

EMPLOYMENT AND PRODUCTION: THE MATURE STAGE
IN THE LIFE CYCLE OF A SAWMILL:
YOUNGBOU, BRITISH COLUMBIA 1929-1989

by

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Employment and Production: The Mature Stage in the Life Cycle

of a Sawmill: Youbou, British Columbia 1929-1989

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ABSTRACT

The overall objective of this thesis is to develop and apply a life cycle approach to the analysis of employment change in resource based manufacturing plants located in Canadian "milltowns". Conceptually, this thesis broadens the conventional life cycle model beyond socio-economic characteristics by incorporating labour market and related technological changes. Empirically, the thesis focuses on the evolution of the Youbou sawmill from its beginnings in the second decade of this century until 1989.

Information for the analysis was drawn from a wide variety of sources including formal and informal interviews with management and labour, community residents, corporate and public archives, personnel records, industry magazines and local newspapers.

This thesis demonstrates the overall validity of the life cycle approach to understanding long term employment. After the period of birth and growth the mill went through a rather long mature period. There is now evidence that the mill may be

currently winding down. Each change in the life cycle stage was associated with production, capacity and employment change. Since the birth of the mill employment conditions changed in a manner which reflects trends throughout the economy and local circumstances. Thus, prior to the formation of the union in the early 1940s, labour market relations were marked by strong supervisory control, arbitrary decision making, limited worker rights and racial discrimination. After the formation of the International Woodworkers of America, Local 1-80, labour relations reflected the so-called "segmentation" model and were operated by procedures established under collective bargaining. In the past two decades this model of labour relations has been questioned as the labour force has been significantly reduced and the nature of employment changed by new technology. All segments of the work force have been vulnerable to lay-offs and technological change has exerted mixed effects. For example, workers perceived technology to have generally increased their skills and stress levels. Moreover, these changes within the mill have a profound impact upon the community.

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DEDICATION

In memory of my mother and father
May God Bless You

April 2, 1915 - January 20, 1990

August 23, 1908 - January 15, 1991

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CHAPTER I

INTRODUCTION

Single industry towns or, as Lucas (1971) calls them, "milltowns", "minetowns" and "railtowns", are an enduring and important feature of the Canadian economic landscape. In 1981, for example, while the majority of the Canadian population resided in relatively few metropolitan areas there were some 348 single forest-industry towns alone and 103 of these were located in British Columbia (Forestry Canada, 1990). Moreover, single-industry communities in general not only provide homes for an important share of Canada's population but also they are essential to Canada's export trade, generate widespread linkage effects throughout the Canadian economy and thus serve as a reminder of Canada's still predominant resource role within the global economy.

The growth and development in Canada of single-industry towns (henceforth referred to "milltowns") has often been characterized in terms of "stages of growth" or "life cycles." In the seminal work Minetown, Milltown, Railtown : Life in Canadian Communities of Single Industry Lucas (1971) suggested that resource communities go through a series of stages, specifically

the stages of birth (construction), growth (the recruitment of citizens), transition, and maturity. More recently, Bradbury and St. Martin (1983) proposed the addition of two stages to this model namely, 'winding down' and 'closure'. In this thesis I adopt a life cycle approach, similar to that developed by Lucas (1971) and extended by Bradbury and St. Martin (1983), as a useful heuristic device to examine the production and employment changes that have occurred at one particular sawmill located on Vancouver Island specifically, the Youbou sawmill, from its origins to contemporary times. Indeed, for the purposes of this thesis I use the terminology of Lucas (1971) in disaggregating "stages". However, while this thesis shares with Lucas (1971) an interest in single-industry towns my focus is on the "mill" rather than the "town", that is on the Youbou sawmill rather than the community of Youbou. More specifically, by adopting the plant as the unit of investigation I give special emphasis to labour relations and to those technological changes which have a significant influence on employment conditions. In contrast, Lucas (1971) was more concerned with the sociological character of the community and only tangentially with the internal functioning of individual plants.

The rationale for such a plant level analysis of labour relations and technology on employment conditions within the context of Canadian milltowns is twofold. First, changes in labour relations and technology are problematical and need to be examined within particular historical, industrial and geographical circumstances. Second, changes in labour relations and technology exercise an important influence on both quantitative and qualitative aspects of employment, notably levels, skill, age and ethnic composition, stability, income and productivity. These changes are simultaneously important for understanding working conditions, the viability of plants and the character of communities. Indeed, as Lucas (1971) recognized, the character of milltowns ultimately rests on the intimate relations between the mill and the community since workers of the former provide the majority of households for the latter. In fact, Lucas (1971) noted that the differentiation of the labour force within the mill had direct implications for the social structure of the community. His analysis, however, did not address the causes of the differentiation, how it might change over time and the factors which cause changes in employment characteristics and conditions.

In general terms, this thesis seeks to extend the Lucas (1971) model by incorporating labour relations and history and the employment impacts of technological change. Its major contribution is to offer a longitudinal analysis of employment change in a Canadian resource-based manufacturing plant over a long period of time, indeed over its entire history to 1988, in a manner which explicitly incorporates labour relations and the employment impacts of technological change. So far, such an analysis has not been attempted. Hitherto, analyses of socio-economic change in Canadian milltowns, whether they have focussed on plants (Hayter, 1979) or communities (Gill, 1986; Bradbury and St Martin, 1983) have primarily focussed upon one particular life-cycle stage or simply one clearly defined and limited time period, most especially the start-up stages. By focussing on relatively restricted time periods, and indeed on or within one particular evolutionary stage, there has been a failure to appreciate processes and conditions associated with the transition from one stage to another and of the significance of changes occurring within stages, especially the mature stage which can extend over a long period of time.

Clearly, a case study of one sawmill cannot provide a comprehensive 'test' of a life cycle approach. Such a

case study is nevertheless useful in helping to clarify concepts, providing a long run perspective and revealing important qualitative processes and relationships. In this regard, Youbou, which is located in the Cowichan Valley of Vancouver Island is a "classic" Canadian milltown where the sole economic base is the sawmill. Moreover, there are signs that the mill may have entered a 'winding down' stage so that its economic history may reveal virtually the full range of life cycle considerations.

THE LIFE CYCLE APPROACH

Within economic geography life cycle models have frequently been used to analyze the dynamics of spatial change. Life cycle models, for example, have been used to examine spatial changes in the evolution of products, firms, industries and communities. For understanding the geography of economic change the idea of a life cycle model is simple. In particular, such models suggest that the evolution of products, firms, industries, industrial plants and communities can be represented in terms of various 'stages' - analogous to the human life cycle - from conception, through maturity and even death. The rationale for such a representation is that different stages are associated with different

characteristics, as for example, with respect to locational characteristics.

Within economic geography greatest attention has been given to the product life cycle model and it is instructive to briefly refer to it. In this model, product evolution with respect to consumer durables is classified in terms of research and development (R&D), innovation, maturity, stagnation and death stages. Each of these stages is associated with different inputs and therefore different locational conditions. In the R & D stage, for example, the key location conditions are access to universities, research institutions, and a professional-technical labour market as well as access to various kinds of amenities (Malecki, 1986, pp. 61-69). And these are usually found in "...large cities or places with a long standing R & D focus or reputation" (Malecki, 1986, p. 69). In the mature stage, on the other hand, as the technological uncertainties are eliminated and market potential becomes well known the key location condition is access to a low skilled labour force. As Moriarty (1986) notes "...manufacturing firms whose products are in the mature state...[require] little in the way of sophisticated labor skills" (p. 14). This arises from the fact that in the mature stage standardized equipment allows for the separation of R &

D from production. Therefore, "...production activities can be transferred to lower cost regions...as technologies and products mature and competitive advantage becomes a function of unit production costs" (Flynn, 1986, p. 283).

The basis for distinguishing stages in the product life cycle is technological. The same criterion has been used to characterize industry evolution (Utterbach and Abernathy, 1975). In the case of the firm life cycle, its different stages are predicated, to a large degree, upon changes in entrepreneurial decision making (Filley and House, 1978). In particular, "...a single product firm emerges from the stable growth of an owner managed traditional craft stage into a dynamic growth stage characterized by aggressive, risk-taking entrepreneurship which, as the growth rate slackens, evolves into a rational, decentralized, organizational structure concerned largely with efficiency and adaptability" (Hayter, 1976, p. 210). The basis for distinguishing community life cycle stages, as in the Lucas model, is more broadly based, however.

According to Lucas (1971) the four main stages in the evolution of a Canadian resource community are (1) construction of the plant (2) the recruitment of labour,

(3) the transition of the town and (4) the maturity of the town. This sequence, for present purposes, is modified so that plant construction and the recruitment of labour comprise stage 1, stage 2 is growth and stage 3 maturity. Lucas (1971) recognized the possibility of a transition stage between the recruitment of labour and maturity. According to Lucas (1971), however,

"In the past, particularly, it was possible... to reach maturity without ever going through the period of transition. This was, of course, a company town, with all the control and responsibility and cost...in the hands of the company" (Lucas, 1971, p. 104).

During the first stage "...work moves from conference rooms and architects'... drawing boards [to a point where] construction begins" (Lucas, 1971, p. 26). During this stage there is a large influx of transient construction workers with differing degrees of skill, career and work patterns (Lucas, 1971, p. 26). Also during this stage, labour is recruited. Here professional, technical, skilled, semi-skilled and unskilled labour are selected from within and outside the company to run the industrial facility. During this opening stage both the company and the union involved face certain problems. Thus, the company, to the extent that it strives to reduce turnover rates among its employees, attempts to recruit those employees with a willingness to stay in an isolated community. Such

hiring preferences place extra pressure upon the company as it seeks certain skill requirements while competing "...directly with urban employers..." (Lucas, 1971, p. 60). Indeed, in new and isolated communities firms which seek out particular characteristics in their labour experience substantial recruitment costs - costs which may not have to be borne by metropolitan-based firms with their immediate access to much bigger populations and work forces. Moreover, failure to recruit an appropriate work force may also add to turnover problems (Hayter, 1979). In addition, turnover may pose problems for unions that are attempting to organize labour without much background, if any, of labour solidarity within the plant. Thus in attempting to reduce turnover and foster solidarity the company and the union may share a common interest in the recruitment of a stable labour force (see Hayter, 1979). Needless to say, such an interest would also be shared from the community's perspective since the turnover of the population during this stage may be high (Lucas, 1971, p. 41).

The second stage of the model is one of growth where the plant continues to expand capacity in order to meet growing consumer demand. During this stage additional labour may or may not be hired. The nature of

this stage is still unsettled. This arises because some people do not like the isolation, some find it difficult to make friends, others do not like the lack of amenities while still others come in the quest for quick money . Therefore this stage describes a condition of flux as both single and married workers arrive and depart quite quickly. In short,

"The turnover is tremendous, probably for every three men that come up here, you have one who stays. As a result, this whole place is characterized by insecurity....[Moreover], All people consider themselves to be living here temporarily. According to the people, there are no full-time residents. This makes it extraordinarily hard to interest citizens in the future of the town, a future which, in their words, they will not share" (Lucas, 1971, citing two community residents, p. 47).

"The maturity phase [however] incorporates a degree of stability..." (Lucas, 1971, p. 112). Thus, unlike the first two stages of the model, for Lucas, the mature stage is characterized by relationships which are relatively stable and persist over time. In or by this stage the plant will have reached full capacity and the number of employees required is at its peak. Indeed, "The industry [is] on an even keel, requiring no fluctuations in population. [And] the number of houses exactly matches the number of employees" (Confidential government authority cited by Lucas, 1971, p. 105).

Typically, the output from Canadian resource plants serve specialized commodity markets and to the extent that management is content to serve such markets there is likely to be little market diversification.

According to Lucas, communities in the mature stage contemplate neither growth nor decline in the work-force, population or community functions. Patterns of social behaviour within the community are established and repetitive. Moreover, this social stability in the community is matched by stability of labour force differentiation within the plant. Thus Lucas addressed labour in terms of "occupation and stratification" and particularly by what he called a "prestige hierarchy" associated with different types of occupations. In this respect, he noted, that "...there [were] various statuses of hierarchy built around rational lines of technological activity" (Lucas, 1971, p. 127). Basically Lucas argued that there were different positions within the industrial hierarchy and that each position carried with it differing amounts of authority, wages and prestige. Lucas also suggested that it was possible to progress upward through the hierarchy but that upward movement was typically slow.

During maturity Lucas (1971) did recognize that the character of mill towns is very much dependent upon the vulnerability of the mill to external markets. As Lucas puts it:

"By nature,...the community of single industry... is vulnerable to changes in international markets, changes in technology and in most instances has a limited life expectancy, if for no other reason than that the sole reason for the town's existence may disappear" (Lucas, 1971, p. 98).

This fact is also recognized by community residents and by implication plant workers who "...realize that their welfare depends upon international markets, changes in technology, or the depletion of the resources upon which the industry is based" (Lucas, 1971, p. 96).

Indeed, precisely because of this vulnerability Bradbury and St. Martin (1983) argued that Canadian milltowns face the prospect of a fourth and a fifth stage, that is of 'winding down' and 'closure'. In the winding down stage the company (as policy) begins selling off single family homes which they own, company support of community services is withdrawn, financial support in municipal affairs is foregone, the number of permanent employees is reduced, no new investment occurs as profits are channelled into other company operations and other similar production complexes are established

elsewhere. While, it is argued, these do not necessarily spell closure these signals are indicative of a shift in corporate responsibility towards the community. Finally, the closure stage represents a severance of all corporate responsibility to the community as the plant shuts down. Finally, it might be noted that while Lucas' concern focussed on the community, a similar life cycle approach is possible for individual plants. As Schmenner (1983) notes

"Like products, plants can be said to have a life cycle. They are born, go through an often slow and painful start-up period, and then fill up with more and more employees. Factories are often expanded with more bricks and mortar, after which they usually remain stable for years" (Schmenner, 1983, p. 124).

CRITICISMS OF THE LIFE CYCLE APPROACH

Life cycle theory, and in particular product cycle theory, has recently been severely criticized. In particular the most trenchant criticisms of the product cycle model as used by geographers have been made by Storper (1985) and Taylor (1986). Their criticisms partly relate to life cycle approaches of socio-economic change in general, while some are specific to the product cycle model. My concern is with the former criticisms.

The predominant criticism of life cycle approaches to analyzing socio-economic change is that they are unilinear and deterministic. That is, they prescribe an inevitable sequence of events and are therefore determined by one or more causes. In the case of the product cycle model, for example, the assumption is one of technological determinism (Taylor, 1985; Storper, 1987). As Taylor (1986) writes:

The foundation of the model...is technological determinism. Indeed, insofar as they are considered at all, other aspects of the economic system - supply, demand, labour, enterprise, and so on - are subordinated to the technical demands of producing goods of increasing vintage" (Taylor, 1986, p. 753).

The same assumption underlies conventional innovation-cycle theory (Hayter, 1987). From this point of view there is no uncertainty. Behaviour, including locational behaviour, unfolds in an entirely predictable way. In the case of the Lucas community life cycle model the (determining) forces moving the community through different stages are less easy to summarize. Indeed, they are less obvious. The clear implication, however, is that community life cycle processes are analogous to biological life cycle processes so that in this case the overriding "determining" force may be characterized as a natural ageing process.

Thus, Taylor (1985) and Storper (1987) argue that life cycle models, at least as used in geography, deterministically state that products (and we can add industries and communities) pass through a set of stages in one specific sequence and that each stage is associated with one set of specific characteristics. In the product life cycle model, for example, these characteristics pertain primarily to labour characteristics, technological characteristics and location. In the community life cycle model these characteristics relate to population size and stability and patterns of behaviour.

A related criticism of life cycle approaches is that they assume the unit under investigation - whether a product, organization or community - to be "homogeneous." That is, all products, organizations and communities behave in the same way.

As conventionally outlined, and widely used in geography, life cycle approaches underestimate the dynamism and complexity of product, firm, industry or community behaviour. Indeed, it must be recognized that the life cycle models of economic geographic processes are an idealization (Hayter, 1987). There is nothing

inevitable about the ageing process, the length of life cycles and of stages can vary tremendously. There are also possibilities for "restoration", "rejuvenation" or "rebirth". Unlike individuals, products, firms, plants and communities do not invariably die. Moreover, growth and development is not a smooth and continuous process and "...All the external and internal factors that influence...expansion paths cannot readily be aggregated within simplistic 'representative' growth curves" (Hayter, 1976, p. 211). Mature plants, for example, may be periodically modernized, expanded and diversified in a way that serves to prolong the mature stage.

