Restructuring Québec Asbestos Mining: 1979-1989

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Abstract

Analysis of the events of 1979-1989 in the asbestos mining industry of Québec suggests that mining companies responded to the crisis of overproduction with individual strategies. The restructuring of the industry is interpreted using the framework of Massey and Meegan as presented in The Anatomy of Job Loss (1982). Factors analysed include the role of the provincial government, the legal aspects of asbestos use, health concerns, the position of the individual firms with regard to world markets for asbestos fibre, and the production characteristics of each mining firm. The corporate strategies of Canadian Johns-Manville Company Limited and Asbestos Corporation Limited are contrasted in detail. The analysis shows that corporate restructuring in the eastern part of the region is distinct from that in the west. The strength of the analytical framework is discussed with reference to the work of McRoberts (1988) and Laux and Molot (1988). It is argued that a geographical analysis is required for an adequate political account of regional job loss.

Résumé

Cette thèse fait l'analyse des événements survenant entre 1979 et 1989 dans l'industrie de l'amiante et démontre que chacune des compagnies minières a adopté une stratégie particulière face à la crise de surproduction. La restructuration de l'industrie est étudiée en utilisant un cadre d'analyse présenté par Massey et Meegan (1982). Parmi les éléments traités sont les suivants: le rôle du gouvernement provincial, les aspects légaux et les problèmes de santé liés à l'utilisation de l'amiante, le rôle joué par les entreprises dans le marché international et les caractéristiques de production des ces compagnies. Les stratégies employées par Canadian Johns-Manville Company Limited et Asbestos Corporation Limited sont précisées L'analyse démontre que la restructuration n'a pas les memes resultas dans l'est et l'ouest de la region de l'Estrie Une critique du cadre d'analyse employé est donnée, en se référant aux travaux de McRoberts (1988) et de Laux et Molot (1988), et l'auteur avance la nécessité d'une analyse géographique pour compléter une analyse politique de la perte d'emplois.

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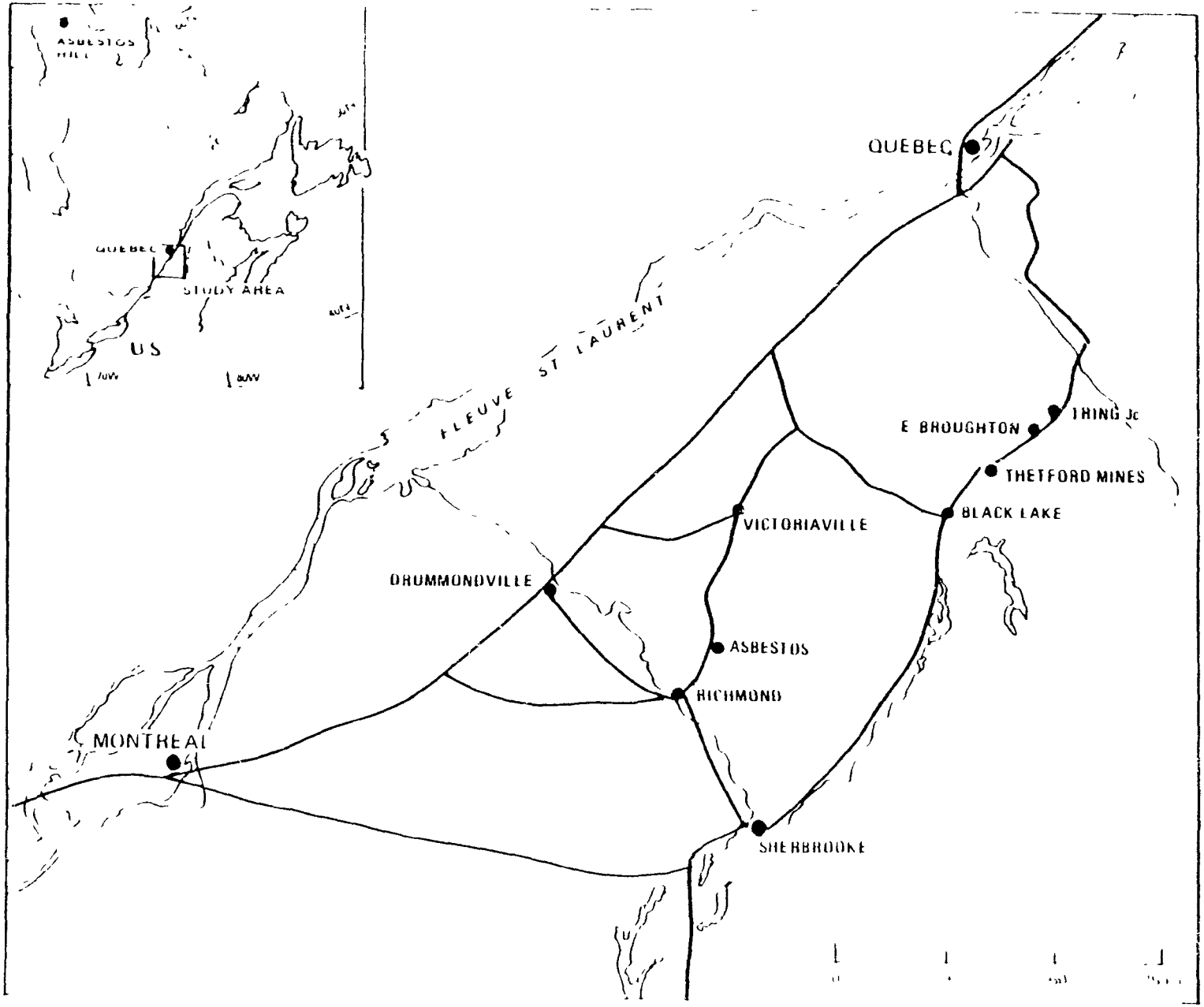

Map 1 ASBESTOS MINING REGION

Figure 1-1
Companies and Mines that will be discussed in the text.

Company and/ or mine	Location	Founded	Employees 1980	Employees 1987
Asbestos Corporation Limited	Thetford Mines	1925	1400	330
British-Canadian pit	Thetford Mines	1880	(part of total above)	
King-Beaver pit	Thetford Mines	1877	"	
Bell Asbestos	Thetford Mines	1878	600	400
Canadian Johns-Manville Company Limited	Asbestos	1879	2700	845
Carey Canada	East Broughton/ Tring Junction	1955, although first mining undertaken in 1907	550	0
Lake Asbestos (Lac d'Amiante)				
Black Lake pit	Black Lake	1947	475	425
National pit	Thetford Mines	1955	500	0

Sources: Asbestos Corporation Limited Annual Report 1980, p 5, Norther Miner August 20, 1981, pp 20-21; *Asbestos* November 1980, 62(5), pp 18-24, *The Gazette* August 22, 1980, p 31, *Asbestos Bulletin* January 1988 3(3), p. 10

Chapter 1: Introduction

Problems of the asbestos mining industry in Quebec.

Canada's mining communities are linked to the companies that employ their inhabitants; the companies' changing structure affects the towns. One quarter of Canada's non-urban population lives in single-sector communities (DREE 1979). Because the Canadian economy is characterized by a net export of non-finished and raw goods and a net import of finished goods (Williams 1986), manufacturing sectors have been more studied, and mining has been somewhat neglected (Bradbury 1988a), but as mining undergoes severe changes, it is necessary to understand what is happening Small single-sector mining towns typically have few alternatives to their extractive activity Corporate strategies initiated in the name of profitability are very close to people's lives When a group of companies forms an oligopoly and is clustered in a region of extraction, potential consequences of a downturn are severe. We shall raise three questions. How does the process of restructuring work in the asbestos mining industry of Quebec? How have changes in world markets affected the mining enterprises? How have these changes affected the towns? Towns that for over one hundred years have housed the women and men who have worked in the asbestos mines today face new realities. Together with the industry, the towns face abandonment.

There has been a great deal of geographical research on the restructuring of manufacturing industries, but it is necessary to study primary industries as well. Since Canadians are producers of raw materials for world markets, where better to study the restructuring of primary industries? We need to understand these towns in order to

understand our regional space economy and our relationship to the world economy (Bradbury 1984, 1988). Because these single-industry towns live and die as their industries do, it follows that the study of restructuring of the mining industry is the key to understanding the towns. Asbestos mining dominates the towns of Thetford Mines, Black Lake, Asbestos, East Broughton and Tring Junction (see Map 1) They once dominated world asbestos production. How has the crisis manifested itself in the region? The simplest indication is the number of jobs lost. On April 25, 1986, Carey Canada shut down its asbestos mine and mill in Tring Junction, putting 170 people out of work At the time of shutdown the company's operations were running at 30% capacity; at its peak the operation had employed 550 people Following announcement of the closure, shareholders of Asbestos Corp , Bell Asbestos, Lac d'Amiante du Quebec and Camchib Mines agreed to restructure their operations. These companies formed a joint stock venture that would oversee the mining and milling of asbestos in Thetford Mines and Black Lake. Their stated aim was to "consolidate the activities of the partners and reduce sales [costs] and production costs" (*The Gazette*, April 27, 1986, D-1) The first phase of this consolidation involved closing three of the region's six mines and two of the region's five processing mills, bringing total job loss to 725 Adding in the closing of Carey Canada, the number of jobs lost in the region's asbestos mining industry in the spring of 1986 was 895

In the Canadian context, primary raw materials such as iron ore, nickel, asbestos and zinc are primarily produced in remote areas (with the notable exception of Sudbury) Few mining operations are located close to metropolitan centres Small, single-industry towns are therefore a part of the process of production. These towns are a feature of Canadian society and landscape The requisites of the mining industry dictate the need for isolated towns dependent on the industrial venture for their viability As described by Bradbury

(1982, 1983, 1984), these towns face uncertain futures when markets change, ore bodies are exhausted and competition heats up.

The strategies pursued by mining companies to maintain or regain profitability may have severe effects on the employment situation in a given operation. Adoption of new technology can replace hundreds of workers. Selling off holdings may terminate production at a given location as the new owner may wish to speculate on market fluctuations or exploit other deposits in areas of lower cost labour. Regaining profitability through the restructuring of operations is normally beneficial for stockholders, but it may be detrimental to production workers. Some strategies reorganize production facilities such that sales commitments are reached with a reduced labour force. The extent of detrimental effects on a town depends on the strategy and its timing in relation to the market cycle and the competition. The type of strategy employed depends upon criteria of ownership, the depth of the crisis, the strategy employed by the competition and the timing of the strategy itself.

Recent trends in production and a series of complex shifts in the structure of the industry indicate that asbestos mining in Québec is experiencing a period of extreme hardship. Asbestos is the subject of scrutiny in medical circles while replacements and substitutes make inroads in traditional applications. Competition from foreign producers continues to hurt sales for Canadian producers. Since 1976 the asbestos mines of Québec have decreased their production by one half. Since 1979, Quebec's market share has eroded from one third of world sales to one quarter. Traditional customers are unable to purchase the mineral because of high debt loads which divert funds from infrastructure and housing projects to bank payments. Other customers are unwilling to purchase because of health concerns.

In Quebec there remain four mines where there were once eleven. The work force has decreased from 2900 to less than 1000 in a few

short years. Ore quality and grade continue to decline while costs escalate. Mining companies wait in vain for a sales rebound, inventories remain high, and closures continue.

By all measures, the future of the industry is a bleak one The decline means a slow death for the asbestos mining towns of Québec's Eastern Townships. Single-industry towns which were once the envy of less fortunate regions, are now characterized by out-migration and aging populations. This once prosperous mining region has become a 'have-not' region in the span of a decade.

The task here is to document just how the companies involved in the production of raw asbestos in the Eastern Townships have adapted to change, in the effort to regain profitability, restore financial health and remain competitive It will be shown that they have responded in ways that endanger the existence of the towns that are the homes of their work forces. My focus will therefore be on the timing and sequence of corporate events. Corporate strategy will be analysed in terms of how it has affected corporate viability and employment levels.

Exploring the problem

Defining and analyzing the interrelated parts of the Québec asbestos mining system brings wide-ranging events and trends together in one place. The timing of events in the asbestos industry is initially confusing. I shall make order of this situation Past analysis has not integrated all the data available in the public domain. There have been no attempts to examine the history of the industry as it pertains to its recent dramatic decline, nor the implications for the economy of the asbestos mining region. The factors we shall take into account are political intervention, health, changes in ownership, and changing world markets. *After a brief*

overview in this chapter, I shall deal with political intervention in chapter 3, health in chapter 4 and world markets and changes in ownership in chapter 5.

Changes in market share and export destination of the Québec output must be seen in relation to the historical pattern of ownership A decline in the absolute tonnage of asbestos produced translates into a decline at specific mine sites. This thesis will show the magnitude of decline in both production and jobs at many of the mining sites of the region for the period 1979-1989. This cannot be accomplished for all mining sites because of secrecy on the part of certain mining companies.

The work of Massey and Meegan (1982) on the restructuring of manufacturing industries has been adopted as a research strategy. They have, as I shall demonstrate, provided a viable framework for analysis of regional restructuring processes and their effect on employment levels. My own contribution arises from my extension of Massey and Meegan's work to the mining industry and from my attention to the role of the state, exceptional in the mining sector in Québec. The mining companies occupy unique positions in the single-industry towns of the Eastern Townships region.

To examine the relationship between the international asbestos industry and the Québec towns that produce the raw materials, attention must be directed to the detail of both the corporation and the production facility. Use is made of information, available in the public domain, that deals specifically with production facilities located in Québec's Eastern Townships. Annual reports of Asbestos Corporation Limited yield data concerning expenditures on mine development, improvements, revenues, profits and productivity for production facilities located in Thetford Mines. When the data from corporate reports, news releases and stock market reports are related to world market changes and local employment levels, corporate

strategy in the global context can be related to the situation of production workers in a local context.

It is my purpose to uncover the strategies implemented by the companies in the asbestos mining region of Québec. It will be shown that it is possible to understand corporate changes in the context of changing regional geography, and, with such an understanding, to make sense of the changing regional geography

The problem of restructuring and unemployment in the asbestos mining industry is considered to be a problem of global scale. To consider it otherwise would be to discount the importance of changes in the world market for asbestos, the role of the Québec government, the economic recession of the late 1970s and early 1980s, the rise of production and the increasing demand for asbestos fibres in the Third World.

Massey and Meegan felt that studying the structural roots of the problem of job loss in the context of "wider political and economic circumstances" was the only available research strategy (Massey and Meegan 1982, p. VII).

> By examining the causes and mechanisms of employment decline it is possible...to gain a greater understanding of its geography Indeed we would argue that it is the only way in which its geography can really be explained (Massey and Meegan 1982, p 13)

The need to understand the geography of job loss requires analysis of managerial strategies, pressures of the world economy and the structural imperatives of the system of production for profit, so that the changing nature of the relations between labour and capital can be related to spaces (Massey and Meegan 1982, p 8).

> ...that production and location are far more closely linked to each other than most studies allow Owing to the long-standing pattern of disciplinary job demarcation within academe - in particular between geographers and economists - these links are often missed (Massey and Meegan 1982, p. 13) .

Massey and Meegan conceptualized three categories of reorganization: intensification, technical change and investment, and

rationalization. These types of production reorganization will be discussed with reference to world events for the purpose of analyzing the decline of the industry itself.

For the past decade, Canadian producers of primary raw materials have faced crisis situations in their industries. Excess capacity has raised the cost of production and strained corporate resources. Overproduction and high inventories of unsold goods have caused downward pressure on prices. This is especially true of the Canadian mining sector, and it has led to a loss of profitability in many operations (Wojciechowski 1986). Many of the resource communities that depend on a single industry are threatened with extinction. Operations that competed successfully in the boom period of the 1960s and early 1970s find themselves unable to maintain market shares and profitability in the lean years of the 1980s. Expansion programs undertaken during the boom have left producers with high debt loads in a declining markets They face competition from producers offering customers the same product at lower cost, or in some cases alternative products (Wojciechowski 1986).

Many producers of minerals were forced to pare back operations and retrench their positions as markets collapsed during the recession of the early 1980s. As the crisis continued into the middle and late 1980s, mining companies were forced to make difficult decisions regarding productive capacity and employment levels. Responses have varied depending on the immediate crisis faced by the company and the choices open to its management Strategies available are dependent upon the structure of the mining venture and type of business it does, as well as its relationship to the global marketplace (Massey and Meegan 1982, Bradbury 1982)

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[1]Rationalization is here understood to mean plant closure. It is not to be misconstrued as the economic term meaning the organization of industry that ensures the most efficient use of all resources. Used in the manner of Massey and Meegan, rationalization means closure, which of course means that labour may no longer be put to any use.

Alternative corporate strategies for regaining a profitable position include closure of unprofitable operations, intensification of the work and production processes, sale of diversified holdings, and investment in new technologies (Massey and Meegan 1982). In general, mining companies have seen it necessary to reorganize production in order to remain viable. Failure to remain profitable over the long term reduces a company to a bankrupt position and displaces its work force. Where a town depends on one industry, closure of an unprofitable operation can cause the town to shut down as well.

Because a threat to health of workers and consumers undermines the demand for asbestos in the world market, use is made of information concerning the medical and legal aspects of the asbestos industry. Restructuring of the asbestos industry has taken place against a background of disease and litigation that has been widely publicized and documented. The asbestos problem in health and law will be discussed in chapter 4. Asbestos has the dubious honour of being a target of the United States Environmental Protection Agency (EPA) which seeks to ban its use altogether. No other product produced by primary industry has been so targeted. There is a battle being waged to save the jobs of Canadian asbestos miners and another to save the lives of people who handle asbestos. I shall document what the battle is and how it has changed the face of towns whose *raison d'être* is the mineral itself.

Product liability litigation in the United States has affected employment in the asbestos towns of Québec. Numerous law suits and multi-million dollar settlements concerning product liability have been well publicized. Johns-Manville Corporation, for example, declared bankruptcy as a means of seeking shelter from potentially crippling legal action. Other asbestos producers have sought to avoid litigation by selling off assets and shifting capital to other

sectors. The use of asbestos products under hazardous conditions over the past one hundred years has been a major factor in the decline of the industry. The legal process and the misuse of asbestos will be integrated into the framework of analysis of current unemployment.

Many industrial interests are searching for asbestos substitutes. Research and development to find suitable, cost-effective materials to replace asbestos in its thousands of applications has been spurred by product liability litigation. Companies involved in the search for new products to replace asbestos include Manville and General Motors.

The asbestos industry (for views of the industry see Blais et al 1985, pp. 1-32) continues to express the view that many of its markets dried up during the recession of the late 1970s and early 1980s and that sales and consumption of asbestos will pick up when the economy regains its health. This belief is based on the fact that 70% of asbestos goes into cement products used in the construction industry. The western world's construction and mining industries have, however, already rebounded from their slumps (*Northern Miner Magazine* January 1989, p. 18), and asbestos sales have not rebounded. The continued low production levels of the asbestos mining industry illustrates this well. Replacement materials have become the building materials of choice.

