 1827-1959*, p. 288.

stability that promised high wages in return for less militancy and fewer strikes. In exchange for a higher standard of living, labour relegated the control, planning and pacing of work to management.

Automation intruded into this Fordist³⁶ world and challenged business and labour to stake out positions on the "atomic age wonder." Essentially automation represented a new guise for labour and capital to play out long-standing antagonisms. Labour came to perceive the automation controversy as a fresh opportunity to increase its influence *vis-à-vis* government and business by stressing the risks of technologically-induced unemployment and the need for tripartite solutions to address the effects of increasing joblessness.

By using the terms State, labour and capital, this thesis does not argue that the three actors were monoliths. The State was composed of both bureaucratic and political elements. No single group could claim to represent all the diverse, conflicting interests of either business or labour.³⁷ Yet the country cannot

³⁶ "Fordism" is a word used by the political economy school of thought (primarily Marxist) as a short-hand term to describe economies of mass production in which there is some level of micro- and macro-economic management by the State. See, for example, Rianne Mahon's "From Fordism to ?: New Technology, Labour Markets and Unions" in *Economic Industrial Democracy*, Volume 8, Number 1, February 1987, pp. 5-60.

³⁷ The rich literature on State/business and labour relations describes in fact the opposite situation in Canada. Business and labour interests have historically been characterized by a high degree of fragmentation and divisive internal disputes that impede coordinated interest group action. See Keith Banting, *The State and Economic Interests*, volume 32 of the research studies prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Toronto: University of Toronto Press, 1986) and K.G. Waldie, "The Evolution of Labour-Government Bargaining in

be governed by listening to a cacophony of voices. Government leaders need to believe that one or two individuals can speak for the millions of Canadians subsumed under the labels "business" and "labour," or else it is impossible to create the small committees or hear briefs that advise all levels of government on policy. In the case of the automation controversy, the federal government responded by establishing a small advisory committee to the Minister of Labour comprising representatives named by the Canadian Manufacturers' Association (CMA), the Canadian Labour Congress (CLC), and departmental officials. In this instance the Department of Labour represented "the State" and the CLC and the CMA received the government's recognition as spokesmen for "labour" and "capital". In others words, however diverse the Canadian political economy might be, in practice a handful of committee members were placed in a position where they temporarily became the embodiment of those vast social constructs know as the *State*, *Labour*, and *Capital*.

This thesis focuses on the response of the State, so defined, to labour's call for concerted action to deal with job loss associated with automation. It will demonstrate that the State, limited by a faith in technological determinism and unwilling to commit to any substantive political or economic change, buried the issue of automation and job loss in a low-profile committee to rid itself of the problem. In the long tradition of establishing

Canada" in *Canadian Labour Relations*, volume 15 of the research studies prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Toronto: 1985).

committees in order to "be seen to be doing something", the federal government manipulated the committee's terms of reference to ensure the effects of automation would be studied, but that not much else would transpire. The experience of the Federal Advisory Committee on Automation and Technological Change (1957-1965) exemplified the limits of tripartite forums in the Canadian context. The establishment and work of the committee also served to demonstrate yet again labour's weaker position, relative to that of business and, to the State. These conclusions are drawn from archival research on the three primary players in the committee: the federal department of labour, the Canadian Labour Congress (CLC), and the Canadian Manufacturer's Association (CMA).

In Canada, the controversy lasted over a period of fourteen years and developed in three phases. In Chapter Two, we will observe the first and most intensive phase, 1955-1957, which was characterized by uncertainty and much discussion and study, but as this was a period of economic boom no one could convincingly link automation to unemployment. During the recession-plagued second phase, 1958-1964, automation was definitely linked with unemployment, and there were increasing calls for commissions, investigations, and further study of the issue. Chapter three focuses on this second phase and examines in depth the State's ineffectual tri-partite committee established to consider the effects of automation and technological change. While the economy had recovered by the third phase of the controversy, 1965-1969, this period was marked by greater labour unrest with attempts by

labour for "hard" bargaining for job protection and other collective agreement provisions and a greater reliance by both unions and employers on joint labour/management initiatives at the individual firm or sector level rather than global, economy wide solutions. Chapter four explores this third phase and ends with the conclusion.

Contemporary pundits declared that automation heralded the arrival of a new industrial era. Notwithstanding these claims, the issues generating the controversy -- how to and who should direct society's adjustment to technological change -- are as old at least as the first industrial revolution and as current as nightly newscasts that describe Canada's attempts to cope with "economic restructuring." "Mechanization", "automation", "globalization" --- are only different words to describe the same phenomenon of capital's drive to enhance productivity and increase returns to investment through technological innovation and workers' consequent fears of unemployment. The automation controversy was but one facet of the on-going ideological discourse concerning full employment in Canada and the respective roles and relative power of the State, labour and capital in achieving a high level of prosperity and standard of living. Ultimately this discourse has been about power: economic, social and political. The automation controversy arose because workers, threatened by the thought of computer-controlled machines replacing people, and business owners, excited by the prospects of lower production costs and increased productivity, sought in each their own way to control the pace and

impact of technological change. The truly "contested terrain" of the automation controversy was not the individual workplace, but the entire economic "system." As such the following chapters will not provide a history of automation and feedback control or even detailed case studies of its application in Canada. Rather, the study will focus on the tri-partite interactions of the Canadian State, labour and business in an attempt to understand the political economy of technological change and why the controversy surrounding full employment and adequate standards of living persists in Canada.

Conclusion

As early as 1955, there was already an internal debate among experts as to automation's precise definition, the scope of its impact, whether revolutionary or not, and whether it was something to be feared or to be embraced. This same ambiguity would fuel the controversy in Canada. While most Canadian business leaders were quick to support automation and hail it as a revolutionary breakthrough, some adopted a wait and see attitude. Labour would cautiously welcome automation in Canada, while government, despite intense media attention and calls for action, did not treat the issue as an urgent one.

We turn now to chapter two, which examines the first and most intensive phase of the controversy and the initial and varying responses of the Canadian Manufacturers' Association, the Canadian Labour Congress, and the federal government to the word, automation.

Chapter 2

Phase I (1955-1957): A Cautious Welcome

In Canada, automation first became an issue in late 1955, a year of relatively low unemployment.³⁸ Yet exaggerated claims for the revolutionary potential of automation had brought in their tow equally distorted fears of mass unemployment. With pundits hailing automation as the second industrial revolution, Canadians felt compelled to form an opinion on it. They might have learned it from the first big Canadian conference on automation, held by the Canadian Institute on Public Affairs February 24-26, 1956. Four hundred attended, including senior representatives from business, government and labour. Conference participants debated the social and economic impact that automation would be likely to have. Reporting on the conference, the *Financial Post* queried its readers: "Are You Ready For Automation?"³⁹

At the conference as elsewhere, it became obvious that

³⁸ In 1955 the national unemployment rate was 3.4%, and in 1956, 4.6%. F.H. Leacy and M.C. Urquhart, eds., *Historical Statistics of Canada - 2nd Edition* (Statistics Canada and Social Science Federation of Canada, Department of Supply and Services, 1983), Series D491-497, Unemployment rates, by region, annual averages, 1946-1975.

³⁹ *Financial Post*, March 3, 1956, p. 30.

business and labour had differing reactions to this "atomic age" innovation. Business hailed automated systems because they promised increased production with lower costs, while labour's welcome was more cautious. Business, convinced that automation would result in highly skilled jobs, was particularly concerned that Canada would fall short of the predicted increased requirements for skilled "manpower". In order to augment the numbers of technical personnel, the Canadian Manufacturers' Association (CMA) supported a number of initiatives including several conferences in cooperation with the Canadian Teachers' Federation. Individual businesspeople scurried to learn about the supposedly revolutionary process, to prove their progressiveness and to impress their fellows. Besides, it was difficult to ignore the dramatic headlines of 1955, whether one read the *Toronto Globe and Mail* ("Electric Brain Saves Weeks in Measuring Bridge Stress")⁴⁰ or the *New York Times* ("Robot Plant Held Possibility Today").⁴¹

In likely anticipation of vigorous opposition from organized labour, Canadian business leaders as early as 1955 were describing the benefits that workers would enjoy through automation. In a speech given to the Canadian Manufacturers' Association (CMA) meeting in May, 1955, E.H. Walker of McKinnon Industries, talked about his experience at a St. Catherines plant where people had

⁴⁰ *Globe and Mail*, October 12, 1955. The clipping was kept in a research file maintained by Eugene Forsey, Director of Research for the Canadian Labour Congress. NAC, Canadian Labour Congress papers, vol. 332, file "Automation General."

⁴¹ *New York Times*, March 27, 1955. Also saved in Forsey's research files, *ibid*.

been added to the payroll since automation had been introduced. Walker told his CMA colleagues that productivity had increased at the plant and that McKinnon was paying higher wages for fewer hours being worked.⁴²

Trickles of news like this and from other similar articles were reaching Canadian labour leaders by 1955. Labour leaders also closely watched developments in the US and in Great Britain. The research department under Eugene Forsey at the Canadian Labour Congress (CLC) began a concerted effort to learn and document as much as it could about this latest technological wonder. Most union members remained sceptical about the claim that automation would not cause unemployment. While union officials recognized the importance of the productivity gains that could be realized under automation, they quickly established a position that labour should enjoy its fair share of these gains in the form of higher wages or perhaps a shorter work week. In 1955, the CLC (or Trades Labour Congress - Canadian Labour Congress as it was known before the merger of the two labour centrals in 1955) created a training course for labour negotiators and other unions officials to prepare them for automation.⁴³ The course used a re-print of an article published in the October 1, 1955 issue of *MacLean's* entitled "Will A Machine Ever Take Your Job"? The illustration accompanying this

⁴² "How Automation Profits Labour", *Financial Post*, May 28, 1955, p. 9.

⁴³ NAC, Canadian Labour Congress (CLC) Papers, Vol. 332, "Automation, TLC-CCL 'Automation Will A Machine Ever Take Your Job?' 1955" file.

article depicted a stark, menacing factory setting with a lone human worker set amidst a vast array of computer controlled machines. The CLC course materials emphasized the threat of machines replacing men with cartoon figures of a robot striking various poses including one drawing of a very self-satisfied robot with its feet on its desk enjoying a cigar.

Not surprisingly, federal politicians started talking about automation in the House of Commons. Early in the year in his reply to the Speech from the Throne, Alistair Stewart, the CCF member for Winnipeg North, painted a disturbing picture of machines replacing men at a Chrysler plant in Detroit. According to Stewart, before automation "five men and two machines were able to produce 38 pieces an hour. Another machine has been brought in, so that one man and one machine can produce 750 pieces an hour."⁴⁴ Another MP, Mr. Clarence Gillis, the CCF member for Cape Breton South, though unimpressed by Diebold's neologism, also fretted about the implications of increased mechanization for future employment. According to Gillis, "if you used the word automation throughout the country the average worker would think you were talking about one of these little tin men you make run around with electronics. This is merely technological advance. In plain and simple language it means that the machine is replacing man."⁴⁵ Both speeches articulated the main focus of the automation controversy in Canada as it emerged in 1955, namely, the fear of technologically-induced

⁴⁴ Canada, House of Commons *Debates* 1955, p.159.

⁴⁵ Canada, House of Commons *Debates* 1955, p. 2692.

unemployment, of "thinking machines" making human workers redundant.

With an election looming, the Liberal government of the day, led by Louis St. Laurent, had to respond to the questions in the House and the growing concern over automation. In 1955 it resorted to the usual stratagem, a Royal Commission -- this time on Canada's Economic Prospects, which in due course sought data and advice from both the CLC and business organizations on automation. Thus, by 1955 Canadians were becoming intensely interested in automation.

Ironically, automation itself was not widely diffused in this period, there being few sectors where the massive investment required for its implementation would result in profit. For example, automation was suited to assembly lines (e.g. car assembly) and petro-chemical production but not to small goods manufacture. A study conducted by officials from the British department of Scientific and Industrial Research provides a very good picture of the state of Canadian industry and the extent to which it had automated by 1956.⁴⁶ The British officials conducted a number of investigative tours of plants in the United States and Canada to determine if British industry could learn from their example. The British report noted that "progress with automation

⁴⁶ United Kingdom, Department of Scientific and Industrial Research, Overseas Technical Report No. 3, *Automation in North America*, London, Her Majesty's Stationery Office, November, 1957. All of the visits were conducted between late February and early March of 1956. Of the 40 plants included in their surveys seven were in Canada.

has been much more rapid in North America than in the United Kingdom", with a far higher degree of automation in the US than in Canada.⁴⁷ The British officials visited seven plants in Canada, including two electronics manufacturers in Ontario, a home appliance plant in Montreal, an aeronautics firm also in Ontario, a wood products firm in British Columbia and a meat-packing plant in Manitoba.

The British team reported that the Canadian Westinghouse plant in Hamilton, which manufactured 50-60 different types of thermic valves including picture tubes, faced "a severe challenge in competing with UK and other European firms in products like switchgear, generators and heavy industrial equipment of all kinds where the labor content of the work is great. The reason is that very low wages are paid in Europe for equivalent work. However, the company has been able to meet the challenge through aggressive cost-reduction and product improvement programmes."⁴⁸ The Canadian General Electric plant in Montreal employed 750 workers and produced major household appliances including refrigerators, stoves, and washing machines. The British team found very little automatic equipment in the plant apart from "continuous monorail conveyors", could find no "press-tool" automation, but did observe "several special purpose machines."⁴⁹ The British officials made a trenchant observation of the Montreal plant and one with

⁴⁷ *Ibid.*, p.1.

⁴⁸ *Ibid.*, p. 33.

⁴⁹ *Ibid.*, p.32.

relevance to the entire Canadian economy: "Progress with automation at this plant is obviously restricted by the small size of the Canadian market. Specialized tooling for mass production cannot often be justified."⁵⁰

The British observers were surprised at the level of automation being used at the Vulcan Iron and Engineering Company in Winnipeg (400 employees), recording that, "It is a typical jobbing firm and not the kind of place where one would expect to find automatic equipment."⁵¹ The company designed, fabricated and erected structural steel for commercial and industrial purposes, heat exchangers, storage tanks, and pressure vessels that were in high demand from the oil industry in Alberta.

While clearly some Canadian firms were innovating, very few actually automated during 1955-1957. Those that did were heavily dependent on American technology, especially in crucial areas like machine-tooling, the crucible of new automated processes and machinery. The lack of Canadian developments in this area gave lie to the projection, avidly quoted by Canadian business, that many new jobs were to be found in the creation of automatic machines and processes. While Canadian industry was slow actually to implement automation, this did not prevent Canadian business leaders from fixating on the need for more highly skilled labour. The business press stressed the likelihood that automation would create a number of skilled jobs such as designers and engineers, and repair

⁵⁰ *Ibid.*

⁵¹ *Ibid.*, p. 44.

technicians. Given this concern for shortages of skilled manpower, it is not surprising that an early response to automation by the Canadian Manufacturers' Association (CMA) was to strike a special committee to devote itself to the question of the skilled "manpower"⁵² shortage in Canada. During the April meeting of the CMA's Executive Council, a Special Committee on Education and Manpower was created with a mandate:

To review and study the current shortage of professional and technical personnel and, in cooperation with the federal and provincial governments, the educational authorities and other interested bodies, make recommendations as to ways and means by which the Association may assist in the alleviation and ultimate resolution of the problem.⁵³

W.H. Evans, President and General Manager of Honeywell Controls Limited, and the committee's chair throughout the life of its work, noted in his September 27, 1956 report to the CMA's Executive Council that he was pleased that "the committee is a particularly strong one and comprises not only those at the highest corporation executive level, but a number of able men whose responsibilities lie in the field of procurement of trained

⁵² The period under study (1955-1969) was for the most part a pre-feminist world linguistically in which the term "men" was used generically. To remain faithful to the period's use of the word, the terms "men" and "manpower" will be understood as including women. The gender impact of automation is impossible to reconstruct without detailed case studies of specific economic sectors. Future research should yield insights, particularly in the areas of female dominated sectors, e.g. clerical work, small parts manufacturing like electronics, etc.