Essentially, the criticisms made by Taylor (1986) and Storper (1988) of the product life cycle are rooted in its uncritical application by some geographers as a "ready made" explanation of geographical behaviour. These criticisms are less devastating if life cycle models are realized as an idealization from which reality can substantially depart. Moreover, any such departures should not necessarily be considered as some kind of inefficient behaviour. Thus, if the simplifying assumptions of life cycle models are recognized then a life cycle approach to analyzing socio-economic change, including with respect to individual plants, has merit. As Schmenner, notes, the usefulness of such an approach

"...comes from recognizing that plants are subject to all kinds of changing forces" (Schmenner, 1983, p. 129). In other words, manufacturing plants (or communities or products) do change over time in a variety of characteristics for a variety of reasons. A life cycle approach encourages us to examine these changing processes and outcomes. More briefly, life cycle models recognize that change is evolutionary and not simply cyclical. In this regard, a particular life cycle model simply provides a yardstick by which to compare individual experience or, even more loosely, as a way of organizing and understanding the nature of change. It is from this perspective that this thesis adopts a life cycle approach to one particular manufacturing plant.

OBJECTIVES

The overall objective of this thesis is to analyze employment change in resource based manufacturing plants located in Canadian "milltowns" using a life cycle approach. Conceptually, this thesis broadens the terms of reference encompassed by the Lucas (1971) life cycle model of Canadian resource communities by incorporating the impact of changes in labour relations and technology on employment conditions. Empirically, the thesis focuses on the evolution of the Youbou sawmill from its

beginning in the second decade of this century until 1988.

The more specific objectives of this thesis are:

1. to incorporate labour relations and technological change within a life cycle interpretation of employment conditions in resource-based manufacturing plants in Canada
2. to interpret the evolution of the Youbou sawmill on the basis of capacity, production and employment changes from 1913 to 1988 from a life cycle perspective
3. to examine changes in employment, labour relations and of worker characteristics of the Youbou sawmill between 1913 and 1988
4. to analyze in detail the effects of recession and technological change on the production and employment characteristics of the Youbou sawmill since 1980 when, arguably, the mill may have entered the 'winding down' stage
5. to comment on how community residents feel about the recent downsizing of the sawmill.

The rationale for this thesis is, first, to contribute towards a better understanding of the dynamics of in-situ change of specialized and isolated

industrial plants over long periods of time. Such an analysis, hitherto neglected, is a contribution towards a "process-oriented" industrial geography. Second, this thesis adds to an emerging but still small body of literature which is exploring the anatomy of recent changes, that is, since the onset of the severe recession in 1981/82, in milltown Canada. Third, this thesis seeks to extend the understanding of Canadian "milltowns".

A case study approach is appropriate for two broad reasons. First, the relevant range of external (recessions, wars, booms) and internal (labour relations, technology, forest management) factors affecting 'the life cycle' of mills and milltowns in Canada interact with one another in varied and complex ways in local circumstances which to varying degrees are distinctive. Second, the extreme difficulty in obtaining relevant data about community-scale processes occurring over long time periods necessitates community based research.

SOURCES OF INFORMATION

A case study and 'intensive' approach to research typically involves a variety of data collection methods

and sources (Sayer and Morgan, 1983). This study is no exception. Thus, I obtained information through formal and informal interviewing and conversations, private and public archival records, and local newspapers. Information sources principally comprised corporate management, plant management, union officials, mill employees and community residents (both past and present), personnel files, company and plant archives, local and corporate newspapers, industry journals and the British Columbia public archives. The principal data sources can be summarized as follows :

1. the Provincial Archives in Victoria. These sources such as the British Columbia Lumberman, The Timberman provided historical information on the development of the mill in terms of capacity and production
2. interviews with plant management. These provided insights into the operation of a sawmill from a corporate perspective
3. interviews and discussions with officials of the International Woodworkers of America (both national and local). They provided insights into some of the problems faced by labour, for example, the introduction of new technology into the workplace
4. interviews with current and past employees who provided information on working conditions within a sawmill

5. mill manager reports which provided data on production levels and market changes

6. personnel records permitted a statistical summary of worker characteristics between 1928 and 1988. These records provided information pertaining to age, education, place of birth, industrial origin, length of service, reason(s) for leaving, type of employment at the mill and ethnicity. Because it was not possible to scrutinize each individual employee record over such a long time period some type of sample was in order. Accordingly, it was decided to select every sixth personnel record beginning with the first one. The result was a sample of 780 out of a total population of 4680 personnel records (i.e. 16.6 per cent).

7. between May and August 1989, interviews with community residents were conducted to obtain information on recent changes within Youbou. (It should be noted that I spent the period January to May 1989 familiarizing myself with the local community). Since it was not possible to interview every household, the community, which comprises some 300 households, was divided into five geographical sectors and 10 homes from each sector were randomly sampled. This resulted in a sample size of 16.6 per cent, the same as the sample size of the personnel records for the sawmill. This survey (Appendix 2) obtained data on such

characteristics as length of residence in Youbou, whether or not one of the family had worked in the mill and for how long, what was liked and disliked about Youbou, how they felt about the recent changes occurring within the sawmill and if not retired whether they intended to remain in Youbou and finally what in their opinion, had been the most significant changes since their arrival in Youbou. Confidentiality was assured as all respondents names, where used, are fictionalized.

B. to gain insight into the effect of recent technological change on employment, interviews were conducted with both labour and management and these for the most part were unstructured. To better understand the effects of technological change a limited number of questions were directed to all sampled employees (Appendix 1). The primary purpose was to gather responses on skill change. Among other aspects, employees were asked whether they felt they had gained more skill or whether their skill levels had declined and whether or not they had felt supervision has increased with the introduction of new technology. The sample was 120 of the 254 employees that were employed in 1989 and this represented a sample size of 47.2 per cent. By occupation, trades equalled 33.3 per cent of the sample (i.e. 40 of 120) and production workers 66.6 per cent (i.e. 80 of 120). This field work commenced

in January of 1989 and carried through to August 1989. Most of the information was collected in Youbou which is located in the Cowichan Valley of Vancouver Island, midway between Nanaimo to the north and Victoria to the south. This community with a population of 801 (1986) is situated on the northeast side of Cowichan Lake where the paved section of the Cowichan Valley Highway ends (Figures 1.1). The Youbou sawmill, and the Cowichan Valley, have played an important role in the lumber industry of British Columbia. What follows is a description of that importance.

THE LUMBER INDUSTRY AND THE YOUBOU SAWMILL

The lumber industry has been an important feature in the economic development and economic geography of British Columbia. This industry is typically classified into two broadly defined regions. One region is the Interior industry which is comprised of newer vintage small-log sawmills. The second region is the Coastal industry which historically developed around large-log processing facilities. The next section

Figure 1.1: Vancouver Island South



briefly looks at the coastal sector, and how Youbou fits into that component.

The economic history of British Columbia is rooted in what can be called a "staples economy" where "...production is defined as comprising primary (resource) activities and those primary manufacturing activities, such as lumber...in which resources are major inputs to the production process" (Hayter and Barnes, 1990, p. 158). During the early years gold was the driving force behind the British Columbian economy but by 1911 the "...forest industry became dominant..." (Marchak, 1983, p. 33). Hardwick (1963) divides the early development of the coastal forest industry into the pioneer period (1860-1884), the development and speculation period (1885-1908) and the era of growth (1909-1929). It was during the pioneer period that mills were constructed at Port Alberni, Nanaimo, Chemainus and Victoria as well as at Moodyville on the Lower Mainland (Hardwick, 1963, pp. 9-11). During the second period (i.e. development and speculation) some expansion took place within the coastal industry. It was the increase in railway construction which provided the mechanism for this growth and indeed, for the expansion of some already existing mills such as that at Chemainus (Hardwick, 1963, pp. 11-12). However it was

the third period which saw the greatest expansion in the number of sawmills within the coastal industry. Indeed, it was during this period that the mill at Youbou was constructed, a period which Hardwick notes was of "...rapid expansion, of 'capitalist exploitation'..." (Hardwick, 1963, p.15). Moreover, during this period the Cowichan Valley as a whole began to develop into a major commercial forest manufacturing center. The mills located there were typically large in size and "...were closely linked both to adjacent timber holdings and to the railways" (Hardwick, 1963, p. 15). Youbou was no exception. The mill was large and its construction was predicated on the fact that the railway would be constructed along the northeast side of Cowichan Lake. The number of mills in the Cowichan valley grew to twenty but by 1960 only three remained. These were at Mesachie Lake, Honeymoon Bay and Youbou (Hardwick, 1963, p. 60). Today only one remains, that being Youbou. Hardwick suggests that

" Inertia was likely a powerful factor in the continued operation of the sawmill at Youbou. [Further] it is doubtful whether the sawmill owners would have seen any advantage in investing risk capital in a new, more centrally located sawmill...when the existing mill could continue to cut lumber and...provide needed pulpwood chips for the Crofton pulp mill without incurring losses" (Hardwick, 1963, p. 60).

These observations remained valid for a long period of time. There is now, however, concern over the continued existence of the mill; several residents suggested that the mill may have come to the end of its economic life.

Some of the particularly distinctive features of the mill are that it represents the last remaining large sawmill in the region and represents a working museum of sawmilling technologies some of which date back to at least the 1920s. In addition Youbou represents the last remaining sawmill, if not within British Columbia then within the region, of wooden frame construction and as such is an important historical artifact. Indeed, the buildings are an impressive group of structures reminiscent of the muscular industrial classicism of the 19th century. Finally, the mill is only one of two remaining within British Columbia with the capability of cutting 44 foot timbers. At the same time, it should be noted that the lumber industry is a significant component of the forest product industry of British Columbia and sawmill communities are a widespread feature of the provincial economic landscape.

SUMMARY AND THESIS ORGANIZATION

This research focuses on plant employment and production changes at the Youbou sawmill. Because the mill is located in a single industry community what happens at the plant essentially defines community employment, income and vitality. The rationale for examining plant level employment and production change is twofold. First, such an examination affords the opportunity to go beyond descriptive aggregate statistics to reveal indicators of change. Second a plant level case study analysis provides the opportunity to make more informed assessments about the nature of plant level change and predictions of such change which are qualitative in nature.

In terms of organization, Chapter Two looks at the life cycle dynamics of resource-based mills and mill communities. Chapter Three focuses specifically at the life cycle of the Youbou sawmill while Chapter Four examines labour relations and worker characteristics. Chapter Five takes on a more contemporary perspective and analyses the anatomy of crisis as defined by the recession of the early 1980s. Chapter Six is based upon a community survey and looks at how the residents feel about the recent downsizing of the mill. Chapter Six

also summarizes the thesis, offers conclusions about the life cycle model and offers suggestions for further research.

CHAPTER II

PLANT LIFE CYCLES, LABOUR MARKETS AND TECHNOLOGICAL CHANGE

As noted in the previous chapter Lucas (1971) is the seminal work on Canadian resource communities. In that study, Lucas (1971) suggests that resource communities evolve through a series of stages ranging from a construction stage, a growth stage, a transition stage and a mature stage. This model of community change has been widely accepted and, by suggesting additional stages, Bradbury and St. Martin (1983) essentially accepted its logic. However, Lucas' (1971) work was written almost two decades ago, that is at the end of the so-called 'long boom' 1950-1970 (Galois and Mabin, 1987). Not surprisingly, Lucas did not anticipate the extent to which the economic environment of Canadian milltowns, and of the Canadian economy in general, would change and indeed become as turbulent as it did.

During the past two decades there have been issues and developments in the literature that were not at the forefront of economic concern or analysis in the late 1960s. In this regard, and from the perspective of this thesis, two related issues stand out : labour market

change and technological change. There is widespread recognition that during the last two decades there have been fundamental changes in labour markets and there is no doubt that these changes have directly affected Canadian mill towns. Similarly, there is now a greater appreciation for the rate and implications of technical change than previously - changes which have also deeply affected employment conditions within Canadian mill towns.

The purpose of this chapter is to extend the Lucas (1971) life cycle model, not by adding stages, but by broadening its terms of reference to incorporate labour market and technological changes that have occurred in resource-based manufacturing plants over rather long periods of time. This chapter relies considerably on the approach to labour market dynamics developed by Gordon, Reich and Edwards (1973, 1982). Technological changes are also explored in so far as they relate to employment. Specifically, the contemporary debate about whether technology, including the new methods of flexible manufacturing, deskills or enskills labour is addressed (Hirst and Zeitlin, 1989). Employment and technological changes are of course related since the latter can directly affect the level and quality of

employment while existing employment conditions may constrain technological choices. Within geographical analyses of regional and community development labour relations have recently emerged as a central theme. Clark (1986), for example, interprets the changes in the auto industry in the American mid-west, at least in part, as an attempt by management to establish a new "social contract" with its workforce. Holmes (1984, 1990) has developed a similar line of thinking with respect to the Canadian auto industry. In addition, reference should be made to Morrison (1990) who has provided a review of the labour segmentation concept from a geographical perspective.

The chapter begins with a discussion of the evolution of the dynamics of labour relations particularly as developed by Gordon, Reich and Edwards (1973, 1982). The advantage of adopting the Gordon, Reich and Edwards model is that it offers an evolutionary approach that is compatible with the life cycle approach adopted in this thesis and focuses on the same historical period as this thesis. Admittedly, the Gordon, Reich and Edwards interpretation is from an American perspective. However, their line of argument would appear to have relevance for Canada in general,

and B.C., in particular, and so the second section of this chapter seeks to establish this relationship. Finally the last section of this chapter deals with how technological change affects labour.

EVOLUTION OF LABOUR MARKET DYNAMICS

During the 1960s and 1970s an alternative explanation of labour market dynamics to that offered by neoclassical economics was proposed. This alternative explanation is known as the dual labour market hypothesis or, more generally, as segmentation theory (Piore, 1983; Reich, Gordon and Edwards, 1973; Vietorisz and Harrison, 1973; Gordon, Reich and Edward, 1982; Sable, 1982; Doeringer and Piore, 1971; Piore and Sabel, 1984). Whereas the neoclassical view (then) stressed labour as a relatively homogeneous input that could be substituted for other labour inputs and factors of production as economic conditions dictated the segmentation model stressed that labour was divided into non-competing segments. In simple terms, the segmentation model viewed jobs as those which were considered as "good" and those which were seen as "bad" (Vietorisz and Harrison, 1973). The former "good" segment is made up of jobs which have been viewed as being relatively secure from lay-offs as for example,

engineers, research scientists and upper-level management (Grass and Hayter, 1989; Barnes, Hayter and Grass, 1990). The 'primary subordinate labour market' ("bad jobs") is made up of jobs which are subject to lay-offs on a regular basis. Within this segment rehiring is carried out on the basis of seniority and within well-defined agreed-upon rules between the union and management (Barnes, Hayter and Grass, 1990). With respect to the good jobs, employers invest a great deal of time and money in employee training, pay high wages and salaries and go through elaborate steps to minimize turnover among this core group. In contrast, employees with bad jobs receive little training, are paid low wages and are typically hired and fired as circumstances dictate (Vietorisz and Harrison, 1973, p. 366). This segmentation of workers therefore comprises discrete labour markets each with its own set of working conditions, promotional considerations and employer-employee relations, and between which workers do not shift (Morrison, 1990).

Recently Reich, Gordon and Edwards (1973) sought to extend this "alternative" explanation of labour market relations by placing it in historical context. In particular they argue that U.S. capitalism has

experienced three sustained crises and that their resolution has been associated with three major overlapping structural changes in the organization of work and the structure of labour markets. Labour segmentation is the third of these transformations. Thus, they suggest an initial period of proletarianization from the 1820s to the 1890s, a period of homogenization from the 1870s to 1939 and a period of segmentation from the 1920s to the 1970s. They also recognize that since the 1970s labour market relations have been changing again in a way not anticipated by the segmentation model. They are not exactly sure, however, how to characterize labour relations at the present time.

Essentially, Gordon, Reich and Edwards argue that the driving force underlying the transition in labour market relations from one stage to the next is provided by the dynamics of "long swings" or "long waves" of economic activity (Mensch, 1973; Mandel, 1980; Freeman, Clark and Soete, 1982; Gordon, Edwards and Reich, 1982). According to Mensch (1973), for example, several long waves of about 30-50 years in duration have been experienced over the past two centuries. Each wave is associated with a life cycle type process of slow to

rapid declining growth ending in increasingly severe recessions. For Mensch, new waves are initiated by spurts of technological activity . This view remains contentious. However, whatever the cause of these long waves, Gordon, Reich and Edwards (1973) provide impressive evidence for relatively long periods of growth and decline in the U.S. economy. Moreover, during phases of decline labour productivity emerges as the central concern of management. Specifically, for the stages they identify, a shift to new forms of labour relations has been motivated, to an important degree, by a need to improve labour productivity and to incorporate technological change.

Since the period of proletarianization ended prior to my case study the principal focus is on the periods of homogenization and especially segmentation. In addition, a brief review some recent literature is provided to confirm that contemporary labour relations are in a state of flux. A convenient label for this period of flux is "flexible specialisation" (see, Piore and Sabel, 1984).

Homogenization

Within the U.S. the development of a wage labour force in the first half of the 19th century was associated with early attempts to industrialize around craft skills. During this period of proletarianization, the labour force was largely unstandardized, workers retained considerable control over the organization of work and skills were passed on by older workers. In the 1870s, there was a deep recession and profits were falling. Within this system, however, it was difficult to achieve productivity advances.