A number of changes in corporate ownership have resulted in restructuring. The provincial government has acquired production facilities and become an agent of social change. The industry was seen as a motor of development that was to be harnessed for the benefit of the region and ultimately the province as a whole. Despite these ambitions, a number of mines and mills owned by the Québec government have been closed Two American multinational companies and one British firm have divested themselves of their holdings in Québec These changes in ownership are related to wider economic and political events. One of these ownership changes, acquisition of the ACL by the

Québec government, will be discussed in terms of its wider goals of producing social change as well as economic benefits. Additionally, the purchase of ACL will be discussed in the context of the formation of the Société Nationale de L'Amiante (SNA), a crown corporation charged with producing benefits for Quebec citizens. The goals of the government and the motivations behind its policy had and still have important influence over the entire Québec asbestos mining industry The Québec government was unable to overcome the imperatives of a competitive sector to meet goals that were not purely commercial in nature (Laux and Molot 1988, p. 101).

During the same decade, several asbestos mines have entered into direct competition with Québec mines Mexico, Greece and Zimbabwe have become significant producers, and their fibres are substitutes for those from Québec. The Soviet Union has become the largest exporter of asbestos in the world Mines in the Third World and Europe have thus taken away some traditional Canadian markets

At the same time that demand for asbestos was dropping in its traditional markets, the industry sought to increase sales to new market areas. New pockets of demand in the Pacific Rim and Latin America have shown tremendous growth. This has been achieved by aggressive marketing and lobbying on the part of Canadian government and industry. The shift in market has not, however, succeeded in stemming job losses in Québec. The gains have not offset losses of other markets such as Western Europe.

Asbestos mining companies in Québec are also faced with a situation of decreasing ore grades The Eastern Townships mining region dates back to the turn of the century and is considered 'mature' by industry standards (Laux and Molot 1988, p. 105) As ore bodies are depleted through mining, the tendency is for the grade of ore to decrease with depth. Efficiency is lowered, more tons of ore must be extracted for processing in order to obtain the same output of

finished asbestos fibre. Mines owned by the Quebec government have experienced this problem. The Québec companies thus lose their competitive advantage against low-cost producers from the Third World and Eastern Europe The situation of decreasing ore grades has forced a dilemma: increase capitalization and decrease the size of the labour force or struggle to remain competitive through other means such as lobbying and marketing. Once dominant in the region as an employer and agent of development, the asbestos mining industry is now dragging the region itself into the quagmire of crisis, uncertainty, and decline that today dominates the world asbestos industry.

Here lie the two interwoven tasks attempted in this thesis The first task is to report the restructuring experienced in the mining settlements of the region. The second is to demonstrate a way to bring together and explore available data is along the lines offered by Massey and Meegan

Chapter 2: Method and Sources

Mining towns world wide are dominated economically and socially by the companies that mine and process minerals in or near the towns. The asbestos mining towns of Quebec live by asbestos and could well die of it. As the corporations that control and dominate life in the towns experience difficulties in the market place, the livelihood of the workers and the vitality of the towns are threatened. Corporate restructuring of mining operations sends ripples through the small towns. To remain competitive, companies have often had to put workers on the streets. As each of the towns in the mining region is dominated by a specific production facility, each facility and each corporate entity must be examined if the job loss associated with restructuring is to be explained. Instances of ownership change, merger, closure, intensification, or investment in technical change needs to be examined as it relates to job loss and geography Because closure has been the most important cause of job loss in the study area for the period 1979-1988, this is best accomplished by the intensive method of research. Changes in the circumstances of each facility must be examined to explain why the job loss occurred.

Intensive research, as opposed to extensive research, is grounded in the belief that analysis must be made at the level of the production facility rather than the level of the sector or the industry. As identified by Massey (1985), intensive researchers believe that the policies and processes acting across space have varying effects at different locations because of the special attributes and circumstances found at each point and the unique factors and processes operating there In this context, analysis of the restructuring of an industry depends on understanding each

production facility and the relationship of each facility to other facilities and, in turn, the marketplace and the state. Because intensive researchers believe that uniqueness of place necessitates the study of problems with a focus on locality, an intensive framework of analysis makes use of varied information sources and analyses data in the light of chronology and relationship to other events. Thus, a government policy designed to attract capital to a region may work for some regions but not others. This is because processes interact at distinct places in varying ways at varying moments (Massey and Meegan 1982, p 9).

Let us take the example of federal government aid to Canadian Johns-Manville Co Ltd. in the late 1970s. It was not offered to other companies because of provincial-federal relations which played off the companies located in Thetford Mines (Bell, ACL) against the one located in Asbestos (Canadian Johns-Manville Co. Ltd). An intensive researcher would not make the claim that the federal government had given $3.5 million dollars to the asbestos-mining industry, but point instead to the fact that the Thetford Mines region elected to the Legislative Assembly Gilles Gregoire, a founding member of the Parti Québecois committed to the political independence of Québec, in conflict with the federal government. Two Thetford area companies, Bell and Asbestos Co. Ltd., were being taken over by the provincial government. These factors explain why federal aid was given to the company located in Asbestos

It is the nature of intensive research to examine in detail the attributes of the various players and their relationships to political processes, alliances and problems that are significant. Handling company strategies requires, of course, an examination of the companies involved. With the goal of explaining the geography of recent job loss, the changing relationships and attributes of the players are examined

In some cases information is incomplete or reporting style varies between sources, and the resultant gaps sometimes hinder a complete analysis. There is more relevant information on the industry from the pre-1983 period when secrecy was not the order of the day. In some cases, the financial motivation of companies cannot be derived from data available in the public domain. In those cases where information is lacking or is inconsistent, it will be duly noted for the reader. The analysis will thus concentrate on the companies that were in the habit of reporting their status with regularity and detail. Fortunately, the two most important fibre producers, ACL and Canadian Johns-Manville Co. Ltd., have traditionally provided the most information for public consumption. When each of the mining companies was approached in the winter of 1986, none was willing to divulge information, and all requests were directed to The Asbestos Institute.

I am using corporate information and documents as the primary data, to explain the changing relations between labour, capital, the marketplace and the state. With the benefit of hindsight, these can be evaluated for the purpose of understanding company motivations and actions. For instance, capital spending projects often have their roots in a gap the company sees in the marketplace. A new grade of fibre may find its way onto the market because of a request by a large customer. As the product is devised and production is begun, a reorganization of the production process may result from the research done to develop the new product. The most appropriate place to find information concerning such projects is in company reports. Companies are proud to announce that they produce a unique good. By examining specific instances of market shifts and corporate responses, together with the resultant reorganizations of production, we start to analyse job loss.

Generalizations about corporate behaviour will not be made. Production facilities in close geographical proximity and even within

the same corporate structure, may be reorganized in different ways simultaneously. To say that the industry moves as a whole in one way or another is to discount the importance of spatial variation and differentiation. A precise charting of corporate change, as it relates to the people who live and work in and near the mines, will tell us how important it is to understand restructuring in the asbestos mining industry. The analysis will make it abundantly clear that corporate policy and change affects human lives and the places where those lives are lived.

Defining the framework

The framework of this thesis owes much to the work of Doreen Massey and Richard Meegan. This chapter refers in some detail to the pertinent section of their work on restructuring in the United Kingdom. I will trace the development of their analytical framework and make reference to its theoretical background. Their approach to manufacturing industries is incorporated within my own contribution to the method of this type of research. The role of the state and corporate policy will be discussed explicitly.

This chapter outlines the major arguments made by Massey and Meegan in The Anatomy of Job Loss, shows how these are supported, and when they are expanded and improved upon, how they are relevant to the study of asbestos mining in Quebec Several questions pertinent to the analysis of job loss in the asbestos industry are discussed, such as, What is the philosophy behind Massey and Meegan's work? How do the strengths and weaknesses of their theory relate to asbestos mining? This discussion will take the form of a chapter in three parts The first will outline the theoretical basis for their study. The second will outline the major points of the authors' theory, and the third will build upon their theory of job loss to make it relevant to asbestos mining in Quebec

The decade of 1960 was an era when many people were caught up in the movement for social responsibility. Many geographers trained during this period criticized the established order and sought to develop their own ideas for the betterment of the human condition. Like many other geographers, Doreen Massey felt that existing location theory was too narrow in its outlook and paid little attention to the dynamics of the material world it was trying to describe (Massey 1974, p. 7). In 1974, she was setting out to stimulate the discussion on industrial location theory. As reaction to the work of geographers such as Isard (1956), Massey embraced radical theory which demanded empirical investigation which did not take relationships between labour, capital and the state, for example, to be fixed. Isard had in 1956 set out to develop "a set of principles derived from the reduction to common simple terms the elements of the various location theories" (Isard 1956, p 23) He did this with "the goal of developing a superior set of tools and conceptual framework for the theoretical and empirical type of regional analysis. [that will be used in the] understanding of the structure and changing character of spatial phenomena" (Isard 1956, p. 23) By reducing all previous work on location theory into a grand theory of spatial analysis, Isard hoped to be able to develop a predictive and analytical model of development. He nevertheless recognized difficulties in the construction of this theory, notably the problem of its inability to deal with time (Isard 1956).

Traditional industrial location theory took as given the "nature of economic organization (essentially that of capitalism, of both the nineteenth-century and monopoly varieties), but ignored the historical context - and, therefore, the essential dynamic - of that form of organization" (Massey 1974, p. 7). The incorporation of marxian theory into industrial location theory required the researcher to investigate the dynamic relationships of labour, capital and the state as part and

parcel of the problem. Massey also felt it was important to take into any theoretical discussion more than just the cost of "distance." In her words "the space of industrial location is the product of a complex historical process. It is also a political and institutional space" (Massey 1974, p. 7). Massey states that the "approach should be to define the structure of an actual situation in time and space" rather than "abstracting from time and space to some quintessential core of similarity" (Massey 1974, p. 9). It is important to understand also the spatial dimension of the development and strategy of capitalism (Massey 1974, p 24). The underlying theme of Massey's future work would be that geography and production are inextricably linked (Milne 1989a, p. 49).

Massey came to the conclusion that there was at the time a widening disparity between the directions of location theory and those of socioeconomic problems in the 'real world.' This, she felt, meant that there was little theory capable of identifying, studying, and solving problems caused by the historical development of the economic system as it was found at the time:

> Most of the analytical tools available in present industrial location theory are able to explain individual-level decisions as in some way rational, but are helpless in face of the resultant systemic-level irrationality. What are emerging as "locational problems", whether intraurban, inter-regional or international, are the spatial manifestations of the contradictions within the structure of the economic system (Massey 1974, p. 25).

Doreen Massey was in 1974 setting her agenda for the next few years She wished to develop powerful theories that would help to make the world socially just through problem identification, research and finally action In 1979, she and Richard Meegan published an important article on restructuring in the electrical engineering industry in Britain (Massey and Meegan 1979). Their approach was to work a structural analysis in which

> locational behaviour is explained as the result of the combination of forces operating at the level of the national and international

> economy with the specific characteristics of the firm in question, characteristics which should include both the firm's place within that overall economic structure, and its internal form (Massey and Meegan 1979, p. 159).

One of the "prime aims of the study was to integrate into the explanation of locational change an understanding of the exigencies of the process of production for profit" (Massey and Meegan 1979, p. 159) The central question of their study was, "What were the locational effects of the intervention of the Industrial Reorganization Corporation (IRC) into the electrical engineering and electronics sectors of British Industry?" (Massey and Meegan 1979 159) The primary focus was on the changing distribution of employment amount and type. The IRC was a government agency established to help industry achieve profitability and greater competitiveness in the international marketplace (Massey and Meegan 1979, p. 160). Thus Massey and Meegan were studying the effect of a government agency on the location of jobs and the type of jobs found in a sector. Because they were studying changes in the economy during a time of employment decline in the sector, they wished to determine if the IRC was responsible for causing job loss. Their main finding was the the locational behaviour of a firm "can be understood only as a result of that firm's relationship to the changing national and international macro-economic situation" (Massey and Meegan 1979, p 231) They would later apply their experiences to a large scale effort dealing with a cross sectoral analysis.

Massey and Meegan's theory (1982) of the anatomy of job loss is a work of the 'intensive' school which deals with place-specific changes in the organization of production facilities and is supported by empirical case studies of manufacturing concerns in Great Britain during the late 1960s and early 1970s The intensive method is applied to actual factories, people and places. Detail in time and place is the cornerstone of the intensive method.

Massey and Meegan believed that understanding the events of the late 60s and early 70s would shed light on the more recent crisis of employment decline (Massey and Meegan 1982, p. 197), which Britain was experiencing when they undertook their study.

> In the second half of 1980, manufacturing employment in Britain was falling by an average of 77,000 jobs a month, over fifteen times the corresponding figure for the two years leading up to mid-1979. Layoffs in the manufacturing sector between 1980 and 1981 reached levels unprecedented since the Second World War (Massey and Meegan 1982, p 4)

Because of their belief that understanding the historical roots of the crisis would help to clarify the present situation, the authors developed their questions and method around the global events which had affected the manufacturing sector of the British economy during the previous decade.

'Intensive' researchers believe that "factors need to be conceptualized as *processes* and structured together interactively rather than just added up" (Massey 1985, p. 8). It is their belief that "qualitative relationships between parts of an explanation...are not amenable to explanation by statistically identifiable cross-effects between variables" (Massey 1985, p. 8). By studying the events of production reorganization in Britain and relating them to world events and forces as well as local realities, Massey and Meegan were in fact developing a new framework: they joined together the concept of the internationalization of production systems with a method for the study of localized employment losses that were the result of production reorganization.

By undertaking research in the field of spatial job loss, Massey and Meegan make geography relevant to students of the discipline and the population in general. This is accomplished by forming an analytical framework that is global in scope but is still capable of resolving fine detail. Massey and Meegan answer Milton Santos when he asks whether geography will grow into a new role of being "the science

of human space" (Santos 1984, p. 657). Santos is concerned that geography was in the past too near-sighted in practice and mistaken in theory. He states that geography is growing with the world itself:

> We are succeeding [in the slow globalization of geography] because the internationalization process that started five centuries ago has become a globalization process. Until then, the concept of totalization with which we were able to work was primarily an intellectual one, and not a fully fledged fact. Today it occurs in empirical events and relationships prior to being grasped by the intellect (Santos 1984, p. 668).

Geography has slowly followed the trends exhibited in the economies of nations and the globalization of the world economic system. Fields of inquiry and methods of explanation have grown in complexity and scope to deal with the increasingly interrelated global problems that we study. Technology is one of the areas that has grown from a local or regional fact into a world concern. Telecommunications allow managers to treat a wide array of plants as a single operative unit of production. Although we may still think of places as being separate, technology has reorganized place advantages or disadvantages.

> Technologies' independence of the environment and the globalization of the technological model make technology an authentically concrete universal, the instrument of a growing bond between times and places (Santos 1984, p. 668).

Santos implies that the study of technology will help us understand geographical change.

The construction of a framework capable of far-reaching analysis is a universal problem which is dealt with by Massey and Meegan when the authors address the changing nature of production relations over time and space. If technology is in fact as global as Santos posits, then the study of industrial restructuring over time must be a global study. Massey and Meegan recognize the importance of grasping this concept:

> ...there has been little work relating employment decline to wider economic and political circumstances, on the one hand, and to what is actually going on in production, in the factory and the office on the other...these different causes and circumstances of

> employment decline may have different geographical implications, and raise issues about the nature of capitalist production (Massey and Meegan 1982, p. VII).

By relating changes in the workplace to changes in political and economic circumstances, the geography of employment decline can be globalized in the way Milton Santos would have us do it.

In a similar vein, Bradbury (1985b) stated that three technical conditions have made possible the internationalization of capital and restructuring Briefly, these are 1) refinements in the technology of transport and communications that reduce the friction of distance, 2) changes in the technology of production and the technical division of labour that have "enabled the finished product to be constructed in a number of different locations," and finally 3) the development of international pools of labour (Bradbury 1985b, p. 42). These three related developments have far-reaching effects for capital, labour and space. For instance, areas with a 'favourable labour climate' are now more easily accessible to international capital. New locations with low labour costs or a pliant labour force have now entered the competition (Bradbury 1985b, p. 42)

If we understand technology to be a global fact, it is necessary to examine the restructuring of the relations between capital and labour with internationalization at the forefront of our study. This is a major break with the traditional view that studies should break down and compartmentalize variables. Lloyd and Shutt make this clear when they state:

> Internationalization, while a long-standing feature of UK capital, these days represents a favoured strategy in the production as well as the financial and commercial sphere. As such, it renders local (national) studies of local (national) events far too limited to provide a true window on underlying processes of industrial change (Lloyd and Shutt 1985, p. 34)

The intensive methodological framework developed by Massey and Meegan in The Anatomy of Job Loss incorporates the global view of structurally interconnected factors. It is the task of geographers to

reintegrate the wide-ranging, seemingly separate processes in their analysis.

Forms of Production Reorganization

In attempting the study of employment decline, Massey and Meegan tied political and economic circumstances to changes in the mode of production and the relations between capital and labour (Massey and Meegan 1982, p. 13). Based on the behaviour of thirty-one companies, the authors found patterns of change in terms of productivity, output and employment levels The varying relation among these three critical factors lead Massey and Meegan to conceptualize the three types of production reorganization as intensification, technical change and investment, and rationalization, the authors identified three specific forms of production reorganization that "had been particularly important in leading to job loss in the sectors studied" (Massey and Meegan 1982, p. 18). These three forms of production reorganization, it must be noted, are not the only forms that change can take, Massey and Meegan believe that other forms are possible, but they were not encountered in the study undertaken (Massey and Meegan 1982, p. 143)

Intensification involves "changes in the productive process that increase labour productivity but without major new investments or substantial reorganization of productive technique" (Massey and Meegan, 1982, p. 18) This process can take the form of a reorganization or a change that will increase output per unit of labour in a given production process In the asbestos mining industry, this can take the form of change whereby workers' movements in the mine or mill are regulated in such a way as to avoid unnecessary energy expenditure. From the point of view of capital, this type of change increases productivity by reducing the amounts of time and energy spent in activities that do not directly involve production;

more time can be spent in productive activities. For labour, intensification can mean job reclassification, harder, more intense work, or for those workers whose productivity is replaced by others, unemployment. Intensification may be combined with other forms of production reorganization.

'Investment and technical change' takes the form of a significant expenditure in the productive technique: workers are replaced by capital. An example of a technical change involving a significant investment in the asbestos mining industry was the recent development of the wet milling process which was developed as a response to the problem of air-borne asbestos fibres. Wet milling technology has not been adopted because mining companies were able to reduce air-borne fibre counts to acceptable levels. If existing technology had been unable to meet government requirements for air quality, the new technology of wet milling would have been adopted. For the most part, the asbestos mining and milling technology has not changed in radical terms for many years. Some mines used specialized equipment, others are radical in that they are underground, but for the most part they are all air-mill open pit mines in which the asbestos ore is truck hauled.

'Rationalization' is the "simple reduction in the total [productive] capacity" of a firm (Massey and Meegan 1982, p. 18). This process involves the closure or partial closure of production facilities. In its most dramatic form, rationalization is what comes to mind when people think of job loss through full plant closure. Full plant closure is not, however, the only type of rationalization. The closing of one production line or one section of production line is also rationalization. To avoid confusion about the term, 'rationalization' will henceforth be referred to as 'closure' unless the work of Massey and Meegan is being discussed. In any case, the reader will know that 'rationalization' and 'closure' are

interchangeable.