⁵³ NAC, Canadian Manufacturers' Association (CMA) Papers, vol. 149, file "Special Committee on Education and Manpower -- Reports and Correspondence", Report of the Special Committee in Education and Manpower to the Executive Council, Thursday, September 27, 1956.

personnel."⁵⁴ The committee felt that owing to the complexity of the issue, their first task was to compile information about the current state of education in Canada and to ascertain levels of trained personnel and the system's capacity to produce more. This language is highly indicative of the Association's approach to the issue. They believed the encroaching pressures on industry could be addressed by a secure supply of skilled labour. The CMA was not concerned with any possible economic or social dislocation nor with unemployment, but focused on the need for a steady supply of highly trained personnel to keep the industrial machine running smoothly. To business, automation represented a rather simple demand and supply equation and not a challenge to the overall economic order. Association members apparently did not believe the more fantastical claims for the automation "revolution."

Throughout 1955-1957, the CMA's Committee was fairly active. Its chair, W.H. Evans attended the National Conference on Engineering, Scientific and Technical Manpower held in St. Andrews, New Brunswick from September 9-11, 1956.⁵⁵ At this conference, two bodies were formed, "the Industrial Foundation for Education, a permanent fact-finding and executive organisation ... designed to perform broad functions on behalf of industry in the field of education" and "a committee ... to explore the feasibility of establishing a National Advisory Committee on the advancement of

⁵⁴ *Ibid.*

⁵⁵ *Ibid.*, p.2.

education."⁵⁶ While the CMA and other business organizations like the Canadian Chamber of Commerce became very active in promoting education in Canada, the views of one CMA are likely typical on the issue of responsibility for financing education:

As you know, too, there have been statements and appeals made by representatives in the higher educational field, to the effect that industry should do more in the way of financing education. I think I am safe in saying that our feelings on this is that industry should do so, but not in the way suggested which is that it should be free with its money but that its contribution should have no strings attached to it. Basically we feel that higher education is the responsibility of the people of Canada and as such should be supported by them through the governments, leaving special financial aid in the way of, say, fellowships, grants for specific research, scholarships and the like, to industry.⁵⁷

The Special Committee was involved in a number of activities including conferences like the National Education Conference spearheaded by the Canadian Teachers' Federation and held in 1958.⁵⁸ The Special Committee also involved itself in public relations activities such as vetting speeches written for CMA members and articles in the CMA house organ, *Industry*. The committee's chair reported to the CMA's Executive Council in 1956, that: "... the Association has, through addresses made by its President and individual members, and through its publications, done much to promote interest in this important subject. Lead

⁵⁶ *Ibid.*, p.2-3.

⁵⁷ NAC, Canadian Manufacturers' Association Papers (henceforth CMA Papers), vol. 105, file, "Education: Canadian Conference on Education, 1957-1958", letter to J. Ward Stewart, September 5, 1958.

⁵⁸ NAC, CMA Papers, vol. 105, file "Education: Canadian Conference on Education 1957-1958".

articles have been featured in *Industry* and *Industrial Canada* and in this latter connection the January issue will be devoted very largely to education." Evans felt the committee was a clear success.

During the first phase of the automation controversy, the CMA considered the supply of technical personnel to be an important issue. The association sought ways of raising the profile of higher education but hesitated to claim the spotlight for doing so, and while members participated in numerous conferences and national committees, most argued that industry's role in education and training should be limited to sponsoring scholarships and other narrow forms of support. This lack of willingness to back the financing of higher education was not a new position for the CMA. During the first decade of the twentieth century, which witnessed equally massive changes in the Canadian industrial structure, the CMA had balked at training workers in the necessary new technical skills and pressed government instead to establish training institutes.⁵⁹ Like their counterparts of the late nineteenth and early twentieth centuries, the members of the CMA's special committee, while concerned about possible skills shortages, did not perceive a leading, or public role for themselves in solving this problem. Labour leaders, on the other hand, were calling for very active responses from both business and government to the problems of automation.

⁵⁹ Paul Craven, *'An Impartial Umpire': Industrial Relations and the Canadian State 1900-1911* (Toronto: 1980), p. 108.

Labour's Outlook

During 1955-1957, organized labour agreed that automation could increase overall wealth and prosperity. British Trade Union resolutions, widely reported in the Canadian Labour Congress (CLC) publication, *Canadian Labour*, spoke of "welcoming" automation.⁶⁰ Labour insisted, however, that it and the larger community share in the new gains provided by automation through higher wages, shorter working hours, and lower prices for consumers. Labour was also wary of the assurances provided by economists and business-people (whose view points were widely reported in such publications as the *Financial Post* and *Canadian Business*) that automation would not create unemployment. Labour took limited comfort in the fact that experts could agree "so long as the improvements are introduced against a background of high levels of economic activity and a continuing rate of economic expansion, the maintenance of the general level of employment is not likely to be a serious problem provided the occupational shifts required to adjust to the changes can be made."⁶¹ Generally, labour, while continuing to study the

⁶⁰ See *Canadian Labour*, November 1956, pp. 62-63. In Harley Shaiken's Book, *Work Transformed: Automation and Labour in the Computer Age* (Lexington: 1986), he notes how labour has generally been cooperative in the introduction of new technologies: "Production supervisors, for example, are often less than enthusiastic about unproven technologies when they are pressured to meet tough manufacturing targets. And while labour has generally been very cooperative in the introduction of new technologies - some might say too cooperative - there is always the spectre of resistance." p.78.

⁶¹ International Labour Organization (ILO) Director-General David A. Morse in a report to the ILO entitled, "Automation and the Industrial uses of Atomic Energy" in *Canadian Labour*, July 1957, p. 10.

impact of automation, very cautiously accepted its introduction. Labour and business both agreed upon the necessity of better basic education for workers, and new training and re-training programs.

While labour cautiously "welcomed" automation, it nevertheless insisted that management smooth the transition and reduce any potential negative effects. Jack Conway, Chair, United Autoworkers (UAW) asserted that:

Management has a responsibility to introduce this new technology in a manner which will minimize disruptive consequences. It must time automation to coincide with expanding needs for the products. Management must first face its responsibility to the workers affected by changes in technology.⁶²

This is a very telling example of organized labour's acceptance in the 1955-1957 phase of the automation controversy of management's prerogative to plan, design and organize work. Labour's views on this issue would, as we shall see, change in the last phase of the controversy (1965-1969) when it demanded inclusion in planning for technological change. Eugene Forsey, director of research for the CLC, argued that government had a role to play in adjusting to automation. In Forsey's view, society as a whole benefited from the productivity gains caused by automation; therefore, society should bear the costs of any technologically induced unemployment through the provision of worker training and re-training programs.⁶³ Forsey did not see the entire burden falling to

⁶² *Financial Post*, March 3, 1956, p.30.

⁶³ *Canadian Labour*, December 1957, p. 12.

government; he insisted that companies must foot part of the bill as well.⁶⁴

As a means to adjusting to any displacement caused by automation, labour lobbied for a guaranteed annual wage. David Croll, the Liberal Member of Parliament for Spadina observed that: "the workers are not fighting automation, but they want to cushion its effects and they want to share in its fruit. The guaranteed annual wage is the workers' concept of wiping out the insecurity of lay-offs and loss of wages."⁶⁵ Labour also considered a reduction in working hours, with the same or greater pay level, an acceptable means of adjusting to automation. Walter Reuther, President of the United Autoworkers argued that "(as) machines cut down employment opportunities while the population and work force expand, a four day, 32-hour work week, plus longer vacations should be adopted to keep the workforce in line with dwindling work requirements as machines more and more take over human tasks."⁶⁶ He predicted that the 32-hour work week would be the norm by 1965. Not all labour leaders agreed with Reuther, however; Eugene Forsey thought that Reuther's views were short-sighted and that workers might prefer to share in productivity gains with new goods and services rather than a shorter work week.⁶⁷

⁶⁴ *Ibid.*, p.9.

⁶⁵ House of Commons, *Debates*, 1955, p.3003. David Croll was speaking in response to the budget speech.

⁶⁶ *Labour Gazette*, November 1955, p.1238.

⁶⁷ *Canadian Labour*, December 1957, p.10.

Labour was afforded an opportunity to present its position on automation in a research report submitted to the Royal Commission on Canada's Economic Prospects (Gordon Commission) as an "objective study" of "the probable effects of increasing mechanization of industry, and labour's aims and objectives in this regard."⁶⁸ The CLC's terms of reference from the Commission further specified that the study "might include comments on ... (a) transition policies as a greater degree of mechanization (or automation) is introduced, including training for displaced workers, the problems of workers in the higher age groups and so on; (b) the long term aims and objectives of organized labour with regard to rates of pay, hours of work, pensions, fringe benefits, etc."⁶⁹

The Gordon Commission was announced in the April, 1955 budget speech and Walter Gordon was named its head in June of 1955. Political gossip had it that the Commission was designed to shore up the Liberals' sagging electoral prospects.⁷⁰ The Commission's work was terribly rushed, reinforcing perceptions that it had a partisan mandate to furnish the Liberals with an election platform

⁶⁸ *Probable Effects of Increasing Mechanization in Industry* by the Canadian Labour Congress, for the Royal Commission on Canada's Economic Prospects, September 1956, terms of reference found in the Foreword.

⁶⁹ *Ibid.*

⁷⁰ Tom Kent, *Inside the Gordon Report* published by the *Winnipeg Free Press*, June 1958. A copy of Kent's essay was found in the CLC's research files, see NAC, Canadian Labour Congress (CLC) Papers, vol. 298, file: "Royal Commission on Canada's Economic Prospects. TLC/CCL Submission 1956 Reports". Donald Creighton in *The Forked Road: Canada 1939-1957* (Toronto: 1976) also provides an account of the back-room politics surrounding the creation of the Gordon Commission.

by 1957. Tom Kent, editor of the *Winnipeg Free Press*, described the critical atmosphere: "There was bitter criticism from provincial governments and other interested organizations, who were given only two or three months (and summer months at that) in which to prepare their submissions for the Commission's public hearings in the fall of 1955."⁷¹ It was in this context, the CLC rushed to formulate its recommendations for dealing with automation.

It is significant that the CLC did not challenge any of the definitions of automation being developed by business and technical writers, the so-called "technocrats." Nor did organized labour in either Canada or the United States attempt to provide their own definition of the term, thereby losing an opportunity to define the terms of the controversy in their favour. While labour reacted strongly to the unemployment implications of automation, it did not challenge the basic economic order. Miriam Smith in her, "The Canadian Labour Congress: From Continentalism to Economic Nationalism", argues that the CLC economic policy position in the 1950's and 1960's were "resolutely liberal," by which she meant essentially *laissez-faire* and not predisposed to counter the growing interdependence of the Canadian and American economies.⁷² Labour leadership in the US and Canada were ill-prepared and not at all inclined to press for revolutionary social change. Their Fordist outlook prompted a demand for a fair share in a bigger pie,

⁷¹ *Ibid.*, p.5.

⁷² Miriam Smith "The Canadian Labour Congress: From Continentalism to Economic Nationalism", *Studies in Political Economy: A Socialist Review*, Vol. 38, Summer 1992, p. 41.

but did not challenge the basic precepts of the system. In the post-World War Two economic boom, with its Keynesian inspired compromise among State, labour and business interests, labour aspired to a full partnership in managing the economy. Not only was this an unrealistic position to adopt given labour's weaker position to the State relative to that of business, it also ran counter to the labour movement's surrendering the right to plan and control work to management. This essential contradiction meant that while labour in the 1950's clamoured for an enhanced status on the macro-economic level, it abandoned the micro-level of the shop floor where it could have had greater influence.

While the CLC did not challenge any existing definitions or proffer an alternative of their own, they nevertheless held tightly to automation as a shibboleth and resisted the already present trend in government circles to use the concept of automation interchangeably with those of "mechanization" and "technological change". This tenacity raises the question: Why did labour seize a word and concept invented by business? Labour embraced automation, because the word had the power to affect the popular imagination. The CLC acknowledged this in the forward to its research submission to the Gordon Commission:

The Royal Commission itself seems to have thought of 'increasing mechanization' and 'automation' as interchangeable terms. "Automation" is shorter, and is the term most people are now using to cover the whole field the Royal Commission appears to have had in mind. The Congress proposes to follow *popular usage*, and to

consider the whole question under the head,
automation.⁷³

The CLC's adoption of popular usage is significant. Although labour did not coin its own word and relinquished the power to define the word to the technocrats, they held steadfastly to the word automation because of the chord that it struck with the average worker. Automation conveyed a sense of wonder, of potential danger and at the same time the promise of better working conditions and higher levels of prosperity. The CLC rejected weaker, more evolutionary-sounding terms such as "increasing mechanization," a government favourite, because these downplayed the scope of technological change in the postwar era and therefore the need for reconsidering the State's traditional stance towards labour and capital.

The CLC's research report for the Gordon Commission comprised seven chapters and relied heavily on American sources, especially on management consultant John Diebold. In the Congress's research files, most of the research papers, bulletins and pamphlets were American, while newspaper and magazine clippings reported on the state of automation in Canada.⁷⁴ In chapter one of the report, "What is Automation?", the CLC admitted that "even unions are automating" and went on to describe the automated record-keeping system that the Canadian Brotherhood of Railway Workers had adopted

⁷³ Foreword to *Probable Effects of Increasing Mechanization in Industry*. (emphasis added)

⁷⁴ NAC, CLC Papers, vol. 332. There are eleven research files, some containing upwards of 50 newspaper and magazine clippings.

to track their members' dues payments.⁷⁵ It appeared as if there were few instances in office or production work where automation could not be applied.

While the CLC expressed confusion as to what exactly automation might be or how it should be defined, the Congress treated the link between automation and unemployment with absolute certainty. In chapter three of its report, "Automation and Employment", the Congress stated:

Among the probable effects of automation, none is more important than its effect on unemployment. This is overwhelmingly important to the labour movement, and hardly less so to government. If, as some have prophesied, automation produces mass unemployment even worse than we had in the 1930's, the whole social structure might collapse.⁷⁶

The CLC's fears were likely reinforced by the presentation that Walter Reuther, president of the CIO-AFL, made to the Congressional Joint Committee on the Economic Report. In his testimony, Reuther argued that the Depression of the 1930's had been caused by a failure to adapt to technological change: "Most of us remember the depression of the 1930's only too well, when the American people paid a heavy price for the economy's failure to adjust to the introduction of mass production after World War I. We should now be thinking about and planning for the transition period -- the next ten years or so -- when the spread of automation may result in dislocations of our society and in distress for countless

⁷⁵ *Probable Effects of Increasing Mechanization in Industry*, p.14.