Firms responded to recession, losses and productivity problems. According to Gordon, Reich and Edwards (1973) by mechanization, less reliance on skilled labour, and by imposing greater control over working conditions especially by the use of foremen and by making wages competitive. In effect, this period heralded the introduction of mass production and the factory system which created a large pool of semiskilled occupations while eliminating many of the craft skills. This increased use of mechanization in the factory system in turn led to standardized working environments. Associated with such homogenization was the so-called "drive system", that is attempts by firms, mainly via

foremen, to strictly supervise workers and continually seek higher levels of productivity principally by getting workers to work harder and longer. Moreover, at this time there were rapid increases in plant and firm size which further enhanced the power of management in relation to workers.

Taylorization, or the principles of scientific management based on time and motion, provided a sophisticated extension to the drive system. Essentially, the goal of Taylorization was to compartmentalize tasks and narrow down the number of functions involved in a job (Rinehart, 1987, pp. 48-49). Taylor also advocated the use of more foremen who had knowledge of the jobs involved. As part of management this effectively transferred specific job knowledge from labour to management thus breaking up former craft work into simple, discrete standardized jobs. For labour this meant the loss of the skilled craft workers' ability to control the labour process (Rinehart, 1987, pp. 50-51). As Reich, Gordon and Edwards note:

"The factory system eliminated many skilled craft occupations, creating large pools of semiskilled jobs. Production for a mass market and increased mechanization forged standardized work requirements. Large establishments drew

greater numbers of workers into common [urban] working environments" (Reich, Gordon and Edwards, 1973, p. 360).

Ironically, it has been argued that the homogenization of the labour force in turn posed a potential threat to capitalist power and control over the economy (see, for example, Stone, 1975). According to this argument an essentially deskilled labour force with common problems and common interests concentrated in urban areas could potentially provide the basis for a class-conscious labour movement capable of taking power away from the capitalist class. Certainly, there was increasing tension between workers and management and strikes were common. Reasons for this tension were not hard to find and included managerial attitudes and behaviour. Thus workers could be fired at the whim of supervisors, wages were low and benefits virtually non-existent. As well, employers deliberately "...exploited race, ethnic and sex antagonisms in order to undercut unionism and break strikes" (Reich, Gordon and Edwards, 1973, p. 362) and to further undermine unionization they would sometimes reclassify jobs from "male" to "female". Moreover, under the "drive system" firms maintained strong supervisory (foremen) control as they "pushed" workers to produce more. In any event, the drive system ultimately turned out to be counterproductive as the

workers devised a variety of tactics to offset these attempts.

During the early 1900s a few forward looking firms began to experiment with new forms of labour organization in order to reduce their vulnerability to the contradictions of the drive system. Essentially, these experiments involved the creation of structured internal labour markets and did, in fact, anticipate the period of segmentation. The major decline in the drive system in the U.S., however, did not occur until the Depression of the early 1930s. Thus the Depression signalled a massive drop in the demand for goods and services at a time when productivity increases had become a problem. From a labour relations perspective the segmentation of the labour force began in earnest during the crisis situation of the 1930s.

Segmentation

Gordon, Reich and Edwards (1972, 1983) argue that there are two major segmentation processes. In particular labour is said to be segmented into primary and secondary labour markets. In the primary sector, workers are seen to have relatively high wages, a good

chance for promotion and enjoy a considerable degree of training. In the secondary sector, on the other hand, workers have low wages, limited opportunities for advancement and little in the way of skill, or at least education and training (see, also Doeringer and Piore, 1971, p. 165). The second segmentation process is that which occurs within the primary sector. Here jobs are split between independent and subordinate primary jobs (see, also, Loveridge and Mok, 1979). The independent primary jobs are typically "white collar" jobs which involve formal entry requirements related to educational achievement, independent creative thinking and considerable firm-specific training. The subordinate primary sector comprise those "blue collar" jobs which are typically unionized and well paid. Segmentation theorists further stress that the primary/secondary market distinction has gender and racial dimensions. In particular, it is argued that the secondary sector is unusually strongly represented by minorities and by females.

Central to labour segmentation theory is the notion that a large proportion of the work force can be classified within non-competing groups which enjoy different conditions and are treated differently by

firms. Specifically, these two groups are primary and secondary workers (Reich, Gordon and Edwards, 1973; Vietorisz and Harrison, 1973; Richards, Reich and Gordon, 1975; Gordon, Edwards and Reich, 1982; Aw, 1980; Doeringer and Piore, 1972). An important aspect of this differential treatment relates to stability. Workers in the primary independent sector, according to this theory, are the most stable since they are the costliest to replace. Secondary workers are the least stable since they can be easily replaced. Primary subordinate workers are in a middle position and their hiring and firing typically falls under well defined down rules.

Explanations for segmentation theory vary. Thus, in Stones' (1975) "radical" view, segmentation is a force which aids in the reproduction of capitalist hegemony. Workers are divided and this aids in reducing the formation of a strong union movement with which to fight capitalists. Stone (1975) further argues that the capitalists hoped internal labour markets would shift worker interest away from working class common interests toward individual interest associated with progressing up the job ladder. In this regard, job ladder creation had two specific and distinct advantages for employers:

"First, it gave workers a sense of vertical mobility as they made their way up the ladder, and was an incentive to workers to work harder.... The other advantage of the job ladder arrangement was that it gave employers more leverage with which to maintain discipline. The system pitted each worker against all others in rivalry for advancement and undercut any feeling of unity which may develop among them" (Stone, 1975, pp. 46-47).

In an attempt to further break up the homogenization of labour, employers undertook other methods to achieve this end. For example, larger employers initiated a variety of paternalistic programs such as company housing and recreational facilities. "By increasing the ties between workers and their employer, they [the employers] hoped to weaken the ties between workers and their class' (Stone, 1975), p. 53).

An alternative explanation for segmentation is that it sought to establish a stable system of labour-management relations which brought mutual benefits to workers and management. Workers would receive higher wages, company-paid education for their children, company housing and a safer working environment. As well, this form of "social contract" involved procedures for filing grievances, the recognition of unions and procedures for the laying off and rehiring of workers. Workers with disputes were defended by unions, a

situation which, as Sabel (1989) notes, made the rules even more complex (Sabel, 1989, p. 32). In effect collective bargaining became institutionalized (Schoenberger, 1989, p. 23). As this was occurring, however, job demarcation was linked to the production of specific products where most of the on-the-job training consisted of "learning by doing" (Sabel, 1989, p. 32). In return employers received increased productivity and a captive and stable workforce.

It must be stressed that this "social contract" depended upon increased productivity. The establishment of this new social contract was delayed by the onset of depression in the 1930s and by the Second World War. However, unions continued to grow rapidly and after 1945 we see an acceleration of the Fordist, or mass production, system with productivity growth and the flourishing of segmentation.

Towards Flexible Specialisation

During the 1970s, Gordon, Reich and Edwards (1982) note, segmentation began to decay. Since their study, there has been growing agreement that labour relations are in a state of flux as many of the accepted wisdoms, including seniority, job demarcation, stability etc.

have been challenged. Moreover, these tensions once again began to appear during a period of declining productivity and culminated in the severe recessionary conditions of the 1980s. Some observers have suggested that flexible specialization is emerging as the new paradigm for production and of labour relations (see, for example, Hirst and Zeitlin, 1989).

The factors undermining the segmentation model are various but relate especially to technological change and organizational restructuring. In the latter respect, for example, Sabel (1989) suggested that U.S. based multinationals increasingly during the 1970s were forced to respond to increased competition from Japanese, West German and Italian firms "...who had never fully switched to mass production..." (Sabel, 1989, p. 31). For U.S.-based Multi National Corporations (MNCs), which had "...profited longest from mass production..." (Sabel, 1989, p. 31) survival required the adoption of more flexible methods of production, often at new locations. Basically, flexible specialisation can be defined as a technological paradigm or ideal-typical model of industrial efficiency: the manufacture of specialised goods using flexible machinery and skilled labour in contrast to the mass production of standardised goods using special-purpose equipment and unskilled workers (Hirst and Zeitlin, 1989, p. 2).

However, Hirst and Zeitlin note that this definition may not be particularly useful due to the fact that firms do not know precisely what they must produce. Therefore, flexible specialisation is more "...a system of network production [which requires] the collaboration of workers [to meet] the markets eventual demand" (Hirst and Zeitlin, 1989, p. 3). As Schoenberger (1989) notes, competition from abroad has exerted much pressure on firms to "...produce a range of more highly differentiated products than was needed in the past..." (Schoenberger, 1989, p. 24). And as markets became more volatile "...the more firms experimented with flexible forms of organisation which permitted rapid shifts in output" (Sabel, 1989, p. 18). In short, flexible systems of production had to be initiated so that production could meet rapidly changing demand and at the same time cut the costs of reorganizing production to meet that changing demand.

The breakdown in segmentation, that is the decline in the old large "...'Fordist' type production lines along with their associated industrial relations 'problems'" (Lloyd, 1989, p. 100), has affected such established practices as elaborate job task demarcation and advancement based upon seniority (Barnes, Hayter and

Grass, 1990, p. 159). Along with this shift from larger to smaller units of production there has been an increased use of computer assisted technologies, a decentralization of production and this has in turn allowed plants increased flexibility towards meeting market demands (Schoenberger, 1989; Lloyd, 1989; Hayter, 1987).

Typically, it has been assumed that those jobs considered to be "good" (i.e. white collar positions) were safe from layoffs. Thus research has focussed a great deal of attention on the "steadily worsening situation of blue collar workers..." (Schoenberger, 1988, p. 241) with little or no attention given to those whose occupations are perceived as secure. But as Grass and Hayter (1989) have shown, in the B.C. forest industry the security implied by having a white collar job is now fallacious. Indeed, white collar employees are just as prone to layoff as are the blue collar workers.

During the 1970s, a period of crisis characterized by declining productivity, management looked for new ways to organize production into smaller units based upon a more flexible workforce using more

technologically advanced equipment. In short, flexible production relies upon less rigidly defined job demarcations and more upon the ability of workers to shift from one job task to another as workers "...at all levels...upgrade their skills from a sound base of education in general principles" (Hirst and Zietlin, 1989, p. 7). Such a system involves workers within a department training for all jobs and skills that are needed to run the department. Where traditionally in industrial operations, each job was filled according to seniority as openings arose, in more flexible systems all workers can potentially reach the same multi-skilled position and status. In such a system workers can more easily cover for each other as a result of absenteeism, sickness or vacation while in continuous-process operations collective responsibility is essential. One example of a more flexible system can be found within the team approach developed by MacMillan Bloedel at their Chemainus sawmill (Barnes, Hayter and Grass, 1990; see also Hayter and Barnes, 1991). In the case of this sawmill,

"workers must be able to operate at any point in the production process to enable the level and type of output produced by each mill to be easily changed (be more flexible)".

(Barnes, Hayter and Grass, 1990, p. 160).

Thus the ability of workers to shift between one job and another is critical to the operation of the plant. With this de facto job sharing in mind workers are trained to use the entire complement of production equipment. Moreover, they are taught how to see defects in quality, how to identify sources of problems and, ultimately, how to correct the problem (Sabel, 1989, pp. 37-49). Clearly, the in flexible production systems, the emphasis is on quality. But they may still be pursued with a Fordist mind-set. That is, it is possible with flexible production to maintain mass production and "...still achieve certain operational and commercial gains" (Jones, 1989, pp. 102-103). With flexible production systems labour becomes functionally flexible. But how does the new technology change the skills of labour? Do these new technologies deskill or enskill labour? Before this question can be discussed, however, the next section considers the relevance of the Gordon, Reich and Edwards (1973, 1982) model of labour relations for applicability to British Columbia.

LABOUR MARKET RELATIONS IN CANADA AND IN PARTICULAR BRITISH COLUMBIA

There is reason to believe that the ideas developed by Gordon, Reich and Edwards (1973) have relevance to

the Canadian and British Columbian situations. After all the Canadian economy is closely integrated with that of the United States with respect to trade and direct foreign investment. Canadian resource industries and communities are particularly strongly dependent upon American markets. Moreover, many of the largest American unions have Canadian affiliates. There are, of course, some differences. For example, within Canada, unionism is deeply rooted in British legislation and tradition. Nevertheless, the trends affecting labour relations in Canadian and British Columbian resource industries can be interpreted from the perspective of Gordon, Reich and Edwards.

Proletarianization and Homogenization

During the period of proletarianization unions in Canada and B.C. were craft organizations and this effectively excluded semiskilled and unskilled workers from membership (Easterbrook and Aitken, 1956, pp. 558-559; see also Marr and Paterson, 1980). A good example of this closed system was with the saw-filers of Port Alberni. These men had a craft union based upon a patriarchal system where the skills were passed down from father to son. To be eligible for membership you

had to be the son of one of the members. As MacKay (1982) notes "In the early days the craft of sawfiling was a closely guarded secret...[and that] filers [were so exclusive that they] used to come to the mill in top hats [and] these top hats were seen as a badge of office" (MacKay, 1982, caption for photograph #94) .

The British tradition of craft unionism met a challenge from the United States in 1854 with the signing of the Reciprocity Treaty and the expansion of trade with the United States. With this expanded trade United States union organizations made inroads into Canada and the result was "international" unionism (Easterbrook and Aitken, 1956, p. 559). But toward the 1870s/1880s accumulation began to slow, profits began to fall, labour unrest increased and productivity problems were encountered. Interestingly, up until 1872 "...unions had received no legal recognition..." until a statute modelled on the English Act (1871) was enacted into legislation by Ottawa. Unions had previously been considered unlawful because their activities were regarded as a restraint to trade. The new law attempted to define what unions could or could not do (Easterbrook and Aitken, 1956, pp. 559-560). This new Act thus laid the legal foundations for the "...further growth of

trade unions in Canada" (Easterbrook and Aitken, 1956, p. 560). Indeed, the act now placed unions in the position where they could legally carry out a strike and the growth of unionism within B.C. began. In Rossland, B.C. the first Canadian branch of the Western Federation of Miners (originally founded in Montana in 1893) was established (Easterbrook and Aitken, 1956, p. 563). Strikes and walkouts were becoming more commonplace as unions were seeking minimum demands such as union recognition and wage increases. For example, "the Brotherhood of Papermakers began to organize Local 142 in Powell River in 1912, and one of the first demands of men who worked shifts of at least eleven and often thirteen hours was for the eight hour day. They met stiff resistance from the company, and when they refused to sign a petition in 1913 giving up their right to organize, they were "locked out" (Mackay, 1982, p. 54). Indeed, this was the paradox of homogenization. Attempts to "push" or "drive" labour into increasing productivity were often met with resistance by the workers.

Within Canada and B.C., labour unrest, just as in the U.S., began to increase and management sought new ways to increase productivity. Again, just as in the

U.S. management increased the use of supervisory personnel. Thus during the period of homogenization foremen and other supervisors became abundant and their goal was to make sure that workers "followed the rules" (Sabel, 1989, p. 32). However, demands by all unions continued and by 1919 the situation came to a climax with the Winnipeg general strike. Indeed, in June of 1919 there were 10 "general or sympathetic" strikes in New Westminster involving such groups such as telephone workers, meat packers, cigar makers and sawmill engineers (from, Seager, 1988, appendix 3, p. 138). Employers within British Columbia also tried to lessen the impact of strikes by hiring ethnic minorities as strikebreakers. For example, at Powell River a strike was mounted in 1921 when the union sought wage increases. However, "...local management responded by firing men it considered to be 'dissidents,' replacing them with strikebreakers from the East" [i.e ethnic groups] (Mackay, 1982, p. 54).

In resource industries new technologies have been introduced as a way to regain a competitive advantage as for example in the case of the salmon processing industry of British Columbia. As Conley (1988) notes during the early years of the twentieth century the B.C.

canning industry faced two major problems. The first was American competition over the raw resource and for export markets. And the second problem faced by B.C. canners during the early 1900s was overcapacity. In the first instance canned salmon prices were determined "...primarily by American production costs and secondarily by supply and demand (Conley, 1988, p. 89). In terms of overcapacity "new canneries were continually being built...canneries also became more mechanized...to overcome production bottlenecks and to reduce the need for increasingly expensive, skilled Chinese labour" (Conley, 1988, p. 90). In short, the canners saw mechanization as a way to ensure survival and increase profitability. Moreover, to ensure survival and to prevent strikes it seems the employers in the salmon canning industry would use any means necessary including the use of the militia (Conley, 1988, p. 102) and in the forest products industry the arming of foremen and superintendents with machine guns (Meyers, 1988, p. 149).