What happens to one firm in the same sector will not necessarily happen to all the other firms involved in similar activities. For example, the current slow market for short grade asbestos fibres has meant that companies involved in their production have slowed, reduced or ceased production of these low-priced fibres. For companies that produce a range of fibres such as Bell or Lake Asbestos, this has meant shutting down one part of the milling process (we do not know how many jobs were lost). For a company such as Carey Canada, specialists in short fibres, the slow market has meant the permanent closing of the mine and mill in Tring Junction, Quebec (*The Gazette*, Jan. 31, 1986, p. D-1). The number of jobs lost was 170. The same market reality can mean two very different things at two different mines. Again, Massey and Meegan have identified this and deal with it in stating:

> What is clear is that geographically, as well as in terms of what is happening in production, it is wrong to assume that employment decline in one part of the economy is very similar to that in another (Massey and Meegan 1982, p. 145).

In the case of asbestos mining, it will be shown that the different structures of the various companies and their relation to the stimuli of change have a great deal to do with the type of production reorganization that will take place. Crisis management to ensure survival of the company depends on what the crisis is and how it affects the company's operations. Similarly, we cannot easily extend our generalizations based on the experience of the asbestos industry to other mining industries.

We will see also that the "pure" forms of production reorganization operate singly only in theory; in practice they operate in concert with each other in varying strengths and combinations. An example of this is the recent reorganization of the remaining facilities in the Thetford region. Three mines and two mills were

closed, while production was streamlined at the remaining facilities. Thus, we can see the operation of rationalization and intensification in the same time frame. It is necessary to understand the workings of the various forms of production reorganization, but we must bear in mind that other combinations may exist as well. It is the job of the researcher to sort out the web of effects and make sense of a complex situation. Massey and Meegan state:

> The pure forms of the different kinds of production reorganization never actually operate as such. The specific characteristics of the industries and the particular historical conditions will always produce a specific empirical result. Understanding the 'pure' mechanisms is a necessary part of the analysis of the real world, but it is not equivalent to it. The real test of the usefulness of this approach is, therefore, in how it contributes to an explanation of the actual complexity of the geography of employment decline (Massey and Meegan 1982, p 145).

Once we have identified the three types of reorganization, we must deal with the question How are these related to global forces? Massey and Meegan identify one answer to this difficult question when they state that:

> In a capitalist society it is ...profit that is the driving force to which the organization of production must ultimately respond (Massey and Meegan 1982, p. 12)

The purpose of productive reorganization is the viability of a mining firm. Asbestos producers must respond to unprofitable conditions with strategies that allow the continued accumulation of profits. Firms are ultimately responsible to shareholders who have invested in the hopes of gaining a return in the form of dividends or increased share prices. Unprofitable operations must be made profitable.

Strategies that are implemented are a response to the complex system of the world economy and therefore must be explored in context with changes at the world level. Massey and Meegan see this as the focal point of the study of the geography of employment decline:

> We explore the circumstances in which production change took place. We examine such factors as the competitive position of the industry and the dominant pressures affecting it, the structure and organization of capital, industrial relations, and the main features of the production and labour process (Massey and Meegan

1982, p. 12).

Massey and Meegan's work is open to the criticism that it underestimates the range of strategies open to firms in dealing with crises (Milne 1989a, p. 49). Milne stated in conversation (1989b) that because Massey and Meegan studied a recessionary time period, their framework has trouble dealing with production reorganizations during periods of economic expansion. Perhaps their conceptualization of the forms of production reorganization does not account for certain forms of production reorganization, but they clearly state that the method allows for the expansion of these concepts (Massey and Meegan 1982, p 143). As an extension of their method, recent work has focused on the changing production mode from the Fordist regime to the Flexible regime of just-in-time production (Milne 1989a pp 41-57). This is a reflection of the criticisms radical location theory has been subjected to by such authors as Warde (1984) While the shift to the just-in-time analysis of locational shifts serves those studying change in a time of growth, it will be shown here that the approach of Massey and Meegan is very useful for analysing the decline of the asbestos mining industry of Québec.

Expanding on Massey and Meegan

The Anatomy of Job Loss is not without its limitations. These arise as a consequence of the type of industry Massey and Meegan choose to analyse. It is necessary for other analysts to understand these limitations, in order to adapt the method to other industries and other places.

Asbestos mining is a cyclical industry which depends in part upon the vitality of certain industrial consumers Little if any asbestos is sold directly to the public because it must be first processed and transformed into usable goods. Hence, there are players and

relationships peculiar to the industry Some of the same processes that Massey and Meegan saw as leading to job loss in British manufacturing can be seen at work in the asbestos mining industry of Quebec. For instance, management decisions to replace labour with capital or to close a facility due to overcapacity are well documented. In mining as well as manufacturing, these arise from profit-driven changes in the system of international capitalism. There have also been instances of intensification, investment and technical change and rationalization in the asbestos industry. Because all companies seek profits, there will undoubtedly be some similarity in the strategies they employ, although no hard and fast rules apply. Intensive research allows the peculiar nature of each company to become the story itself rather than becoming an exception to a rule or set of predicted results.

With this in mind, it is reasonable to assume that Massey and Meegan did not expect that their framework would be applied unthinkingly to any place at any time. Instead, they would expect others to employ a similar method of research to look for evidence of change in industrial structure. In the Quebec situation, the role of the state must be given considerable attention, as it is significant to the asbestos mining industry The role of the state would perhaps not play as significant a role in the restructuring of the restaurant industry in Montréal.

In the Québec asbestos mining industry, the historical pattern has been to export over 90% of production. It is thus important to study the markets for raw asbestos and the products into which it is processed. The asbestos mining industry has long been dominated by foreign capital concerned with exporting fibre (Laux and Molot 1988, pp. 104-105). As such it is of utmost importance to study both the nature and source of the capital involved, as well as the destination and use of the raw asbestos. This entails the study of the major

consumers of asbestos fibre in the market place and the uses to which they put asbestos. It will be shown that the majority of producers in Québec were, until the early 1980s, large, vertically integrated multinational corporations that shipped raw asbestos to their own processing plants outside Québec (Laux and Molot 1988, p. 116). This situation changed after the legal battles of the late 1970s and the early 1980s. There was a shift in the markets for the fibre that has yet to be fully realized. Ongoing change in the market orientation of the major players will be discussed below.

Asbestos producers have had a great deal of trouble in the market place of late, and this bears heavily upon the workers in the Townships. For example, litigation and bankruptcy of the largest producer of asbestos in the Western hemisphere, Johns-Manville, sent shock waves through the industry and effectively poisoned western markets for further sales. Although the asbestos industry denies that this is the case, the fact remains that they have mounted a multi-million dollar campaign to combat the 'bad press' for asbestos.

The Asbestos Institute, a lobby group formed as a joint venture of the federal and provincial governments and the mining companies, has been given the mandate to stamp out negative conceptions of asbestos as a health hazard and to promote its use in the remaining pockets of demand and any new areas that can be found (Blais et al. 1985) The past misconduct of the industry and its failure to be responsible to its workers and customers will be major themes of the study of the problems faced by those players remaining in the asbestos industry

Against a background of changing legal liability and government involvement, the form of the industry in the Eastern Townships has changed. Before the discussion of industrial change can begin, it is necessary to introduce the legal and governmental aspects of asbestos restructuring.

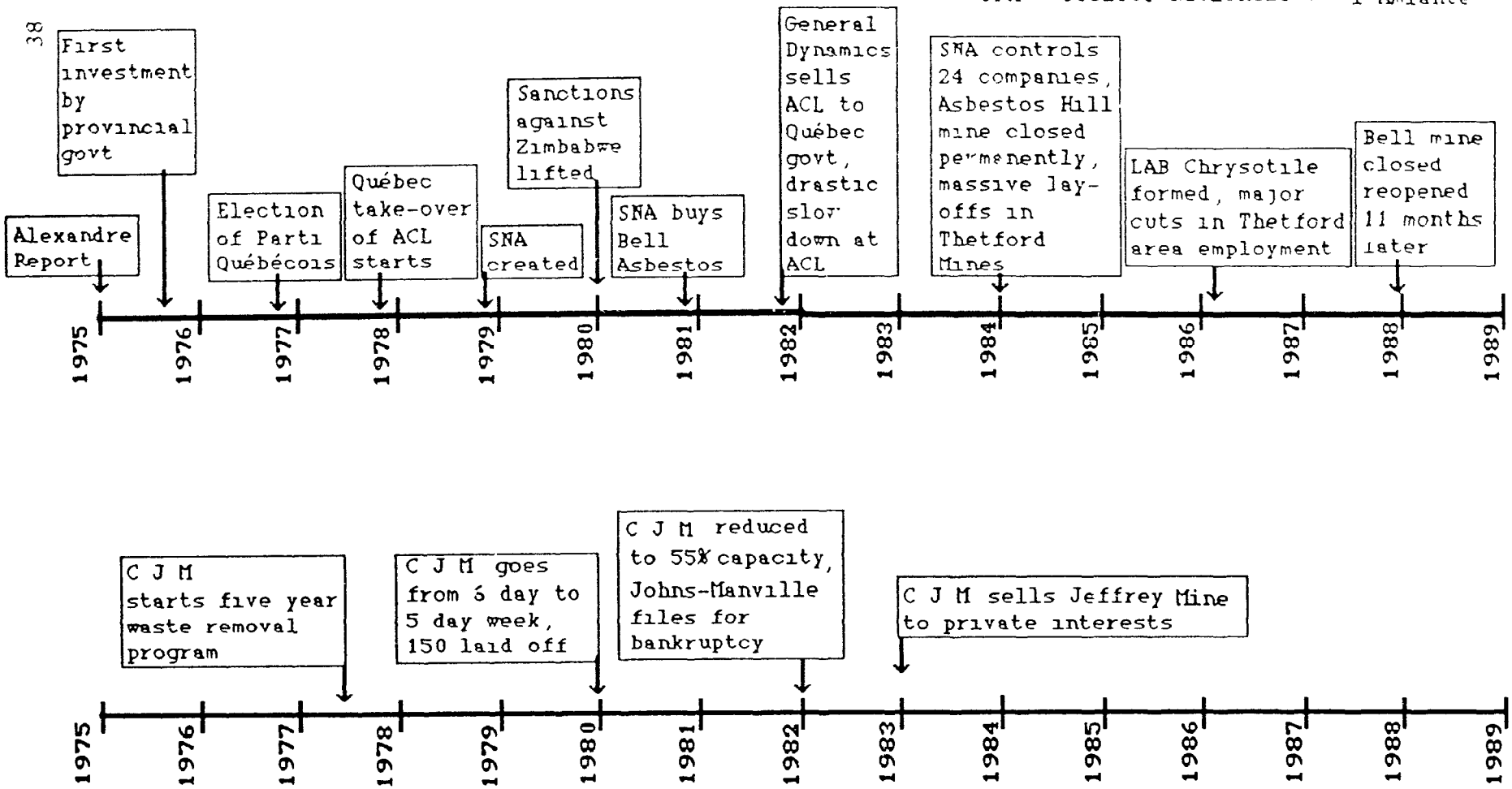
Chapter 3 The Québec Government and the asbestos industry

Provincial government has always played a strong role in the mining industry, and from the onset of the decade of regional flux, 1979-88, the provincial government undertook to become a major player in the industry. The Parti québécois (P.Q.), which came to power on November 15, 1976, has been identified with the reform of government policy vis-à-vis the mining industry. It has also been routinely criticized for the high cost of its policies. I shall show that there was government involvement in the asbestos industry of Québec before the P.Q came to power, but concentrate on the analysis of the decline of the industry. It is my contention that conventional analysis (of McRoberts 1988, Laux and Molot 1988, Blais et al ; Fournier 1981) is incomplete (see chapter 6). There is evidence to suggest that the decline of the industry is due to a long sequence of events. The events and the actions of the various parties need to be sorted out before snap judgements are made about reasons for decline of the industry My first task is to evaluate the importance of the Québec state to the restructuring process I shall then demonstrate that when events and actions are set in their context, the government of Québec was not guilty of poor management, nor was it a victim of a single circumstance beyond its control.

In the present chapter, three things are attempted. First, the development of the provincial nationalist ideology and resource policy in the 1960s is briefly traced. Second, the asbestos policy of the Québec government as set forth in October 1977 will be explained. Third, the form the execution of the policy took in terms of the economic geography of Quebec will be described (see Figure 3-1 for the chronology of events).

Chart1 Time Line showing major events of 1975-1988

ACL - Asbestos Corporation Limited
C J M - Canadian Johns-Manville Co Ltd
SNA - Société Nationale de l Amiante



Top line = provincial government and Asbestos corp. events

Bottom line = Canadian Johns-Manville events

The general objectives of Parti Québecois policy on asbestos are contained in the writings of Rene Lévesque, while specific recommendations are found in the government report "Vers une Politique québécoise de l'amiante," also known as the Alexandre Report. A brief summary of each is in order.

During the 1960s, Québec nationalism was taking shape. The nationalists gained strength through such political acts as the nationalization of hydro-electric production and distribution. In terms of resource policy, the spirit of the time is best summed up by Lévesque in his seminal *An Option for Québec*:

> The government of Québec should promote an economic policy frankly favourable to its own population and more demanding vis-a-vis the capitalist interests, for it is not enough only to appear to govern in favour of the people in this sector. In particular, the government must obtain the greatest advantages and royalties it can possibly extract from the natural resources, taking into account of the reasonable limits of this kind of policy (Lévesque 1968, p 23).

The action behind this statement would surface in the 1976 election when the P.Q was swept to power. It must be noted, however, that the P.Q. was not alone in its desire to see the province benefit to a greater extent from the natural resource riches that Québec had to offer As stated above, the Liberals initiated government involvement in the industry. The joint venture between the Liberal government of Bourassa and Garlock of Sherbrooke is discussed in chapter 6.

The Alexandre Report was written in 1975, at a time of high asbestos demand and short supply, under the Liberal government of Robert Bourassa Never widely distributed, it spelled out the specific goals that the government of Rene Levesque would later strive for, using a nationalist policy. These included the goals of gaining access to information on the industry, to enable the government to evaluate its potential; improvement of workplace conditions in an industry long known for poor health and safety standards, greater access to

managerial positions for francophone Quebeckers, and, most important, a dramatic increase in the local processing of asbestos fibres to create jobs (Laux and Molot 1988, p. 114). These reccomendations addressed long-standing discontent Québeckers had towards the industry. The Report recommended several ways of achieving the goals Options discussed in the Report include formation of an asbestos exploration company, purchase of a minority interest in one of the large companies, purchase of one of the smaller companies, formation of an asbestos marketing board, and formation of an integrated company for exploration, mining, milling, manufacturing and distribution

The government of René Lévesque embraced the Alexandre Report. As the solution most appropriate to government ideology and finances, the government intended to take over the Asbestos Corporation Limited (ACL) which operated facilities in Thetford Mines A crown corporation was formed to operate the facilities Government goals were soon expanded to include the purchase of certain manufacturing facilities and a small asbestos producer, Bell Asbestos Mines Ltd Chapter 5 outlines the structure of the Crown Corporation, SNA, as it changed

On October 21, 1977, the Quebec government announced its intention to purchase ACL, which had rung up an impressive string of 42 years without a loss. The new crown corporation, Societe Nationale de l'Amiante (SNA), whose stated aim was to "be profitable for all Québeckers," was to run the company as an arm of the government Although the government was already involved in the sector, no mention is made in any of the reports made at this time Perhaps the P Q wanted to accept all the laurels for themselves in those heady days of the first separatist government

The takeover of the ACL was a long process that had several stages of proposals, accusations and lawsuits on constitutional grounds. The drama of the takeover was played out between 1977 and 1982 Public

attention was focused on the government's early proposal to nationalize the holdings of the company. In a speech to the Economic Club of New York, Premier Lévesque stated that his government would not embark on a wide program of nationalization but instead focus on the asbestos industry as its prime target. He did not rule out nationalization at this time (Laux and Molot 1988, p. 115). A two and a half year battle of words between the target company, ACL held by General Dynamics of St. Louis, Missouri. and the provincial government, culminated in a 1981 Supreme Court of Canada decision that upheld the province's right to expropriate. Negotiations resumed on the issue of price The two parties held widely differing opinions as to the worth of ACL. The government believed $41 per share was fair, General Dynamics sought $100. In November 1981, the price of $44 was reached, and the company changed hands in February 1982 (Laux and Molot 1988, p 118).

Through the SNA, information concerning asbestos mining, milling and marketing became accessible to the government. Before the takeover of ACL, the government was learning about the industry from the inside. The statement of intent to purchase ACL was the start of an era in Quebec politics where the inhabitants could count on the government to take action in their favour In the years following the announcement, the SNA would acquire and form a number of firms involved in the asbestos industry, thus expanding its role in the industry in the hope of bringing more jobs to Québec. Changing the face of the industry in so radical a fashion was the culmination of a social process that was manifested in the 1949 asbestos strike in which the church and labour found themselves pitted against the government and the mining companies (see Trudeau 1956) The strike became a focal point for a changing Quebec in the 1960s. The sentiment expressed by Lévesque and other figures in the mid-1970s is the result of social change that came out of the 1949 confrontation

The crown corporation became involved in more than just mining. Supported by a capitalization of $250 million, the SNA initiated or purchased a variety of firms and facilities. In addition to mining, it became involved in research and development, fabrication of asbestos cement, textiles, friction materials, and asbestos paper for gaskets. Sales marketing and lobbying are part and parcel of the SNA involvement in the industry.

An example from the research and development field will provide some insight into the implementation of the policy of the provincial government and the problems facing the SNA. After the purchase of the two mining companies, Bell and ACL, the SNA set up an Asbestos Research centre at the University of Sherbrooke In keeping with the social goals of the policy, the institute was charged with developing methods of using the asbestos resource to the greatest benefit of Québeckers. A major project of the Centre was the development of a technique whereby asbestos mine tailings produced over 100 years were re-processed to retrieve the magnesium oxide they contained. Although the process worked well in the laboratory, the start-up plant in Thetford Mines experienced difficulties and is now "in moth balls". After input of some $14 million, the SNA is not willing to spend any more funds on the process. The funds for increased investment were simply unavailable. A once promising research and development project is in jeopardy of becoming a footnote of corporate history (see Marsden in *The Gazette* January 10, 1987, p B-1)

Another stated aim of the asbestos policy was the creation of jobs. Through the workings of the SNA, jobs were to be created in the areas of research, management and manufacturing Government forecasts indicated that the percentage of asbestos transformed into manufactured goods within the province would rise from 3% of asbestos mined to 10 or 12% (Laux and Molot 1988, p 115) The result has been less than spectacular; 300 jobs have been created in processing while

150 have been created in research (Laux and Molot 1988, p. 115). Against an investment of some $94 million through the SNA plus the $200 million cost of acquiring ACL and Bell Asbestos, the cost per job has been tremendous (Laux and Molot 1988, p. 119).