⁷⁶ *Ibid.*, p.28.

individuals and communities."⁷⁷

To prevent another Depression with its the massive dislocation of workers, the CLC insisted that the government must maintain the conditions for full employment through appropriate "monetary policy, tax policy, tariff policy, deficit and surplus financing, public investment policy."⁷⁸ The Congress's submission underscored its belief that societies could mitigate the impact of technological change:

We do not yet know enough to formulate any complete, detailed national policy on automation. But we do know enough to see the shape of some of the problems that will arise, and to formulate some broad policies to deal with them as they do arise. We do not know whether automation will cause mass unemployment. The answer will depend partly on the policies we adopt, not only automation policy, but full employment policy.⁷⁹

Not surprisingly, given the conservative outlook of the labour centrals in the 1950's, the CLC submission relied heavily on mainstream economic analysis of the issue and avidly adopted arguments lifted from the business press to substantiate its own position.⁸⁰ The first seven pages of its submission to the Gordon Commission were a direct, unbroken quotation of John Diebold's testimony to the Congressional sub-committee on Automation and

⁷⁷ NAC, CLC Papers, vol. 332, file "Automation. Congress of Industrial Organizations. Reuther, Walter P. Testimony on Automation Before the Sub-Committee on Economic Stabilization of the Joint Committee on the Economic Report", p.16.

⁷⁸ *Ibid.*

⁷⁹ *Joint Submission of the Trades and Labour Congress of Canada and the Canadian Congress of Labour to the Royal Commission on Canada's Economic Prospects* (Ottawa, Feb.27/56), p.24.

⁸⁰ Heron et al

Technological Change.⁸¹ In their research report developed for the Gordon Commission, the Congress even chastised business for not being creative enough in finding ways to implement automation; and they relied on John Diebold for evidence of this neglect.⁸²

The CLC's position can be characterized as laissez-faire. It is well to remember that the automation controversy took place in an era in which most North Americans believed in the dictates of technological determinism. Not until Robert L. Heilbroner's breakthrough article in the July 1967 edition of *Technology and Culture*, in which he queried whether machines make history, was the commonly held belief that technical progress follows some predestined path seriously challenged in academic circles.⁸³ An innovation such as automation, while viewed by many as "revolutionary", was still seen as part of a straight-line continuum leading from the wheel to the V-8 rocket. While few historians continue to believe that the outcome of a particular technological artifact is inevitable, during the 1955-1969 period technological determinism was alive and well. The positions of the Canadian Labour Congress, the Canadian Manufacturers' Association and the federal government with respect to the economic challenges

⁸¹ *Ibid.*, p. 17-23.

⁸² *Probable Effects of Increasing Mechanization in Industry*, p.27: "... And Diebold says that management consultants often find cases where management hasn't even thought of using automation to solve its problems because it hasn't recognized that the problems exist!"

⁸³ Robert L. Heilbroner, "Do Machines Make History?", *Technology and Culture*, Vol. 8, No. 3, July, 1967.

generated by automation were deeply coloured by this conviction of technological determinism.

John McDermott, another technology theorist, provoked considerable reaction from the leading elites with his 1969 article, "Technology: The Opiate of the Intellectuals."⁸⁴ McDermott argued that most intellectual, business, political and labour leaders' views with respect to technological innovation were no further advanced than those of the nineteenth century merchant class that had upheld a fervent faith in and defence of *laissez-faire* economic principles. In the same way, McDermott chided, pundits of every walk and academic discipline in the late twentieth century promulgated a belief in and defence of unbridled technological "progress". From McDermott's perspective, these proponents of technological Darwinism viewed innovation as:

... a self-correcting system. Temporary oversight or 'negative externalities' will and should be corrected by technological means. Attempts to restrict the free play of technological innovation are, in the nature of the case, self-defeating. Technological innovation exhibits a distinct tendency to work for the general welfare in the long run. *Laissez-innovate!*⁸⁵

McDermott's ironic use of "innovate" underscores his extremely critical stance against the prevalent mindset of technological determinism that he charged existed among conservative and liberal thinkers alike. Rather than the progressivism that is implied by the term "innovate", McDermott's use of *laissez-innovate* insinuated

⁸⁴ John McDermott, "Technology: The Opiate of the Intellectuals", in Albert H. Teich, ed *Technology and Man's Future* (New York: 1972), a reprint of McDermott's 1969 article.

⁸⁵ *Ibid.*, p. 155.

a rather paltry understanding of the realities of technological change on the part of both experts and laypersons. Writing at the height of the Vietnam War, McDermott was sounding the alarm against an over-simplified view of "progress" that blinded people to the choices demanded by large-scale technological innovation.

As Arthur Kroker has shown, the same adherence to technological determinism and *laissez-innover* thinking were prevalent among Canadian thinkers in the postwar era.⁸⁶ While no Canadian historian has written specifically about organized labour's essentially *laissez-innover* mentality⁸⁷, we can -- given the close ties between the Canadian and American labour movements in this period -- extrapolate from David Noble's 1983 essay about organized labour in the United States.⁸⁸ Noble explains that American labour leaders also supported the *laissez-innover* perspective because of a need to "be taken seriously in capitalist society" and of seeing themselves as "progressives", and "no progressive is against progress."⁸⁹ Little wonder that the CLC quoted so freely from John Diebold, or that its submission to the

⁸⁶ See Arthur Kroker's, *Technology and the Canadian Mind: Innis/McLuhan/Grant*, (Montreal: 1984).

⁸⁷ Miriam Smith's "The Canadian Labour Congress: From Continentalism to Economic Nationalism", in *Studies in Political Economy: A Socialist Review* (Vol. 38, Summer 1992), describes the CLC's essentially "conservative" outlook, but she does not make the link with *laissez-innover*.

⁸⁸ David Noble, "Present Tense Technology" in *Democracy: A Journal of Political Renewal and Radical Change* (Spring 1983).

⁸⁹ *Ibid.*, p. 23.

Gordon Commission should rely on such mainstream economic theory. Far from fearing automation initially, the leaders of the Canadian labour movement, like their American counterparts, welcomed automation as an inevitable next step in humanity's technological and economic progress. They did, however, want to ensure that working people shared its benefits.

Both the CLC's report to the Gordon Commission and its later submission were characterized by much uncertainty and supposition concerning automation's eventual impact. Overall, the CLC attempted to argue that automation meant many things and that it could have wide scale applications, that it might even be the harbinger of the "second" Industrial Revolution. Many questions remained for the Congress: it was uncertain how widely automation would be applied, or the extent to which it would affect employment. The CLC was adamant on one point - if automation did cause unemployment, measures must be in place to restore full employment. As we are about to discover, the CLC was not alone in its doubts and confusion about the significance of automation. Government was also stymied by the conflicting claims made concerning automation's significance. It turned, as so often governments have done, to information gathering as a substitute for direct action.

The responsibility for spearheading the government's reaction to automation fell to the federal Department of Labour as Cabinet viewed the issue primarily as an employment one with potential negative effects on business/labour relations. More specifically,

it was left to the Economics and Research Branch of the department to form an effective policy response to the interest being displayed by business and labour in automation. Despite extensive press coverage and active interest on the part of labour and business, internal memoranda reveal that even by late 1955, the issue was not considered to be an urgent one.

In early December 1955, George Haythorne, the Assistant Deputy Minister (ADM) responsible for the Economics and Research Branch of the Department of Labour, received an update from officials as to the department's progress to date on the issue. An earlier memorandum to Haythorne outlined the Branch's plans to study the issue of automation and its commitment of some modest resources to study the issue and to determine "... within a year or so whether future action is desirable."⁹⁰ In the meantime, the Branch continued to compile newspaper clippings and magazine articles on the issue and briefed their "field men" to ask questions of employers as to the progress of introducing automation, and as more information was obtained, determined the department's interest in the issue, including "... consideration of the impact of automation on employment, occupation patterns, wage-rate structures, and industrial relations, and its speed of application, capital requirements, etc."⁹¹

From June to December not much work had been completed other

⁹⁰ RG27, Department of Labour Records, vol. 877, file 8-7-32, Memo "Labour Problems Raised by Automation", p.6.

⁹¹ *Ibid.*

than the accumulation of information, including the proceedings of the US Joint Congressional Committee on the Economic Report.⁹²

As one departmental official identified the problem:

Our great lack, however, is concrete information about actual cases of automation being introduced in Canada. In order to make a start on remedying this lack, we plan to instruct our two E.F.S. fieldmen, Cook and Cowan, to include a few questions about automation in their interviews with employers. This may enable us at least to discover a few actual cases of automation, about which we might then get further information if this seemed desirable."⁹³

This paucity of concrete information on Canadian industry reinforces the conclusion that much of the consternation felt in Canada was in fact an echo of the concerns drawn from what was initially an American phenomenon. It highlights the working assumptions of many political, business, and labour leaders that developments in the US had an automatic parallel in Canada.

In their June, 1955 analysis of automation, the policy analysts working in the Economics and Research Branch of the Department of Labour, identified several key questions: "1) what is automation, 2) why should we study automation, 3) what are the probable effects of automation on employment, 4) what are the probable effects of automation on the skill requirements of industry, 5) what are the probable effects of automation on labour-management relations, 6) what are the probable benefits of automation, and 7) what action should the Department of Labour

⁹² RG27, Department of Labour Records, vol. 877, file 8-7-32, Memo from Duffett to Haythorne, December 6, 1955.

⁹³ *Ibid.*

take?"⁹⁴ The memorandum went on to provide responses to these questions, most of which were prefaced with either "we're not sure" or "it depends." The federal government officials appeared as highly uncertain as either labour or business in understanding the implications of automation.

The Department's perspective on the first question, "why should we study automation?" is very telling. First, the Department anticipated being called upon to provide answers for the Minister in the House of Commons "in view of the interest of the press and public in automation and especially the increasing interest of the trade unions."⁹⁵ Departmental analysts also struggled with defining automation and determining the exact scope of its application.⁹⁶ The key question was how would the employment impacts of automation differ from other types of technologically-induced changes in production? If there was to be unemployment, how could analysts distinguish technologically induced unemployment from other factors? Uncertain as to the scope or pace of change likely to accompany automation, the Department decided to prepare a research programme and anticipated that it would have to focus primarily on the employment effects, both in

⁹⁴ RG27, Department of Labour Records, vol. 877, file 8-7-32, Memo "Labour Problems Raised by Automation", p.1.

⁹⁵ *Ibid.*

⁹⁶ *Ibid.* At this point departmental analysts invoked the following definitions: 1) Automatic control of production processes by electronic, hydraulic, or other mechanisms, based on "feedback"; 2) Integrated mechanization to perform a series of operations rather than just one operation without human intervention", 3) use of electronic computers to keep records, compute payrolls, etc."

terms of displaced workers and on the new skill requirements for industry. The Department's analysis of the initial union response to automation was highly accurate:

... it has not as a rule been the policy of trade unions to attempt to block technological progress. It seems probable, therefore, that the efforts of unions will be directed toward protecting their members from the effects of the transition (by severance pay, guaranteed annual wage plans, broader seniority units, etc.), and toward assuring that the position of the union and its members will not be worse after the transition than before, and that members will share in the benefits of automation by increase in wage-rates and by other gains, possibly including shorter hours.⁹⁷

The Department supplemented its research efforts with attendance at conferences, including one of the first significant Canadian meetings on automation, the 1956 Winter Conference of the Canadian Institute on Public Affairs ("Automation What It means to You") held February 24-26, 1956 in Toronto.⁹⁸ Haythorne, the assistant deputy minister, attended the conference and circulated its proceedings to his management staff, directing them to note in particular the sections of the proceedings relating to education and also to the presentation given by H.D. Woods, professor of industrial relations at McGill and Director of the University Industrial Relations Centre and School of Commerce.⁹⁹

⁹⁷ *Ibid.*, p.4.

⁹⁸ The departmental records contain a copy of the conference proceedings. The cover's illustration, a robot posed like Rodin's *Thinker*, conveys a great deal about the period's perceptions of automated systems as "thinking machines".

⁹⁹ RG27, Department of Labour Records, vol. 922, file 8-9-155, part 1, Memo slip attached to Conference Proceedings, from Haythorne to Duffett, Dymond, Mainwaring, Royce, Campbell and Crawford.

Woods had argued that "we are over-stating this Automation business if we try to separate it from the general development of technological change." Woods conceded that automation represented a "dramatic change" and that it perhaps warranted such a "dramatic word", but he would not agree that automation marked the "latest phase of the industrial revolution."¹⁰⁰ Woods also predicted that as a result of automation's social and economic dislocations, "unions may be moving into a role -- please don't let any of the union people take offence at this -- of close responsibility, joint responsibility with management."¹⁰¹

Eugene Forsey, director of research for the Canadian Labour Congress (CLC), also made a presentation at the February 1956 conference on automation. Forsey outlined labour's position on the necessity of full employment policies to stem any of the negative effect caused by automation's introduction. Forsey also cautioned that competition from the United States might undermine Canadian efforts at adjustment, a warning which Department of Labour officials either did not agree with or did not understand, as indicated by the question mark in the margin beside the underlined passage of Forsey's remarks.¹⁰² Presumably Forsey was alluding

¹⁰⁰ RG27, Department of Labour Records, vol. 922, file 8-9-155, part 1, "Proceedings of the 1956 Winter Conference of the Canadian Institute on Public Affairs", pg. 27. Note that Wood's argument was underlined in pencil, presumably by Haythorne or another departmental official.

¹⁰¹ *Ibid.*, this passage was also underlined by a department of labour official.

¹⁰² *Ibid.*

to the possibility that American firms that innovated would have higher efficiency rates and lower costs and could therefore undercut Canadian competitors.

The Department also depended upon international sources, especially American ones for information about automation. Pat Conroy, a labour attaché with the Canadian embassy in Washington, forwarded a number of papers he had collected at an April, 1955 conference on automation in Washington.¹⁰³ On the whole, Conroy was not impressed with the quality of presentations at the conference. In his dispatch to Ottawa, he wrote:

Outside of a comparatively few people, most of whom, are engineers, little is really known about automation. A good many people are insisting on exhibiting their ignorance by talking about a subject on which very little is as yet known. This type of talk centres on two things. One is that automation will mean disaster and the second is that automation will bring about a paradise. I have been following this subject quite closely and in my opinion, there is not as yet sufficient clarity developed on the subject to write a report that would be really fruitful. Because of this lack of specific knowledge I again recommend you to the speech by professor Buckingham, as the one which shows a better tentative grasp of the subject than other speeches I have

¹⁰³ RG27, Department of Labour records, vol. 877, file 8-7-32, letter to M.M. Maclean, 11 May, 1955. The papers in question included: 1) "The Industrial and Economic Implications of Automation" by Walter S. Buckingham, Associate Professor of Industrial Management Georgia Institute of Technology (a paper that Conroy highly rated); 2) "The Meaning and Implications of the New technology" by Donald P. Campbell, MIT; 3) "Automation - Its Implications and Uses" by John Diebold, Editorial Director, "Automatic Control" Magazine; 4) text of remarks by Nat Goldfinger, Associate Director of Research, CIO; 5) "Some Public Policy Implications of Automation" by Senator Joseph C. O'Mahoney of Wyoming; 6) UAW booklet, "Automation", report to the UAW Economic Conference held in Detroit, November 1954; 7) another booklet also entitled "Automation", distributed at the April 1955 Conference; and 8) "Technological Progress and Full Employment" (no author cited).

read and listened to.¹⁰⁴

Conroy was particularly critical of what he thought as the time-wasting behaviour of the CIO-AFL representatives.¹⁰⁵

In May, 1957, Allan Porter, a Department of Labour official, produced an overview of three international studies on automation - one American, one British and one produced by the European Common Market.¹⁰⁶ Porter found that the hearings of the Congressional sub-committee were not that useful because they are "largely concerned with the shortage of skilled manpower" and "... when the hearings get on other topics, as they do during the submission of the AFL-CIO, the discussion strays away from the point and much of it had little to do with automation." ¹⁰⁷ Porter's analysis

¹⁰⁴ *Ibid.*, p.2.