The control of labour within the plant was also achieved by hiring rival ethnic groups who would in turn stir up fears of hatred. Additionally employers would sometimes reclassify jobs by listing them as "female"

and this would, in effect, lessen the drive of the union movement. For example, within the fisheries canning was typically carried out by males. But with the introduction of new technology the job became easier and fewer labourers were required. The new technology allowed cannery owners to rationalize production (i.e. increase profitability) and to centralize control (Clement, 1986). And, as cannery operations spread geographically, management turned more to native women and children to do the canning previously done by males (Clement, 1986). In the same period job actions which involved resource industries within the New Westminster area amounted to twelve. Of these twelve, four revolved around ethnic groups such as the Japanese, "Hindus", "Orientals" and Chinese. For example, the strike of October 25, 1929 involved Chinese mill workers. At issue were the rents being charged to the Chinese for company housing. The resolution of the strike was to fire the workers. Among those disputes not involving ethnic groups the issues ranged from wages to a "refusal to work with Americans" (from, Seager, 1988, appendix 1, p. 136). During the same period, 1910-1930, there were eight disputes involving some 13,000 workers (from, Seager, 1988, appendix 2, p. 138). And between 1901 and 1930 there were some 40 industrial strikes and lockouts

within New Westminster alone. Broken down by period these were 18 between 1901-1910, 11 between 1911-1920 and 11 between 1921-1930 (from, Seager, 1988, appendix 1, p. 136).

Segmentation

During the 1930s and 1940s, in an experience similar to that of the United States, a new segmented form of labour relations began in Canada. This trend is demonstrated by the growth in union membership. Thus, during the Second World War union membership in Canada grew substantially, the total increasing from 358,967 (1939) to 711,117 (1945) (Easterbrook and Aitken, 1956, p. 569). During this time the Federal Government passed legislation which prevented the discrimination of employees based on union membership. This legislation also forbade employers from refusing the right to bargain collectively (Easterbrook and Aitken, 1956, p. 569). Indeed, to avoid labour trouble the Government issued an Order in Council (P.C. 2685) which allowed workers the right to organize and "...to negotiate agreements through their elected representatives" (Easterbrook and Aitken, 1956, p. 569). Consequently, "...collective-bargaining rights were established in almost all

industries and collective agreements became the rule..." (Easterbrook and Aitken, 1956, pp. 569-570).

Coincidentally, it was during this time that the International Woodworkers of America were on an organizing drive. As Lembcke and Tattam (1984) note "the turning point in the early war years was the organization of the Chemainus mill...and in the spring of 1942 , the union applied for and received certification under the wartime labor act" (Lembcke and Tattam, 1984, pp. 103-104). Recognizing that the war would soon be over, the labour movement began to organize an aggressive movement to gain "...union security, higher wage rates, and the 'check-off' system (the deduction of union dues from pay cheques by employers)..." (Easterbrook and Aitken, 1956, p.570). Employers reacted negatively and refused to recognize the gains, such as union recognition, which labour had made during the war years and petitioned the federal government. In 1946, and specifically with respect to the I.W.A., the announced intent of the Canadian Government was "...to maintain wartime wage controls and [fix] five cents per hour as the maximum allowable wage increase" (Lembcke and Tattam, 1984, pp. 113-114). Negotiations between the I.W.A. and the employer

representative opened with the five cent offer. However, the union refused and the employers offered "...twelve-and-a-half cents on the condition that the I.W.A. drop its demands for the forty hour week, union security and the dues checkoff" (Lembcke and Tattam, 1984, p. 114). The net result was a series of major strikes which lasted from September, 1945 through to July, 1946 (Easterbrook and Aitken, 1956, p. 570). During these strikes, labour formed a solid coalition and in the end had increased its union membership, had won acceptance of the check-off system and a consolidation of the gains which had been made during the war (Easterbrook and Aitken, 1956, p. 570).

Indeed during this period

"ten thousand workers had joined the I.W.A. B.C. District during the strike for a total of 27,000 members. With that growth the I.W.A became not only the largest union in B.C., but one of the largest in Canada" (Lembcke and Tattam, 1984, p. 114).

For British Columbia and especially the forest products industry, the negotiations which would occur between the IWA and management marked the dominance of "segmented" labour relations which would last until at least the 1970s.

At the same time there was an emergence of a new labour market based upon a dichotomy between the primary and secondary sector and within the primary sector between independent and subordinate jobs. A clear example of this classification system can be found within the forest products manufacturing sector of British Columbia. For example, all of these workers may be categorized as primary sector workers. Workers at plywood plants, pulp mills and sawmills are all part of the primary subordinate sector as outlined by Doeringer and Piore (1971). In this sector all have strong unions, good wages and good working conditions. There was, until the recession of the 1980s, a set of well defined rules on job demarcation, and a systematic progression of job advancement based upon seniority. The primary independent workers are those in administrative occupations and were until recently seen as a having jobs which were relatively secure (Barnes, Hayter and Grass, 1990; Grass and Hayter, 1989).

Towards Flexible Specialization

Toward the end of the 1970s productivity in the manufacturing sector of B.C., especially within the forest products manufacturing sector, began to decline.

Moreover, markets were weakening and by 1982 the industry began to record losses. For example, in 1981 six major forest companies within the province had a net profit of \$14.3 million and by 1982 these same six companies recorded a loss of \$302.1 million (Grass, 1987). Thus, in British Columbia, as elsewhere, the economic crisis of the 1980s was particularly severe and was intimately bound up with other significant world events. Among these were an extremely volatile energy situation, increasing international competition and deep-seated technological changes (Grass and Hayter, 1989).

More recently, within the forest products industry, new technology has been introduced as a way to survive the effects of recessionary conditions (Hayter, 1988; Grass and Hayter, 1989; Barnes, Hayter and Grass, 1990). Indeed, "...investment in technology may be essential for the survival of firms, at least in particular locations, if the recession is severe and intimately bound up with secular changes in corporate environments as has been the case in the 1980s" (Grass and Hayter, 1989, p. 242). Given this, it may well be that firms will undertake investment at new locations. However, such a strategy may face problems because it needs to be

noted that existing locations "...provide firms with varying degrees of accumulated capital, including both human and physical resources that are to varying degrees immobile. Clearly, if these resources ('inertias') are important enough, firms will have a strong incentive to maintain existing locations" (Grass and Hayter, 1989, p. 242). However, the introduction of new labour saving technology generally needs to be put in place with the tacit acceptance of the union. Generally this acceptance comes after a series of discussions relating to wages, retraining, seniority, job reclassifications and so forth. In short, with the acceptance of the new technology comes a new form of labour relations based upon a flexible labour force. Here labour is not tied to a specific "job" but rather is part of a working team, knowledgeable in all aspects of the production process. In the early 1980s, as companies moved toward a more "functionally flexible" labour force, two labour practices, specific job definitions and advancement based upon seniority, both of which had been cornerstones of the Fordist era, broke down. A prime example of this new working relationship can be found at the Chemainus sawmill of MacMillan Bloedel. At this sawmill the introduction of new technologies was accompanied by a breakdown in task demarcation as well

as job advancement based upon seniority (Barnes, Hayter and Grass, 1990). Currently, labour is expected, through a series of training manuals and proficiency exams, to become knowledgeable in all aspects of lumber production.

In addition to an average decline in plant size employment through labour-saving, capital investment flexibility may also be achieved through contracting out certain jobs (eg. welding). Indeed, the issue of contracting out was at the heart of a bitter IWA dispute in 1986. As Munro and O'Hara (1988) stated: "...contracting out ...goes to the heart of unions" (p. 155). Contracting out not only reduces union membership and effectiveness but also it "...goes to the heart of job security..." (Munro and O'Hara, 1988, p. 156). And the bottom line for the IWA "...was that companies did not have the right to award work to contractors just because it was a less expensive way to do work" (Munro and O'Hara, 1988, p. 157). As the IWA saw it contracting out was just another devious company practice designed to destroy union effectiveness. According to Munro and O'Hara, if the union had backed down on the contracting out issue the IWA would not be in existence today (Munro and O'Hara, 1988, p. 159).

Several firms, including MacMillan Bloedel, wanted the IWA to make concessions; but this was not to be, and the strike went ahead and proved to be "...the most costly strike in the history of the province" (Munro and O'Hara, 1988 p. 162). The issue of contracting out proved to be the most contentious of all issues. As a result Premier William Vander Zalm made it his mandate to move in to settle the strike. But according to Munro:

"Vander Zalm's failure to mediate a settlement of the strike...is the reason why we ended up with Bill 19 and Bill 20, which destroyed credible labour law in B.C. His simple-minded, arrogant solution is that the government impose settlements in situations like that. But workers won't take that kind of treatment" (Munro and O'Hara, 1988, p. 167).

An imposed settlement was not forthcoming. Rather a high-level commissioner was appointed to study the contracting out issue. In the meantime the strike continued for four-and-a-half months. Currently the master agreement between the industry and the union states the use of a contractor or sub-contractor "...will not result in the loss of full-time positions held by regular employees in the operation..." (IWA-Canada C.L.C. and Forest Industrial Relations, Master Agreement, 1988-1991, p. 76). Thus, as of December 5,

1986 employees received some job security over the contracting out issue.

TECHNOLOGICAL CHANGE AND LABOUR :

DESKILLING AND/OR ENSKILLING

It is difficult to sort out, either economy-wide or in milltown British Columbia, what is happening to contemporary labour markets. That is, if segmentation is being replaced it is not exactly clear what by - although one important contemporary theme has been for a functionally more flexible labour force. What is also clear is that labour markets are being affected by technological change. Moreover, technological change has been especially important to the British Columbia resource industries including the forest products manufacturing industry (Hayter, 1987; Hayter, 1988; Grass and Hayter, 1989; Barnes, Hayter and Grass, 1990).

It has been argued that new technology deskills labour (see, for example, Braverman, 1974) and that this eventually makes work boring, repetitive and less satisfying. According to this view, the tendency of technological developments has been to further Taylorization or scientific management. In this case

jobs are increasingly compartmentalized and simplified and the division and control of work processes and the negative consequences on employees is enhanced (Nielsen, 1988) as human skills are replaced by machines with much of the complexity of craft work being removed. As Jones (1989) notes, on the one hand, many Marxist and radical scholars have criticized the move toward "flexibility" on the grounds that it furthers deskilling and segmentation while reducing union checks upon management. He goes on to say that neo-Fordist flexible manufacturing has been seen by some as just a more sophisticated way of exploiting labour (Jones, 1989, pp. 95-96). On the other hand, some "...concrete investigations have not...found similar characteristics in the wake of technological development" (Nielsen, 1988, p. 249). Indeed, others argue that new technology upgrades the skill level of workers. Jones (1989), too, states the other view with respect to the effects of technology by noting that Fordist production systems and Taylorization are less relevant today. What is more crucial is "...skilled knowledge in the programming of and maintenance of computer-controlled machinery (Jones, 1989, p. 96). Thus the debate centres on whether new technology enskills or deskills workers on the shopfloor

and the degree to which new technologies are labour displacing.

In terms of deskilling it is argued that capitalists increase divisions of labour to control workers. Those who advocate the enskilling thesis argue that new technology and the division of labour evolve along greater lines of complexity, greater efficiency and by extension productivity. As Kalleberg and Berg (1987) put it, the question must be considered in two distinct ways. The first is related to changes in task content and the second in occupational composition where a greater or lesser quantity of labour undertakes an activity similar in task content. In this respect task content refers to the amount of 'skill' and effort required to produce a certain commodity while occupational composition refers to the number of workers required to produce that commodity.

Recently several authors have come to question both the deskilling and enskilling theses. Penn (1983) for example, rejects the theories of enskilling as empirically implausible and the Marxist versions of deskilling on theoretical and empirical grounds (Penn, 1983, p. 22). As Penn (1983) sees it "...the failure to

incorporate the role of organized strategies by sections of the working class...seriously weakens [Braverman's analysis of deskilling]" (Penn, 1983, p. 31). In a similar fashion Massey (1984) argues that deskilling is not as linear "...as is sometimes made out" (Massey, 1984, p. 33). Indeed, technological change may be resisted or accompanied by other changes such as new "...jobs...created in counterposition to the deskilling of others..." (Massey, 1984, p. 37).. It has also been argued that the deskilling thesis often tends to "...ignore the existence of factors such as economic dualism or the advent of the welfare state..." (Vallas, 1988, p.151; see Edwards, 1979; Burawoy, 1983). As Loveridge (1987) puts it Braverman uses an economic approach with technology shaping "...the position and situation of [labour]" (Loveridge, 1987, p.177). Diprete (1988) for example, criticizes the deskilling thesis as being "...insensitive to the internal heterogeneity found within occupations, and to the fact that the boundary between adjacent occupations...can shift over time" (Diprete, 1988, p. 725). It is thus argued that transformations of skill should take into account "...the internal heterogeneity of occupations...[as] both upgrading and downgrading can occur simultaneously within the same occupation..."

(Diprete, 1988, pp. 743-744). Goss (1988) argues that a great deal of work on technological change has been directed at identifying international and national general trends of tendencies toward the enskilling or deskilling of workers. Such an emphasis has, thus, neglected, for the most part, "...the effects of technological change by those directly involved" (Goss, 1988, p. 417). What Goss (1988) is suggesting are studies which show that technological change is more complex and diverse than the general theories of enskilling and deskilling acknowledge. Goss (1988) is therefore advocating the use of more micro-level studies which examine employment and skill change within the wider context of technological change.

As Vallas (1988) puts it:

If the [deskilling] thesis is the more valid perspective, then workplace automation should render work less autonomous and conceptually demanding, thereby fostering greater alienation from work as well. If the [enskillings] thesis is the more adequate perspective, then the opposite relations should obtain: Automation should increase the autonomy and conceptual content of work, thereby reducing worker alienation. (Vallas, 1988, p. 152)

With respect to technological change the perspective adopted in this thesis is a micro-level study which seeks to examine the effects of new technology on labour within an industrial plant. That is, the intent is to

look at the deskilling/enskillling issue from the perspective of those affected.

SUMMARY

Over the past 20 years two issues have come to the forefront of economic concern and analysis. Specifically, these are technological change and labour market change. Thus the purpose of this chapter has been to broaden the life cycle model by incorporating labour market and technological changes by relying considerably on the approach to labour market dynamics as developed by Gordon, Reich and Edwards (1973, 1982).

In terms of the evolution of labour market dynamics it was during the period of segmentation that a great many firms, including those within British Columbia's forest products industry, were able to grow and this was based upon Fordist production systems. Many plants, including the one to be used in this case study, were in the second stage of their life cycle. Indeed, this mass production carried them through into maturity. However, when faced with crises such as that those of the 1970s and 1980s many firms turned to a flexible system of production. In light of the plant life cycle this has the effect of prolonging the third stage of maturity and

staving off decline and eventual death. Technological change was also addressed but only in so far as it related to the deskilling or upskilling of labour.

In conclusion, both labour market change and technological change are important considerations for the life cycle of a manufacturing plant. Without investments in technology the plant may experience a premature death and without a skilled labour force growth would be impossible. Indeed, investment or lack of investment in new technology also affects the "character" of the community. By broadening the life cycle model of an industrial plant we can get a more comprehensive understanding of contemporary resource towns in general and mill towns in particular. The empirical part of this dissertation will now do this.

CHAPTER III

THE LIFE CYCLE OF THE YOUNG SAWMILL : 1913-1989 EMPLOYMENT AND TECHNOLOGICAL CHANGE

INTRODUCTION

This chapter provides an overview of the evolution of the Young sawmill from 1913 to 1989 in terms of the plant life cycle model. To help analyze this process I identify the life cycle stages of birth, growth, maturity and winding down on the basis of capacity and production characteristics. In general, how life cycle stages are identified involves judgement. The transition between one stage and another is a process which is difficult to pinpoint and which is unlikely to occur 'instantaneously' or even within statistically convenient time periods. Capacity figures nevertheless do provide useful insights into significant changes in a mill's status since they are based on investment and disinvestment decisions which have real meaning for the size of operations, for employment and for future potential.

Production levels, however, are sensitive indicators of short term changes as well as long term changes and provide important insights into changes

occurring within life cycle stages, most notably of maturity and winding down which can extend over long periods of time. Production also tends to be more closely associated with employment change than capacity. Accordingly, this chapter explores the production and employment profiles of the Youbou sawmill and seeks to offer explanation in terms of both exogenous and endogenous events. Using terminology employed by Lucas (1971) this chapter seeks to interpret generalized aspects of employment and technological change at the Youbou sawmill from a life cycle perspective.

The information base for this chapter is provided by mill manager reports, data in the B.C. Lumberman, The Timberman, the Pacific Coast Lumberman, the UBO Bulletin, the Cowichan Valley Leader, the Lake News, The Daily Colonist, the Lake Cowichan Bulletin and internal corporate memos.

EARLY DEVELOPMENT OF LUMBERING IN THE COWICHAN VALLEY

The Cowichan Valley at first attracted hunters, trappers and miners each in search of fame and fortune. In this respect John Humphrey, in 1846, made a trip to the Cowichan Valley in search of furs for the Hudson's Bay Company (Dougan, 1973, p. 118). However, it was not

until 1857 that the first official record of a white visitor was made, namely J. Pemberton, Crown Surveyor (Norcross, 1975, p. 2; Saywell, 1967). The next recorded visit to the Cowichan was in 1862 when the H.M.S. Hecate brought in approximately 100 settlers (Dougan, 1973, p. 18 ; Norcross, 1975, p. 11). Contrary to previous company policy the terms of agreement under which the Hudson's Bay Company was granted use of Vancouver Island required encouragement of settlement. This group from the Hecate was, therefore, subsequently divided into three districts - the Somenos, Quamichan and Shawnigan. Thus began the delineation of the Cowichan valley.