The asbestos policy and its implementation are rooted in the history of Québec. A brief discussion of recent events is in order. During the '60s and '70s there was a general movement towards government involvement in key sectors of the provincial economy. This policy of involvement encompassed two imperative issues.

Firstly, there was a perception in the ranks of the government and the educated elite of the province that the control of most large corporations by interests outside the province had a detrimental effect on the economic and social well-being of the people. This is substantiated by Bradbury (1982) when he states that of the eleven major industrial firms in the province in 1973, including pulp and paper, aluminum processing, aircraft manufacturing and electronics, with a total employment of 94,800, only one was Québec-controlled. In the asbestos mining sector, not one firm was a Québec or Canadian company André Raynauld summarized the situation when he stated in 1973 that there was increasing support for separatism among French Canadian elites. He points also to their "belief that action by the state is the best if not the only way to solve Québec's social and economic problems" and that "French Canadians resent the fact that in the Province of Quebec, where they constitute a large majority of the population, they do not own and control more business firms" (Raynauld 1973, p. 147-152).

René Levesque put the same sentiment in stronger terms when he stated in *An Option for Québec* (1968) that "economically we are colonials whose three meals a day depend far too much on the initiative and goodwill of foreign bosses" (Lévesque 1968, p. 17). In addition to this, the Minister under whose guidance Hydro Québec was

formed, the future Premier of Québec, states, "We must admit that our society has grave, dangerous, and deep rooted illnesses which it is absolutely essential to cure if we want to survive" (Lévesque 1968, p. 17). Lévesque believed that it was the collective responsibility of all Québeckers to take the initiative and be responsible for their future, to be their own boss. This is the meaning of the slogan "maitres chez nous" that has become familiar to those who follow Québec politics.

The goal of becoming bosses of the production facilities owned by people foreign to Québec remained alive. In addition, there was a wish to catch up with other provinces in terms of the general level of economic development (Bradbury 1982, p 46) The push to develop the Québec economy from within manifested itself in a number of key areas

Some analysts, mostly anglophones, believe that the goal of having a Québec with an economy controlled by Québeckers is unrealistic, and looking back they argue that the ambitions expressed for job creation were unattainable because of the downturn in the demand for asbestos.

Chapter 4 - Asbestos: Law, Cancer, and the EPA.

The mere mention of the word "asbestos" today conjures up images of cancer, bankruptcy, litigation and bans. Few in our society are completely ignorant of the white, fireproof fibres that lurk in our air, our drinking water, and our wine. Governments want to stop us from using asbestos. The United States Environmental Protection Agency desires that the substance be banned from use in all but a few strategic applications. The well-publicized deaths of asbestos workers exposed to the fibre in harmful doses as well as the recent courtroom drama starring the giant transnational building supply manufacturer Johns-Manville (now Manville Corp.), have drawn attention to ventilation ducts, brake pads, oven mitts, and insulation. Why have there been so many lawsuits? What is the controversy about? Why is there such opposition to the continued use of asbestos? Is the market for asbestos really drying up? What for years seemed to be a useful, safe and profitable resource has turned into a silent killer of staggering proportions. The previously 'cold' topic of asbestos has suddenly and become a 'hot' topic It is the purpose of this section to give the reader an idea of what asbestos is, what its health effects are and why some asbestos miners in are in greater danger than others of being made redundant.

Physical Characteristics of the fibre

Asbestos is the name given to the group of fibrous hydrated silicates found throughout the world For our purposes, the discussion will concern only chrysotile or serpentine asbestos. Occurring in veins between one millimeter and forty millimeters in width, chrysotile is the most common form of asbestos and the only one that is mined in Canada. Although asbestos can be found in nearly two-

thirds of the earth's crust, it is not usually concentrated in large formations near the surface, hence there are few commercially viable deposits. The three largest deposits, two in the Soviet Union and one formation in Quebec, account for over 90% of the proven reserves on earth. Secondary deposits are located in Greece, Brazil, China, Italy, and Southern Africa.

Because of its unique fibrous and crystalline structure, asbestos is incombustible and has great resistance to wear, strong chemicals, electricity, and micro organisms. These properties make it ideal as an insulating material. Alone or in combination with other industrial materials, asbestos finds its way into over 3000 products including asbestos cement, roofing materials, flooring, textiles, friction materials, pressure gaskets, and paper

Health Concerns

It is now well documented that asbestos can be responsible for fatal diseases in humans. The three main afflictions are pneumoconiosis, lung cancer, and mesothelioma It is hypothesized that other forms of cancer may be attributable to asbestos exposure, but research is still inconclusive. It has, however, been established that the type of disease varies with the type of industrial application, the type of asbestos and the fibre dimension.

Pneumoconiosis, commonly called asbestosis, is associated with inhalation of asbestos dust The lungs become scarred as fibres penetrate the tissue, and the individual experiences a progressive inability to breath normally Oxygen transfer from the lungs to the blood is made difficult by the scarring or fibrosis, the individual finds exercise and work increasingly strenuous This condition can lead to a life of infirmity (Blais et al 1985, pp 100-104)

Lung cancer is a malignant tumour of the bronchial tubes It has

been established that the risk of lung cancer in asbestos workers increases with duration of exposure to fibres in the air above a threshold level of 1 fibre /cm^3 . In other words, long-term exposure to fibre levels below this level does not appear to increase the likelihood that the individual will develop lung cancer. On the other hand, long-term exposure to levels above 1 f /cm^3 greatly increase the chances that cancer will develop The use of cigarettes coupled with long term exposure to high concentrations of asbestos dust increases those chances by a factor of ten (Blais et al 1985, pp. 100-104). It should be noted that certain groups, such as the EPA, believe that asbestos exposure in any concentration is hazardous and that there is no threshold below which exposure should be considered safe.

Mesothelioma is a malignant tumour of the lining of the body cavities. It is associated with exposure to crocidolite and amosite which are mined in southern Africa The disease has not been found to have a relationship with exposure to chrysotile asbestos (Pelnar undated).

Litigation

The common characteristic of all the asbestos-related diseases is that they may take 10 to 40 years to manifest themselves in the human organism. This fact, coupled with the finding that there is a relationship between the type of work done and the type and size of fibre used, has lead to the controversy concerning the use of asbestos Because asbestos was used in increasing amounts for very hazardous uses in the mid 20th century, a vast number of workers were exposed to dangerous levels of asbestos dust in the work place. In addition, companies that produced products containing asbestos failed to warn users of the dangers of asbestos dust; the companies covered up what they had known since the 1930s--that asbestos was a lethal product when handled improperly

When new uses for asbestos were implemented during and after the

Second World War, workers with no idea of the dangers of asbestos handled and used the substance in the most dangerous ways. Few efforts were made at controlling the dust produced when insulation for steam pipes was cut; spray-on asbestos fire-proofing was applied without masks. By some estimates, eleven million workers were exposed to very dangerous levels of asbestos dust (see Brodeur 1985a, b, c, d). Because the diseases caused by asbestos are insidious, the health effects went largely unnoticed until the early 1960s when the first product liability lawsuits were brought against the asbestos producing companies. It took the death of workers who had handled asbestos to spur a change in the industry

The Johns-Manville trials

The first product liability lawsuits filed against the asbestos manufacturing companies failed This changed when a conspiracy to cover up the dangers of asbestos came to light in 1975. The cover-up was discovered in part because the former chairman of Raybestos-Manhattan, W.S. Simpson, left his personal papers in storage at his former place of work before he died When his son, Chief Executive Officer of Raybestos-Manhattan, was called to testify in an asbestos litigation case, minutes of meetings with executive officers of other large American asbestos product manufacturers came to light. The papers contained evidence that managements of the large companies had suppressed, since at least 1930, damning evidence of asbestos-related disease in workers. Judgements were soon brought against the asbestos firm and punitive damages for "outrageous and reckless misconduct" were being meted (Brodeur 1985c, p 64) By 1981, Johns-Manville found itself named the defendant in over 10,000 asbestos disease lawsuits with legal costs running at $2 million per month (Brodeur 1985d, p 52). The tide turned in favour of the injured plaintiffs; judgments in

the range of one- to three-million dollars were levied against the producers.

The Sumner Simpson papers indicated that the former president of Johns-Manville had been at the centre of the plan to cover up asbestos-related disease. The insurance companies holding policies of product liability for Manville cancelled these in 1977. By 1982, some two billion dollars was being claimed in actions against the giant building products manufacturer. In that same year, Johns-Manville president William McKinney asked a New York bankruptcy court for protection from litigation under chapter 11 of the federal bankruptcy laws. This surprised the industry, the plaintiff lawyers and the defendants lawyers (Brodeur 1985d, p. 52) The amount sought by plaintiffs in the damage suits exceeded the net worth of the entire Johns-Manville company. Only recently in 1988 has Johns-Manville emerged from the limbo of Chapter 11 (See Brodeur 1985a, b, c, d, for the complete and complex story of the litigation.)

Abandoned by its insurance companies, hounded by lawyers, and haunted by the specter of thousands of tragic, needless deaths, Johns-Manville began a public relations campaign to inform the public that it was the victim of persecution by those who wished the company to fail. Manville sought under chapter 11 to hold at bay the plaintiffs who demanded satisfaction after being needlessly exposed to harmful asbestos products.

Today, Manville is still in the building products business, but it has sold off its asbestos holdings In Quebec, the Jeffrey mine at Asbestos is in the hands of private investors. Together with the company's former insurance carriers, Manville has set up a compensation pool from which plaintiffs can collect benefits. Funded by future profits and money held in trust, the size of the judgments will be in line with those prescribed by the Workman's Compensation Act (*New York Sunday Times* Oct 8, 1988, p 22).

While Manville may have succeeded in maintaining itself in the face of litigation and Chapter 11 bankruptcy, the asbestos mining companies in Canada face a battle of a different kind. Although they have not had to pay claims directly to afflicted workers, they find that the market for their product is shrinking in the face of opposition to asbestos use and a general downturn in the industries that were once large consumers of asbestos.

The Race to Regulate

In the mean time, governments have been scrambling to establish regulations concerning levels of asbestos dust in work places and the ambient environment Canadian provincial governments, mining companies and unions have subscribed to the critical threshold theory while the United States government has deemed that any asbestos dust anywhere is unacceptable.

The position of Canadian groups is that there is a safe level of asbestos dust in the work place, and that if this level is monitored and controlled, then asbestos can continue to be used The U S position is that there is no safe level of asbestos dust and that asbestos must be eliminated as a product The government in Washington believes that a ban on the use of asbestos is the only alternative and that there exist substitutes and replacements for asbestos fibres The EPA ban is seen as an impossibility by the defense industries because of the unique properties of asbestos For instance, the building of war ships and missiles would be severely hampered if asbestos were not allowed in engine rooms and electrical systems of ships and the guidance systems of missiles Asbestos is light in weight, durable, and low in cost when compared with available substitutes and alternatives.

Canadian groups have formed a common front to lobby policymakers

in the U.S. The group, the Asbestos Institute, is charged with promotion of safe production and handling of asbestos and for safeguarding the continued existence of the industry. The lobby was formed by industry and two levels of government and is funded by all three. President Claude Forget has the mandate to promote the safe use of asbestos world wide. Additionally, the Institute is charged with finding markets for the Canadian product that comes mainly from Québec. The Asbestos Institute has also acted as a negotiator in Washington at the EPA hearings that will determine if the ban on asbestos will be implemented.

Asbestos continues to be used in specialized applications for which replacement technology is either very expensive or unknown. The use of the fibre in machines of war has not slowed, while its use in building materials has slowed considerably It must be understood that the asbestos used in machines of war differs substantially from that used in building materials, which helps to explain why companies engaged in the mining of asbestos used in cement and flooring have closed while others that produce fibres destined for aircraft and missiles remain profitable. To understand this relationship, we need to understand a few basic facts concerning the nature of asbestos deposits and the types of fibre used in different applications.

Peculiarities of Asbestos Deposits

To begin, a few definitions are in order. Grade of fibre refers to the quality of the fibre found in the deposit. This takes into account the average length and diameter of the fibres Many different grades can be recovered from any given deposit. Grade of ore refers to the percentage of asbestos bearing rock found in a deposit of ore. Commercial deposits have a grade of at least 2% and in rare cases up to 15% asbestos The grade of fibre found in the ore is the important matter to discuss here.

The high grade fibre groups 1, 2, 3, 4, and 5 under the Quebec Classification system command the highest prices on the world market Long fibres were the first to be exploited. As technology improved, mills were constructed when uses were found for short fibres, mines eventually increased the proportion of short fibre to long fibre being produced (Ross 1967, p. 523). In addition to being used in electrical applications, the long, expensive fibres are used in the manufacture of fire proof clothing, and fire curtains for theatres (see Blais et al. 1985 for a complete discussion of asbestos applications).

It is interesting to note that the specialized uses in aircraft and ships account for less than 5% of all asbestos consumption Most of the world's asbestos production, 70%, goes into the fabrication of asbestos cement which in its various forms is used as a structural material for buildings, as conduits for water and sewage, and as sheeting for ventilation ducts Asbestos cement is made with the fibre groups 5 and 6 in the Quebec classification These fibres are lower in grade than the spinning fibres but can be found in high ore concentration.

In the competitive world of asbestos mining, those small scale producers now engaged in the production of low grade fibre from low grade ore are certainly in danger Carey Canada of Tring Junction, Quebec was one such producer which shut down April 1986 On the other hand, small scale producers of high grade fibre from high grade ore, such as Cassiar Corp , are in a much better position to remain profitable and in operation The large scale producers of a wide range of fibre grades from low grade ore bodies such as JM Asbestos which now operates the Jeffrey Mine, are in a better position than the small scale producers and certainly could remain profitable even if operating at levels far from capacity as is now the case

Chapter 5 - Evidence of restructuring

This chapter is a discussion of corporate behaviour in the face of changes in markets for asbestos. Corporate profiles will demonstrate how their strategies are linked to factors outside their corporation's spheres of influence. Each corporation, in its own way, seeks to extend its control over those things which it does not already control. As crises in the market place affect a company's future, it alters its priorities in the attempt to maintain or increase its influence, sales and profits and to reduce costs. In some cases corporate survival is at stake. These corporate profiles will facilitate the description of the changes the companies have undergone. Each of the mining companies has pursued a strategy particular to its needs, depending in part on how the crisis affects operation. In turn, these strategies have differing effects on the viability of the towns where the companies are located. The utility of the framework offered by Massey and Meegan (1982) will be discussed with specific reference to two situations, 1) Canadian Johns-Manville Company Limited (C.J M.C.L.) and 2) the crown corporation, Société Nationale de l'Amiante (SNA) which took over Asbestos Corporation Limited (ACL)

In the asbestos mining region, the mines and mills are the principal form of employment As a result of corporate restructuring, the towns have been transformed from viable, prosperous places to live into marginal towns with shrinking populations and outmigration. There has been a marked change in the make-up in the geography of the industry The most important contrast is between the Canadian Johns-Manville Company Limited operation at Asbestos, in the west of the asbestos mining region, and the several companies in the east, notably the ACL.

The evidence will show that one company's strategy for maintaining, regaining or increasing profitability may be entirely different from the strategy of another company. The companies have not always acted in unison. Their strategies have sometimes clashed.

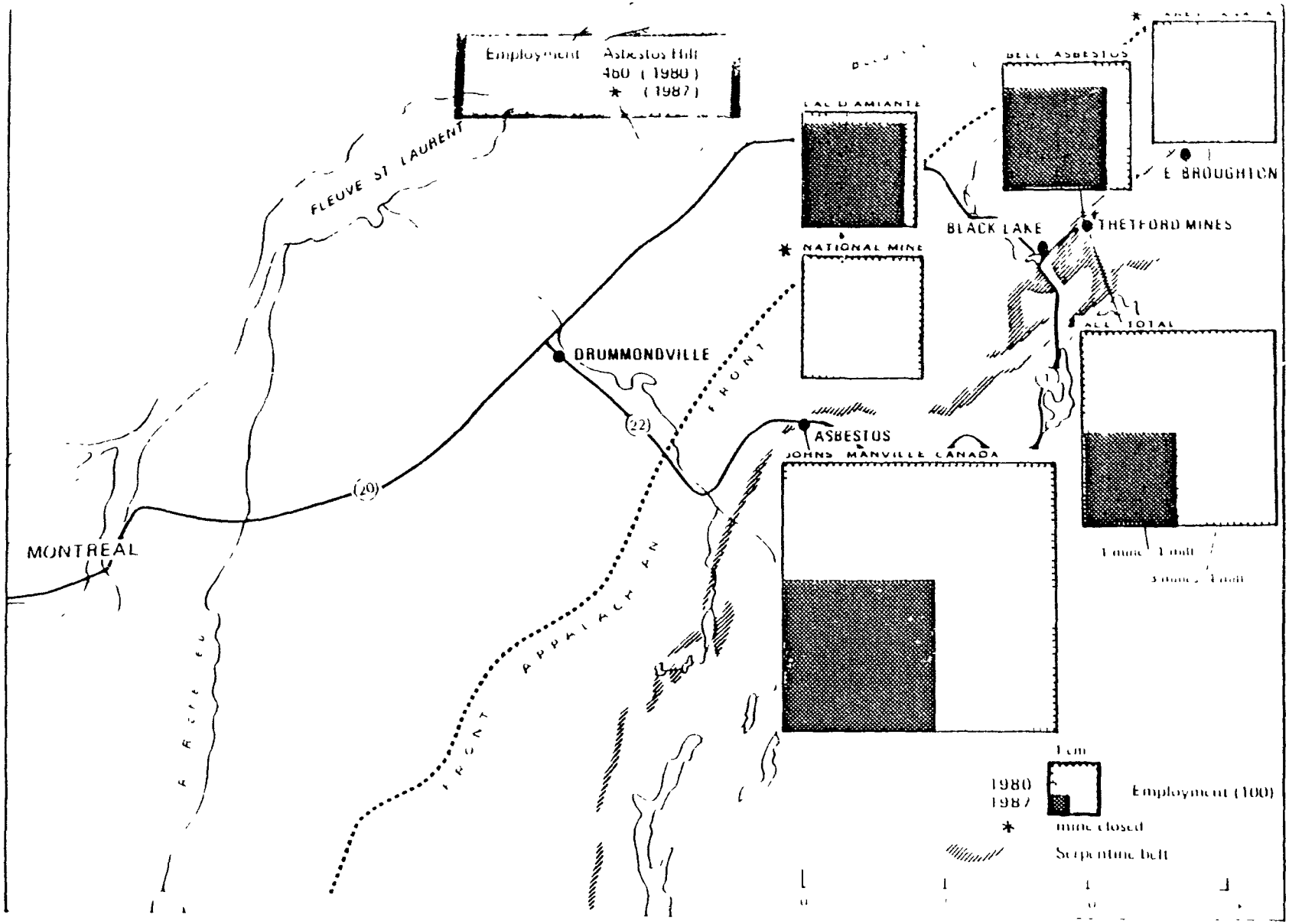
Not all the companies are losing money and not all the companies are experiencing the same financial pressures. Several have remained profitable in terms of return on total sales. Downsizing or closing of operations should not be interpreted as total failure. In terms of company objectives, there is a marked difference between downsizing a profitable operation and cutting back operations under money-losing conditions. The distinction is a fine one, and it can only be made in the context of change at the operations level of a given company. In the case of the asbestos mining industry of Quebec, a close examination of local, regional, national, and international links of the companies involved indicates that although some companies were laying off workers, they were not in great financial difficulty. Conversely, some companies that were downsizing were in difficulty. It is the task here to examine the evidence for change, to locate that change, and to make distinctions between profitable companies laying off workers and troubled companies fighting for their lives by cutting operations to the bone. The company that laid off the largest number of employees without closing, Canadian Johns-Manville Company Limited, seems to have been one of the healthiest in terms of net revenue.