¹⁰⁵ *Ibid.*, Conroy complained that: "I did not think too highly of the manner in which the conference was conducted. Originally the specialists such as Professor Buckingham were invited to give an objective appraisal of automation and the supposition was that public discussion of the pro's and con's of automation would follow. Because of some rather long-winded introductions by CIO Chairman, also by equally lengthy speeches by Messrs. Carey and Reuther at the conference luncheon, the discussion just did not take place."

¹⁰⁶ RG27, Department of Labour Records, vol. 922, file 8-9-155, part 1, Memo to J.D. Love, 28 May, 1957. The reports were listed as: 1) United States Congress: Instrumentation and Automation (Hearings before the sub-committee in Economic Stabilization of the Joint Economic Committee, U.S. 84th Congress, Second Session, December 12, 13 and 14, 1956; 2) United Kingdom Department of Scientific and Industrial research: Automation, A Report in the Technical Trends and Their Impact in Management and Labour (London, H.M. S.O., 1956); and 3) Serge Colomb and Pierre Liénart: About Automation (Trade Union Information and Research Service, European Productivity Agency, Organization for European Economic Co-operation, Paris -- undated.

¹⁰⁷ *Ibid.*, p.11.

points to a key point: the link between automation and unemployment. He asserted:

It is apparent to everyone that automation will change the labour requirements of modern industry. Provided we have full employment and an expanding economy, unemployment resulting from workers displaced by the introduction of automatic equipment should only be temporary. Essentially, it is a matter of the labour requirements being rearranged rather than being reduced on the whole.¹⁰⁸

Porter's comments reflected the dominant view in government that Keynesian economic management would be sufficient to regulate automation's effects. Keynesianism was predicated on the possibility of full employment at equilibrium as a near constant if the economy were managed well. Sound handling of the fiscal levers would ensure that unemployment would be a temporary effect, simply a lag in the system.

The economic downturn that Canada was about to experience would soon disturb this complacency and force government to re-examine what it meant by full employment and the measures used to achieve it. This, as of yet, unperturbed faith in Keynesianism explains Porter's closing observations: "Returning to the possibility of unemployment resulting from automation, one would conclude for the material under examination that such a possibility is unlikely as long as overall conditions of full employment remain in effect. If these conditions end, we shall have unemployment anyway, and it will be purely an academic question whether such

¹⁰⁸ *Ibid.*, p. 5.

unemployment is caused by automation or some other economic force."¹⁰⁹

In short, Departmental officials demonstrated no sense of urgency on the issue of automation. Senior officials like Haythorne anticipated that the Minister might be questioned on this by Opposition members or from the media, but that nothing could be really determined until the Department had a better sense of what was happening in Canadian industry. In their assessment of external experts' reports, including many American sources, the Department appeared as confused as labour and business leaders. No one could really foresee with any certainty what eventual impact automation would have. The civil service mandarins assumed that full employment conditions would prevail, thus shaping possible policy responses.

Conclusion

Phase one of the automation controversy in Canada, to 1957, engendered the greatest intensity as business, labour, and government grappled with the term and attempted to estimate its impact on the Canadian economy. Organized labour did not challenge the definitions of a word that was created largely by business, while government officials began to substitute less sensationalistic euphemisms such as "technological change" and "increasing mechanization", terms that were, and are, much less threatening, and somehow more manageable if seen as a "natural

¹⁰⁹ *Ibid.*, p.7.

process" of technological change. It was in government's interest to lower expectations concerning automation lest it be compelled to upset either business or labour in the run-up to a national election.

The focus of the automation controversy in Canada quickly coalesced on full employment. Labour saw in automation the opportunity to press for more involvement in state decision making and lobbied the government for full employment policies and challenged business to take greater responsibility for training and re-training displaced workers. In its submission to the Royal Commission on Canada's Economic Prospects, the CLC pushed to have automation considered as both an economic and a social issue.

The automation controversy in its first stage was marked by business, labour and government uncertainty as to automation's ultimate impact. In phase two of the controversy, 1958-1963, there were increased and renewed calls for commissions and enquiries. Under public pressure created by the CLC, the government created a tri-partite advisory committee to recommend areas of further study. The establishment and limited impact of this committee are the focus of chapter three.

Chapter 3

Phase II (1958-1964) - The State's Response

By the second phase of the automation controversy in Canada, rising unemployment rates were making it appear that labour's fears of technologically induced unemployment had come to pass. In 1958 the unemployment rate jumped to 7 per cent from 4.6 per cent in 1957. It dipped slightly to 6 per cent in 1959, climbed back to 7 per cent in 1960 and hit 7.1 per cent in 1961. The rate then dropped back to 5.9 per cent in 1962, decreased to 5.5 per cent in 1963 and hit pre-recession levels of 4.7 per cent by 1964.¹¹⁰ Though low by later standards, these were high figures for a generation accustomed to full employment in the postwar era, and labour clamoured for the government to take action.

The federal government, however, was very reluctant to make any direct interventions in the economy. Internal memoranda indicate that federal government officials were every unsure as to which direction to take and they readily admitted among themselves that they did not have sufficient information upon which to base decisions. The high unemployment had shaken their self-confidence.

¹¹⁰ Leacy and Urquhart, *Historical Statistics of Canada*.

Intermittent recession was undermining the government's faith in the possibility of any sort of full employment policy; it searched, therefore, for a low risk strategy designed to appease labour's call for action and to investigate discretely the link, if any, between automation and recent unemployment. The result was the Advisory Committee on Automation and Technological Change, that was, as we shall see, a do-nothing committee that succeeded in burying the issue from public scrutiny, while obscuring the government's retrenchment from full employment policies. The committee marked the federal government's only substantive and direct response to the issue of automation, limited as that was. For that reason, it will be looked at in some detail despite its record of futility.

Before turning to the establishment and work of the advisory committee, it is necessary to review the public positions held by business and labour during the second, 1958-1964 phase of the controversy in order to understand the mindsets of the labour and business representatives who served on the advisory committee and to briefly review the experience of tripartitism in Canada in order to place the experience of the Advisory Committee in context.

The tone of the debate was shifting during the 1958-64 period. Business became much more critical of unions and accused labour of holding attitudes as regressive as those nineteenth-century machine-breakers. A 1963 *Financial Post* editorial lashed out at labour and charged that "the current hysterical shouts about 'automation' are nothing but a repetition of the blind fury of the

Huddersfield weavers who smashed the first 'automated' textile machinery".¹¹¹ Other opinion makers concentrated on de-bunking the popular perception that automation was the principal cause of unemployment. In an article entitled, "Don't Blame Automation: Not the Job Stealer You Think", W.F. Forest, a senior consultant with Woods Gordon & Co. presented an analysis of the causes of unemployment and assigned the following percentages to each factor: 33 per cent was seasonal, 20 per cent cyclical, 25 per cent frictional (when workers voluntarily leave jobs to seek other work), leaving just 20 per cent caused by structural changes such as shifts in trading patterns or by automation.¹¹²

In recession-bound 1958, labour altered its stance towards automation from one of cautious welcome to one of open animosity. An article that year in *Canadian Labour* noted: "automation seemed little more than a far-off threat a few years ago, but it is becoming more and more a topic of general interest, and it is recognized as an important factor in the unemployment situation both in the United States and in Canada."¹¹³ Even in industries then experiencing a boom, labour analysts predicted inevitable downturns in employment due to automation. In his analysis of the automation and the lumber industry, C. Grant MacNeil, public relations director with the International Woodworkers of America (IWA) noted:

¹¹¹ *Financial Post*, October 5, 1963.

¹¹² *Financial Post*, April 18, 1964, p.61.

¹¹³ *Canadian Labour*, July-August 1959, p.4.

Strides in mechanization, primarily automation, present the IWA with an ever increasing displacement of workers whose skills are not elsewhere in demand. The problem is at present partially disguised by the booming export demand, which has set a high number in lumber production records.¹¹⁴

Throughout the 1958-1964 period labour leaders raised the question: was labour getting its fair share from the productivity gains promised by automation? William Mahoney, Canadian Director of the United Steelworkers examined the productivity gains in steel making from 1939 and 1959 and determined that productivity had increased by four and half times. Workers salaries, however, had barely doubled during this same period.¹¹⁵ Examples of job loss abounded. By 1961, *Canadian Labour* was able to report that:

A fully automatic train made a test run last year (1960) from London, Ontario, to Toronto, a distance of 125 miles, with no one at the controls. A train-crew stood by, but only to watch the machine in operation.

Canada Packers streamlined the removal of hides from slaughtered animals. 47 men now skin 110 steers per hour compared with the 98 top-rated hide-strippers who were formerly needed to attain this rate of production.

The Department of National Health and Welfare sends out 3,000,000 family allowance cheques monthly at the cost of 286 man-hours per month. Methods formerly used required 15,714 man-hours monthly. This means two clerks in the place of 120.¹¹⁶

With the increasing evidence of technologically-induced unemployment, labour's mood shifted. The CLC called for both business and government to work with labour to decide how best to

¹¹⁴ *Canadian Labour*, December 1962, p.17-18.

¹¹⁵ *Canadian Labour*, February 1961, p.7.

¹¹⁶ *Ibid.*, February 1961, pp. 5-12.

meet the challenges posed by automation. Claude Jodoin, president of the Canadian Labour Congress, expressed his position in a 1963 Labour Day address:

There can be no automatic social and economic adjustments to the problems of unemployment and automation unless the labour movement and the other groups are prepared to sit down collectively and analyze the problems that are being created. Unless there is the necessary planning by government, management and labour, these twin problems may create serious social dislocation.¹¹⁷

The post-World War II engineered labour peace fostered stable production and high industrial wages and ensured consumer demand for goods as well as a greater interdependency between labour and business. That labour leaders well understood this interdependency is illustrated by the following anecdote reported in *Canadian Labour* in 1961 about an auto executive who purportedly asked Walter Reuther, president of the autoworkers union, how the UAW would collect dues from an automated assembly line which had displaced a large number of automobile workers. According to sources, Reuther responded by asking the executive how he was going to sell cars to a machine.¹¹⁸

While management and labour were interdependent, business did enjoy a privileged access to government relative to labour. The symbiotic nature of the State's relationship with capital was quite pronounced during the immediate post-World War II period and up to the late 1950's. Peter C. Newman and William Carroll among others have documented the close relationship between business leaders and

¹¹⁷ *Ibid.*, October 19, 1963, p.19.

¹¹⁸ *Canadian Labour*, February 1961, p.6.

political leaders, certainly nurtured by the reliance of the government on business during World War II.¹¹⁹ Peter C. Newman in his *The Canadian Establishment*, describes the tight links that were forged between the senior levels of government and Canadian business due to the drafting of "dollar a year men" into the Department of Munitions and Supply and other key government posts during World War Two. In his depiction of state and business interests for the Royal Commission on Canada's Economic Prospects established in the early 1980's, Keith Banting recounts the "easy acceptance of the role of business (in setting economic policy) that characterized the early post war years..."¹²⁰ In contrast, K.D. Waldie notes the Canadian Labour Congress has believed that governments in Canada have traditionally "displayed reluctance to accept labour on an equal footing with business where national economic interests are concerned."¹²¹ Miriam Smith in her study of the Canadian Labour Congress's changing outlook on the issue of closer integration of the American and Canadian economies (so called "continentalism"), argues that:

While the Congress had a fairly close relationship with

¹¹⁹ Peter C. Newman, *The Canadian Establishment*, Vol. 1, (Toronto: 1975), and William K. Carroll, *Corporate Power and Canadian Capitalism*, (Vancouver: 1986).

¹²⁰ Keith Banting, *The State and Economic Interests*, volume 32 of the research studies prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Toronto: 1986), p.23.

¹²¹ K.G. Waldie, "The Evolution of Labour-Government Bargaining in Canada" in *Canadian Labour Relations*, volume 15 of the research studies prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Toronto: 1985), p.152.

the Department of Labour itself, its broader views on economic policy had little legitimacy with government. The Congress's positions on economic and trade policy were presented to government with no expectation that government would actually respond to the CLC's agenda. On economic policy issues, the CLC was an outsider in federal politics.¹²²

Smith acknowledges that this did not prevent the CLC from lobbying government and that in fact, during the 1960's "the Congress acted as a traditional interest group, lobbying government to protect union interests."¹²³

Hence, labour directly petitioned the Prime Minister for government action on automation and the result was the federal Advisory Committee on Automation and Technological Change. Not surprising, given the history of State-business, State-labour and labour-business relations in Canada, the Canadian Manufacturers' Association as the representative of business was to enjoy a more favoured relationship with the federal government during the tenure of the committee.

One of the earliest instances of tripartite mechanisms related to industrial relations was the *Industrial Disputes Investigation Act* in 1907.¹²⁴ Enacted through the instigation of Mackenzie

¹²² Miriam Smith "The Canadian Labour Congress: From Continentalism to Economic Nationalism", *Studies in Political Economy: A Socialist Review*, Vol. 38, Summer 1992, p. 36.

¹²³ *Ibid.*

¹²⁴ For a detailed discussion of this period, see Paul Craven, 'An Impartial Umpire'. Craven argues that "... the underlying principles of the *Industrial Disputes Investigation Act* have exhibited remarkable staying power," and that in fact, despite some modifications, the "same structure (of dispute settlement) remains largely in place." (p.6) James Naylor covers similar ground in, "Workers and the State: Experiments in Corporatism after World War

King in the newly founded Department of Labour (for whose creation the Trades Labour Congress had lobbied strenuously¹²⁵), the Act provided for the establishment of tripartite committees to investigate the causes of work stoppages or other disputes between owners and workers, and to call for binding settlements when the parties could not resolve issues among themselves. Considered quite a radical innovation, the legislation marked the beginning of a long involvement of state intervention in industrial relations, a characteristic that distinguishes the Canadian from the British and American models. Despite this long tradition of government involvement in labour/business relations, wide-ranging or permanent tripartite/corporatist structures have never been a feature of the Canadian political economy, with the exception of Quebec. Yet, even there, the cooperative relations among state, business, and labour would not conform to a strict definition of corporatist.¹²⁶

One", *Studies in Political Economy* (42) (Autumn 1993). Naylor pinpoints capital's successful attempts at blunting the efficacy of these tripartite structures participation as evidence of business's more powerful relationship with the state.

¹²⁵ James Naylor notes that the creation of the Department of Labour "encouraged a perception, especially among the leadership of the labour movement, that the department was their avenue into the inner workings of the state." *Ibid.*, p. 85.

¹²⁶ Leo Panitch has written extensively on corporatism -- or, as he would argue, the lack of corporatism -- in Canada and refutes claims made by a number of theorists that the Canadian experience could be characterized as corporatist. Panitch defines corporatism as: "...a political structure within advanced capitalism which integrates organized socioeconomic producer groups through a system of representation and cooperative mutual interaction at the leadership level and mobilization and social control at the mass level." (Panitch, "Corporatism in Canada", *Studies in Political Economy* (1) (Spring 1979), p. 44). In contrast, tripartitism can be defined as the participation of: government, business, labour in

Leo Panitch, a leading theorist of the corporatist experience in Canada, asserts that corporatism never developed here because of a variety of factors, including the fact that the Canadian labour movement has never posed a centralised threat (either politically or industrially) thereby creating insufficient pressure for the Canadian state to adopt corporatist governing structures. Panitch argues as well that the Canadian "branch plant" economy has precluded the necessary autonomy on the part of the Canadian business and government to convene decision-making bodies that would carry sufficient clout.¹²⁷ Panitch claims, despite Mackenzie King's inclination to corporatist views, and the strong Catholic character of Quebec unionism and the long standing social democratic tradition of Canadian labour, unions were too weak and business was too "politically powerful and reactionary" for "there to be any significant development towards tripartite corporatist policy-making in the inter-war years."¹²⁸

In contrast to the low expectations spawned by the lack of tripartite successes in the inter-war period, the labour movement of the 1950's anticipated a stronger role for itself *vis-à-vis* business and government. Labour based its hopes for greater influence in decision making on a number of factors including the gains that it had made during World War II and its aftermath, the

various fora to address particular issues of mutual concern. Cooperation is not necessarily the watchword of tripartitism.