Each of these expeditions noted the magnificent stands of hemlock and Douglas Fir both in and around the valley. The earliest record of a sawmill within the Cowichan is one which was constructed at Mill Bay in 1861 (Dougan, 1973, p. 150). The following year W. Sayward, a native of Maine who was engaged in the lumber business in Florida, purchased the mill and by 1869 Sayward had "...entered the export market with an initial shipment..." destined for San Francisco (Dougan, 1973, p. 151).

But it was not until 1878 that Mr. W. Sutton made the first authenticated application for timber rights in the Cowichan Lake region. Successfully obtaining a twenty year lease in 1879 for some 7000 acres Sutton was required to construct and operate a sawmill capable of cutting 10,000 board feet per day and to pay a lease of one cent per year per acre. However, the lease required that Sutton allow settlers to locate on the land. If this did not take place and if timber had not been taken, then the land would revert to the settlers. Apparently the government of the day was actively promoting settlement of the Cowichan around a basic industry. To complete part of the obligation Sutton constructed a sawmill at Genoa Bay and in the early 1880s logging for the mill moved to Sutton Creek (Figure 3.1).

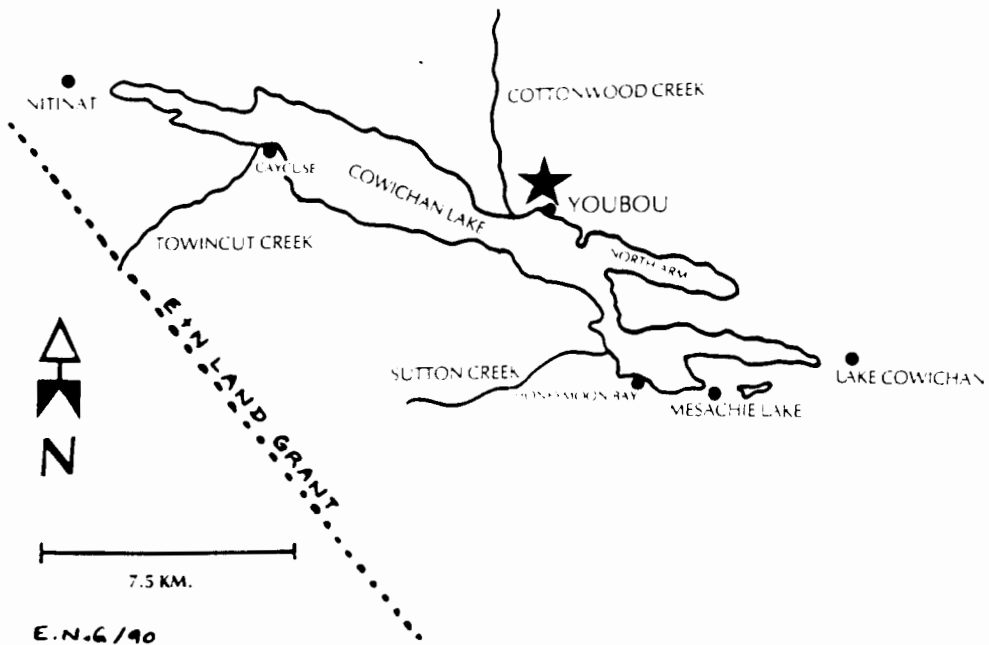
Transportation

Significant to the development of forest activities in the Cowichan was the coming of the railway. Indeed, the implications for the entire Cowichan valley of a new railway service were far reaching.

In 1881 the Canadian Pacific railway was incorporated and in 1883 Robert Dunsmuir entered into an

Figure 3.1 : Cowichan Lake

COWICHAN LAKE



agreement with the British Columbia Government to build a railway for the Esquimalt to Nanaimo run. For this Dunsmuir was given a land grant (still known today as the E & N Railway Land Grant) and a \$3/4 million subsidy to defray railway construction expenses. In 1884 construction of the E & N was started and by 1886 had reached the coal fields of Nanaimo. In 1885 the Canadian Pacific Railway reached Vancouver and by 1905 had acquired the E & N along with timber rights, plus 86,346 acres of timber lands. The latter represented compensation for timber land which had been alienated prior to the original land grant of 1883.

The principal timber supply area for the mill at Genoa Bay was near the mouth of the Robertson River. Falling was done with crosscut saws and logs were felled directly into the lake. When this was not possible oxen were used to pull the logs to the lake shore. Storage of the logs was near the present Weir and there they remained until spring freshet (ice break-up) when there was sufficient water to drive the logs down the Cowichan River to Cowichan Bay. From Cowichan Bay the logs were towed to Genoa Bay for further processing. The mill at Genoa Bay was, however, not in production for very long. Opened in late 1888 or early 1889 the mill was forced to close in 1893 due to a severe industrial depression in

the United States (Dougan, 1973, p. 134). Indeed, the Genoa Bay sawmill was taken over by the Bank of British Columbia after the owners had declared bankruptcy (Saywell, 1967, p. 21). Similarly, the Victoria Lumber & Manufacturing Company sawmill at Chemainus had closed for four years as a result of the same depression (Norcross, 1975, p. 51).

Royalties

In 1884 the Government of British Columbia passed a timber granting act. This act granted licences of 1000 acres each on a 15 cent per tree royalty basis. Annual rentals ranged from one to ten cents per acre and royalties from 20 to 25 cents per one thousand foot board measure (MFBM) for timber actually cut. These rates were increased in 1888 to five cents per acre and 50 cents per MFBM of actual cut with leases running thirty years. In 1888 the Government of British Columbia instituted its first land act. Under this act crown granted lands could be obtained for \$2.50 per acre with a royalty of 50 cents per MFBM of actual cut. It was also during 1888 that British Columbia obtained its first Inspector of Forestry.

Opening up the Lake.

Lacking any transport networks such as roads, logging was slow to develop in the early 1900s. Indeed, it was not until 1910 that the E & N Railway entered into an agreement to construct a railway to the "Foot" of Cowichan Lake (the present site of Lake Cowichan Village) (Figure 3.1). In return the E & N obtained the contracts for hauling logs to tidewater at Crofton. After the spur line from Crofton through Duncan to Lake Cowichan village had been completed in 1912, logging developed rapidly in the Cowichan lake area (Saywell, 1967, pp. 50-52). Indeed, the land grants to the railway company for building the main and branch lines of the railway were extensive. With the completion of the rail system into the Cowichan Lake area the lumbering industry began to expand quite rapidly. This was especially so in the case of the Victoria Lumber and Manufacturing Company (V.L & M) and the Empire Lumber Company. Up until 1910 the only large timber holders in the Lake area were the Cowichan Lumber Company and V.L.& M. But land in the Valley was being made available to lumber companies by the E & N Railway and this began to draw interest from all over North America. This was particularly true of the V.L. & M Co., created by the Weyerhaeuser syndicate originally organized in Wisconsin

but whose interests also included Idaho and Washington State (Mackay, 1982, p.40), and the Philadelphia based Empire Lumber Company. Both wanted more timber and the E & N Railway had it virtually for the asking.

Prior to the 1912 opening up of the railway log transportation in the area had been primarily confined to sections adjacent to the shore of Cowichan Lake (Saywell, 1967). Around 1867 the steam-donkey road-yarder made its debut and this allowed the loggers to move further away from the lake shore. The sentiment at the time was that handloggers were strapped for cash and could not afford to pay high licence fees for the right to cut logs. Thus the fee for handlogging was \$10 per year per licence. As the handloggers became successful this fee was subsequently raised to \$25 per licence. Yet when the handloggers began to realize a profit the government, in 1906, outlawed the use of steam by handloggers (Mackay, 1982, p. 23). Caycuse Camp (formerly Nixon Creek) was first logged in 1905-1906. Logs from the camp were transported down the lake on their trip to Cowichan Bay via the Cowichan River. Subsequent to the coming of the railway logs were stored on the lake and transported overland by way of the E & N Railway.

The prospective coming of the railway signalled the beginning of a new era in logging around Cowichan Lake. As a matter of fact, the thought of being able to haul logs out so expeditiously served to increase interest in the possible fortunes which could be derived from logging the virgin stands. In 1907 the Empire Lumber Company cruised the hillsides in and around the present site of Youbou even though there had been some logging in the Cottonwood Creek area since 1906. In 1907 the Fraser River Lumber Company (later known as Crown Zellerbach Canada Ltd.) purchased two timber blocks in the area around Robertson River and four in the Nitinat River valley. During 1910 Empire Lumber purchased six blocks of timber containing an estimated 1 1/2 MFBM for about \$1/2 million in total. The Empire purchase was significant for at least three reasons. First, it represented another of the 'Great Lakes Capitalists' who came to British Columbia in search of timber "...after having exhausted the pine of Michigan, Wisconsin and Minnesota" (MacKay, 1982, p. 22). Second, Empire Lumber became the third operator in the area (prior to Empire Lumber only the Victoria Lumber and Manufacturing Company and the Cowichan logging Company were felling logs in the region). Third, and perhaps most importantly, it was the Philadelphia based Empire Lumber people who had convinced the E & N Railway to construct

the Lake Cowichan Village-Duncan-Crofton rail link as part of the deal to purchase the six timber blocks (Saywell, 1967, p. 31; p, 50).

In order to exploit the forest resource and to take advantage of tidewater for shipping, the original intent of the C.P.R. and Empire Lumber was to construct a 'million dollar' mill at Crofton (Norcross, 1975, p. 60). However, they settled on Cottonwood Creek (currently Youbou) (Figure 3.1). Shortly after (in 1911) the Empire Lumber acquisition the American Finance and Securities Group bought eight blocks of timber totalling some 10,000 acres for \$27 per acre from the E & N Railway. It was also during this period (1911-1912) that a road over the Malahat connected Duncan to Victoria (Dougan, 1973, p. 31). Thus this period of opening up the Cowichan valley via increased transport networks served to heighten interest in logging - an interest which continued unabated.

The arrival of the E & N Railway to Lake Cowichan Village in 1912 allowed for the overland transport of logs to Crofton. From Crofton logs were barged to the mainland and to other points on Vancouver Island. During 1912 the Canadian National Railway had initiated construction of a railway from Port Alberni to Victoria.

In 1912 the formation of the Hillcrest Lumber Company had acquired timber from the E & N Railway and a sawmill was built on the Cowichan Lake branch four miles west of Duncan. The mill was able to survive the war years and at its conclusion the mill was producing 20,000 board feet of lumber per day (Pacific Coast Lumberman, Vol. 2, No. 10, 1918). By 1913 construction had taken the rail line along the north side of the Cowichan Lake to Cottonwood Creek. In short, the railway was instrumental in opening up the northern and western reaches of the Cowichan Lake region and it was the construction of the railway that permitted the birth of the Youbou sawmill in 1913.

In 1914 Empire Lumber and the Cameron Lumber Company of Victoria obtained a contract from the Toronto Harbour Commission (Saywell, 1967, p. 32) to deliver 24 million feet of lumber over four years. This required shipping twenty carloads of logs daily out over the E & N to Crofton and from there to where processing took place at Victoria and Genoa Bay. The year 1914 also marked the beginning of World War I resulting in a large outflow of the male population from within the Valley. As reported in the Cowichan Leader "...practically all our men have gone..." (December 15, 1915).

The Cottonwood Creek mill which had ceased to operate during the war years re-opened in 1918 after a five year closure. The mill subsequently restarted by extracting logs from the Caycuse region. These were supplemented with logs from independent contractors which surrounded the Empire holdings with the first shipments, in 1918, of lumber out of the Cottonwood Mill destined for Idaho (Saywell, 1967, p. 34). Indeed, 1918 was reported as being one of record proportions for both the industry and the mill (Pacific Coast Lumberman, No. 10, 1918).

The years immediately following the war saw expansion of the lumber industry within the Cowichan Valley. In general this can be attributed to the significant increase in demand from Europe as it started to rebuild. Indeed the orders were often so large that they could not be filled thus keeping prices artificially high (Cowichan Leader, October 25, 1919, p. 1). For example, one order from the British Timber Controller of some 70 million feet of ties and timber for British railways would keep many mills operating at capacity for several years (Pacific Coast Lumberman, Vol. 3, No. 8, 1919).

The 1920s began with a post-war recession but beginning at the end of 1922 the industry began to recover and throughout the remainder of the 1920s mills began to grow. During the second half of the 1920s the Cowichan valley began its transition away from agriculture toward forest products as its primary industry. Logging camps and mills within the deeper reaches of the Valley began to have both road and rail access leading many men to "commute" from "town". This constant interaction with the major communities of Lake Cowichan Village and Duncan would prove to be an important catalyst in the development of the labour movement which would come in the years to follow. By the end of 1926 mills were operating at capacity and the government set the minimum wage at forty cents per hour (Bergren, 1966, p. 51; Norcross, 1975, p. 73). The main reason for the legislation was to discourage the exploitation of the Asiatics. The reaction of the mill owners, however, was hostile. To combat the minimum wage legislation some operators massed their capital resources and entered into joint agreements. Thus, for example, Mr. D. Hartnell and Mr. F. Beban began a series of negotiations with Mr. Yount and Mr. Boulton (both of the Empire Lumber Company) towards a joint grouping of interests. The result of the negotiations was the

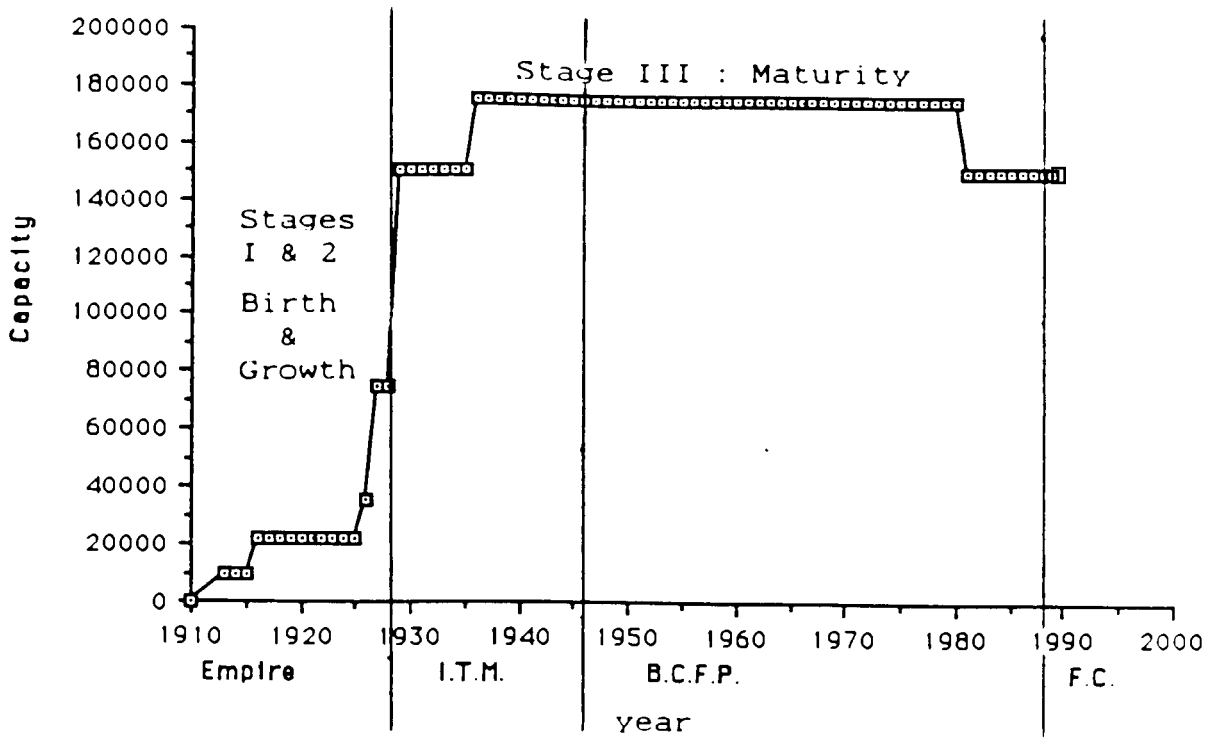
formation of the Industrial Timber Mills now the new owners of the Youbou sawmill.

STAGES IN THE LIFE CYCLE OF THE YOUBOU MILL : AN OVERVIEW

On the basis of investment in sawmilling capacity it is possible to identify four stages in the life cycle of the Youbou sawmill (Figure 3.2). After, logging was established in the area around 1910 the original sawmill (1913) was established on the north side of Cowichan Lake in the Cottonwood area (named after the nearby Cottonwood Creek and Valley) and was often referred to as the 'Cottonwood Mill'. Owned by the Philadelphia based Empire Logging Company the first task of the operations was to log the timber "...between the eastern boundary of Block Seven subdivision and Cottonwood Canyon on the west, the area now occupied by the Youbou townsite and [the mill]" (UBO Bulletin, Vol. II, No. 2, July, 1945, p. 4). The first mill was later replaced by a larger mill in 1928.