As each company has pursued its own strategy in response to the crisis, the shape of industry in the region changes. The variation can be mapped out in the towns of the asbestos producing region (see Map 2). The way each corporate entity has dealt with the crisis depends upon its organization and its links to suppliers and customers. In this way, the local, regional and international linkages that are part and parcel of the company help to explain its behaviour. As the connections are altered, further changes are based upon new alliances.

Closure of mines in the region has not been a simple function of their age. Nor have foreign owned establishments closed while domestic firms remained open. Mines with large ore reserves have closed down. Bell Mines, which recently carried out a substantial modernization, closed in December 1987 only to have its reopening announced in November 1988. We shall get a grip on he shifting set of connections by recounting the contrasting scenarios of first the Canadian Johns-Manville Company Limited in Asbestos, then the Asbestos Corporation Limited in Thetford Mines.

Before the evidence of restructuring is discussed, the reader may wish to refer to maps of the study area (Maps 1 and 2). Geographers such as Hills (1955) and Ross (1967) have described the occurrence, distribution and exploitation of asbestos deposits in Quebec. The asbestos ore is found in the "Serpentine Belt" that stretches northeastward from the Vermont border in parallel with the Appalachian system which bisects the Eastern Townships, a region of colonization by British, Loyalist, and French settlers in succession (Ross 1967, p. 523). The river valleys of the St Francis and the Chaudiere form the natural boundaries to the mining zone (Ross 1967, p 523)

Hills (1955) dealt primarily with the geography of the asbestos mining companies and towns of the Eastern Townships in the context of landscape and of development In his conclusions, Hills stated that the periodic expansions and contractions of the industry are generally indicative of its history (Hills 1955, p 38) Ross (1967), concerned with the slow but steady encroachment of the Jeffrey Mine on the town of Asbestos, states that mechanization has allowed for increasingly rapid and drastic transformation of the earth's surface (Ross 1967, p 537) Hills and Ross are in agreement that the landscape of the Townships had been drastically altered by mineral extraction but that the economic benefits are justified (see appendix A for photographs of



Map 2 EMPLOYMENT FIGURES FOR QUEBEC ASBESTOS MINES 1980 87

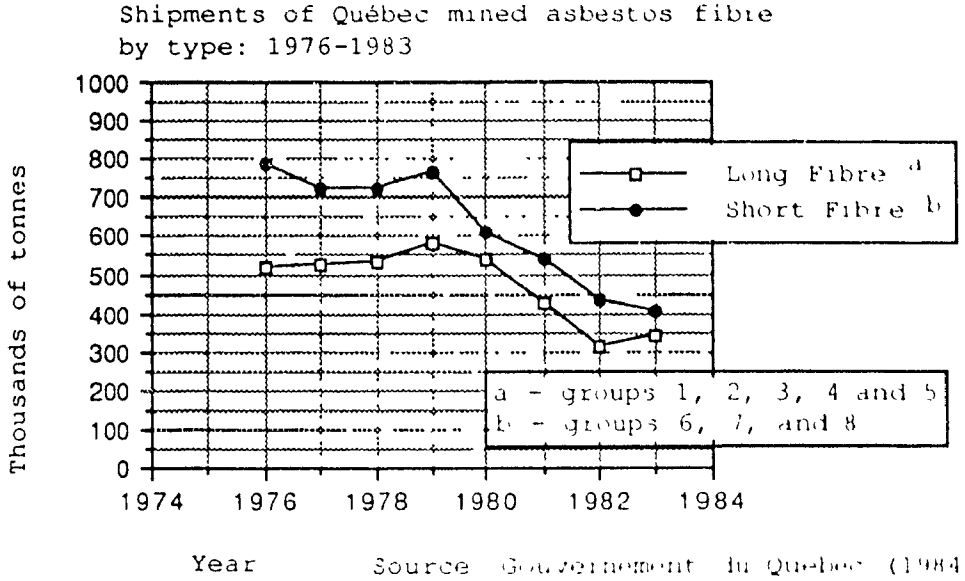
the region). Indeed, it would seem that in an area where there is little farmland of any richness (Hills 1955, p. 33), the asbestos mines have been dominant in the local economy.

Canadian Johns-Manville Company Limited at Asbestos Québec

In the case of the Canadian Johns-Manville Company Limited Jeffrey mine located at Asbestos, Québec, the crisis has necessitated the sale, in 1983 for $117 million of the mine and mill. The buyers were a group of 12 former senior management employees, based in Montréal (Gazette Sept 17, 1983, p. D-2) Production has continued despite the fact that output is presently less than 35% of designed capacity. The nature of the facilities and the ore body are such that the company can mine and mill the high grade portions of desirable fibre groups, while keeping potentially valuable fibre resources intact for future exploitation The large-diameter Jeffrey mine lends itself to such selective mining because the ore vein has the form of a cylinder some 1000 metres long and 750 metres feet wide running to the north east In the huge area of this mine, selective and intelligent choices can be made regarding priorities of operation Smaller companies with smaller pits in the vicinity do not have the flexibility that is afforded the Jeffrey operation

C J M C.L spent many years exploring and mapping the ore body This expertise is now paying dividends as the areas of most favorable host rock found in the footwall and the hanging wall are exploited by the company This type of mining, called high grading, may decrease the overall life span of the mine Fig 5-1 shows that long fibre grades have been less hard hit by the drop in demand compared with short fibres

Although no more recent figures are available, the price lists in



Source Government in Quebec (1984)

Figure 5-1

As valuable fibres are removed, there will be less inclination to mine the deposit in the future if the only return will be from less valuable ore. Conversely, the period of high grading may allow the company to bridge the crisis period and allow mining in some future period when prices and markets recover making the now less valuable ore more valuable and thus economic

Waste removal is an expense that mining companies would rather do without Thanks to the long history of the the mine, the Jeffrey ore body is well mapped and explored and the company can now direct its effort to areas that are known to contain fibres that are accessible as well as valuable The government of Canada has aided in mine development by paying for a series of waste removal projects at the Jeffrey mine.

Another reason why the Jeffrey mine was profitable during the time of crisis is the fact that it has been an industry leader in the field

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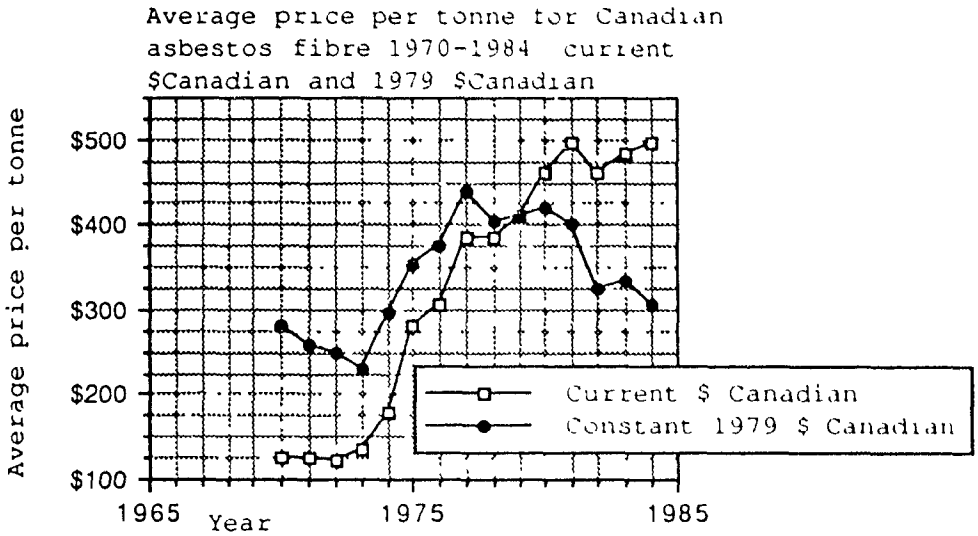
Industrial Minerals indicate that long fibres have held their value relative to short fibres

of mining technology Its large semi-circular shape has allowed management to use mining techniques that have given the mine an advantage over competitors. An example of this is the technology employed to haul ore and waste from the mine. Massey and Meegan would call this a combination of intensification and technical change. In 1972, while other producers were using smaller trucks, C.J.M.C.L. was using 35, 100 and 200 ton vehicles Investment in the larger trucks at an early date allowed C J.M.C L to become more efficient sooner than competitors The huge open pit of the Jeffrey mine was amenable to the technology of the huge trucks, where the narrow, deep pits in Thetford Mines were not In the early part of the century, the Jeffrey pit was already using trains moving up and down along shallow graded circular benches for ore and waste removal The history of the mine had a hand in dictating future development and profitability

Timing of events has played a part in the profitability of the mine. During the boom before the crisis, the management of the Jeffrey mine invested millions of dollars in mine improvements aimed at ensuring long term viability While their largest competitor, ACL, was fighting a pitched battle to avoid a hostile takeover of its facilities in Thetford Mines, C J M C L was preparing to increase efficiency and ore supply At the time of the announced expenditure, all the asbestos produced at the mine was sold out. demand was outstripping supply, and a price increase of 14% was announced (*Northern Miner* May 12, 1977, p. 16) The strength of Canadian asbestos producers, of which C J M C L was by far the largest, and the extent to which prices kept pace with inflation before 1978 is illustrated by Figure 5-2. Showing the upward trend of asbestos prices per tonne from 1970 to 1984, the graph also shows the price of Canadian asbestos dropping in real terms after the threshold year of 1979



Source Blais et al (1985, p 63)

Figure 5-2

The management of the parent company, C J M C.L , exercised corporate muscle at the correct moment and they were rewarded when the market for asbestos fibre soured after 1979

In 1977, C.J.M.C L. initiated a five year, $77 million dollar program to remove waste and ensure a smooth ore supply, and an additional $12.5 million was spent for mine and mill repairs and improvements. Management was changing technology and intensifying operations. The president of the parent company, J A McKinney announced the investment after the provincial government stated its intent to leave the operations at Asbestos out of any takeover plan. (*Northern Miner* March 10, 1977, p 10) Later on, Mr McKinney elaborated on the position of his company

> Our posture with the government of Quebec is one of furthering the interest of the company, its stockholders, and employees within the economic and political system existing in that province (*Northern Miner* May 12, 1977, p 16)

Although we cannot know whether Canadian Johns-Manville Company Limited knew the market would turn down and that immediate investment was needed to increase efficiency, we can state that the management

was fortunate to have avoided the fate of its competitors in Thetford Mines whose efforts were diverted away from mining to the courtroom. C.J.M.C.L. took advantage of the weakness of its main competition.

Things were tough in Asbestos but the company was making money. Several examples of partial rationalization illustrate Massey and Meegan's theory about the anatomy of job loss. At the start of the market crunch in 1980, 150 workers were laid off as the Jeffrey mine switched from a six-day to a five day work week

Forecast improvements in markets had not materialized by 1982, and operations were reduced to running at 55% capacity. Mine management laid off 500 of 1200 employees.

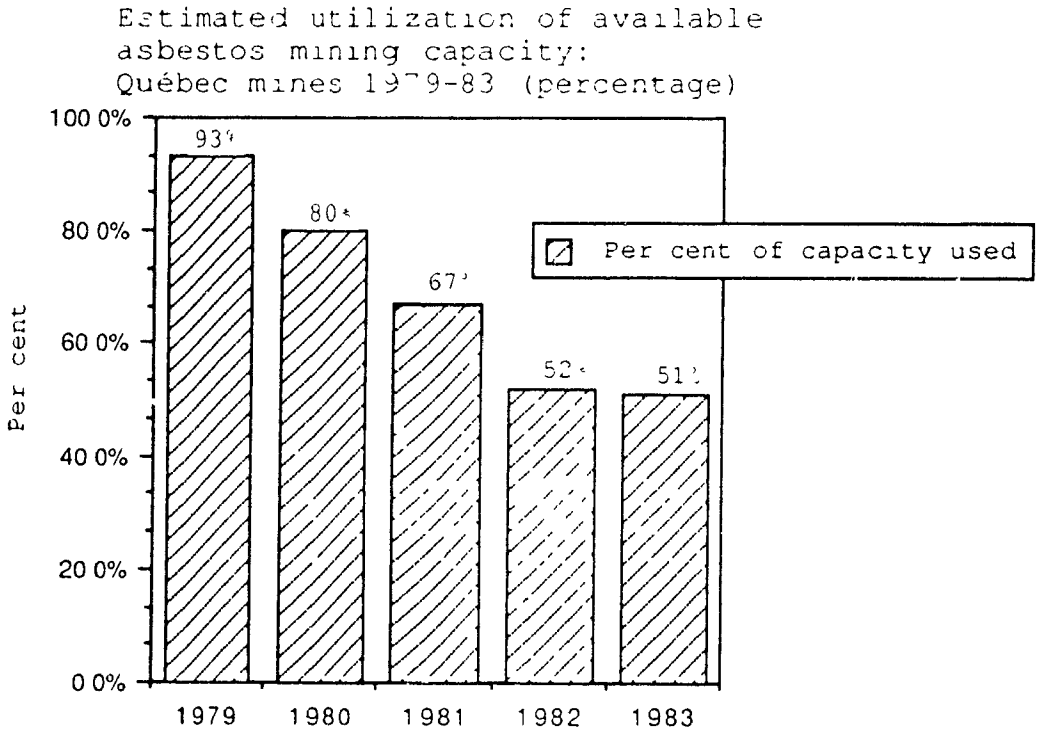


Figure 5-3 Source Quebec M E R (1984, p 34)

This mining operation, which was laying off employees and seeking federal monies was nevertheless contributing to its parent company in the U.S.A. 6% of revenue but 18% of the total net after taxes income In 1982, its performance was down slightly, giving 16.8% of income on 5.8% of revenue. The mine at Asbestos was profitable just before and during the layoffs; it continued to out-performed the rest of Johns-Manville at a three to one ratio In 1983, a 17 month, $30 5 million plan to remove 35 million cubic yards of overburden was partially paid for by a federal government grant of $3 5 million.

The project extended employment of 300 miners who would otherwise have been laid off work After the completion of the 17 month project, the 300 were not rehired During this period, the company was profitable despite operation at 50% of rated capacity (*Gazette* June 4, 1983, p. D-2). In effect, the Federal grant subsidized profits Other significant events occurred in 1983 With the Quebec industry in the midst of a crisis of overcapacity (see figure 5-3) and world sales in a slump, the parent company Johns-Manville was locked in a court struggle with plaintiffs seeking compensation for exposure to asbestos.

As a method of defense against plaintiffs, the building product giant sought protection under Chapter 11 of the U S bankruptcy laws The courts appointed a board of trustees to run the company until a method of settling the claims was developed In the mean time, Johns-Manville reorganized itself into a series of divisions to isolate parts of the company from those under siege The new company, Manville, was protected from creditors and plaintiffs while maintaining its position in the marketplace Chapter 11 is extremely in place to protect creditors large and small against the imminent failure of a company threatened by claims [illegible] In late 1982, the claims against Johns-Manville totaled more than the

$2 billion book value of the company In seeking protection under Chapter 11, Johns-Manville was allowed to keep operating in the expectation that claims would be settled fairly, to the benefit of all parties concerned. This process eventually led to a fund being created to pay out the sums sought by invalids who had been exposed to asbestos. As of Oct. 3, 1988 some 80% of the stock and 20% of the profits of the company were scheduled to revert to the victims' trust until well into the next century The plaintiffs fund will have use of the dividends paid by the company on the temporarily held stocks. This fund will pay out compensation to victims of the company's misconduct (*New York Sunday Times* October 8, 1988, p 22)

During this period of litigation, the Jeffrey mine at Asbestos remained profitable although it was shrinking in employment and operating at fifty percent of capacity (*The Gazette* November 12, 1983 A-12) This figure is representative of the entire Quebec asbestos mining industry for 1983 (see figure 5-3) In 1980, the mine had employed 2700, in 1982, 1200, in 1983 just 800 (*The Gazette* Jan. 5 1983, p A-1, *The Gazette* June 9 1983, p A-10). The federal government poured in another $3.5 million starting in 1983 to insure that the mine would stay open By mid 1983, many young miners had left Asbestos while those that stayed faced a town that was decaying and aging rapidly (*The Gazette* May 17 1983, p. A-21) At the last layoff in 1982, the cut-off for seniority was 16 years five months, that is, all miners with less than 16 years five months service were let go (*Asbestos* July 1982, p 12) The mayor, Roch Frechette, estimated in 1983 that the unemployment rate in the town was 50% (*The Gazette* May 17, 1983, p A-21) He stated in an interview that it would still be higher if all the unemployed young people hadn't left town. Real estate was a slow moving commodity: 100 houses were for sale with no takers The population of the town declined from 9000 in 1980 to 8000 in early 1983 and to 7000 in late 1983 (*The Gazette* January 5 1983,

p. A-1).

A two-week strike in 1986 for pension benefits, vacations and wage increases gave workers a 3% increase in the first year of a two-year contract, with 4% in the second year. After the increase, $15/hour was the base pay for the aging work force whose minimum seniority was approximately 18 years. At first glance there seems to be a lack of logic in striking against a company with a history of layoffs. The fact remains that despite its scaled-down size, the Canadian Johns-Manville Company operation in Asbestos, Quebec, was and still is profitable. This is in agreement with what Massey and Meegan state on pages 88-89 of <u>The Anatomy of Job Loss</u>. Excess capacity is shut down to maintain profits. Management strategies aimed at maintaining costs in line with sales levels allowed the profitable extraction, processing and sale of asbestos while some competitors were closing or losing money. Restructuring at Asbestos maintained levels of profit in a bear market. Profits were in part due to a flexible production system and economies of scale, but C.J.M.C.L. was also helped by the timing of previous investments in productive technology and the fact that the bulk of its sales were to other parts of the same firm. As a huge multinational corporation involved in a wide variety of manufacturing pursuits, Johns-Manville was able to keep buying asbestos from its Canadian mine, and to engage in research and development of new products and applications.

Although it is difficult to document projects undertaken during the early 1980s because of the legal problems and ensuing secrecy, we can give examples from the golden era of asbestos use, following World War Two. During the 1950s period of Interstate highway construction, Johns-Manville sought to develop an asbestos product for highway surfaces. Full-page ads advocating [illegible] highways appeared in trade journals (see Asbestos Journal [illegible] advertisement.) Airport runways for jumbo jets were [illegible]

product of asbestos to increase strength and reduce costs and weight.