¹²⁷ Leo Panitch, *Working Class Politics in Crisis: Essays on Labour and the State* (London: 1986), p. 143.

¹²⁸ Panitch, "Corporatism in Canada", p. 62.

purge of the communists from most labour unions that served to raise unionism's credibility with the Canadian public, and the high levels of cooperation that had been extended to the government during the war. The automation controversy presented the CLC leadership with the opportunity to press for more meaningful tripartite decision making. The experience of the Federal Advisory Committee on Automation and Technological Change was to demonstrate yet again the limits of labour's ability to influence very effectively government policies and programs. Conditions had not changed sufficiently in the post-World War II environment to compel either business or government to adopt meaningful tripartite/corporatist governing structures.

A half-hearted attempt from its very inception to its winding down and completion, the advisory committee foundered on misperceptions and mis-communication and an unwillingness on the part of business and government to concede the extent of automation's impact on labour. Formed mainly in response to repeated calls from the CLC for a more tri-partite approach to addressing automation, the committee met periodically from 1957-1965. Its rocky history witnessed the CMA's initial reluctance to participate and ended with the CLC's dissatisfaction with the way in which the committee had been managed. The committee spanned the last two phases of the automation debate, with the bulk of its work being completed in the end of phase I and the early part of phase II (1957-1958). The committee petered out by 1965 having only half completed its final research report, a suitably symbolic finish to

a tri-partite experiment to which both business and government had given grudging and limited support. The committee's last efforts coincided with the federal governments' (both the Conservative and Liberal) retrenchment from a full employment policy towards more micro-economic, labour market policies.¹²⁹ The last part of this chapter will examine this policy shift in greater detail.

Since 1955, the Canadian Labour Congress had been publicly voicing its concerns about automation. As its original cautious welcome gave way to a growing concern about job loss, the Congress increased its pressure on the government to address worker displacement. In a 1957 memorandum to the Prime Minister, the CLC called for the establishment of "A National Advisory Commission on Technological Change and Automation through which the Government may obtain advice and assistance from those directly concerned in an effort to develop plans for meeting these new problems with the resulting dislocation and unemployment."¹³⁰

The federal government resisted the creation of a body with such a far-reaching and pro-active mandate. As this was a matter of employment as well as industrial relations, it fell to the Department of Labour to deal with the CLC's request. Officials in the Department of Labour worked behind the scenes with Gordon

¹²⁹ See Robert M. Campbell, *The Full Employment Objective in Canada: Historical, Conceptual and Comparative perspectives* (Ottawa: 1991) and Bothwell, Drummond, and English, *Canada Since 1945*.

¹³⁰ RG27, Department of Labour records, vol. 922, file 8-9-155, part 1, Letter from Jodoin to Gregg, May 15, 1957. There is a typographical error in Jodoin's letter, however, as he refers to a "Memorandum of January 23, 1947".

Cushing, a vice-president of the Canadian Labour Congress, and with John Evans, chairman of the CMA's Special Committee on Education and Manpower, to devise a compromise.¹³¹ Haythorne, the assistant deputy minister, and Dymond, director of research, went to Toronto in early February of 1957 to meet with members of the CMA's Special committee to discuss research priorities.¹³² By April 1957, A.H. Brown, the deputy minister of Labour, was able to report to R.B. Bryce, the Clerk of the Privy Council, that "the C.M.A. people were apprehensive about having any dealings with organized labour on the subject of automation but in the end, indicated a willingness to suggest persons who might serve as individuals on a technical committee to advise on the types of studies needed of technological changes and their impact on manpower and training."¹³³

It is significant that Brown went to the Clerk of the Privy Council on this issue. As the CLC had made their request to the Prime Minister a matter of public record, the government was

¹³¹ RG27, Department of Labour records, vol. 922, file 8-9-155, part 1, Letter from Brown to Bryce, April 24, 1957. Brown sent the letter to Bryce to inform him that the department was planning to invite Jodoin and Bulman to participate in this advisory committee. Brown told Bryce that "this letter grows out of discussions which, as I mentioned to you earlier, Mr. Haythorne has had over recent weeks with members of the Employment and Education Committee of the CMA, chaired by Mr. Evans, and with Mr. Gordon Cushing a VP of the CLC."

¹³² Canadian Manufacturers' Association (CMA) papers, vol. 105, file "Special Committee on Manpower and Training", notes for Mr. Evans, February 19, 1957 meeting of the Committee.

¹³³ RG27, Department of Labour records, vol. 922, file 8-9-155, part 1, Letter from Brown to Bryce, April 24, 1957.

required to respond in some way. Naturally Bryce in his capacity as Clerk of the Privy Council, in effect the deputy minister to the Prime Minister, would be concerned with knowing how the Department of Labour was approaching the issue. Departmental officials were successful in assuaging the CMA's fears and were also able to persuade Gordon Cushing of the CLC that a national "meeting on automation ... might not accomplish much at this stage."¹³⁴ Brown reported to Bryce that " Mr. Cushing was favourably impressed with the suggestion [of] setting up a small advisory committee along the lines previously discussed with the CMA."¹³⁵ The committee would have no part in shaping the direction of the government's response to displacements in the economy caused by increasing mechanization and labour-replacing production techniques. In fact, the government went to some lengths to ensure that the committee would remain removed as far as possible from government policy making, and confined it to advising solely on matters relating to research.

Certain officials in the Department of Labour expressed misgivings that the advisory committee was to have such a minor role. An internal memorandum reflected this difference of opinion:

The point that bothers me is whether or not this committee will be recognized as a government committee which has the support of the Cabinet in full. If this is the intention it might be well to consider a submission to the Governor in Council to officially establish the committee as one recognized by the government. I think this particularly important in view of the fact that the

¹³⁴ *Ibid.*

¹³⁵ *Ibid.*

Canadian Labour Congress brought the need for such a committee to the attention of the government in its recent memorandum.¹³⁶

Departmental officials also dithered as to whether members of the proposed advisory committee were to receive a per diem. Arthur Brown, the deputy minister, questioned whether the per diem would help to maintain an arms-length relationship between the committee and the Department.¹³⁷ George Haythorne, the assistant deputy minister, argued that:

By giving them a per diem which might be \$30, the same as in this other case [University Research Committee on labour-management studies], we would feel under less obligation to them and to their firms or unions. This is also a rather delicate field which we are entering and I would like to keep the Committee as free as possible from any pressures which will interfere with our carrying out completely objective research. The value of the resulting studies will be enhanced if we can succeed in keeping the Committee's work as independent as possible. A per diem is by no means a guarantee of this but it will, I think, provide some moral support.¹³⁸

In a later note to Brown, Haythorne reiterated the necessity of maintaining an arm's length relationship. Although a per diem would not solve the issue entirely, Haythorne felt that: "... It is not, I think, the amount of per diem which matters as much as the fact that it helps to underline the independence of the

¹³⁶ RG27, Department of Labour records, vol. 922, file 8-9-155, part 2, Memo from P.R. Parent to Haythorne, November 6, 1957.

¹³⁷ RG27, Department of Labour records, vol.. 922, file 8-9-155, part 2, Memo from Haythorne to Parent, October 21, 1957. The memo contains a hand-written notation from Haythorne: "P.S. Since dictating this Mr. Brown has indicated that he still has some doubts about the per diem. In view of this you should leave this out unless you hear from him further."

¹³⁸ *ibid.*

Committee and to remove any suggestion of obligation on our part to those who help us in this matter."¹³⁹ It appears from the uncertainty concerning the per diem and Haythorne's reference to "a rather delicate field which we are entering", that these officials perceived the need to tread lightly with the labour and business representatives. The government mandarins were in fact constrained by the widely varying perspectives that each set of participants brought to the committee. On the one hand, labour had expected a much broader focus with stronger powers, while business representatives required a great deal of persuading to convince them to participate in the committee, even one with such a limited mandate.

Department officials canvassed the Canadian Manufacturer's Association (CMA) as to whether it would be willing to nominate representatives to the committee. The Department chose the CMA as opposed to another business group such as the Canadian Chamber of Commerce because Department of Labour officials wanted to concentrate on the manufacturing sector.¹⁴⁰ Haythorne was aware of the sensitive political nature of the issue, however, as is evident in his covering memorandum to the deputy minister that accompanied a draft reply to W.J. (Bill) McNally, Manager of the Policy Department, Canadian Chamber of Commerce, explaining why the

¹³⁹ RG27, Department of Labour records, vol. 922, file 8-9-155, part 2, Memo to Brown from Haythorne, October 22, 1957.

¹⁴⁰ RG27, Department of Labour Records, vol. 922, file 8-9-155, part 2, Memo to Brown from Haythorne, November 15, 1957.

CMA had been invited and not the Chamber of Commerce.¹⁴¹ McNally had written to Haythorne on another administrative matter, but in closing said: "I am informed that an Advisory Committee is being set up by the Department on technological changes and automation. I should be interested in having this confirmed and in knowing of the management representatives that might be involved as well as a description of the terms of reference of the Committee."¹⁴² Haythorne cautioned Brown that: "Mr. McNally may be a little sensitive about our contacting the Canadian Manufacturers' Association and not the Canadian Chamber of Commerce in regard to this Committee. I have tried in this letter to give him some of the background and to make clear why we have worked with the Canadian Manufacturers' Association in this regard. We may want to do some work in some of the non-manufacturing industries later but I thought it was just as well to leave this matter in abeyance for the moment."¹⁴³

While government officials pinned their expectations on participation from the manufacturing sector, members of the CMA were extremely reluctant to participate in the committee. CMA representatives feared that "the organized labour representatives would not be too interested in doing a thorough fact finding job

¹⁴¹ RG27, Department of Labour records, vol. 922, file 8-9-155, part 2, Letter from W.J. (Bill) McNally to Haythorne, November 13, 1957.

¹⁴² *Ibid.*

¹⁴³ RG27, Department of Labour Records, vol. 922, file 8-9-155, part 2, Memo to Brown from Haythorne, November 15, 1957.

but might use the information which they gathered as result of information they got from the management side for propaganda and other purposes."¹⁴⁴ This suspicion and mistrust did not bode well. Evans, the chair of the CMA's Special Committee on Education and Manpower, and his colleagues on the committee debated the merits of participating in the government's proposed tri-partite committee. He told the committee members that the deputy minister of the federal Department of Labour had approached the Association seeking their cooperation in such a committee. Evans noted that Departmental officials had raised this issue at their last meeting in July of 1956 when the Canadian Labour Congress was proposing that a conference or series of conferences be held "for what I presume would be a debate on automation and its effect on employment."¹⁴⁵ The chairman confided to his fellow committee members that: "... the Government is not too keen about this for obvious reasons, including political and also the fact that it doesn't know too much about it [the effects of automation] itself. In order, therefore, to get themselves off the hook, it proposes to form a tri-partite committee of management, labour and government to conduct research into the subject with a view to coming up with

¹⁴⁴ NAC, CMA papers, vol. 105, file "Special Committee on Education and Manpower" notes for Mr. Evans for the February 19, 1957 meeting of the Special Committee on Education and Manpower. It is very interesting to compare the official record as contained in the minutes of that meeting and the notes that Mr. Evans had prepared for his use during the meeting. His notes contain much greater candour and are less diplomatically stated, especially the references to the cosy relationship with the department of labour and the negative opinion held towards organized labour.

¹⁴⁵ *Ibid.*

some facts with which it could be armed in the event that the matter did reach the conference situation to which I have referred and also for its own information."¹⁴⁶

Despite his misgivings about labour's role and actions on the committee, Evans thought that the committee "would be in safe hands under George Haythorne [the assistant deputy minister], Arthur Brown [the deputy minister] and Bill Dymond [a director of research]."¹⁴⁷ Evans told his colleagues that he was "most anxious to co-operate with our good friends in the Department" and felt safe in giving a positive recommendation to the CMA's president as "they [Haythorne, Dymond and Brown] assure us that the proposed committee will be under their control at all times, is purely advisory and will never 'spin off' on its own."¹⁴⁸

In contrast to the CMA's reluctance to participate, CLC president Claude Jodoin's letter of acceptance to participate in the committee indicates the Congress' full support. Even so, the CLC still hoped that the committee would develop more of a policy advisory role, in line with their original recommendation to the Prime Minister.¹⁴⁹

¹⁴⁶ *Ibid.*

¹⁴⁷ *Ibid.*

¹⁴⁸ *Ibid.*

¹⁴⁹ RG27, Department of Labour records, vol. 922, file 8-9-155, part 1, Letter from Jodoin to Gregg, May 15, 1957. Jodoin wrote: "In line with the policy of the Canadian Labour Congress as above indicated and *hoping that your suggested Advisory Committee will eventually be in line with the official requests of our Congress* it is with pleasure that I submit the following names to represent the Canadian Labor Congress on this committee." [emphasis added]

The prospects for a smoothly functioning and productive advisory committee were dim. Not only was the CMA extremely reluctant even to participate in this committee, the CLC had very different expectations from both the CMA and the federal government as to the committee's roles and functions. As Jodoin had indicated to the Minister of Labour, Milton Gregg, the CLC would "co-operate to the fullest extent in *trying to solve these problems*."¹⁵⁰ The CLC representatives on the committee were under the mistaken impression that they were there to participate in problem solving while the CMA was there only as a means of maintaining its good working relationship with Department of Labour officials. The government, with pressure from business, had carefully stage-managed the entire creation and structure of the committee to ensure that committee members would have no real impact on the direction of government policy. Throughout the course of the committee's work, both the federal government and the CMA demonstrated weak confidence in and support for tri-partite decision making. Government perceived the need to quiet labour's public outcry for action, while business cooperated with government officials in order to maintain its strong contacts with and access to government. Given these conflicting sets of interests, it was little wonder that controversy soon arose.

Labour Quickly Becomes Disillusioned

The first meeting of the advisory committee, held on November

¹⁵⁰ Jodoin to Gregg letter, *ibid.* [emphasis added]

25, 1957, appeared to be a modest success. In an internal memorandum, the assistant deputy minister, George Haythorne, seemed slightly astonished that the meeting had gone so well.¹⁵¹ He reported that he was: "... glad to see that all the members of the committee were ready to take an active part in the discussion." He elaborated: "It was clear as we rather expected that the interest in the work of the committee was somewhat greater on the part of the union men than on the part of management but both groups took a constructive approach and many helpful observations and some suggestions were made...."¹⁵²

Apparently there had been one tense moment when George Burt, a CLC representative, reacted sensitively to a question raised by one of the CMA members, Mr. Hemsworth of Canadian Industries Limited (C.I.L.), concerning "the value of research on the effects of technological change on employment."¹⁵³ Haythorne told the deputy minister, Arthur Brown, that "this gave Mr. Burt an opportunity to emphasize rather emphatically the fear which many workers have about the effects of technological change particularly when they see other workers who have lost their jobs."¹⁵⁴ Haythorne, downplaying this exchange, concluded to Brown that the "first meeting was essentially an exploratory one for all of us.

¹⁵¹ RG27, Department of Labour records, vol. 922, file 8-9-155, Memo from Haythorne to Brown, November 25, 1957.