The establishment of this mill was also associated with the creation of a permanent company community at Youbou in 1928 and the period may be taken as approximating the transition from the birth to growth

Figure 3.2 : The Life Cycle of the Youbou Sawmill (MFBM per day): 1910-1989.



Empire = Empire Lumber Company
 I.T.M. = Industrial Timber Mills
 B.C.F.P. = British Columbia Forest Products
 F.C. = Fletcher Challenge

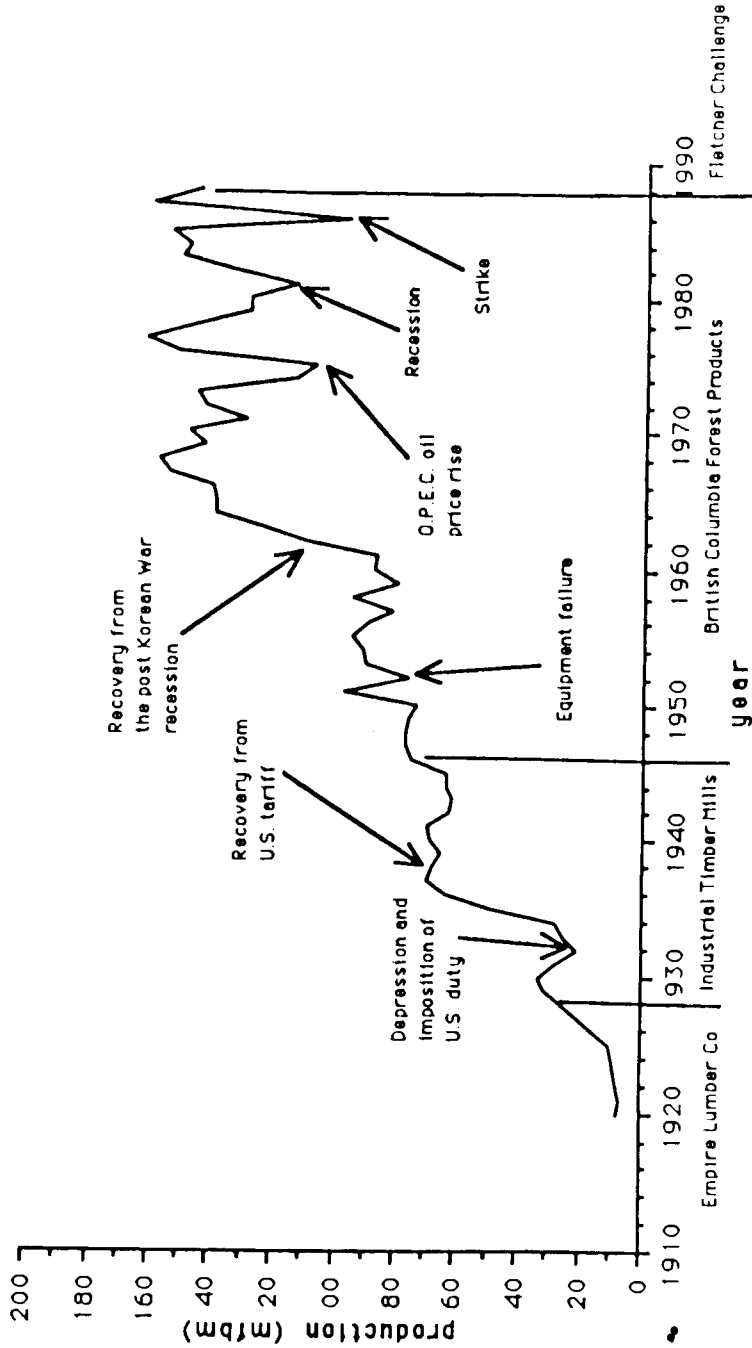
Source : Fieldwork, 1990

stage at the mill. The capacity of the mill was further expanded to 175,000 FBM per day in 1933, its peak level - at which point we can argue the mill had entered the mature stage. The mill's capacity, in fact, did not change until the early 1980s when it was reduced. Indeed, this reduction in capacity could indicate a signal that the mill has entered the winding down stage. If so, it is interesting to note that during the transition from each stage, or shortly after the onset of a new stage, there has been a change in mill ownership. Thus, in 1928 the Empire Lumber Company of Philadelphia was bought out by Industrial Timber Mills, a local concern, which in 1946 was acquired by British Columbia Forest Products, then owned by a Toronto based entrepreneur. In 1988 B.C.F.P. was acquired by Fletcher Challenge of New Zealand.

The occasional step-like changes in mill capacity do of course mask considerable variation in actual production (Figure 3.3).

In general, production has revealed a long term, if fluctuating, tendency to expand at least until the late 1960s. Since then production has fluctuated sharply without revealing any inclination towards either long term expansion or decline.

Figure 3.3 : Production at Youbou, 1920-1988 (MFBM)



Source: Fieldwork, 1990

Thus, however it is precisely defined, the mature stage of Youbou's life cycle can (so far) be disaggregated into two distinct periods 1930-1968, a period of steady growth interrupted by downturns, and 1969 to the present a period of no real growth interrupted by marked fluctuations. In this regard, it is interesting to note that the production experience at Youbou overlaps but is not entirely consistent with the idea of a "long boom " beginning after the 1930s depression and lasting until the early 1970s. Rather, at Youbou, the 1950s were relatively volatile and the most impressive period of growth occurred between 1960 and 1968/1969 - at which point Youbou's "long boom" ended.

Since 1970 there has been increasing volatility in production at Youbou beginning first with the OPEC oil crisis and with the recession which accompanied it. With the recession at the beginning of the 1980s we also notice a reduction in capacity which may be the signal that the mill has entered into the winding down stage. The rest of this chapter discusses these stages in more detail.

Stage 1 : Birth of the Youbou Sawmill

The Youbou sawmill first opened up in 1913 (Figure 3.2). There are at least two reasons why the mill was constructed. Management at the time felt that higher profits could be generated by moving out timbers rather than logs as timbers brought a higher price on the open market. Secondly, management was contemplating the construction of a larger mill and it was felt that the small mill could cut timbers for construction of the larger mill.

Stage 2 : Growth of the Sawmill

The 1920s was a time of tremendous struggle emanating out of depressed demand conditions for wood products and this meant a rather traumatic period in the development of the mill. Demand was highly variable, American lumber brokers had what was called a monopoly on lumber trade, unemployment was high and freight rates were increasing. Consequently, during this period the mill had difficulty maintaining production levels and local unemployment remained high.

Trade between January and March of 1920 had been quite strong as demand and prices began to reach record

levels. By late spring, however, a slump began to set in such that by the end of 1920 "...demand was practically non-existent...[with the result]...that four-fifths of [the] camps and sawmills [had] closed down awaiting better conditions" (Pacific Coast Lumberman, Vol. 5., No. 1, January 1921, p. 25). Part of the reason for the apparent decline in British Columbian exports arose from a monopoly on lumber tonnage enjoyed by charter brokers from San Francisco, Portland and Seattle. What this meant for producers in British Columbia was a steady decline in export shipments "...except in the case of South Africa where favorable reciprocal tariffs...sustained the export trade [but] in the Australasian, Oriental and the United Kingdom...business [had] fallen off appreciably (Pacific Coast Lumberman, Vol. 5, No. 4, April 1921, p. 44).

Production at the Youbou mill had not grown and indeed, declined (Figure 3.3). This decline subsequently meant that workers at the Youbou mill, and throughout the Valley in general, were laid off. Indeed the problem of unemployment due to the general depression was such that the Provincial Department of Industries was approached with a proposal to take over sawmilling thereby taking it out of private hands and

putting it into the public sector (Pacific Coast Lumberman, Vol. 5, No. 2, February, 1921, p. 32). As shown in Figure 3.3 this was just about the time that the Youbou mill began to increase production, albeit only slightly. The news of the proposed takeover was therefore not greeted favourably as some businessmen within the Valley apparently would rather see the industry die: the takeover bid was seen as an "...extraordinary scheme...hatched by persons not well informed on the fundamentals of business" (Pacific Coast Lumberman, Vol. 5, No. 2, February 1921, p. 32). The reason cited against the revival of the industry was the high cost of labour. "It was not that workers get so much more per day but efficiency [had] reached a low ebb, and production per diem is not nearly as high as it should be" (Pacific Coast Lumberman, Vol. 5, No. 2, February 1921, p. 40.). In fact, this decline in efficiency reflected a contradictory effect of the drive system which sought to 'force' workers 'to produce more with the new equipment but without rest breaks in the morning or afternoon or additional compensation. Thus the effects of physical exhaustion were taking their toll on productivity. This , together with slow demand for lumber products, accounts for the rather sluggish growth during the period 1921-1925 (Figure 3.3). Business was also down because of the increased

transport costs which had taken place within British Columbia. The huge increase in freight rates during 1920 was an overwhelming blow to the industry and in order for business to survive it was argued that "...a readjustment of the ratio of freight cost to [production cost] in the price of lumber..." was imperative (Pacific Coast Lumberman, Vol. 6, No. 2, February 1922). This readjustment was, however, not forthcoming.

As mentioned earlier demand for lumber had taken a decided downturn as export markets were drying up. Part of the problem was lack of market diversification. Indeed, "the present state of the market has demonstrated more effectively than ever before the danger of industry generally [and of Youbou specifically] concentrating too much on one territory [i.e. the United States] for sales, and the need for persistent promotion in all prospective markets" (Pacific Coast Lumberman, Vol. 5, No. 4, April 1921, p. 28). Forty years later the danger of the same market specialization would be repeated.

In 1921 Yount acquired the Empire Logging Company and renamed it Cowichan Sawmills. The acquisition was significant for it represented the first example of an integrated operation at Cowichan lake. Subsequently,

the extension of the railway was announced and by 1922 significant progress on the extension of the railway had been made such that :

"The railway will be as far as the Cottonwood Mill within about fifty day [i.e., May 1922]....The Cottonwood Mill is now cutting ties for this development and when the tracks have been laid a connection will have been provided with the James Logging Company's tracks" (Pacific Coast Lumberman, Vol. 6, No. 2, February 1922, p. 24).

The extension was important for at least two reasons. First, it allowed increased production at the Youbou mill (Figure 3.3) and second it contributed towards a more comprehensive transport network into the valley.

As noted earlier, the early 1920s represented a period of slack demand. By 1925 the situation had not changed appreciably (Figure 3.3). Market conditions had caused lumber production within the Cowichan valley to decline significantly with the result that there had been a "...suspension of operations in several of the larger mills..." (British Columbia Lumberman, Vol. 10, No. 2, February 1926, p. 30). The net result was that the mill at Youbou had reduced production from 30,000 board feet per day to 20,000 board feet per day and it was not until December of 1926 that production was back up to 30,000 board feet per day (British Columbia Lumberman, Vol. 10, No. 10 and No. 12, p.23. and p. 32).

Another important factor which served to alter production was the apparent unusually long and destructive fire season during the summer of 1926. Evidence of the severity of the long hot summer can be illustrated by the fact that management instituted a new time schedule. All clocks were turned ahead three and one-half hours. This was done so that workers would put in their eight hours before the hottest part of the day (British Columbia Lumberman, Vol. 10, No. 5, May 1926, p. 30). Thus due to severe demand fluctuations and extreme heat conditions operations within the Youbou mill continued on an intermittent basis for the remainder of the year.

In 1927 the operations were taken over by a syndicate named Industrial Timber Mills who simultaneously also acquired a number of smaller companies and two long time logging companies namely Elco Logging and the James Logging Company (Taylor, 1987). However Yount and the other operators at Cowichan Lake were frustrated at having raw logs transported out of the valley for processing elsewhere. The plans to build a bigger mill had been on the books for some time but construction had been delayed because of poor market conditions. In 1928 new management decided to go ahead with the plans to construct a new

electrically operated sawmill with a daily capacity of 150,000 FBM per day, that is a large mill. Because of its size, it was seen as "...one of the most significant lumbering development on Vancouver Island [as was] the organization of Industrial Timber Mill, Ltd. (British Columbia Lumberman, Vol. 13, No. 7, July 1929, p. 27). The new facility therefore allowed a much greater production of lumber in the Cowichan Lake region and virtually eliminated the shipment of raw logs from the valley (British Columbia Lumberman, Vol. 13, No. 7, July 1929, p. 27). Thus in 1928/1929, having reached peak capacity, the mill can be considered to have entered the mature stage.

Stage 3 : The Mill Matures

As Figure 3.2 shows capacity had reached, for all practical purposes, full development by 1928/1929. The larger mill now meant that a greater quantity of raw sawlogs could be processed locally within the Cowichan valley thereby creating more employment within the region. Typically, the sawlogs were converted into construction grade material such as 2 X 4's and 2 X 8's. Naturally, the mill required a larger workforce.

Labour in the Cowichan Valley was highly transient as many of the workers were young and single. Labour at the Youbou mill was no different. Moreover, housing to accommodate these workers was generally in tents or on houseboats on the lake. These were not particularly splendid living quarters as they were often cold in the winter and leaked whenever it rained. Thus, in order to establish a ready pool of available labour Industrial Timber Mills decided to construct a permanent company townsite, the first since the first mill opened in 1913. It was hoped that a company town would help attract married workers who were perceived to be more stable.

The fact that there was no permanent company townsite, even though the mill had reached its maximum output, does raise a complication with respect to the Lucas model which assumes a conflation of mill and community life cycle processes. Thus, in the model it is assumed that a permanent company town is constructed concurrently with the manufacturing facility. In the case of Youbou this was not so. Indeed, there had been a mill in the area for some fifteen to sixteen years prior to the townsite. And, 'maturity' in community terms probably did not occur until the late 1930s when the major features of the early community had been

completed and a daily pattern of community social as well as work behaviour had been established.

The future of the mill seemed quite bright and the decision to establish a permanent company town adjacent to the mill went ahead. Newspaper reports such as that from the Cowichan Leader serves to illustrate the optimism which was shared by the people of the Cowichan Valley.

The road is being built well and firmly, with hard foundation of small pieces of broken rock off the mountainsides nearby. Where rock is not available gravel is being used. There will be quite a busy little town at Youbou in the near future. The townsite has already been selected at the foot of the hill, back of the railroad tracks, behind Gordon's Youbou store. As it will be on a slight rise it will ensure good drainage and the view overlooking the lake will be superb.

The houses will be well built and modern in every particular, with electric light, running water and bathrooms - all conveniences that a city boasts.

Many of the workers at the mill will bring their families to reside at Youbou when the new townsite is ready so that it will be a busy and thriving hive of industry and family life, and the road facilities will greatly add to its attractiveness as a place of residence.

A different site had been chosen in the first instance for the townsite. This was on Cottonwood Creek, near the new Industrial Timber Mills, but on account of an almost impassable obstruction in the form of a great rock right in the way, which could have entailed very considerable trouble and needless expense to remove the present site was finally selected as in every way as desirable. (Cowichan Leader, Thursday, September 12, 1929, p. 1).

The main street of Youbou was the hub of social activity in the early days of the community and in time the main street became known as "Yap Alley". As Moloney states it "In those days there was no T.V., no radio or movies so there was nothing for families...to do but yap (Moloney, "In One Ear, n.d.).

The mid to late 1920s was a period of speculation in which the Canadian economy expanded in general. But October 1929 came and the speculative boom ended (Galois and Mabin, 1987). Markets collapsed and the Cowichan Lake region was not insulated from the effects of the Great Depression. Only nine of the 19 companies which were in operation in 1929 were still in operation after the summer of 1930. Even so, at this time the mill at Youbou still employed 130 workers and produced some 200,000 FBM per day (Figure 3.3) (Muralt, 1986). Indeed,

"during 1930 extensions and additions were made to the plant [and these] included a wood mill, with a daily capacity of about four carloads of fuel wood cut to stove-wood size. The craneway was extended 600 feet giving it a total length of 1700 feet, probably the longest craneway of its kind in the world" (British Columbia Lumberman, Vol. 15, No. 2, February 1931, p. 20 [emphasis added]).

The reason for the craneway extension was that inventories were building up and to accommodate the idle 12 MFBM sitting in the yard I.T.M. management decided to extend its storage yard overhead craneway from 1100 to 1700 feet (Taylor, 1975 ; Muralt, 1986). Under depressed markets and financial pressures the Youbou mill operated intermittently during 1931 and 1932 and this accounts for the decline in production shown in Figure 3.3. Indeed at the onset of the depression "...the sawmilling industry on the Island [was] running at [only] sixty per cent of capacity" (British Columbia Lumberman, Vol 15, No. 6, June 1931, p. 26). Also contributing to the intermittency was the rather large fire which had occurred in August of 1932. The fire of August 7, 1932 shut down the mill and operations did not resume until October of that year (British Columbia Lumberman, Vol. 16, No. 10, October 1932, p. 20). Thus the decreased production shown in Figure 3.3 was a combination of both exogenous events such as the depression and the U.S. duty and an endogenous event which did not allow the company to serve their established markets as well as they may have during the three month shutdown.