The Jeffrey mine cannot be looked upon as a sick or depleted entity. Rather it is a viable, profitable well-organized holding that happens to need less labour at the present time. Labour was last on the list of priorities reported by Johns-Manville's President J.A. McKinnney in 1977 (see quotation, p 58), and workers at the mine became expendable when the market slowed down Operations were intensified, some processes were rationalized, and government help was sought to assume some costs. Past exploration facilitated competition with firms less well organized and equipped. The town of Asbestos may be hurting, the young may be leaving, their homes may be for sale with no takers, service industries may be taking a beating but the mine and the shareholders of Johns-Manville live on

The Asbestos Corporation Limited

The situation in Thetford Mines may at first seem to resemble the situation in Asbestos, but there are marked differences Here, too, work forces have been cut back, the town is suffering, and government money is flowing in In Thetford, entire mines have shut down, and, more miners have been laid off than in Asbestos Government money flowing in to Thetford comes from a different government and has a different purpose The takeover of the Jeffrey mine was smooth and silent but we shall now look at the take over of the assets of ACL, an episode that was controversial and public

The history of mining in Thetford is a stark contrast to mining in Asbestos. The options open to companies having crises of overproduction have *never* been similar to those available at the Jeffrey mine. A different path of development, fragmented ownership, different corporate goals, customer groups and geology have all contributed to the different corporate strategy employed by companies in Thetford Mines Our analysis entails a discussion of the history of

the mines, followed by the takeover by the Québec government, and the corporate strategy in response to the crisis of the 1980s. The ACL, it will be shown, was ill suited to weather the crisis it was confronted with, due in part to its history, its traditional customers, its operations in other parts of the Quebec and Europe, due also to the hard legal battle fought over ownership, and the fact that operations were being rundown by inattention during the takeover bid.

Mining companies operating in Thetford Mines pursued different strategies from those pursued by companies elsewhere. This cannot be seen in aggregate production statistics or in aggregate data dealing with all asbestos mines in Québec. The differences emerge when each company is examined separately. It is unfortunate that more information on corporate strategies is not in the public domain. I have constructed corporate profiles from public documents, news items and trade journal articles. Complete information about policy initiatives, evaluations and recommendations would make for a more telling story, but we can at least construct an accurate chronology of events. The major objective now is to infer the motivations of the companies within the broad goals of maintaining profitability and production in a competitive environment.

Here we undertake a chronological examination of events as they unfolded in Thetford Mines, Black Lake, Ottawa, and Quebec City. The contrasting strategies of the companies in Thetford and Black Lake with that operating in Asbestos will illustrate the degree to which corporations involved in asbestos mining differ in their structure, goals and philosophy. This will show differences between towns, and between the companies located in each town.

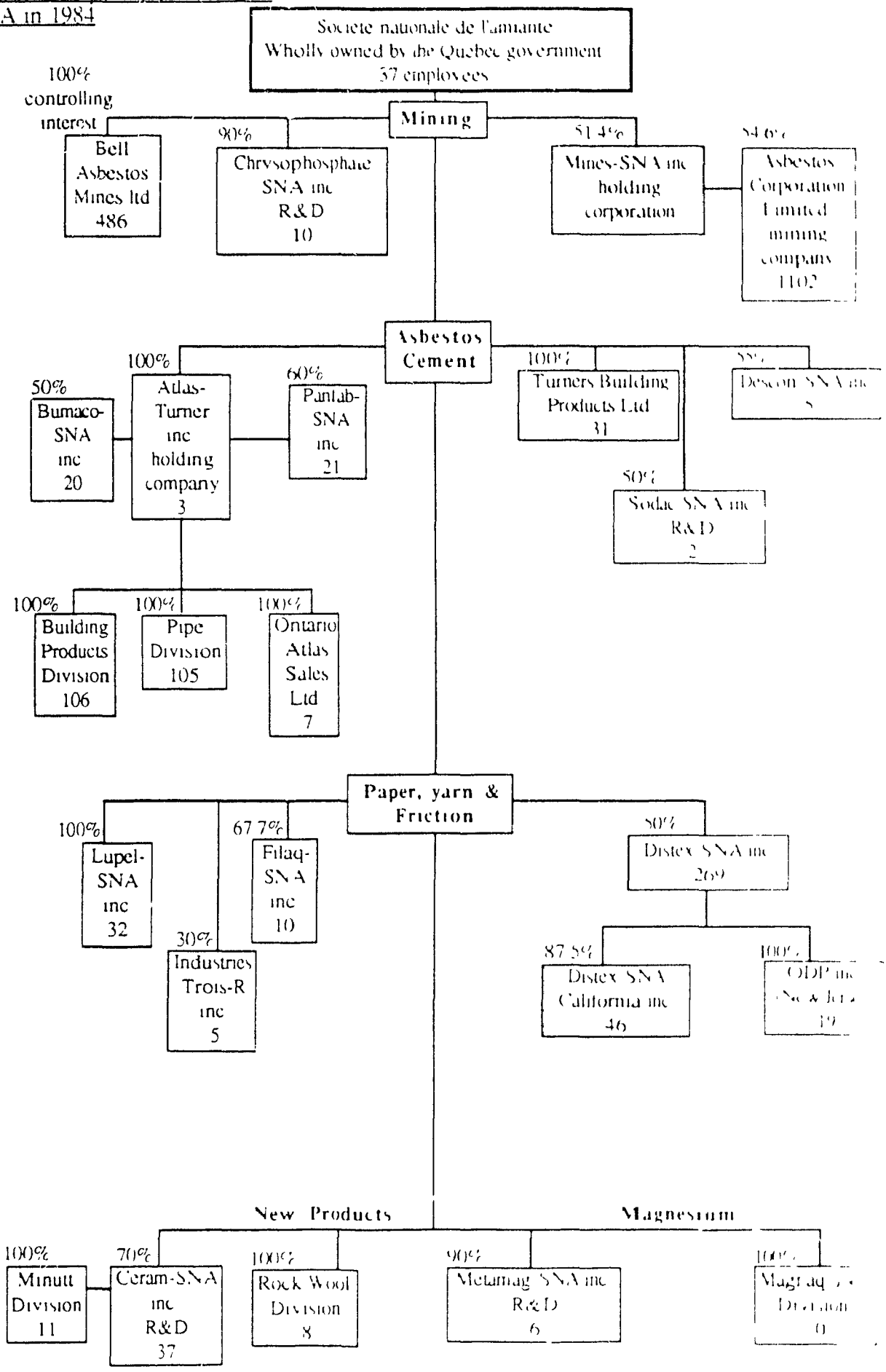
Québec's strategy was to move from the traditional role of primary production into processing (see chapter 4), with a higher value added and generally a high level of employment. This was to be accomplished by investment in new processes as well as established sectors. The

Québec government attempted to turn the asbestos processing industry on its ear through infusion of massive resources into new products and the capture of jobs in key processing sectors

What exactly happened in the industry as a result of the Québec strategy and how were these events timed? The crown corporation was established to allow Quebeckers to accrue benefits from all aspects of the asbestos industry. In 1984 SNA held a controlling interest in twenty-four companies, whose activities included mining, asbestos cement, paper, yarn and friction materials, magnesium products from tailings, research into new products and their marketing (Blais et al. 1985, p 81). These companies took asbestos from the ground, transformed it and sold it, a number of them were quite successful

The 1984 annual report of the SNA stated that Distex-SNA had become during the course of the year the largest disk brake manufacturer in Canada and had met all its objectives for the fiscal year After the market for asbestos papers recovered in 1984, Lupel-SNA reported a profit of $194,000 Filaq-SNA doubled its sales of asbestos textiles and yarns while continuing to penetrate the market Magnaq-1 spent 14 million dollars on research toward refining asbestos tailings for their magnesium content For these reasons, the management of SNA in 1984 felt optimistic that the recovery was on its way Losses of the crown corporation were slashed from $20 1 million in 1983 to $11 1 million in 1984 The improvement was attributable to economic recovery in the United States and the company marketed many of its manufactured products (SNA Annual Report 1984, p 4) Meanwhile, losses were still being experienced in the raw asbestos sales division markets were soft, prices were low, and inventories remained high (SNA Annual Report 1984, p 4) The mine at Asbestos Hill in Northern Quebec was closed on October 13, 1983, and inventory reduction programs were underway at Bell Asbestos and ACL The company

Chart 2 -Corporate Structure of SNA in 1984



Source SNA annual report 1984

was experiencing a crisis in its peripheral asbestos mining and milling operations Massey and Meegan refer to this as rationalization, we call it closure.

This episode of crisis management illustrates the point that Massey and Meegan make regarding the closure of facilities: the effect of age and capital structure vary according to economic and political circumstances (Massey and Meegan 1982, p 197)

The two pie charts illustrate the lost market share of the company in this period The graph of sales (Figure 5-4) indicates the relative size of each year's sales and the [illegible] of 33 This can in part be attributed to the [illegible] against Zimbabwe and the subsequent loss of the Belgian firm [illegible] group as a customer in Western Europe There was also a three month strike against the company (ACL Annual Report 1980, p 2) The pie charts show the decline of market share for Western Europe from a 43% to 28% ACL fibre for the European market was shipped in concentrated form from the remote mine at Asbestos Hill in northern Quebec, to the German milling facility run by ACL in Nordenham near Bremen

The low levels of sales (5% of total) in Canada and the United States for 1979 and 1980 are critical for two reasons Where Canadian Johns-Manville Co Ltd , vertically integrated, was shipping its fibre to its own American manufacturing plants, ACL was selling the majority of its fibre on the open market (Daly and Malot 1988, p. 116, Fournier 1981, p 360) This is in fact why it was targeted for takeover by the Quebec government (Fournier 1981, p 360) Unfortunately, the market for ACL had started to falter even before the change in ownership The loss of a major customer, Eternit, was a consequence of changing world politics, not a result of the threat of the expropriation, nor

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[1]After the transfer of power from Whites to Blacks in Rhodesia Zimbabwe, western nations ended economic sanctions against exports from and imports to that country

the result of bad management after the purchase A discussion follows in chapter 6.

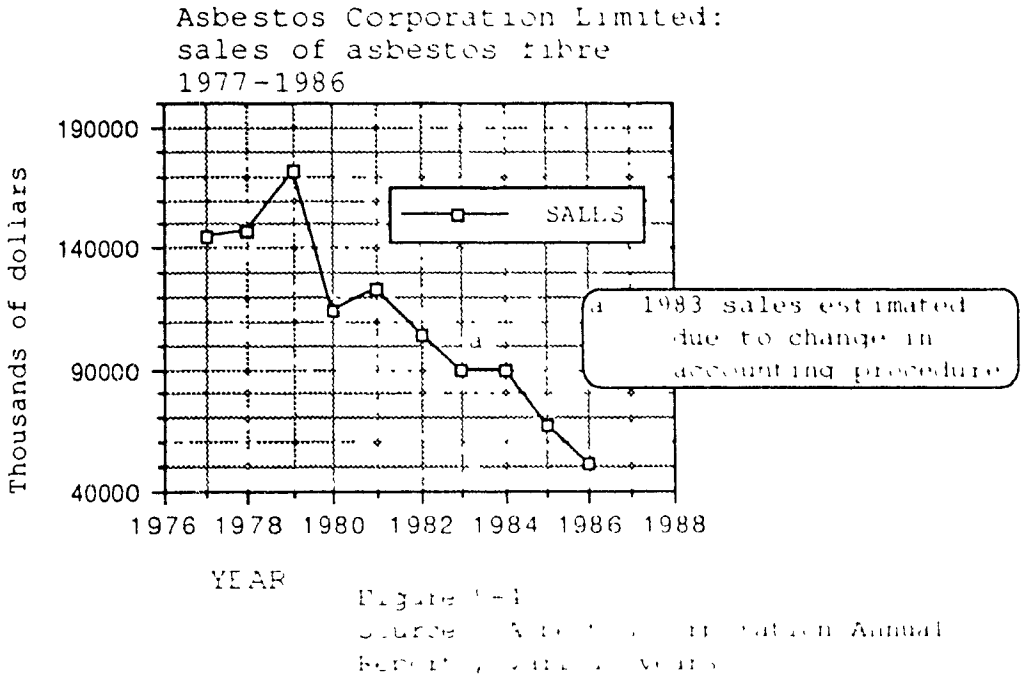


Figure 5-4
Source: Asbestos Corporation Annual Reports, various years

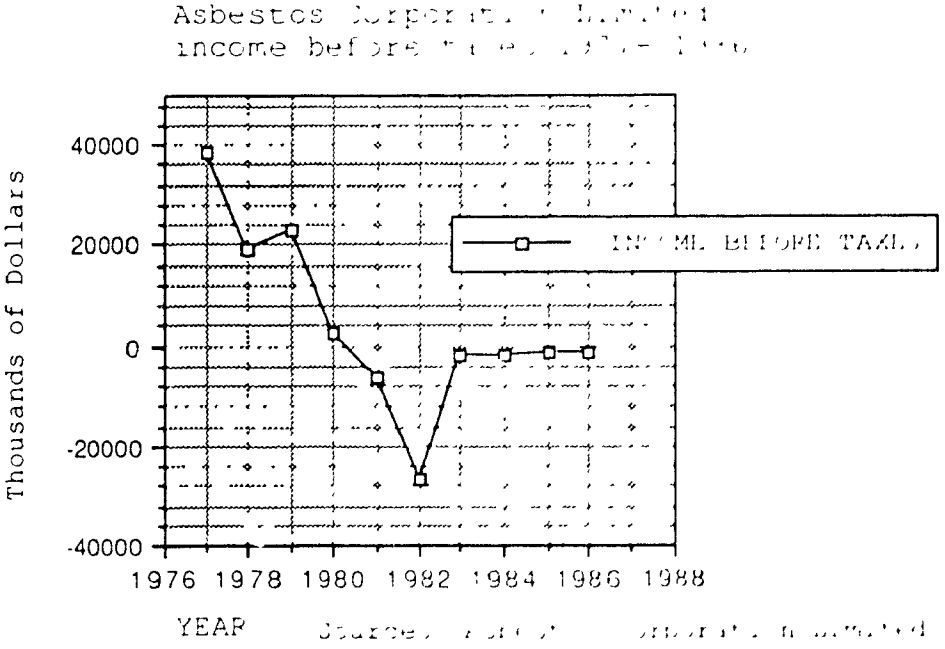
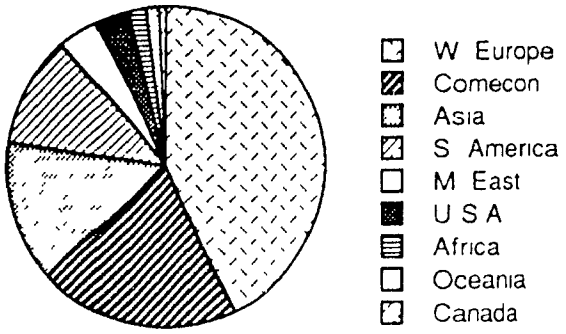


Figure 5-5
Source: Asbestos Corporation Limited Annual Reports, various years

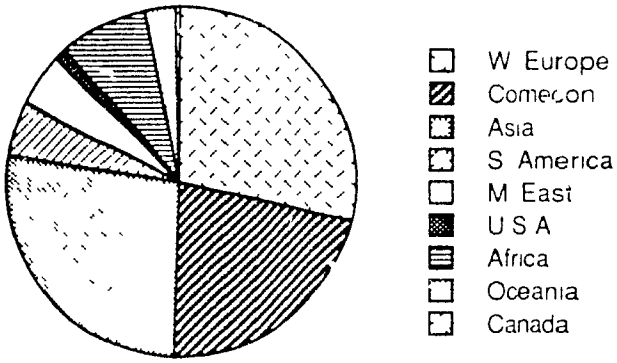
Asbestos Corporation Limited:
Sales of asbestos fibre by region - 1979



Source ACL Annual Report 1979, p 8

Figure 5-6

Asbestos Corporation Limited:
Sales of asbestos fibre by region - 1980



Source ACL Annual Report 1980, p 9

Figure 5-7

Figure 5-4 and 5-5 illustrate how deep the crisis became for ACL Sales and profits were plunging, action was needed to regain profitability. The methods of dealing with crisis that were open to ACL differed from the options open to the operators of the Jeffrey mine. In 1982, ACL operations in Thetford mines operated for 30 weeks, those in Asbestos Hill opened for 18 weeks and the mill in

Germany operated for 33 weeks The British Canadian No 2 mill in Thetford mine was closed in 1982, the peak year for losses and the first year the government owned the facilities Cost cutting measures were implemented in all facilities, expenditures were made on an 'essentials only' basis, and the head office of the company was moved to Thetford Mines form Montreal (Asbestos Corporation Limited Annual Report, 1982, p 1).

The loss of Eternit Group sales caused the demise of the northern high-cost mine at Asbestos Hill The company closed it for all but 18 weeks in 1982 (ACL Annual Report 1982, p 1) and closed it completely on Oct. 28, 1983 (ACL Annual Report 1983, p 1) It could not compete with low-cost African mines

Unlike the operations of C J M L which were never closed down completely, the structure and market of ACL demanded that some of its facilities be closed in their entirety This [illegible] of production explains why entire mines were closed early in the crisis together with slow downs of production at all locations As the crisis deepened and it appeared that asbestos markets were continuing their downward trend, ACL began to close more of its facilities In December 1984, when ACL was part of SNA, 450 miners were laid off at King-Beaver underground mine and British Canadian open pit, and 350 workers were laid off at the King-Beaver open pit and Normandie mill in Thetford Mines (*Gazette* December 9, 1984, p [illegible]) The layoffs were an effort to reduce inventories of unsold fibre By the middle of 1985, it became clear that the long awaited for market recovery was not forthcoming and the company changed its strategy (Although no information exists in the public domain regarding intensification of the ACL holdings, it is safe to assume that management sought to combine closure and intensification of production to stop the losses)

The large operating losses of 1985 for both Bell Asbestos (-$4 [illegible] million) and ACL (-$1 2 million as reported in SNA Annual Report 1986,

p. 2) stimulated a of merger of the companies operating in the Thetford Mines/Black Lake area. Bell Asbestos and ACL of SNA, togetner with the Québec subsidiary of ASARCO (American Smelting and Refining Co.), Lac d'amiante du Québec of Black Lake, formed a joint stock venture under the name of LAB Chrysotile. In order to reduce operating expenses and increase competitiveness on the world market, the new company decided on shutting down the mill and two mines and of ACL, already temporarily shut down (see above) This reduced the former 'number two' player in the asbestos mining industry was to a single mine and mill with a yearly capacity of 70,000 tonnes of fibre (see Map 2) Lac d'Amiante also closed its National Mine and mill which produced mostly short fibre The Bell operation remained unchanged. The question remains, why did the formerly powerful ACL suffer the most severely under the restructuring plans? For the answer to this question, we need to look at the battle between the government of Québec and the company.