¹⁵² *Ibid.*

¹⁵³ *Ibid.*

¹⁵⁴ *Ibid.*

From comments made I think it is fair to say that there was clear evidence of genuine interest on all sides and I think we can look forward to some interesting and valuable sessions in the future."¹⁵⁵

Haythorne's feeling of optimism was soon deflated by a report carried in the December 25, 1957 issue of *The Guardian* newspaper of Windsor, Ontario. The headline on the first page of *The Guardian* blazoned "With Automation Who Cares About Jobs?." The report was based on impressions of the first advisory committee meeting that George Burt, director of the Canadian Autoworkers (CAW) union and a member of the advisory committee, gave to local UAW members. The reporter who covered their union meeting captured Burt's exasperation with the government and management representatives on the committee:

Autoworkers who met with management and the government soon found out that neither cared much what happened to the worker who lost his job through automation. Reporting on a meeting which took two years to arrange, George Burt, the Canadian director of the UAW said that labor [*sic*] representatives at the meeting "didn't get to first base." Burt said that representatives at the meeting, including delegates from Canadian Industries Limited, General Motors, Canadian General Electric, the Canadian Labour Congress and Government, had a great deal to say about management requirements for highly skilled people but little to say about those who lost their jobs. He said: "I can almost quote the reaction of the representative from C.I.L." He said 'suppose automation does cause increased unemployment. What are we supposed to do about it? You are not proposing that progress be stopped because technological change causes unemployment. We cannot do anything about it.' " This callous attitude on the part of management representatives was not new to us, but in that kind of meeting, was rather

¹⁵⁵ *Ibid.*

surprising...."¹⁵⁶

Burt's remarks caused consternation among Department of Labour officials, and in particular for Haythorne who insisted that "... George's report should be put straight!!"

Burt was concerned that the research proposals being discussed at the meeting were geared more towards industry's requirements than to labour's and were not addressing worker displacement. Burt indicated that he viewed the committee chair's explanation that the studies on displacement would be too difficult to carry out and that the result of one plant closure could not be generalized with cynicism. The *Guardian* reporter also noted that: "Burt said he would liked to have believed that the reports that were made to the committee, were made in good faith and the committee simply failed to do as comprehensive a job on the displacement of manpower as they did on manpower requirements, but he must confess there were evident signs that displacement was not a matter of greater concern to those who made the investigation. Burt claimed that the chairman [Haythorne] indicated a definite lack of desire to tackle the problem that is facing so many of our workers and said he would continue to press for a full-scale investigation through the Department of Labour." ¹⁵⁷

In an attempt to muzzle Burt, Haythorne sent a letter filled

¹⁵⁶ RG27, Department of Labour records, vol. 922, file 8-9-155, part 2, copy of the December 25, 1957 Windsor *Guardian* article.

¹⁵⁷ *Ibid.*

with thinly veiled reprimands and subtle warnings.¹⁵⁸ Haythorne told Burt that he had conferred with Mr. Cushing and Mr. Forsey (the other labour representatives on the committee), neither of whom shared the same recollection of the meeting as Mr. Burt did, particularly on the issue of the government's supposed lack of concern with the displacement effects of automation and technological change.¹⁵⁹ Haythorne attempted to ensure more conciliatory behaviour on Burt's part by invoking the subtle pressure of the need to work as a team with the management representatives:

As I said at the meeting, we can, I think, accomplish more in our work in this field if we keep our discussions of our Committee on an informal and essentially off-the-record basis. We must obviously have the goodwill and cooperation of management, and I was encouraged by the generally constructive attitude on the part of those from management at our first meeting. I sincerely hope this report in "The Guardian" will not give the work of our Committee a set back. I trust you will help to see that this is not the case and let me assure you again that there is no lack of desire on our part to obtain all the facts about the manpower effects of automation.¹⁶⁰

This letter must not have been too convincing, because Burt sent a feisty reply to Haythorne in which he very strongly insisted that his recollection of the meeting and his impression of the research program to date was that they were biased in favour of the

¹⁵⁸ RG27, Department of Labour records, vol. 922, file 8-9-155, part 2, Letter from Haythorne to Burt, draft dated January 13, 1958.

¹⁵⁹ *Ibid.*

¹⁶⁰ *Ibid.*

employers' perspective and not the displaced workers'.¹⁶¹ Burt told Haythorne that "I cannot understand how any committee of trained research people can possibly examine any of these heavy industries without finding evidence of displacement of manpower caused by technological change."¹⁶² Burt responded to Haythorne's accusation that the other labour representatives on the committee did not share his views. Burt wrote: "You also refer to checking with my colleagues, Mr. Cushing and Dr. Forsey, and I am also going to check with them, because at lunch time the day we met, we were agreed that a job had not been done on the matter of displaced workers, as it had been done on the requirements of skilled manpower."¹⁶³ Burt refused to allow Haythorne to rein him in.

Haythorne replied with a more conciliatory letter on February 13, 1958, in which he conceded that "It is true that we have devoted a good deal of attention to requirements in our studies of technological change in industry, but this should not be interpreted as implying that we have minimized the effect of these developments in displacing manpower. This is partly perhaps a question of definition."¹⁶⁴ Haythorne's letter exhibited an acute case of "bureaucratese", resembling something that could have

¹⁶¹ RG27, Department of Labour records, vol. 922, file 8-9-155, part 2, Letter from Burt to Haythorne, January 28, 1958.

¹⁶² *Ibid.*

¹⁶³ *Ibid.*

¹⁶⁴ RG27, Department of Labour records, vol. 922, file 8-9-155, part 2, Letter from Haythorne to Burt, February 13, 1958.

been written for the BBC television series, *Yes, Minister*, a political satire chronicling Whitehall's use of deliberately opaque language to bamboozle the elected members of the government.

Haythorne wrote:

In looking at the changing manpower requirements in individual occupations and in industries as a whole we have been concerned with all effects, both positive and negative, of technological and other developments as a background for discussing training and retraining needs. The extent and character of manpower displacement obviously differ under varying situations. We want to examine carefully a number of these differing situations to sort out the factors that are important in each, both in the short and in the long run.¹⁶⁵

Clearly, the government had no idea how to address automation, or more to the point, unemployment.

Partly because of the federal election, and partly due to contract talks in the car manufacturing sector, the Advisory Committee met only once in 1958. During the planning stage for the meeting in late spring of that year, Department officials conferred with the management representatives on the committee but did not consult with labour. They kept the new Minister, Michael Starr, a Progressive Conservative, informed of these developments in anticipation that certain labour representatives (most likely George Burt) might raise the issue of automation with the Minister.¹⁶⁶ Some of the caution in hesitating to solicit labour's views likely stemmed from the fact that the auto industry was in the midst of contract talks. Haythorne directed his staff

¹⁶⁵ *Ibid.*

¹⁶⁶ RG27, Department of Labour records, vol. 922, file 8-9-155, part 2, Memo from Haythorne to Brown, April 15, 1958.

to keep in mind that, "In view of the labour-management negotiations in the Automobile Industry this summer, it was generally agreed that most of the interviews which we want to have with union people might be postponed until after this summer or fall."¹⁶⁷

While organized labour was not happy with the inactivity of the advisory committee and despite its many calls for action¹⁶⁸, by 1959 the CLC seemed to accept the limitations of the committee and that labour would not have a meaningful role in policy decisions. CLC records do not reveal why labour leaders made such an about face. Within the span of one year the Congress reversed its demands for a wide-reaching body to investigate the effects of automation on workers to acceptance of the limited role of the federal advisory committee. Even allowing for the public posturing of Claude Jodoin and George Burt, who may have exaggerated their feelings of high umbrage for the purposes of public consumption, the CLC's reversal, on the surface at least, seems to be a radical departure in policy. However, it would seem, that the CLC, despite calls for more direct intervention, had never been prepared to

¹⁶⁷ RG27, Department of Labour records, vol. 922, file 8-9-155, part 2, Memo from Haythorne to Dymond and Francis, April 15, 1958.

¹⁶⁸ For example, an April 16, 1959 press release issued by the International Brotherhood of Railway workers that stated: "The Canadian Labour Congress has repeatedly called upon the government to establish a committee of management, labour and government to investigate the effect of automation on unemployment and to make appropriate recommendations for compensation. So far no action has been taken." Department of Labour records, vol. 922, file 8-9-155, part 2, Press release attached to memo from Dymond to Haythorne, April 27, 1959.

press for radical change. Adherents of the essentially conservative *laissez-innovate* ideology, labour leaders saw in automation primarily the chance to press for more direct involvement in government policy making. Otherwise they were supporters of the economic and political status quo. They did not actually believe that major technological innovation was something they could "progressively" oppose or shape.

Even so, Eugene Forsey, a member of the advisory committee and director of research at the CLC, pressed for incremental changes in the way in which the committee was conducted. Forsey felt that all parties would be better served if the labour members of the committee were ones with a research background, rather than elected labour officials, whom Forsey termed as the "brass."¹⁶⁹ Forsey intimated to Haythorne that the question of who should represent the Congress was a delicate issue and would he please keep the matter to himself as the CLC's Executive Committee had not yet been apprised of Forsey's thinking.¹⁷⁰ It is interesting to note Forsey's openness with Haythorne; presumably, it speaks well of the closeness of their working relationship.¹⁷¹ Haythorne agreed with all of Forsey's points.¹⁷² It was, after all, to the

¹⁶⁹ *Ibid.*

¹⁷⁰ *Ibid.*

¹⁷¹ Smith and Waldie, *op cit*, both note that CLC enjoyed a good working relationship with department of Labour officials.

¹⁷² RG27, Department of Labour records, vol. 922, file 8-9-155, part 2, Memo from Haythorne to Dymond, Haythorne told Dymond: "Perhaps Mr. Francis and Mr. Cohen could draft a reply next week. It is a helpful letter and on the whole looks to be

Department's advantage to get loose cannons like George Burt replaced on the committee by presumably less volatile research types. In his reply to Forsey, Haythorne told him that "I am in full agreement with the Congress Committee's conception of the function of the Technological Change Committee namely that it is a fact-finding and not a policy-making body."¹⁷³

Despite the private understanding between Forsey and Haythorne that action be limited to research at this point, the Congress publicly continued to press the government to keep the issue of automation alive. CLC records indicate that the Congress, which had established its own internal committee on "Automation and Technological Change" headed by George Burt, remained interested in some form of consultation with government and business as late as 1967. John Fryer, Eugene Forsey's successor as head of research at the CLC, was directed to follow up with the Department of Labour, but received no satisfactory reply as to the committee's demise. By the mid-1960's the government appeared to favour other instruments for consultation such as the newly created Economic Council of Canada.¹⁷⁴ The last meeting of the "Advisory Committee on Technological Change, the reference to automation in its title having been dropped as early as 1960, was held on

sensible."

¹⁷³ RG27, Department of Labour records, vol. 922, file 8-9-155, part 2, Letter from Haythorne to Forsey, September 9, 1959.

¹⁷⁴ NAC, Canadian Labour Congress papers, Reel H-625, "Report of the CLC Committee on Automation and Technological Change to CLC Executive Council Meeting June 5 and 5, 1967 [sic]"

March 5, 1965.¹⁷⁵

As early as 1960, Haythorne was admitting to other officials that the Department was unable to ascertain the exact displacement effects of automation or other technological change.¹⁷⁶ Haythorne explained that: "It has been our intention from the beginning of this work to look into the displacement consequences of technological change. As I recall, this point was brought up at the very first meeting of our Committee. The real problem is not lack of an attempt to examine such displacement, but rather to find a reliable method of tracing through the extremely complicated manpower adjustment which technological changes trigger."¹⁷⁷ Haythorne confided to Ballard, Vice-President of Research at the National Research Council (NRC) and a member of the Advisory Committee, that in "the earlier stage of our research we were inclined to oversimplify this process and to think that such displacement could be traced relatively easily from specific cases of technological change. We know now that the process of adjustment does not work in this simple and direct a manner."¹⁷⁸

¹⁷⁵ Unfortunately the minutes of meetings of the Advisory committee subsequent to 1960 appear to have been lost. A review of RG27, Department of Labour records, do not reveal any reference to these meetings. A search of the CLC files indicated that the March 5, 1965 meeting was the committee's last.

¹⁷⁶ RG27, Department of Labour records, vol. 922, file 8-9-155, part 2, Letter from Haythorne to Ballard, October 31, 1960. Ballard, Vice-President of research at the National Research Council (NRC), was also a member of the Advisory Committee.

¹⁷⁷ *Ibid.*

¹⁷⁸ *Ibid.*

Not only was the Department unable to trace the displacement effects, Haythorne believed that reports of job creation attributed to technological change were greatly exaggerated. Intimating the effects of a "branch plant" economy, Haythorne mused:

As we move along in this work I think we are going to find that we do not in this country benefit from some of the job-creating results of technological change to the extent that some people may assume. The design and manufacture of new machinery do, of course, increase employment, but a substantial amount of that takes place outside of Canada. This point came up I believe at the last meeting. In some areas we in Canada are in the rather unfortunate position of having to suffer all of these short-run displacement effects of technological changes without benefitting greatly from the employment-producing effects.¹⁷⁹

What is uncertain is whether Haythorne and his colleagues shared the same candour with the business and labour representatives on the committee. In effect, the senior level of the bureaucracy were conceding that the government was helpless to do anything to mitigate the negative effects of technological change.

Reversing the Commitment to Full Employment

In his analysis of the federal government's commitment to full employment policies, Robert M. Campbell argues that by the early 1960's, the federal government had rejected Keynesian analysis in favour of "a long-run supply orientation".¹⁸⁰ This shift to training and other "manpower adjustment" programs was based on a reinterpretation of the causes of unemployment. In his analysis,

¹⁷⁹ *Ibid.*

¹⁸⁰ Campbell, *The Full Employment Objective in Canada*, p.8.

Campbell lists three reasons why the government abandoned its Keynesian commitment: the recession in the late 1950's; the increased importance of automation in production and rapid technological change; and thirdly, the exceptional growth of the labour supply.¹⁸¹ Government felt that it could no longer effectively address unemployment; therefore, labour adjustment (micro-economic policies), not the achievement of full employment (macro-economic), became the main policy focus. In effect, the government had abandoned Keynesian economic management. The naive faith of the late 1940's in the efficacy of fiscal policy gave way to a recognition that unemployment was a more complex phenomenon than the function of swings in the business cycle. The drive to supply-management policies (e.g. training, joint labour/management committees, industrial sectors) also provided a convenient political "out" in that government could not be expected to totally reverse persistent problems of "structural" unemployment through micro-level interventions. These programs were designed for local application, and not system-wide manipulation.

It is also no coincidence that the government switched from references to automation and turned instead to technological change in the early 1960's. Like the "structural" causes of unemployment, technological change provided a handy rationale for not dealing with unemployment. Technological change connotes a permanent process and creates the expectation that, like the Canadian Shield, it would remain an eternal fixture of the landscape. As Michael

¹⁸¹ *Ibid.*

Bliss writes in his overview of federal industrial policies: "three major problems appeared to emerge in the late 1950's, and not since receded from political consciousness ... high rates of unemployment, particularly among the unskilled, regional disparities, and the perceived decline in the manufacturing sector relative to primary and service sectors."¹⁸² The government sought to absolve itself of responsibility for rising unemployment by renaming its causes.