By 1933 "the Industrial Timber Mill at Youbou [had] resumed cutting for what [was] expected to be either a

permanent or at least a long run [basis]" (British Columbia Lumberman, Vol. 17, No. 4, April 1933, p. 18). This accounts for the rise in production shown in Figure 3.3. With the expectation of long-run production in mind several improvements were made including the construction of a new machine shop and the addition of a large shed more suitable for freight handling (British Columbia Lumberman, Vol. 17, Nos. 9 and 12, September and December, 1933, p. 16 and p. 13 respectively). These improvements were reflected in the increased production shown after 1932 (Figure 3.3).

Throughout the early years of the depression Industrial Timber Mills continued to produce lumber in the belief that the economic downturn would be short-lived. The result was an abundant supply of inexpensive lumber - but dried up markets. The market downturn came about because of (1) a drop in European demand as these countries could no longer sell their manufactured products, (2) a drop in housing starts and capital expenditures as financial markets became tighter and (3) a drop in demand for lumber from the prairie market which was a major market for British Columbia-produced lumber. However, not all market changes were the result of 'cyclical' market changes. Some resulted from

changes of bilateral and multilateral trading policies among industrialized countries.

In particular, the "cyclical" effects of market downturn were exacerbated by political decisions made within the United States and elsewhere. First, in the United States, the Smoot-Hawley Act of 1931 placed a tariff on British Columbian lumber and was designed to protect American lumber interests. Second, exchange rate fluctuations occurred as Britain removed the pound from the gold standard. Third, an Anglo-Soviet trade agreement in 1931 gave the Soviets a virtual monopoly on sales of lumber to Britain. Thus in 1931 "...100 United Kingdom importers banded together...to order 800 million feet of Soviet timber (four times Canada's annual export to Britain) [and] Russia had become one of the great exporting nations outstripping the combined exports of Washington, Oregon and British Columbia " (Mackay, 1982, p. 111). Fourth, the Japanese invasion of Manchuria effectively closed the Chinese market to British Columbian lumber. And fifth, the Japanese, which had become a major customer for lumber from North America, were cut off with the commencement of World War Two (Taylor, 1975, MacKay, 1982).

Thus, in an atmosphere of economic and political upheaval the mill continued to operate, albeit, sporadically. By late 1932 there was a major trade policy initiative which helped alleviate the market problems facing the lumber industry in general, and the Youbou mill specifically. In particular, the Imperial Preference Agreement allowed Canadian lumber duty-free entry into Commonwealth countries. The same Agreement imposed a 10 per cent tariff on lumber entering the Commonwealth from other countries. The result was that in 1933 Industrial Timber Mills started on the road to increased production and financial recovery (Taylor, 1975) (Figure 3.3).

In April 1933 Hammond Cedar Mills bought out Frank Beban (a partner in I.T.M.) as well as the Empire Logging Company, the supplier of logs to the mill (Baptie, 1975, p. 143; British Columbia Lumberman, Vol. 17, No. 4, April 1933, p. 18). Immediately improvements and extensions were made to the plant. These included a larger shed to better handle and manage freight (British Columbia Lumberman, Vol. 17, No. 12, December, 1933, p. 13). As well, the company installed a supplementary bridge crane to the already extensive craneway and a railway spur line to the private trackage (British Columbia Lumberman, Vol. 21, No. 5, April 1937, p. 34).

Indeed, production had increased significantly by 1939 only to be interrupted by the Second World War (Figure 3.3).

In general, the war led to a shortage of labour both in the sawmilling and logging sectors. Skilled sawmill workers throughout the Cowichan valley had been enlisted for the war effort and this led to an overall cutback in the number of shifts and ultimately a levelling-off and even a slight decline in production (Figure 3.3). At Youbou, the mill superintendent, Mr. J.W. Whittaker obtained draft exemption for his skilled workers through rationalizing that skilled workers were necessary for the war effort. This combined with the Orientals and East Indians (groups which were not draftable) helped to 'save' the Youbou mill by keeping it running (Baptie, 1975, pp. 144-145). Otherwise production levels may have dropped considerably. Markets during this period were largely pre-determined as output was geared toward defence purposes first, as, for example, the use of spruce for airplanes or the use of lumber to construct new plants for the war effort (Taylor, 1975, pp. 156-157).

In 1946, shortly after the war ended, Hammond Cedar Mill's reign over Industrial Timber Mills, and of the

Youbou sawmill, came to a close. In 1946 ownership of Industrial Timber Mills was transferred to the newly formed British Columbia Forest Products (B.C.F.P.). This change of ownership was significant for it transferred decision making out of the local area to corporate head offices, located in Vancouver but in turn which were themselves controlled from outside the province.

MATURITY AND THE LONG BOOM : 1947-1970

Corporate management of industrial operations often changes at times of crisis. At Youbou such crisis-related management changes have been associated with stages in the life cycle. These changes have not been precisely coincident but they do appear related (Figure 3.2). For instance, as labour relations or financial pressure became problematic, management, not wanting to deal with such problems, would sell the operations. One example is the shift of management from I.T.M. to B.C.F.P. at a time when I.T.M. was suffering some financial difficulty. The idea behind the formation of British Columbia Forest Products Limited was that centralized, aggressive management applied to a combination of four individual sawmills with logging

subsidiaries could increase and maintain overall efficiency for all the diverse interests involved. And as it turned out I.T.M. had timber holdings and a sawmill both of which fit into the B.C.F.P. corporate plans.

The formation of the company was initiated by Mr. E.P. Taylor of Toronto and a group of men with access to large amounts of public and private capital. Their first move was to acquire a nucleus of working and strategically located sawmills. In general each mill was similar in design but each had its own specialty and at Youbou this was in the production of timbers. As a whole, however, these mills represented a fully integrated production organization with a closely interlocked executive personnel directed from the head office in Vancouver. Again, this was significant for it removed decision-making from those in Youbou to those in Vancouver.

The period 1947 to 1970 has been characterized as a long boom (Galois and Mabin, 1987). But for the Youbou mill the long boom was rather shorter than this twenty-three year period. While there was some growth during these years the rest of the long boom can be broken down into two sub-periods, from 1947 to 1960 and from 1961

to 1970. This first period is characterized as one of strong cyclical change while the second can be seen as one of strong growth (Figure 3.3).

Shortly after the takeover by B.C.F.P a third shift was added and this increased production by some 800 MFBM per month. The increased production was, however short-lived as in July 1947 a new wage agreement was reached and the mill began operating on a forty hour work week. As a result production declined by over 500 MFBM per month. These changes in production are reflected in Figure 3.3. Another mitigating factor which led to a decline in production lies in the fact that markets had gone soft. Therefore, the mill, in order to cut losses, dropped the production of two product lines namely 1 X 2 and 1 X 3 common grades. Moreover, management applied a policy which was to cut as high a proportion as possible against direct standing orders. In short, the goal was to reduce the inventory of unsold goods. This policy lasted through 1949 as prices in world markets had declined due to supply catching up with demand in North America and a lack of dollars in export markets.

Between the years 1950 and 1952 the mill's markets fluctuated wildly between the United States and the United Kingdom .

**Table 3-1: Selected export markets Youbou:
selected years (%)**

Country	1947	1949	1959/60	1969/70
U.S.	2.40%	28.80%	61.20%	72.10%
U.K.	40.80%	27.00%	13.30%	15.60%
Aust.	2.60%	3.70%	5.00%	3.30%
Japan	N/A	N/A	N/A	0.01%
Total (MFBM)	76.7	75.9	86.8	138.0

Source : Mill managers reports and B.C.F.P. corporate reports.

For example, the United Kingdom market went from 6.5 per cent in 1950 to 36.9 per cent in 1951. Concurrently the United States market declined from 57.8 per cent in 1950 to 33.4 per cent in 1951. In association with this market shift the overall demand declined. These changes were attributed to the continual breakdowns of the headrig and other maintenance problems which led to a decrease in production (Figure 3.3). Moreover, 1952 had been a "...difficult time for the lumber industry [as] this was a period of transition between the pre-war low wage rate and the higher one which came after the war" (Baptie, 1975, p. 211).

In 1953 as production increased the nature of the markets continued to change. In particular there was a sharp decline in the shipments to the United Kingdom from 44.3 per cent in 1952 to 24.4 per cent in 1953. At the same time the United States market increased from 31.0 per cent in 1952 to 42.5 per cent in 1953. Of significance was the increase in other markets from just 0.8 per cent in 1952 to 5.6 per cent in 1953 (these other markets included the Scandanavian countries, the Netherlands, Puerto Rico, Japan and Hong Kong (Mill manager reports 1952, 1953).

In 1955 and 1956 world demand for lumber products declined tremendously. For the Youbou mill specifically, the hemlock and cedar markets declined in part because of credit restrictions in the United Kingdom and the United States. Also contributing to the decline in production (Figure 3.3) were increased ocean freight rates and customer insistence upon greater specifications (i.e. cleaner and more precise cuts). With respect to Youbou's two major markets, the United Kingdom declined from 32.0 per cent in 1953/1954 to 19.8 per cent in 1955/1956 while the United States markets declined from 35.0 per cent in 1953/1945 to 30.3 per cent in 1955/1956. Markets during this period continued to be volatile as demand from the United

Kingdom declined by 8 percentage points from 19.8 per cent in 1955/1956 to 11.2 per cent in 1956/1957. This decline was offset by an 8 per cent gain in the United States market as well as a 5 percentage point gain in the South African market (from 6.2 per cent in 1955/1956 to 11.9 per cent in 1956/1957) (Mill manager reports). The problem was that the United States market did not increase. This stemmed from a simple reliance upon the two major markets of the United States and the United Kingdom. It also reflected the fact that marketing for the mill's products was carried out by the MacMillan Export Company up until 1962.

"In 1962 a management consulting firm recommended that B.C.F.P....become more involved in their own sales, and a new job of sales coordinator was created....Up until then...[sales] handled entirely by MacMillan, were more an arm's length procedure. With the changes, B.C.F.P. became involved right in the market..." (Baptie, 1975, p.213).

Between 1957 and 1958 the Canadian dollar remained high in relation to the U.S. dollar and this placed a strain on the mill's net income. However, the United States market increased substantially from 38.2 per cent (1956/1957) to 49.4 per cent (1957/1958), a shift which reflected a growing dependence on the United States home construction market. Coincidentally ocean freight rates had dropped and this resulted in an

expansion of the United Kingdom market from 11.2 per cent (1956/1957) to 18.1 per cent (1957/1958). Through 1957/1959 markets continued to reflect the growing dependence upon the United States. Between 1957/1958 and 1958/1959 the United States market had grown from 49.4 per cent to 69.3 per cent while the United Kingdom market had declined from 18.2 per cent to 4.3 per cent. The South African market which had stood at 8.4 per cent in 1957/1958 also declined to just over 1.0 per cent by 1958/1959. But, once again, because of increased shipments to the United States, we see production increasing (Figure 3.3). The decade of the 1950s concluded with the United States remaining the number one participant in Youbou's export markets, taking some 61.2 per cent of lumber production, South Africa remained steady at 1.3 per cent while the United Kingdom increased to 13.3 per cent from 4.3 per cent the previous year (Mill manager reports).

In summary the 1950s was a decade of flux for the Youbou sawmill. External or exogenous factors such as the post-Korean War recession, the tight monetary policies of both the United Kingdom and the United States and high premiums on the Canadian dollar did not help to stabilize or increase production. Markets, each with their own specific demands, continued to shift

widely, thus creating production-to-order complications. Indeed, it was not until the late 1950s that a sense of stability became apparent reflecting the dominance of the U.S. market and the solution to the problem of specification. During the 1950s, even twenty years after Youbou's so-called mature stage began, the mill had been anything but stable.

Unlike the 1950s, the 1960s saw a rapid growth in production. Indeed, this growth can be attributed to the continuing domination and growth of the United States market. This is the decade of Youbou's "long" boom. Production continued to increase until 1968 when due to severe weather conditions production declined (Figure 3.3). Apart from the occasional mechanical failure the 1960s was generally a decade of smooth operations.

THE END OF THE LONG BOOM : TOWARDS WINDING DOWN?

Mill management had expected that the growth of the 1960s would continue throughout the 1970s. But the 1970s heralded a period of volatility in markets, production and employment.

Throughout the 1970s there was a series of downturns, each one getting progressively worse. The first was in 1974 when OPEC increased the price of oil. For the mill it meant a decrease in orders and hence a decrease in production (Figure 3.3). Following this downturn markets adjusted quite quickly. But in the late 1970s a second OPEC oil price rise again put pressure on production (Figure 3.3). This time, however, the market downturn continued into the 1980s recession. Throughout the 1980s the industry in general, and the mill specifically, was in a period of crisis, recording profits in only three of eight years. During this period the mill downsized substantially and this may have possibly signalled an entrance into the 'winding down' stage. Thus the 1980s can be characterized as a period of financial crisis. But in 1988 the mill assumed new ownership. The next chapter will examine the anatomy of this crisis and the steps which were taken by the new owners of the mill to try to survive.

SUMMARY

The Lucas (1971) model rightly emphasizes that the *raison d'être* of mill towns are the demands of distant, usually export markets. The search for stable markets

is an enduring theme of mills with important consequences for mill town life. For Lucas, the periods of birth, growth and transition are particularly unstable periods for the mill and the community. Maturity then supposedly brings greater stability to mill and community life - notwithstanding the effects of occasional recessions.

The experience of the Youbou sawmill from 1913 to 1988 has illustrated the general emphasis given by Lucas to external markets. At the same time, Youbou's experience suggests Lucas underestimated the instability facing mills - including those based in a renewable resource. Youbou has experienced some stable periods including a stable period of fast growth during the 1960s (and a stable period of non-growth during the 1940s). But these periods have been the exception rather than the rule - even after the occurrence of maturity. Examples of instability are strong fluctuations associated with growth during the 1930s, strong fluctuations associated with no growth in the 1950s and 1970s, and strong fluctuations associated with decline in the 1980s. Market instability was compounded by fires, strikes and equipment failure. Market instability largely reflected the mill's mass production of a few basic commodities to a couple of markets most especially the United States.

There was no evidence that the company attempted to stabilize the situation by incorporating value-added strategies. Indeed, this does not occur until the 1980s. Moreover, the mill was vulnerable not just to demand but to government policy in the U.S. and this to had an effect on production, employment, and stability.

CHAPTER IV
LABOUR RELATIONS AND WORKER CHARACTERISTICS
AT THE YUBOU SAWMILL : 1929-1988

INTRODUCTION

Labour conditions and labour history are intimately bound up with the performance and character of mills and mill towns. In a very direct way labour unrest will normally reduce mill productivity. In contrast, labour peace will normally enhance productivity. Moreover, labour relations are a dynamic process and may be shaped by forces beyond the immediate control of mill management and workers.

The complexity of employment-related issues in milltowns may be summarily demonstrated with respect to the question of employment stability, a question of obvious concern to community development. Thus, on the one hand, management often express the desire to promote stability in the sense of maintaining access to a pool of appropriately skilled workers ; too frequent firings of workers, especially 'core' workers, may be counter-productive, especially if these workers leave the community. On the other hand, management will want to

retain the right to adjust employment levels to market conditions. Similarly, workers want the 'right' of permanent employment. At the same time, workers have the 'right' to voluntarily quit for any reason, and such voluntary turnover can have complicated implications for the mill and the community. Conflict - and instability - may also result over disagreements over employment conditions and the distribution of profits.

Labour relations in mill towns have of course been mediated for a long time by union-management bargaining which, especially during the post-war boom of the 1950s and 1960s, typically proceeded according to a reasonably well defined set of rules. But union-management bargaining and rules have evolved gradually and the start-up of the Youbou sawmill, for example, occurred prior to the formation of the big forestry unions.

This chapter will examine the evolution of labour relations at the Youbou sawmill within the context of the framework developed in Chapter II. In particular the ideas of Gordon, Reich and Edwards (1982) will inform and structure the analysis. Thus, overlapping with the Gordon, Reich and Edwards (1982) homogenization period, the chapter discusses labour force recruitment and labour relations from 1914-1943 at which time the

International Woodworkers of America (I.W.A.) was ratified. The creation of the I.W.A heralded the beginning of the Gordon, Reich and Edwards period of segmentation which set a course for labour relations until the late 1970s. Since then, as Gordon, Reich and Edwards predicted, labour relations at Youbou have been in a state of flux as management seeks a more flexible workforce. To introduce this discussion the first part of the chapter describes selected worker characteristics at the Youbou sawmill between 1929 and 1988. Information is based primarily upon, interviews with management, the union and individual workers (both active and retired) and, secondarily, on a sample of worker characteristics as contained in personnel records which date back to 1929. A brief outline of these characteristics of workers throughout the study period provides a point of departure for the substantive part of the chapter.