Although details available in the public domain remain sketchy, it is apparent that effort was diverted from mining and marketing to litigation. The 1978 annual report of the company includes two pages of information concerning the proposed takeover of its holdings. It states aggressively that the proposed expropriation will be fought vigorously No dollar value can be placed on the effort, but aggressive action in the courts is expensive in time and effort Instead of managing the mining operations, ACL was fighting to stay in the business of mining [1] In addition, the facilities of ACL were known to be the oldest and most run-down in the industry (Fournier 1981, p 360)

[1] The battle for control of Asbestos Corporation Limited is extremely complex and involved A full treatment of the events would not serve this thesis to its end Simply understanding that the battle was waged in the public eye over a period of five years, 1977-1982, shows the significance of the fight to the company No complete history of the battle can be found in the literature, reconstructing the events deserves a study of its own

At the same time as this battle was taking place, C J M.C L and Bell Asbestos were both investing heavily The C J M.C L activity has already been described The Bell program involved replacing technology in the underground operations of the mine for the purpose of increasing efficiency and ore recovery (Asbestos Journal January, 1982, pp. 20-21). While the competition was heating up, ACL was not improving its facilities to the best of its abilities It is my contention that this led directly to the fate suffered by the mines under its direction when the joint venture with Lac D'Amiante and Bell was put in place.

Central to an appraisal of the strategy of the Crown corporation, SNA, is an evaluation of the performance of subsidiary companies, their profits and losses, and their subsequent divestiture from government ownership. The position of Bell Asbestos and ACL within the corporate structure of SNA will be discussed in chapter six, the restructuring of SNA is best left out of the analysis as it would take the focus away from the task at hand restructuring the asbestos mining industry

In chapter six, the regrouping and restructuring of the mining companies in Thetford Mines and Black Lake needs to be analysed in relation to the changes in Asbestos and the strategies of the Canadian government and the Quebec government

Chapter 6 - Discussion of the Findings

Chapter five described changes in the structure of the asbestos mining industry framework put forth by Massey and Meegan in The Anatomy of Job Loss (1982). The strength of this method is demonstrated when the results are held up against the work of others who have analysed the industry. A careful reading of the *Asbestos* journal and other neglected sources such as *Industrial Minerals* has provided minute but significant pieces of information. The method of research employed in this thesis has allowed the author to amass details of production, spending, and remediation that the secretive asbestos industry has been reluctant to divulge. Although the records of spending and production are far from complete, what has been accumulated reveals a picture different from that painted by researchers who have relied on other source materials. Chapter six reported that picture of the industry. We will now compare it with the image drawn from previous writers. It will show that critics of both the government and the ACL missed numerous opportunities to clarify corporate strategy and governmental policy. Two examples will be used to illustrate this point. The first example concerns the relationship of the parent company, Societe Nationale de L'Amiante, to its subsidiaries. The second example concerns the sequence of the events by which the provincial government became involved. A short section on the physical evidence of change, with two graphic illustrations, will conclude the chapter.

SNA and its subsidiaries

The relationship of the various subsidiaries to the parent SNA is neglected by both critics and supporters of the asbestos industries (see figure 5-8 for the structure of SNA in 1984). McRoberts, and Laux

and Molot do not address the changing structure of the industry Because McRoberts' is concerned primarily with the political storm surrounding the Parti quebécois, he is diverted from the real and significant role played by the SNA after the initial government involvement by the Bourassa Liberals in 1976. Laux and Molot (1988) attempt to portray the complex changes the SNA group underwent in the late 70s and early 80s, but their analysis falls short in the geographic sphere because they do not examine the other companies operating in the asbestos mining towns of Quebec. The authors do not analyse the changes in the role of ACL as it became part of a larger concern integrating research, exploration, mining, manufacturing and marketing Fournier and Blais et al , though supporters of the industry, are also deficient in their analyses Fournier bases his analysis on the development of a French Canadian bourgeoisie which was meant to replace the earlier generation English managers and owners (see Fournier 1980, pp 353-364) Because he does not examine the economic situation in each company, he is unable to untangle the structure of the crown corporation and its parts Blais et al make no mention of the role of the state The present analysis has shown that the crown corporation was an integrated organization for research, exploration, mining, manufacturing and marketing This clarification is due to Massey and Meegan's method for understanding job loss, which has allowed the inclusion of sources for a truly geographical analysis

Early provincial involvement

The second point of discussion concerns the timing of provincial involvement I have shown that the purchases of ACL and Bell Asbestos were not the first initiatives of the government of Quebec in the asbestos industry A news release of June 1976 in *Asbestos* states that on April 23, 1976, a 40,000 square foot [illegible] was opened in Sherbrooke, Quebec [illegible]

government of Québec and Garlock of Canada, this business represents the first involvement by the provincial government in the asbestos products sector. Coming just before the election of the P.Q. in November of 1976, the investment has been neglected by critics (see McRoberts 1988, or Laux and Molot 1988) and supporters (see Fournier 1981, Blais et el. 1985) of the industry. As in the case of language legislation, Liberals initiated change and P.Q. governments followed up the Liberal lead with reinforcing action, implementation and enforcement.

The discovery of that information demonstrates the strength of the intensive method. A small reference to the joint venture was found in the trade journal *Asbestos*, a source of information that other analysts of the industry have not used. McRoberts (1988), Laux and Molot (1988), and Fournier (1981) make no reference to *Asbestos* or to another journal which contains relevant information, *Industrial Minerals*. Blais et al. do make some use of the industry journals, but coverage is incomplete, since no mention is made of the government involvement and little is said regarding individual corporate strategies. Because of this, McRoberts (1988), Laux and Molot (1988), and Fournier (1981) are doomed to misinterpret the history and the structure of the industry. The common perception is that the P.Q., as a nationalist party, simply came to power and nationalized the holdings of ACL (McRoberts 1988, pp. 272, 283, 358, 366). Laux and Molot (1988, pp. 115-122) noted that the Liberal government of Bourassa had written a report which outlined ways that involvement in the asbestos industry could benefit Quebec. Fournier (1980, p. 360) defends the state intervention although the negotiations with ACL were not completed at the time he wrote his paper. The above authors state that the Liberals did not act on the report. This is, we now know, incorrect.

Revising the political interpretation

When the P.Q government acted on the Alexandre Report (as summarized in above chapter 3), the first steps had already been taken. The Liberal government of Robert Bourassa had already invested directly in the asbestos products sector. When this investment is set in its context, we see that the liberal government of the day did not reject the recommendations of the Alexandre Report but rather undertook to implement part of its suggestion number 2 which states that the government should [illegible] in all aspects of the asbestos industry from [illegible] finished product sales (Gouvernement du Québec 197[illegible], [illegible])

The fact that provincial direct investment antedates the election of the Parti Québecois by 8 months, renders much of the analysis by previous scholars inadequate. McRoberts (1988), for instance, states that money-losing crown corporations, resulting from questionable acquisitions, were problems of the Levesque government's own making. Citing the case of SNA, McRoberts states:

> Another such case (which had high costs) was of the Levesque government's own making: La Société Nationale de L'Amiante and its subsidiary la Société Asbestos. The enterprises were created through the Levesque government's takeover of the American-controlled ACL the largest asbestos producer in Quebec, and British-controlled Bell Asbestos, the smallest one. Designed to give Québec a virtual monopoly over asbestos production, the move was fatally undermined by a rapidly deteriorating international market. As a result, the SNA was registering ever increasing deficits, and some of the [illegible] acquired through the nationalization were closed or were [illegible] to operate well below capacity (McRoberts 1988, p. [illegible])

With the benefit of more complete information, I take issue with numerous points on it. First, because McRoberts did not know of the joint venture with Garlock or the Alexandre Report, he is compelled to blame the Lévesque government for the [illegible] of [illegible] of dollars.

lost in operation of the mines by the government.

About 80% of the losses incurred by SNA, the new crown corporation, are attributable to the falling price of the stock of ACL and the timing of the purchase The operations have lost money, but it is not true that all the losses came from operations. SNA was created in 1977, five years before ACL was purchased from General Dynamics McRobert's statement that ACL was "nationalized" is somewhat misleading, since General Dynamics officials were quoted at the time as being pleased "this long-standing matter can be brought to to this amicable conclusion" (*Asbestos* November 21, 1981, p. 21). Although the takeover battle had been hard fought, the final deal did not amount to an expropriation Asbestos Corporation was not then and is not now the largest producer of asbestos in Quebec (Bell was indeed at one time the smallest)

The asbestos ventures were not designed to give Québec a monopoly. The recommendations adopted from the Alexandre Report stop short of a monopoly Recommendations 5 and 6, that the government should expropriate, with certain conditions, all holdings of asbestos producers in Quebec, were clearly not followed The government adhered to a combination of recommendations 1, 2, and 3. formation of a crown corporation for exploring, developing and exploiting asbestos deposits as well as manufacturing, selling and researching asbestos products Some of this structure was set up through the acquisition of Bell Asbestos of Thetford Mines The remainder was set up through joint ventures and direct investment Again, it is through the intensive framework of Massey and Meegan that these events have come situated in their context

If "this mess" was, as McRoberts argues, the making of the Lévesque government, how was it that the enterprises only started to lose money after the international market for asbestos deteriorated? Finally, it is essential to record the successes that SNA had with a

number of enterprises engaged in research, product development and sales. These were documented in chapter five. Because the involvement of the P.Q. came during a time of decline, and because the political orientation of the government was not popular in some circles, some analysts have concluded that government involvement had a detrimental effect on the industry (McRoberts 1988, p 366) A purely political examination of the industry is, I would argue, necessarily inadequate

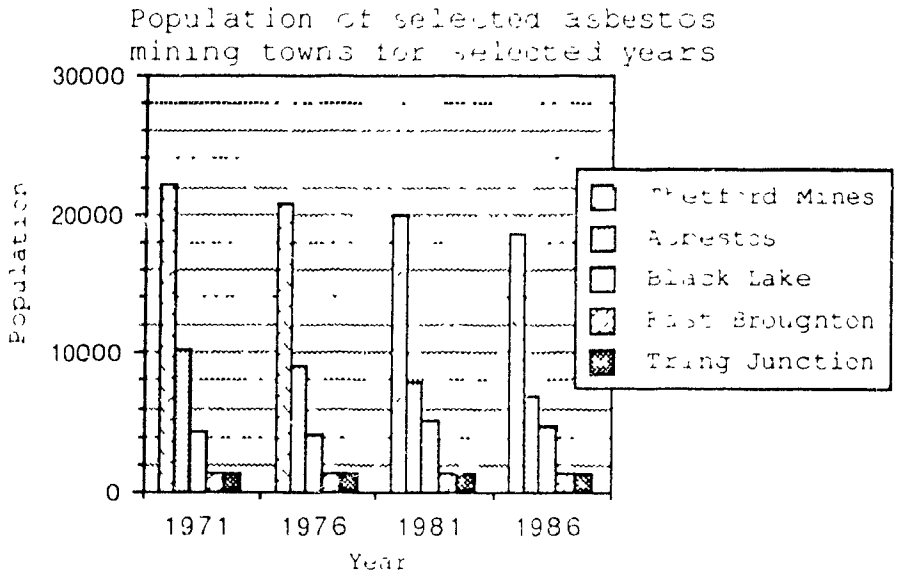
Conclusions

It has been demonstrated that the intensive method offered by Massey and Meegan allows for a further analysis of geographic restructuring in the asbestos mining industry of Quebec. The relationships of the various companies to each other and to the federal and provincial governments has been set in the context of change in the industry. It has been shown that companies restructure operations to regain or maintain profits and that this process causes unemployment that can be mapped By integrating diverse information from a variety of sources, it is possible to forge an understanding of the relationships and the context of change As a method of analysing restructuring, the framework of Massey and Meegan allows geographic understanding of economic, legal, medical, financial, political and social events and processes.

Cues in the landscape

We have seen that the distinct agenda of federal and provincial administrations led to inconsistencies and even conflicts in the late 1970s and early 1980s Rivalry between the federal Liberal government under Pierre Trudeau and the provincial government of the Parti québécois under René Levesque extended into the asbestos mining industry. This feature of their conflict has been neglected in the literature, and the attention to geographical features has drawn our

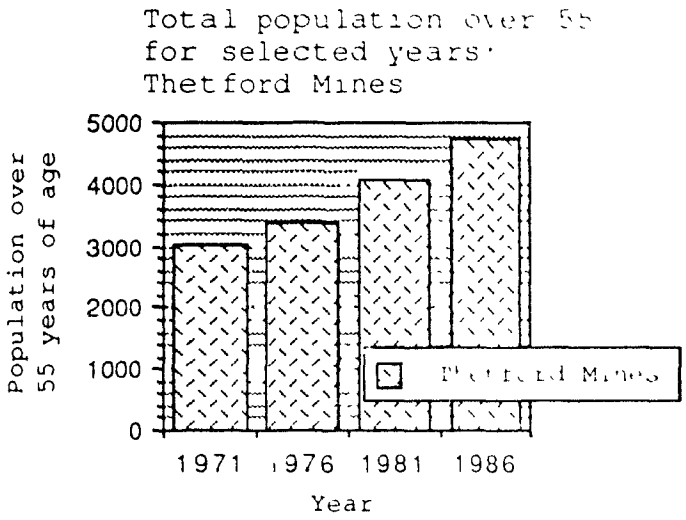
attention to it. We are seeing politics in the landscape of the Eastern Townships. Liberals in Ottawa favoured the Canadian Johns-Manville Co. Ltd. mine at Asbestos, while the controversial involvement of the provincial government in the east of the region is more widely known and has bolstered employment figures in that area although the numbers of mine closures and the numbers of miners put out on the street have been greater in the eastern sector. Asbestos and Thetford Mines have declined in size since 1971 while East Broughton, and Tring Junction have remained the same (see figure 6-1)



Sources: Statistics Canada Publications 92-800 (1976), 93-905, 95-902 (1981), 92-113 (1986)

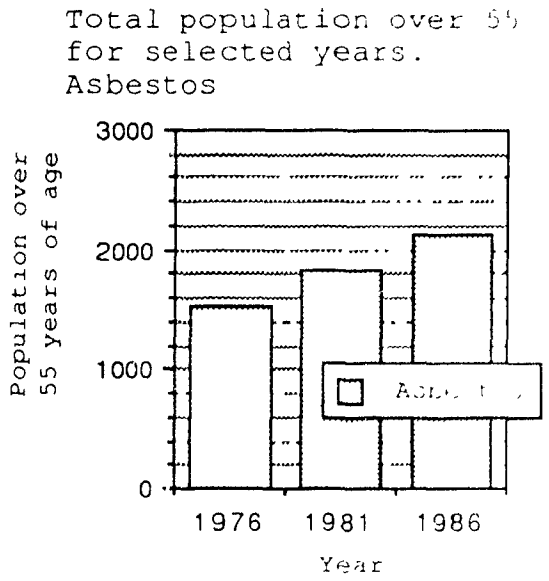
Figure 6-1

and Black Lake has in fact become slightly larger. Perhaps even more significant than the loss of population is the aging of the remainder. Figures 6-2, 6-3 and 6-4 show the aging of Thetford Mines, Asbestos and Black Lake respectively. As the percentage of population over 55 years of age grows larger and fewer young come into the world, the towns face the future with uncertainty.



Sources Statistics Canada
publications 92-713 (1971),
92-810 (1976), 95-903 (1981),
94-109 (1986)

Figure 6-2



Sources: Statistics Canada
publications 92-810 (1976),
95-903 (1981), 94-109 (1986)

Figure 6-3

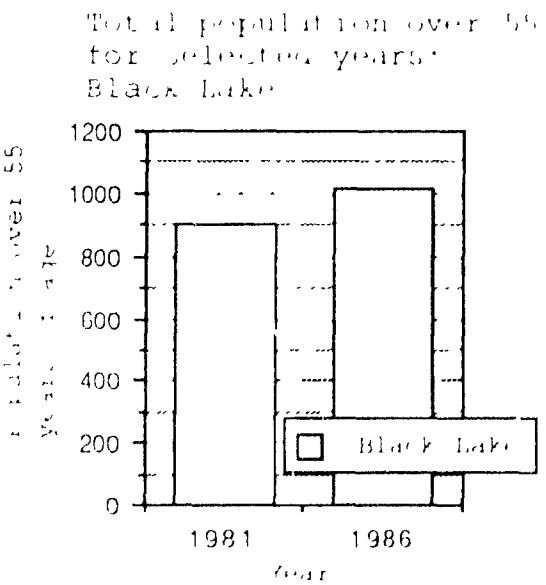


Figure 6-4

Asbestos, Québec, remains dominated by the Jeffrey mine. Although the mine is profitable and active, it is much smaller in terms of employment than it was at its zenith (see Map 2). Little new construction is visible in the town. Once prosperous social clubs and dance halls lie vacant (see figure 6-5). The pit and the mountains of waste rock and tailings will remain as reminders of past prosperity and vigour (see figure 6-6). Asbestos has not developed into a regional centre as has Thetford Mines.

Northwest of Asbestos, Thetford Mines has begun to capitalize on the surrounding hunting and fishing territory. Recent development also includes a number of ski hills and golf courses. According to Richard DuPaul in *La Presse* [illegible], the unemployment rate has dropped from 2[illegible] in [illegible] and the economy of the Thetford region has diversified away from asbestos mining to a point where only 15% of the value [illegible] in the region are associated with the mineral as opposed to 4[illegible] in 1979 (DuPaul 1989, p H-1). This is not to say that things have rebounded fully. According to Yvon Roy, an employee at the Asbestos Mining Museum, young people find it hard to live in Thetford because of the lack of rental units available. During the boom periods in the town's history, miners owned their own houses and very few apartment dwellings were built. Any that are available today are in the [illegible] of town in the shadow of the tailings heaps (see figure 6-7).

As in Asbestos, the tailings and closed mines remain a part of the Thetford Mines landscape (see figures 6-8, 6-9, 6-10, 6-11). Too steep for snow to stay, vegetation is out of the question for the harsh rock piles made from years of mineral extraction. Visible as they are from over 10 kms away (see figure 6-2), the mountains of crushed rock still inform the visitor and the resident that Thetford Mines is in the heart of the asbestos mining region of Quebec.