Conclusions

While the John Diefenbaker (Progressive Conservative) and Lester Pearson (Liberal) governments couched their supply-management policies in activist terms in the 1958-1964 period, these policies were band-aid solutions to the persistent problem of unemployment.¹⁸³ The substitution of the word "technological change" for "automation" in the vocabulary of both regimes had

¹⁸² Michael Bliss, *The Evolution of Industrial Policies in Canada: An Historical Survey*, Discussion Paper No. 218, Economic Council of Canada, June 1982, p.32. Bliss reiterates this position in his 1987 book, *Northern Enterprise*, (Toronto), in which he describes how in the late 1950's government became concerned about regional disparities and looked for more structural interventions as Keynesianism seemed to fail during recession in late 1950's. Bliss summarized government thinking as follows: "If jobs in traditional manufacturing were threatened by a combination of slow growth and 'automation', for example, the federal government should train new workers and retrain old workers for new, high-tech jobs.", p.508.

¹⁸³ Despite the Liberal election rhetoric and the 1963 Throne Speech declaration that "Canadian, young or old, who wants a job must be able to find one" (Campbell *The Full Employment Objective in Canada*), the Pearson government's micro-economic policies were nearly identical to those of Diefenbaker's Conservatives.

important implications. A benign sounding word, one denoting some form of process, replaced the more revolutionary sounding "automation", and by doing so mandated the government to avoid coming to grips with the impact of automation on the economy and on unemployment. Government, in effect, ceased to "translate" the word automation with its implicit threat of job loss and worker dislocation and its reminder of systemic economic and social problems. In fact, the second, 1958-1964 phase of the automation controversy coincided with the shift to the so called neo-Keynesian stage of economic management. First, the Conservative Diefenbaker, and then the Liberal Pearson governments embarked on a series of micro-economic, supply management tactics, that would see the federal government support education and training as well as other labour adjustment programs while withdrawing from its already tepid commitment to full employment policies.

The experience of the federal Advisory Committee on Automation and Technological Change supports Campbell's speculations concerning the unwillingness of business and government to construct a more interventionist instrument to tackle the unemployment challenges posed by automation. The CMA was reluctant even to participate in an advisory committee, let alone the tripartite body that labour leaders had been championing. However, the CLC's own demands for action amounted to little more than public posturing by labour. Postulants of the *laissez-innovate* mentality to the same degree as business and government, labour leaders did not press their demands for a radical restructuring of economic and

political systems. Labour soon abandoned its attempts to turn the automation issue into a vehicle for greater tripartite decision making and resigned itself to a purely research mandate for the committee.

From the earliest stages of the committee's formation, government, in tandem with business, successfully shut out any meaningful discussions on addressing the negative effects of automation. The government representatives responsible for the committee were hampered by their own (admitted only in private and only to other officials) ignorance of automation and its effects. To have acceded to labour representative George Burt's criticisms that the committee was focused too exclusively on the concerns of the committee's business representatives, Assistant Deputy Minister George Haythorne would have been forced to admit that skill requirements for industry was a subject that the Department was prepared to discuss while it neglected issues relating to worker adjustment, about which government officials and researchers alike knew very little. Several years of fitful research left them none the wiser.

With the change in policy from macro-economic aggregate demand and supply management, the federal government set the stage for more one-on-one relations between business and labour. The third stage of the automation debate was characterized by greater labour unrest and a move towards action at the individual firm level, rather than a focus on economy-wide solutions. The second phase of the automation debate had marked a change in labour's perspective

towards automation from one of "cautious welcome" to that of open mistrust. As we shall see in chapter four, growing labour unrest led in the direction of "hard bargaining". However, labour was unable to turn the tide away from the growing tendency to label automation as simply a variant of technological change. As the debate entered its final phase, calls for profound change were fainter and fainter.

Chapter 4

Phase III (1965-1969): The Controversy Fades Away

The third phase of the automation controversy (1965-1969) was marked by a more militant stance by organized labour, who turned from calls for economy-wide solutions and instead placed a greater emphasis on collective bargaining and joint labour/management projects. The government, meanwhile distancing itself from industry and firm-specific issues, now considered automation as an issue for employers and employees to solve by themselves. Government would provide overall support for these private initiatives through labour market policies such as education and training. During the third phase of the controversy, Canadian use of the word automation gradually petered out, with only members of the labour movement making any reference to it and even they made greater use of the more general term, preferred by government -- namely, "technological change." Despite much sound and fury in the first phase of the controversy before 1958, and seeming evidence of mass technologically induced unemployment in the recession-plagued second phase to 1964, by the third phase of the controversy in the second half of the 1960's all three actors were focusing more

attention on micro-economic policies and the promise of "rational management." The automation controversy was therefore to end on a considerably quiet note. References to the "most revolutionary concept of the twentieth century" were fewer and fewer, as other words were invented or employed to continue the dialogue on full employment in Canada.

In terms of business, many employers responded to the displacement caused by automation by negotiating joint technological adjustment agreements with labour unions. One of the best examples of these types of projects was Domtar Limited's Industrial Conversion Plan (ICP). The Plan included a company adjustment fund, co-financed by Domtar and its workers, that would be used to supplement existing programs to help workers cope with technological change.¹⁸⁴ The *Labour Gazette* reported a similar type of agreement between the Oil, Chemical and Atomic Workers' Union and Imperial Oil Ltd.¹⁸⁵ Canadian Pacific Airlines and the Airline Navigation Association negotiated a plan that the *Financial Post* deemed "May Set the Pattern for Adjustment to Automation".¹⁸⁶ The Canadian Pacific Airlines plan included severance pay for navigators if they were replaced by electronic equipment. All navigators represented by the Association were expected to be replaced by equipment within the ten years of the

¹⁸⁴ *Financial Post*, October 5, 1968, p.40. Also reported in the *Labour Gazette*, March 1967, pp.174-175.

¹⁸⁵ *Labour Gazette*, May 1967, p.296.

¹⁸⁶ *Financial Post*, October 12, 1967, p.5.

agreement negotiated by the union and the airline.¹⁸⁷ In 1968, the Economic Council of Canada issued *A Declaration on Manpower Adjustments to Technological and Other Change* that concluded that while automation is "necessary to prosperity" it nonetheless necessitates adjustment policies such as manpower planning, advance notice, training and retraining, portability of pension rights, and financial measures (e.g. severance pay). The Council's report merely confirmed the relevance of practices already wide-spread in the private sector.¹⁸⁸

Organized labour's faith in firm-specific agreements was influenced by the experience of their American counterparts. The trend towards a "hard" bargaining position had begun in the U.S. as early as 1963. Ewan Clague, Commissioner of Labor Statistics, U.S. Department of Labor concluded that: "with many unions experiencing substantial amounts of unemployment among their members, there has been less incentive to strike; what has occurred is an increase in "hard" bargaining, with unions' emphasis on job protection and management pressure for changes in the work practices in order to reduce labour costs."¹⁸⁹ While Canadian unions tended to follow this trend in bargaining tactics, by 1966 few unions could report much success. *Canadian Labour* reported that in a survey of 5000 collective agreements, few unions had "been able to negotiate

¹⁸⁷ *Ibid.*

¹⁸⁸ *Labour Gazette*, April 1968, pp.234-235.

¹⁸⁹ *Canadian Labour*, November 1963, p. 21.

adequate protective clauses".¹⁹⁰

Unions found that technological change blunted the strike weapon. J.R. Duncan, Canadian Director of the Oil, Chemical and Atomic Workers Union, concluded that the strike held by the union against a British American Oil Company refinery just outside of Toronto in 1965 was rendered less effective because management could more easily find replacement workers because fewer were required.¹⁹¹ Automation was also linked to declining numbers of unionized workers. Fewer union members meant less power at the bargaining table. Eugene Forsey, the CLC's director of research in the mid 1950's and early 1960's, had noted as early as 1961 that labour was losing members in the manufacturing sector due to lay-offs and that prospects for organizing white-collar, service sector workers did not look promising.¹⁹²

Not only did labour adopt a tougher stance with employers, it also became more critical of government during the last phase of the automation controversy. John Fryer, the CLC's director of research in the late 1960's, wrote that unions were forced to resort to "hard" bargaining tactics in order to: "to fill the gaps left by the government in its manpower, economic, and social legislation."¹⁹³ No doubt labour's more adversarial stance towards public policy makers was caused in part by the federal

¹⁹⁰ *Canadian Labour*, May 1966, pp. 32-34.

¹⁹¹ *Canadian labour*, January 1967, pp 5-6.

¹⁹² *Canadian Labour*, February 1961, p. 5.

¹⁹³ *Canadian Labour*, October 1968, p. 45.

government's reluctance to adopt the Freedman Commission recommendations. Justice Samuel Freedman, a federal judge, was appointed as mediator in a railway strike at Canadian National Railways (CNR) in 1964. Freedman concluded that the CNR had an obligation to defer any technological changes until its trade unions had been notified and had been given an opportunity to treat the changes as a negotiable term.¹⁹⁴ The CLC lobbied to have the Freedman report recommendations adopted, but it took six years before a federal labour Minister, Bruce Mackasey, even considered reviewing the legislation.

At its 1966 Convention, the Canadian Labour Congress passed a resolution demanding:

...that all technological change be the subject matter of meaningful negotiation. It is therefore the government's responsibility to enact the necessary legislation that will (a) ensure that the introduction of technological change will be negotiable and (b) guarantee the right to strike, even during the contract term, in the event that such negotiations fail to produce a satisfactory settlement.¹⁹⁵

The federal government offered no response to this demand. Rather, in this phase of the controversy, it was turning increasingly to the creation and support of joint labour/management committees that would operate independently of government. In announcing the creation of the Manpower Consultative Service in 1964, Labour Minister Alan J. MacEachen described a program whereby government would pay up to one half of the cost of research or the costs

¹⁹⁴ *Canadian Labour*, May 1966, pp. 32-34.

¹⁹⁵ NAC, Canadian Labour Congress Papers, Reel H-625, 1966 Convention Document.

incurred in developing programs to help employers and unions create adjustment programs. MacEachen concluded that the overall aim of the Service was "to reduce hardship and unemployment caused by technical change."¹⁹⁶ In a 1968 report to the International Labour Organization (ILO), the federal Department of Labour explained that the Service was established because:

In the early 1960's the Government recognised that technological changes were likely to have an increasingly important effect on employment, skill requirements and working conditions, and that problems of adjustment would inevitably arise at the plant level.¹⁹⁷

The ILO report noted that the Service "also facilitates the coordination of plant-level planning with government programmes designed to assist redundant workers to find and qualify for new jobs."¹⁹⁸ By 1966, seventeen agreements "had been signed in a wide variety of industries and in various regions of the country."¹⁹⁹

By the late 1960's, the Canadian Labour Congress grudgingly had admitted that the government's supply management policies were necessary. John Fryer acknowledged that "a rapidly growing economy would not itself guarantee full employment" and also "needed are

¹⁹⁶ *Financial Post*, August 22, 1964, p.6. Digest of Alan J, MacEachen's remarks on the new Manpower Consultative service to International Association of Government Labour Officials in Vancouver.

¹⁹⁷ International Labour Organization, *Manpower Adjustment Programmes III: Canada, Italy and Japan*, Part of the Series on *Labour and Automation*, Geneva, 1968, p. 62.

¹⁹⁸ *Ibid.*

¹⁹⁹ *Ibid.*

manpower policies to train, retrain, and relocate workers in the face of technological and other change."²⁰⁰ It is significant that Fryer referred to "technological change" and not automation. His usage epitomized the way in which organized labour relinquished the word automation after 1965, turning instead to the more benign sounding phrase, technological change.

While labour unions may have acknowledged the need for more supply-oriented policies instead of relying solely on Keynesian economic management, the Canadian Labour Congress was not happy with the consultative mechanisms developed by the federal government in the 1960's. In his work for the Royal Commission on Canada's Economic Prospects (MacDonald Royal Commission) Kenneth Waldie has traced the development of labour government relations in Canada since World War II and in particular formal mechanisms established by the government to consult with business and labour, including the National Productivity Council and its successor the Economic Council of Canada.²⁰¹ The National Productivity Council (NPC) was established in 1960 and it had 25 members drawn from industry and commerce, organized labour, agriculture and other primary industries, as well as government representatives. Waldie

²⁰⁰ *Ibid.*

²⁰¹ K.G. Waldie, "The Evolution of Labour-Government Bargaining in Canada" in *Canadian Labour Relations*, volume 15 of the research studies prepared for the Royal Commission on the Economic Union and Development Prospects for Canada (Toronto: University of Toronto Press, 1985). Leo Panitch, "Corporatism in Canada", comes to similar conclusions as those of Waldie's with respect to the CLC's mistrust of both the National Productivity Council and the Economic Council of Canada.

argues that the NPC:

... was a precedent-setting venture. In the first place, it was the first fully fledged attempt in Canada (other than during the war) to coordinate business, government and labour in the pursuit of national objectives. Its mandate, in broad terms, was to 'promote and expedite continuing improvement in productive efficiency in the various aspects of Canadian economic activity.'²⁰²

Of the five sub-committees established during the brief life of the NPC, none dealt specifically with automation, while one looked at scientific and industrial research and one with labour training and re-training. Organized labour became quickly disaffected from the Council; CLC President Claude Jodoin resigned from it in 1962 because, according to labour, the Council was focusing only on productivity issues of more concern to management while ignoring broader economic issues like unemployment.

CLC records indicate that labour was also wary of the NPC's successor organization, the Economic Council of Canada. The Economic Council held a National Conference on Labour-Management Relations in November 1964 to "discuss methods of developing labour-management cooperation in industry outside of collective bargaining."²⁰³ A second national conference was held in spring of 1967, where delegates "considered the suggestion of a top-level joint consultative committee should be formed at the national level".²⁰⁴ Even at this late date, the CLC was still trying to revive the Department of Labour's Advisory Committee on

²⁰² *Ibid.*, p.159.

²⁰³ ILO, *Manpower Adjustment Programmes III*, p.58.

²⁰⁴ *Ibid.*

Technological Change discussed in the previous chapter. John Fryer advocated the creation of a new committee within the Department of Labour, because the Congress "should not trust to the newly formed Economic Council of Canada proposal to strike a similar kind of committee. It seems to us that this committee specializing on technological change can be a better instrument for this purpose than dealing with it through the Economic Council of Canada".²⁰⁵ Labour's distrust of the Council did not bode well for further collaborative action on the part of business, labour and government.

A review of the literature concerning automation and technological change produced during the third phase of the controversy (1965-1969), reveals the emphasis placed on industrial relations and remedies applied at the individual firm level. Whereas early periods in the controversy had looked at the social and economic effects, by the last phase pundits were more concerned with labour/management relations. A number of conferences were convened to examine this area, including a 1965 "Labour Management Conference on Economic and Technological Change in the Sixties" held at the University of British Columbia. In the same year and at the opposite end of the country, Dalhousie University sponsored in collaboration with the Institute of Public Affairs, a "Joint

²⁰⁵ NAC, Canadian Labour Congress Papers, Reel H-625, "Report of the CLC Committee on Automation and Technological Change to CLC Executive Council Meeting June 5 and 5, 1967." [sic]

Labour-Management Study Conference."²⁰⁶ 1966 saw similar conferences at Guelph and the University of Toronto, while in 1967, the Economic Council of Canada sponsored a "National Conference on Labour-Management Relations" in Ottawa.

The focus on individual workplaces and labour/management cooperation along with the gradual elimination of references to the word "automation" marked the end of the automation controversy in Canada. After 1969, references to automation were rare, the term having been replaced by the more general term "technological change."²⁰⁷ Automation reappeared in the mid-1980's to describe the "micro-technology revolution" in personal computers, but the word did not have the same resonance and wide-spread public recognition that it had enjoyed in the period 1955-1969. Other threats, namely international competition (Free Trade) and economic

²⁰⁶ The federal Department of Labour (as of 1993, Human Resources Development Canada) maintains a collection of conference papers concerning labour/management relations.

²⁰⁷ Determined by a review of the *Canadian Periodical Index*, 1949 to 1993 inclusive. A search of the general term "automation" reveals that in the 1948-1959 edition of the *Index*, automation appeared seventy times, and throughout the rest of the 1960's references ranged from eight to sixteen per year. At the same time, cross-references to automation appeared under various sub-headings and these grew increasingly elaborate. For example, in the early sixties, references were made to "accounting systems", but in the late sixties there were references to economic and social effects, as well as particular applications including electronic data processing as computerization increased. After 1970, there were no references to automation in the general index at all until 1980, and these were sporadic until 1985. After 1985, there were few references to the general term "automation", although the number of cross-references increased to at least forty different sub-headings and sometimes as many as fifty (e.g. 1992). Nearly all these cross-reference refer to automation's application within specific sectors (e.g. "Archives- automation").

restructuring, had crowded it from the public policy agenda. The automation controversy had ended with a whimper and not a bang.

CONCLUSIONS

What is the essence of a public controversy? A subject like automation, which captured the public agenda for a considerable time period, must engender opposing viewpoints or interests and must contain areas of disputed interpretation. The need for simplicity and sharply drawn sides may be a function of the way in which public policy controversies take place via the media and public figures. Politicians' reputations among their constituencies, as well as those of business and labour leaders, rest with their ability to define a problem in such a way that it can be solved by whatever ideological prescription that particular side favours. In terms of framing the controversy, labour succeeded in keeping the issue on the public agenda for fourteen years but was singularly unsuccessful in challenging the prevailing definition of the word or in coining ones which would work to its own advantage. For example, had labour been able to demonstrate that automation was a revolutionary innovation liable to exact as much deprivation and social unrest as early industrialization, government would have been compelled -- by elite and public opinion -- to have taken strong measures to cope with the threat, possibly even to the point of acceding to labour's demands for a greater say in economic management.

Business, seeing less at stake than labour, was somewhat more divided in its approach to the word. This disadvantage was offset

by its ready supply of consultants who continually refined and updated the types of automation possible and kept the terminology confusing, thereby harder to pinpoint and oppose. The term automation, couched in the sacred precepts of science and technology -- the holiest of holies of twentieth century North America -- captivated the public *zeitgeist*, which was both entranced and terrified by the technical wonders contained in computers, solid state electronics and atomic energy.

The automation controversy was at its most intense during the first phase (1955-1957) when it captured the public's imagination as an atomic age wonder and potential threat to workers' jobs. At this time both business and labour welcomed automation; however, labour was much more cautious in its response. Almost from the very beginning, the definition of the word caused some controversy among experts. Based in the technical breakthroughs made in weapons research during World War II, and applied in manufacturing plants like automobile production in the late 1940's, automation was argued by some to be the next logical step in the evolution of mechanization, but to others it represented a radical departure that marked the "second" industrial revolution. John Diebold, who made his fortune advising other businessmen how to capitalize on automation's benefits, saw automation as more than a change in production line techniques, but as whole system of production, information management and control. Diebold was certainly ahead of his time in predicting the "information age" where business would be rarely conducted without the aid of computers.

Other scientific experts recommended caution concerning the wide-scale application of automation. Mathematician Norbert Wiener, a leader in the development of the theories of numerical control necessary to automation's invention, predicted the equivalent of slavery where workers would be forced into low-paying, bare subsistence waged jobs, forced out of higher paying positions by the "thinking machines". Propelled by the optimists' perspective of John Diebold and others like-minded and disquieted by doom-sayers like Wiener, automation captured a place on the public agenda. Despite the lack of major development in Canadian manufacturing, Canadian business, political and labour leaders nonetheless fell prey to the same fears and fascination as their American neighbours.

What is significant in the automation controversy is that organized labour, who had more at stake because of its traditionally weaker position of influence on the State relative to business interests, did not challenge definitions created by the technocrats, nor did labour create and promote its own, challenging definitions of automation. In terms of *translation*, the CLC made no lasting imprint on the meaning of the word. Even so, the leaders of the Canadian labour movement favoured its use, no matter how and by whom it had been defined, because they understood the resonance of fear and fascination that the word could evoke. As we saw in chapter one, translation refers to the theory that ideas or artifacts (technology) are moved from one incarnation to another in a chain of evolution via interested actors. In this case, the

actors were Canadian labour, business, and government. Hugh Aitken, who also has used the actors-network approach, favours the notion of key translators who "decide what to translate and what to ignore."²⁰⁸ In this case, labour did not perceive the necessity of further translation of automation to its membership and to the public at large. The essentially conservative labour leadership left the task of definition and further translation to business.

In fact, labour's failure to impose a definition on "automation" led to a weak translation that ultimately favoured business's interests. In its research report prepared for the Royal Commission on Canada's Economic Prospects in 1956-1957 (Gordon Commission), the CLC accepted the terms put forward by government and business. Had the Congress subtitled its report "Automation: Job Killer", the CLC's stake in the automation controversy would have been more clear cut and decisive and the government under more pressure to assuage labour concerns. Instead, during the first phase of the controversy in Canada, as in the United States, labour displayed a "cautious welcome" towards automation, thus demonstrating the essentially conservative approach of North American labour leadership in the mid-1950's through the early 1960's. This was a labour movement that believed in the Fordist compromise and the security "guaranteed" by governments' commitment to Keynesian economic principles and the promotion of full employment policies.

²⁰⁸ Hugh Aitken, *The Continuous Wave: Technology and American Radio, 1900-1932* (Princeton: 1985), p. 20.

Throughout the first phase of the controversy in Canada, most business leaders displayed an unbridled enthusiasm for what they perceived to be automation's main advantages: increased productivity and the means to compete in a growing global economy. Some business pundits openly praised automation because of its labour-saving potential, while others emphasised the gains to be made for workers through better working conditions and more interesting work. In their support for automation, business recognized that the transformation it represented would require a new kind of worker, one highly skilled and better educated. The Canadian Manufacturers' Association (CMA) struck a special committee to study the issue of skilled manpower in Canada. The Committee concentrated on promotional activities, special features in the CMA's house organ, *Industry*, and the preparation of speeches for CMA members on the importance of excellence in education. The CMA also sponsored and/or participated in a number of conferences organized to push for an improved educational system.

However, business maintained a very hands-off approach to the whole question of funding education, and was happy to view education as a social responsibility, more appropriately funded from the public purse. The CMA's position on the funding of higher education was indicative of business's attachment to the status quo, whereby "capitalists were offered market-based economic stability, no increase in public ownership, no economic planning, low taxes, and low interest rates."²⁰⁹ Even if automation

²⁰⁹ Campbell, *The Full Employment Objective in Canada*, p.3.

represented something revolutionary, business saw neither the need for nor the desirability of a fundamental change in the relationship between the State, capital and labour. From the business perspective, tinkering at the margins by improving the educational system, would be sufficient to ensure a smooth transition to the age of automation. Given the massive expansion of post-secondary and technical education in the 1960's and 1970's, it can be argued that business's lobbying efforts with regard to investments in skill training and worker education met with great success. This is not to contend that this was the sole reason for the major growth of the Canadian educational system -- demographics among other factors was certain to increase the demand for more institutions -- however, it is telling how similar were both governments' and business's preferred solutions with regards to the challenges wrought by technological change.

Despite the great attention paid by business and labour leaders towards the new technological marvel by 1955, the State did not immediately respond to the automation controversy. The federal Department of Labour adopted a wait-and-see attitude. Government officials in the mid-1950's were convinced of the efficacy of Keynesian economic management, as long as the government was able to maintain full employment conditions, any problems raised by automation could be contained. That complacency and the booming economy accommodated the instinct to temporize. In the meantime, the Department would study the issue, conduct some inquiries in the field offices located outside of Ottawa, and brief the Minister

should he be questioned by reporters or Opposition Members of Parliament.

With a diminished economic outlook and higher unemployment levels, automation was more directly linked in the public's mind with job losses during the second phase of the controversy (1959-1964). Business and labour adopted more strident tones as business accused union leaders of luddite behaviour and labour called for extensive tri-partite efforts to reverse automation's negative effects. Business itself was less enthralled with so called "Detroit automation" (manufacturing and assembly line techniques) as limitations in the technology were discovered and costly mistakes made.²¹⁰ In its exuberant embrace of automation, business had unintentionally freed a chimera of its own making. The recession of the late 1950's played into labour leaders hands as they became more confident in making direct links between automation and unemployment. By proclaiming automation as a revolutionary development, business had inadvertently opened the door for labour to make demands for radical changes in the political and economic systems. The essentially conservative, technological determinist outlook of Canadian labour leaders meant that the opening was not explored.

The tenor of the controversy changed during its second phase.

²¹⁰ International Labour Organization (ILO) Director-General David A. Morse referred to continuous automatic production or integration as 'Detroit automation' "in honour of the city where it got its start." Morse's report, "Automation and the Industrial uses of Atomic Energy," in which he made this reference to Detroit automation was carried in *Canadian Labour*, July 1957, p. 12.

Business leaders were now quick to level the charge of luddism if unions appeared to oppose technical innovation. Sir Leon Bagrit, a leading British industrialist, gave a widely-broadcast series of lectures on the BBC in which he invoked the Frankenstein myth in order to demonstrate how groundless labour leaders' fears were. One memorable passage must have struck a particular cord with Canadian political leaders:

For many people, automation is a terrifying word. It conjures up visions of tyrannical machines reducing man to the status of a mere pusher of buttons or watcher of dials, and abolishing the need for human thought and judgement. I can sympathize with these fears, but I am sure they are unjustified. We are not destined to become a race of babysitters for computers. Automation is not a devil, a Frankenstein. It is no more than a tool, but a tool of such immense possibilities that no one can yet see the full extent of what it might achieve for mankind.²¹¹

The phrase "pusher of buttons or watcher of dials" strikes an uncanny resonance with the oft-quoted "hewers of wood and drawers of water." Those critics of Canada's growing interdependence with the American economy, who were becoming more numerous in the early 1960's, culled fodder from the automation controversy. They charged that automation would create the twentieth century equivalent of the staple extraction economy. Growing "continentalism" through the importation of job-destroying automatic equipment from the United States would ensure Canada's enslavement as a dependent of the American, rather than the British, empire. Canada, they accused, would be relegated to a

²¹¹ Sir Leon Bagrit, *The Age of Automation* (London: 1966), p.11.

satellite position within the North American economy.

In early 1957 (the cusp of the first and second phases of the controversy), the Canadian Labour Congress called upon the Prime Minister to establish a body to investigate the effects of automation in Canada, no doubt influenced by the creation of the US Congressional committee on inquiry in 1955. The CLC called for an instrument with wide-ranging investigative and policy making abilities. The federal government was not prepared to create this new type of institution, nor did government officials believe (quite correctly as it turned out) that business would participate in such a formal, tri-partite forum. In fact, it took a considerable amount of arm twisting by senior Department of Labour officials to convince representatives from the Canadian Manufacturers' Association even to participate in the feeble advisory committee that was eventually formed.

Rather than a far-reaching body, the federal government created an Advisory Committee on Automation and Technological Change. The committee was doomed to failure from the beginning with business's unwilling participation, labour's shifting expectations, and the government's reluctance to establish the committee in the first place. George Burt, one of the more voluble labour members of the committee, was quick to voice publicly his dissatisfaction with what he viewed as the committee's over-emphasis on management concerns of productivity, rather than labour's interest in unemployment and adjustment policies. Labour allowed its influence to dissipate for reasons that remain largely

unclear. As a result of all these factors, the advisory committee marked yet another failed attempt at tripartite decision making in Canada.

The fact that the government entitled the advisory committee as one that would look at "Automation and Technological Change" is significant. In the same way that labelling unemployment "structural" meant that full employment policies would be re-examined. Labelling automation "technological change" implied that it was part of a natural process, and therefore less threatening than the slightly sinister sounding "automation". A conference sponsored by the OECD in Washington in 1964 dedicated much of its preface to grappling with the usage of the two terms.²¹² This trend towards "technological change" and away from "automation" denoted an acceptance of the inability to contend with the unemployment caused by technical innovation. Nevertheless, the Canadian Labour Congress remained dogged in its use of the term automation until the late 1960's. Of all three participants in the automation controversy --government, business and labour -- the CLC was the most persistent in its use of the automation mantra as the word presented certain advantages as a debating term and still struck a chord with CLC union members.

In the third and final phase of the controversy (1965-1969), labour and business turned primarily to joint labour/management attempts to cushion the impact of change, and there was less of a

²¹² Organization for Economic Cooperation and Development, *The Requirements of Automated Jobs: North American Joint Conference, Final Report*, (Paris: 1965).

focus on economy-wide solutions. Increasingly, as the term automation was subsumed by the more innocuous sounding technological change labour leaders gradually, in a piece meal fashion from 1965 to 1969, abandoned the term automation. Labour unions turned more frequently to hard bargaining tactics, and called upon the federal government for reforms to the labour relations system and to create mandatory requirements for negotiated settlements on the issue of technological change in individual companies.

The automation controversy took place in an era in which Canadians believed fervently in the possibilities of economic and technological progress. John Diefenbaker's Conservatives were elected to a massive majority in 1958 on a platform that spoke in glowing terms of exploiting the untapped resources of Canada's North; a policy position unimaginable in the eco-conscious mid-1990's. The Canada of the mid-1950's supported a belief in the precepts of Keynesian economics, and with sound management of the appropriate fiscal levers government could ensure a high level of growth and prosperity. Automation was partly responsible for the abandonment of that faith. In the 1960's the government turned largely to supply-management policies, ones that remain fundamentally in place. In the essentials of dealing with unemployment, it did not matter which party -- Liberal or Progressive Conservative-- was in power in Ottawa. The otherwise watershed elections of 1957 and 1963 were of small consequence to government's assessment of the meaning and management of

technological innovation. The governments of Louis St. Laurent, John Diefenbaker and Lester Pearson all viewed automation through the distorting lens of a *laissez-innover* ideology that regarded technological change as progressive and unstoppable.

As the actors-network theory predicts, a term such as automation will be dropped from use when it ceases to be translated, that is, when it no longer serves the interests of influential actors. For business, automation's usefulness became extremely limited in the late 1950's when higher rates of unemployment threw the spectre of technologically induced unemployment into sharp relief. Suddenly, automation was not a very useful word for business and it turned instead to terms like "technological progress" that did not presage permanently high rates of unemployment. As for government, it had never been comfortable with a term that implied radical changes and upheaval. Furthermore the Canadian State was ill prepared to deal with anything revolutionary so long as it remained in the hands of liberal capitalist parties like the Liberals and Progressive Conservatives.

In effect, the automation controversy was not about technology per se, but about its potential to cause unemployment. At issue were these questions: Would there be worker dislocation as a result of computerized accounting systems or numerical control machine tools, and if so, to what levels? If automation caused unemployment in certain sectors of the economy, would it create jobs in others? Would the invisible hand of the market place

respond "automatically" and adjust for jobs lost? The automation controversy was less about the distinctions among feedback control systems or linked production machinery than it was about who should manage the economy -- the state, business, or labour. By 1969, automation had outlived its usefulness as a rallying point in the larger, on-going debate and since then has been superseded by other terms that are continually translated and passed from one to the other by the state, labour and capital. Substitutes and synonyms have appeared, yet the controversy remains essentially unchanged and on-going, perpetuated by the error in the capitalist "system": namely, the Canadian State's persistent inability to foster stable employment and secure income levels for all. Without a correction of this system error, the controversy will continue unabated as the invention and translation of new words substitutes for action and substantive reform.

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