Bibliography

Afansayev , V G. 1987 *Historical materialism* New York International Publishers

Asbestos 1966-1983. 48(1)-64(1)

Asbestos Corporation Ltd. Annual Reports 1971-1987

Asbestos: International Bulletin 1987 & 1988 2(4), 3(1), 3(2), 3(3)

Barnes, T J. 1988 Rationality and relativism in economic geography An interpretive review of the [illegible] assumption. *Progress in Human Geography* [illegible]

Blais, R A et al 1985 *Strategic priorities for the Canadian asbestos industry* Montreal [illegible] Development Technologique de l'Ecole Polytechnique de Montreal

Bluestone, B and B Harrison 1982 *The deindustrialization of America Plant closings, community abandonment and the dismantling of basic industry* [illegible]

Bradbury, J H 1979. Towards an alternative theory of resource-based town development in Canada *Economic Geography*, 55(2), 147-166

Bradbury, J.H 1980. The state of the art in economic geography *Cahiers de Géographie du Quebec* 24(63), 447-464

Bradbury, J H 1982 State corporations and resource-based development in Quebec, [illegible] *Annals of the Association of American Geographers* 58(1), 45-61

Bradbury, J H 1984. The impact of industrial restructuring on the resource sector the case of the Quebec - [illegible] in Canada *International Journal of Urban and Regional Research* 8(3), 311-331

Bradbury, J.H 1985a International economic adjustment and resource oriented companies: The case of [illegible] in the mineral sector *Economic Geography* 61(2), [illegible]

Bradbury, J.H 1985b Regional and industrial [illegible]

proce ses in the new international division of labour
Progress in Human Geography 9(1), 34-64

Bradbury, J H 1985c Restructuring in the steel industry A North American case study Paper presented at the IBG/CAG Symposium, University College, Swansea

Bradbury, J H 1985d The rise and fall of the "Fourth Empire of the St Lawrence" The Québec-Labrador iron ore mining region. *Cahiers de Geographie du Quebec* 29(78), 351-364

Bradbury, J H 1987 *Canada in the world economic system.* Unpublished manuscript, McGill University, Montreal

Bradbury, J H 1988a Living with boom and bust cycles New towns in the resource hinterland of Australia, Canada and the USA In *Resource communities Settlement and workforce issues*, J B Brealey, C C Neil and F W Newton (eds), [illegible] CSIRO.

Bradbury, J H 1988b [illegible] to cope with industrial restructuring in Europe, *Employment and industrial Europe*, [illegible] (eds), 167-184

Bradbury, J H and [illegible] Mining [illegible] in a Quebec mining town A case study [illegible] *The Canadian Geographer* 27(2), 124-144

Bradbury, J H. and E Wekwete 1985 The mining industry in Zimbabwe Labour, capital and the state *World Development* 10(4), 143-169

Brodeur, P 1984 Annals of law (part I) *The New Yorker* June [illegible] 49-111

Brodeur, P 1985b Annals of law (part II) *The New Yorker* June [illegible] 45-111

Brodeur, P 1985c Annals of law (part III) *The New Yorker* June 24 37-[illegible]

Brodeur, P 1985d Annals of law (part IV) *The New Yorker* July 1 36-80

Browett, J 1984 On the necessity and [illegible] instability of uneven spatial development under capitalism. *International Journal of Urban and Regional Research* 8(2), 155-176

Canada 1986 *Asbestos.* Moncton Supply and Services Canada

Canada, Department of Regional Economic Expansion 1979 *Economic development prospects in Quebec* Ottawa Minister of Supply and Services Canada

Canada, Department of Regional Economic Expansion 1979 *Single-sector communities* Ottawa Minister of Supply and Services Canada.

Canadian asbestos export and the [illegible] The Economist September 26, 82-83

Chinnery, K M 1987. *Uneven regional development The North American case* Unpublished [illegible], McGill University, Montréal

Clark, G.L and M Dear 1984 [illegible] *and language of legitimacy* [illegible]

Clement, W 1981 *Hardrock mining* [illegible]

Commins, B T 1985 *The* [illegible] *fibres in environmental* [illegible] England. Commins Associates

Department of Regional Industrial [illegible] industrial adjustment Federal government policies and programs In *Canadian industrial policy in action / collected research studies/Royal Commission on the economic union and development prospects for Canada,* [illegible] 215-242

Dupaul, R 1989 Après la bataille [illegible] en main avec la PME *La Presse* [illegible]

Forbes, D and P J Rimmer [illegible] geographical transfer [illegible] *development and the geographical transfer of value,* D K Forbes and P J Rimmer (eds), 25-42 Canberra Australian National University Research [illegible] Studies,

Fortier, C. 1983 *Black Lake, an* [illegible] Montréal Institut de l'amiante

Fournier, P. 1981 The National Asbestos Corporation of Quebec In *Public corporations and public policy in Canada*, A Tupper and G B Doern (eds), 353-364 Montreal The Institute for Research on Public Policy

Gibbs, G W and P. Pintus 1978 *Health and safety in the Canadian mining industry* Queen's University Centre for Resource Studies

Globe and Mail 1975-1989 Various [illegible]

[illegible]stein, J L et al 1986 *Tw[illegible] Canada (2nd ed)* Toronto McGraw-Hil[illegible] Ry[illegible]

Harvey, D. 1984 On the history [illegible] of geography: An historical material[illegible] *[illegible]essional Geographer* 36(1), 1-[illegible]

Hills, T L 1955 The Canadian [illegible] *Geographical Studies* 2(1), 27-[illegible]8

Hodgson, A A 1986 *Scientific [illegible] asbestos 1967-1985* Crowthorne, Berkshire, England [illegible] Publications

Hymer, S 1975 The multinat[illegible] and the law of uneven development In *Internat[illegible] imperialism*, [illegible] Radice (ed), [illegible]-62 [illegible]

Industrial Minerals 19[illegible]-1988 [illegible]

International Labour Office, 19[illegible]4 *Safety [illegible] the use of asbestos* Geneva, Switzerland [illegible] Office

[illegible], J K and M A M[illegible] *[illegible] Public enterprise in Canada* Ithaca, Cornell [illegible] Press

[illegible]awrence, [illegible] 198[illegible] A critical [illegible] companies in Quebec and their regional [illegible] [illegible]ed manuscript, McGill University, Montreal

Levesque, R 1968 *An option for Quebec* T[illegible] McClelland & Stewart

Levesque, R. 1986 *Memoirs* [illegible] & Stewart

Leyton, E. 1975 *Dying Hard. The ravages of industrial carnage* Toronto: McClelland & Stewart

Manzer, R. 1985 *Public policies and political development in Canada*. Toronto: University of Toronto Press

Markusen, A R 1985 *Profit cycles, oligopoly, and regional development*. Cambridge, Massachusetts The MIT Press

Marsden, W. 1987 Asbestos: Quebec dream turns to dust *The Gazette* January 10, B1.

Marsh, B 1987. Continuity and decline in the anthracite towns of Pennsylvania. *Annals of American Geographers 77*(3), 331-[illegible]

Massey, D B 1974 *Towards a [illegible] theory* London [illegible]

Massey, D 1979 In what sense [illegible] *Regional Studies* 13, 233-243

Massey, D 1983 Industrial restructuring [illegible] restructuring Production decentralization [illegible] *Regional Studies* 17(2), 73-84

Massey, D 1984 *Spatial [illegible]* [illegible] Macmillan

Massey, D 1985 *Politics [illegible] industrial geography* [illegible]

Massey, D and R A Meegan [illegible] reorganization The spatial [illegible] the restructuring of the electrical engineering [illegible] Reorganization Corporation [illegible] 237

Massey, D and R Meegan [illegible] *why and where* [illegible] Methuen [illegible] Ltd.

McRoberts, K 1988 *Quebec [illegible]* (3rd ed.) Toronto McClelland & Stewart

Millward, H. 1985 A model [illegible] stages exemplified by the Sydney [illegible] *The Canadian Geographer* 29(3), 234-248

Milne, S. 1989a. New Forms of Production Reorganization in British Electronics Industries. Unpublished dissertation, University of Cambridge.

Milne, S. 1989b. Conversation with C. Maire, March 15. Montreal.

O'Faircheallaigh, C. 1984. *Mining and development*. London: Croom Helm.

Ontario, Royal Commission on Asbestos. 1984. *Royal Commission on matters of health and safety arising from the use of asbestos in Ontario*. Toronto: Ontario Ministry of Government Services.

Parizeau, M.J. 1978. *Déclaration ministerielle concernant l'acquisition de la Société Asbestos Limitée*. Position paper presented to l'Assemblée Nationale, December 14, Quebec.

Peet, R. 1986. Industrial [illegible] of international capitalism. *Antipode* 18(1), [illegible].

Pelmar, P.V. undated. *Non-asbestos related malignant mesothelioma: A review of the scientific and medical literature*. Montreal: Canadian Asbestos Information [illegible].

Quebec Asbestos Mining Association. 1974. *Brief summary of the submission on behalf of the Quebec Asbestos Mining Association to the Honorable Minister of Mines & Technical Surveys Dominion of Canada*. Paper presented in Ottawa to the Minister, October 15.

Quebec Asbestos Mining Association. 1972. *Geological guide to the asbestos-mining region of south-eastern Quebec*. Canada: Quebec Asbestos Mining Association.

Quebec, Ministère de l'Energie et des Ressources, Service de l'Economie Minerale. 1983. *Asbestos and health: Situation report*. Quebec: Ministère de l'Energie et des Ressources.

Quebec, Ministère de l'Energie et des Ressources, Service de l'Economie Minerale. 1984. *L'industrie de l'amiante au Quebec en 1983: Etat de la situation*. Quebec: Ministère de l'Energie et des Ressources.

Raw Materials Group and W. Roberts. 1993. Alternative futures for Canadian mining. *Raw Materials Report* 1(4), 40-47.

Raynauld, A. 1973. The Québec economy A general assessment In *Québec society and politics Views from the inside,* D C. Thomson (ed.), 139-154. Toronto McClelland & Stewart

Ross, W.G. 1967 Encroachment of the Jeffrey Mine on the town of Asbestos, Québec. *Geographical Review* 57(4), 523-537

Sandberg, L.A. and J H Bradbury 1988 Industrial restructuring in the Canadian steel industry *Antipode* 20(2), 102-121

Santos, M. 1984. Geography in the late twentieth century new roles for a threatened discipline *International Social Science Journal* XXXVI(4), 657-672

Sayer, R.A 1985 Industry and [illegible] radical research *Society and [illegible]* 3(1), [illegible]

Smith, N 1986 On the necessity [illegible] development *International Journal of [illegible]* 10(1), 87-104.

Smith, N. and W Dennis 1987 The restructuring of geographical scale Coalescence and fragmentation [illegible] northern core region *Economic Geography*, [illegible]

Societé Nationale de l'Amiante Annual Reports [illegible]

Somcynsky, T. 1986. Un avenir [illegible] 9.

Spooner, D. 1981 *Mining and regional development* New York Oxford University Press

Strohmeyer, J. 1986 *Crisis in [illegible] struggle to survive* New York Penguin

Statistics Canada, 1971. *Census* [illegible] Ottawa Supply and Services

Statistics Canada, 1976 *Census* [illegible] Ottawa Supply and Services

Statistics Canada, 1981 *Census 1981* 93-905, 93-902, 93-903 Ottawa Supply and Services

Statistics Canada, 1986 Census 1986 Series, 94-109 Ottawa Supply and Services

The Gazette 1975-1989 Various issues

The Northern Miner 1979-1989 Various issues

Therborn, G 1986 *Why some peoples are more unemployed than others: The strange paradox of growth and unemployment* London Verso

The Review of Radical Political Economics 1978 Special Issue on Uneven regional development, 10(3)

Townsend, A R 1983 *The impact of recession* London Croom Helm

Trudeau, P L 1956 *La grève de l'amiante: Une étape de la révolution industrielle au Québec* Montréal Cité Libre

Vagt, G O 1986 Industrial minerals forecast , sulphur, potash, construction materials and steel *Canadian Mining Journal*, February, 67-68

Vers une politique québecoise de l'amiante (Summary of the Alexander Report's major recommendations) 1978 Memorandum presented to l'Assemblée Nationale by Jean-Gilles Masse, July 3

Walker, R and M Storper 19 *Capital & industrial location* University of California, Berkeley Institute of Urban & Regional Development

Warde, A 1984 Spatial Change, Politics and the Division of Labour In *Social Relations and Spatial Structures*, D Gregory and J Urry (eds), 190-212 London MacMillan

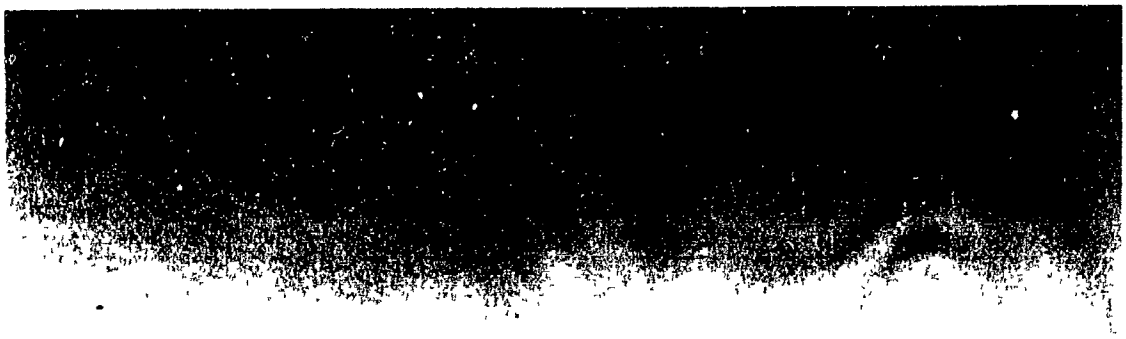
Williams, G 1986 *Not for export: Towards a political economy of Canada's arrested industrialization* Toronto McClelland & Stewart

Wonnacott, M J (ed) 1986 *Structural changes in the world mineral industry: Implications for Canada* Queen's University Centre for Resource Studies

Yudelman, D 1985. New directions for Canadian mining. An interview with George Miller *Canadian Mining Journal*, August, 32-35

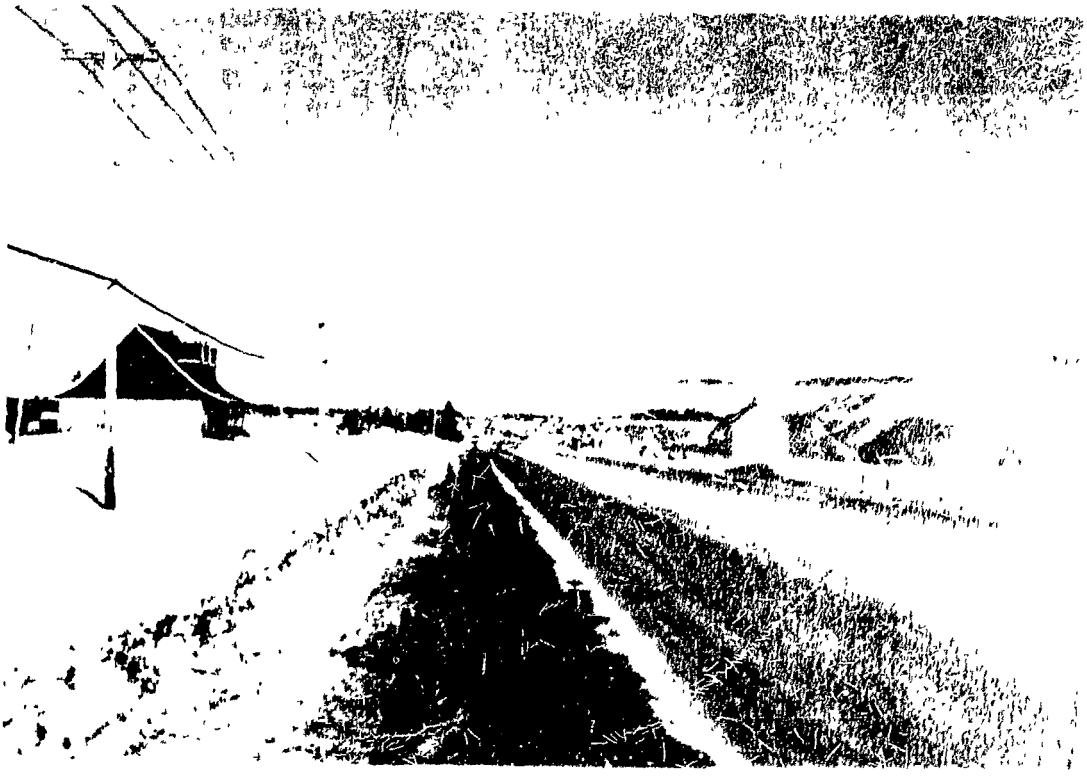
6-5 left: Bar Roger, Asbestos Québec.

6-6 below: Jeffrey Mine, Asbestos Québec: Pit, Mill and Tailings.



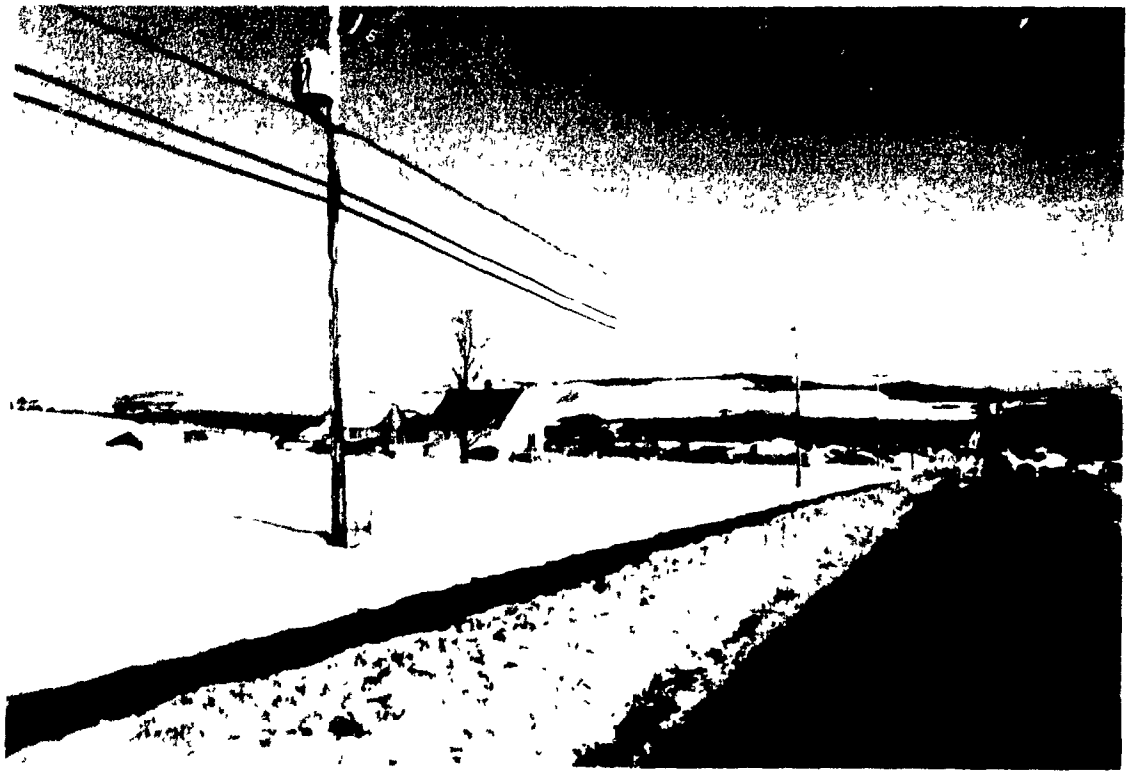
6-7 left Thetford Mines - near British-Canadian Pit No. 1.

6-8 below Rte '65 Thetford Mines straight ahead



6-9 above. Thetford Mines - near British-Canadian No. 2 mill tailings.

6-10 above: Thetford Mines - near British-Canadian No. 2 mill tailings.



6-11 above: Rte. 265 Thetford Mines on left.

6-12 above: Rte. 112 Thetford Mines on right.