SELECTED WORKER CHARACTERISTICS

The average length of service of the sampled workers were calculated by aggregating the number of months of service for each of four decades and dividing by the sample size of that decade (Table 4.1). Clearly, months

Table 4.1 : Average Education, Age and Service by Decade

Decade	Education (years)	Age (years)	Service (months)	Sample Size
20s-30s	3	32 (36)	54 (63)	5
40s	6	21 (34)	26 (58)	186
50s	8	20 (24)	10 (68)	352
60s	11	21 (23)	13 (62)	215
70s	12	33 (33)	37 (54)	22
	$\bar{X}=8.6$	$\bar{X}=25.4$	$\bar{X}=28$	
	$\bar{X}'=8.0$	$\bar{X}'=30.0$	$\bar{X}'=61$	

Source : Fieldwork 1989-1990.

Notes :

- a. \bar{X} N= 678. This is exclusive of the Chinese and East Indians with a sample size of N=102.
- b. \bar{X}' N=780 . This is inclusive of the Chinese and East Indian sample.

of service were lowest in the 1950s, with the average being 10 months. Not surprisingly, the greatest number of hirings also took place in the 1950s. Out of the sample of 780 employees, 352 were hired in the 1950s and, out of the 352, 65.3 per cent stayed at the mill for one month or less. These high quit rates within a short time period of hiring reflect the so-called "induction crisis" effect where "...workers are more

prone to leave the plant within a month of being hired than at any other time "(Hayter, 1979, p. 173).

By the 1980s we see length of service increasing to an average of just over three years. This increased average is due largely to the fact that there are fewer jobs available within the Cowichan valley and indeed, within the industry. Moreover, with the new technologies, hiring became more selective as more skilled workers were now required to operate and maintain the equipment.

Only 13.3 per cent of the workers came from the immediate region. For the remainder of the sample 24.1 per cent were from the rest of British Columbia, 34.9 per cent from the rest of Canada, 10.5 per cent from China, 9.2 per cent from India and 7.9 per cent were from the rest of the world. Thus over 25 per cent were from outside Canada, thereby lending a distinctive ethnic diversity to the mill and to the community of Youbou.

From the 1920s through to the 1960s the sawmill relied, to a great extent, on unskilled labour. Thus it is no surprise that the industrial origin was not of

great concern to management. Most labouring positions required, at most, fifteen minutes of informal training. Therefore experience in a sawmill was not a requirement for employment. What was required, however, was strength and stamina. In fact, 67.8 per cent of the sample came to the sawmill from outside the industry and this in part helps to explain the high turnover. Those which did come from within the industry were mostly skilled and semi-skilled workers such as millwrights, electricians and saw-filers.

For some people the proximity to work is of prime importance when seeking a job mainly because they do not wish to commute. For others being close to work is an economic necessity as they cannot afford the daily commute to work. On the other hand there are those who prefer to live away from their work environment and prefer not to live in a company town.

In the early days of Youbou choice and preference over where to live were not easy to exercise. The road out to Youbou was not paved until the early 1970s and indeed was full of potholes so much so that some workers quit because their automobiles were being damaged by the drive to the mill. Prior to the paving of the road in the early 1970s the results for the sample showed that

57.6 per cent lived in Youbou while 35.3 per cent lived in the immediate region (i.e Lake Cowichan Village - 14.7 per cent, Honeymoon Bay - 1.0 per cent and Duncan - 19.6 per cent. For the remainder of the sample residence broke down as follows : Victoria (1.3 per cent), Chemainus (1.2 per cent), Nanaimo (0.4 per cent) and Other (4.2 per cent). It should be stressed that these residences were those recorded at the time of hiring. Later, as the road to Youbou became upgraded and eventually paved more of the workers moved away to Duncan and Lake Cowichan Village.

It was related to me on numerous occasions that a great many workers did not intend to make sawmilling a career nor did they intend to retire from this sawmill or indeed any sawmill. This is reflected in the hiring ages of the sample. The two most frequently occurring ages at the time of hiring were 18 and 19 - which together accounted for 19.3 per cent of the sample. These people had intended to work at the mill for a year or so and then leave. This fact thus helps to explain, in part, why union organizing was difficult.

Interestingly, we see a big leap in the average hiring age between the 1960s and 1970s (Table 4.1). This reflects a desire on the part of management to

reduce turnover and improve productivity by hiring more stable married workers - a move which did help (Table 4.1). This is also reflected in the increase in the average number of months of service which increased from 13 in the 1960s to 37 in the 1970s (Table 4.1). The range of hiring age was from 16 to 69 with those in the 60s being Chinese. Generally this arose because the Chinese, because of discrimination, did not have a pension plan. However many foremen, liking the work of the Chinese, requested that they be rehired after retirement.

Hiring age by decade clearly shows there has been an upward trend in average hiring age since the 1940s (Table 4.1). This trend, it is felt, reflects the decreased need for young unskilled workers as well as the fact that many of the young now stayed in school longer. The increased average hiring age could also reflect a need for older, more experienced skilled workers.

In terms of education for 102 or 13.1 per cent of the sample educational status was unknown. Most of these workers were of Chinese and East Indian origin for whom educational status was not given on the card. For the remainder of the sample the average education

was grade eight. In terms of an educational breakdown 56.5 per cent had grade nine or less while 97.3 had grade twelve or less, 2.1 per cent had some university while 0.6 per cent had a university degree. Over the decades, from the 1920s to the 1970s, average education increased from an average of three years during the 1920s to 12 years in the 1980s (Table 4.1). Again this reflects a reduced need for unskilled labour with little education and the fact that many more of the young stayed in school longer. It is also possible to say, in light of these increased educational qualifications, that entry positions were more difficult to obtain without, at least, high school.

Of the sample, 51.4 per cent had quit voluntarily while 22.4 per cent had been terminated against their own will. For the remainder of the sample 7.3 per cent retired and 1.7 per cent had been transferred. For the remaining 4.2 per cent no comment was given on the card but it is reasonable to assume that they had also walked off the job - therefore bringing the "quits" to 55.6 per cent. Some of the other reasons for quitting were that they just did not like the job but for others they refused to join the union and would rather have been unemployed.

The sample shows that there was some upward mobility among the workers. The large turnover of workers may have accounted for part of the increase in these figures. That is, if a worker were fortunate to be kept on, or did not leave voluntarily, there was a chance to move to a different position and thus enhance skills. Thus, for example, at the time of hiring 79.1 per cent of the sample were unskilled and by the time of leaving the per cent of unskilled had decreased to 65.9 per cent. Semi-skilled workers exhibit the same characteristic. At hiring 11.5 per cent of the workers were semi-skilled but by the time they had left this percentage had increased to 19.5 per cent. For skilled workers the percentage at the time of hiring was 9.4 per cent and by the time of departure this had risen to 14.6 per cent. Consequently some of the unskilled workers, at the time of hiring, had gained some skills by the time they had left. Similarly those who arrived with some skills had elevated themselves to a skilled position before the time of departure.

HOMOGENIZATION: LABOUR FORCE RECRUITMENT AND LABOUR RELATIONS 1914-1943

During Youbou's early years labour within the Cowichan valley in general and Youbou in particular, was, for the most part, highly transient. The region

relied upon workers who were young and single. Recruitment of these workers primarily occurred in one of two ways. The first was by word of mouth where prospective employees would hear of openings and arrive at the mill looking for work. The second was through what may be called an 'employment agency'. Under this system workers paid a fee to the employment agency and would then be sent to the mill as openings occurred. Jobs were usually available as turnover was high as a result of dismissal and voluntary quits. The employment agency was, according to some of the former employees I spoke to, in collusion with the foremen who would receive a cut of the employment fee from the employment agency. Therefore, it was in the best interests of the employment agency and the foremen to have a large number of hirings and firings. Moreover, in the early years of the sawmill's history, housing to accommodate the workers was generally in the form of tents. These tents would often leak and in the winter living conditions became almost unbearable. Such conditions in part would account for the voluntary quits. Employment conditions were therefore generally quite poor. Despite these conditions Youbou had an enviable production record (Table 4.2).

Table 4.2 : Production at Youbou 1937-1946

Year	Production (MFBM)	Rank	
		B.C.	West Coast
1937	90.0	N/A	21.0
1938	85.0	1.0	20.0
1939	100.0	3.0	N/A
1940	100.0	N/A	25.0
1941	100.0	4.0	N/A
1942	N/A	N/A	N/A
1943	N/A	N/A	N/A
1944	N/A	N/A	N/A
1945	65.0	N/A	N/A
1946	65.0	N/A	N/A

Source : Mill managers reports.

To ensure production from the work force the boss lumbermen used some unusual measures. For example, a worker would be fired for no reason except to be used as an example to show the others that they could just as easily be let go. For all practical purposes workers received little or no training. What training the workers did get was from hands on experience or through the compassion of one of their fellow workers.

Deplorable as conditions were unskilled mass production lumber workers were a neglected group because they did not fit into any of the traditional craft union categories. Thus for several reasons labour stability was a problem.

Towards Segmentation and Unionization

The problems of stable labour relations and a stable workforce were, in the late 1920s, becoming critical as the railway extension was nearing completion. Indeed, the extension of the railway gave the mill ownership the impetus to increase capacity and output and to implement a program to populate the community. Output had increased from 25,000 to 30,000 board feet per day and this kept "...about thirty men [or a core group of workers] steadily employed...all of them white and the company's policy is to encourage the employment of married men, with the result that twelve families are established there..." (Pacific Coast Lumberman, Vol. 6, No. 2, February 1922, p. 24). Nothing was done to attract those other than married couples. Thus, the company policy was not only to encourage settlement but also labour stability, reasoning that married families would have less of a tendency to leave the mill. But, as we have already seen, a company community was not

established until some six to seven years later when the mill assumed new ownership; the earlier owners had tried to rely on single males housed in tents and houseboats.

From the early 1930s to the mid-1940s there was considerable discussion regarding unionization both between management and the workers and amongst the workers themselves. And part of these discussions involved the need to eliminate discrimination and job segregation based upon ethnic origin. As the Chinese and East Indians seemed often to get the lowest paying jobs, there is, perhaps, evidence of job segregation amongst the ethnic groups. Further there existed a differential pay scale between these two groups with the East Indians receiving marginally more than the Chinese.

As between the two ethnic groups the East Indians were apparently easier to recruit into the union movement. Indeed, special reference was made by informants to the fact that at the sub-local level the East Indians were 100 per cent organized (minutes of sub-local general meeting, March 20, 1943). Perhaps this was because they had been in a British system and had some knowledge of union organization. The Chinese, on the other hand, had no such background. As well,

some of the East Indians could speak English, and thus communicating or 'getting the message out' to them was easier. Moreover, the East Indians had a group insurance plan while the Chinese did not. It had been noted the Chinese were underpaid and that there were various practices whereby foreman would extract payment from Chinese employees to insure the jobs of said employees (Youbou sub-local, executive meeting, minutes of June 27, 1943). At that the same time, some of the foremen commented on how well these workers performed and were sad when some of them retired - possibly because of the payment these foremen were extracting from the Chinese.

Outside of the workplace the Chinese and East Indians each had separate bunkhouses from the Whites. Moreover, the East Indian and Chinese bunkhouses were situated some distance from the White bunkhouse, a situation which would last until the 1960s. Thus the racial discrimination which did exist came in the form of segregated housing as well as in lower wages. After 1943, when industry-wide unionization was created, some problems experienced by ethnic minorities were eased. Moreover, labour relations after 1943 became increasingly formalized along the lines of the segmentation model.

In 1933, after Hammond Cedar Mills had bought out one of the shareholders of Industrial Timber Mills, the community began to be enlarged with the construction of more company-owned housing units. To accommodate the children of married workers a school was constructed in 1935 and, in 1937, a community hall was erected. Both of these buildings were constructed by the citizens and this gave them a sense of pride, a feeling that the community was permanent and a sense of belonging to someplace. Prior to that, citizens had felt that the community had a certain emptiness and impermanence and had often complained about the lack of facilities. Moreover, wage rates had been reduced because of the recession. Indeed, management felt that the construction of the facilities would give the residents something to do, would help offset the wage cut and would take their minds off more radical thoughts such as unionization (confidential interviews). The company, in a show of paternalism, had donated lumber for the two facilities.

The construction of the school and the community hall helped to ease some of the tension. Community expansion once again occurred in 1938-1939 as more homes were constructed. However, these homes were not company owned as previously in 1933, but were built on

company land by the homeowners at their own expense. This gave the workers a feeling of independence and again a sense of belonging to the community. It was hoped by the company that this feeling would be transferred over to the workplace. Generally this was true. Several other facilities were constructed (e.g. a theatre and a coffee shop) and the general feeling about the place was congenial at this time. Indeed Youbou had been touted as an attractive model mill town affording the residents the maximum in comfort and convenience (Canada Lumberman, March, 1931, p. 44; West Coast Lumberman, January, 1945, 9. 42). Improvements and extensions were made at the mill and production had increased. For example, a pony mill (see Glossary) had been constructed and its primary purpose was to cut aircraft fir (West Coast Lumberman, January, 1945, 9. 42). Thus, even during the years of the Second World War, production continued unabated and workers remained quite satisfied. But, after the war, discontent would arise as workers sought higher wages, better security provisions and improved safety conditions.

SEGMENTATION, THE I.W.A AND COLLECTIVE BARGAINING

Conditions for organizing labour were more favorable in B.C. as opposed to the U.S. Pacific Northwest

"...because the industry in B.C. was more capital intensive and its workforce more exploited" (Lembcke and Tattam, 1984, p. 103). Thus, in 1942 the International Woodworkers of America (I.W.A.) had applied for and gained certification under the Wartime Labour Act. It is at this point that we see the formalization of job demarcation based upon the part of the operation the worker was assigned as, for example, the green chain (see Glossary for definitions). For example, green chain workers such as spare markers, stencillers and green chain pullers were all unskilled labour requiring very little in the way of training. To accommodate many of the jobs new titles had to be derived even though specific duties for each of the jobs had never been formally agreed. Again, with the coming of the union we see this formalization take place with specific wages for specifically defined job tasks. In 1942-43, 161 different types of jobs with different wage rates were identified by formal negotiations. These included, for example, wage rates for boys aged 15 to 18 years, and for such occupations as flunkies, bakers, dishwashers, sawyers and trimmermen.

Upon certification at the Youbou sawmill the I.W.A. instigated a 'no strike' policy during the war years. Even though the operators continued to make profits and

would not bargain for wage increases, the no strike policy was part of the union's pledge to help the war effort. Thus, for the mill, it allowed uninterrupted production. However, the end of the war signalled a new era in labour relations at the sawmill. The union movement in general was gaining momentum throughout the industry as workers argued that the owners, who had made millions on wartime production, did not fairly share the profits with the workers. Moreover, soldiers, some of whom had worked in sawmilling before, were returning and they provided strong arguments in favour of improved working conditions, higher wages and a strong union.

During the 1940s and into the 1950s the International Woodworkers of America (I.W.A) operated under a Local/Sub-local form of organization, each mill having its own sub-local. The role of the sub-local was to recruit and organize new members, collect union dues and to act as mediator for labour-management conflicts. Sub-local members were elected from within the ranks of the mill workers and would meet with the Local executive once a week. At these meetings grievances which could not be handled at the sub-local level were addressed, and problems which concerned all union members were discussed. Often conflicts would arise at these

meetings because some of the executives from some of the sub-locals were more radical than the Local executive. Some of the more radical felt that the union was not moving fast enough to gain improved benefits for their members and that the policies which were being agreed upon were a sellout to management. One of these was the 'no-strike' policy instituted during the war (confidential interview, former mill worker, 1990).

Tension Over Union Representation

Among the workers, however, a split was developing over representation. The choice was between the I.W.A. and the more 'radical' Woodworkers Industrial Union of Canada. Moreover, new owners (B.C.F.P.) had just taken over the Youbou sawmill and more of the returning soldiers were looking for work. In fact, 1946 was a pivotal year for labour relations within the mill and it was the year of the first I.W.A. sawmill strike as the pledge to not strike during the war had run out. The union representation problem was with solidarity among the membership as some workers had dropped out of the I.W.A. and some of the new men coming into the mill refused to join the I.W.A. opting rather to want to join the more radical WIUC. That is, some workers would not join any union while others were split over which union

they wished to have represent them. Union organization was difficult as far as the sawmill workers were concerned. In part the problem arose because the loggers were in favour of the Communist (WIUC) union and moreover the loggers, at that time, were quite strong in terms of numbers.

Difficulties came because the Communist union was believed to be a Socialist union. As one informant recalled it since a great many loggers were from Norway and Sweden (which had socialist governments) they had a belief that the union representation would be the same as back home (see also, Lembcke and Tattam, 1984). Moreover, loggers were paid more than sawmill workers and the sawmill workers had a fear of losing their jobs if management could find out who was organizing the workers. Indeed, the I.W.A constitution had made it clear that a worker could not be a member of the Communist party or for that matter any fascist party. If a worker were found out then that worker became 'blacklisted' by management and these blacklists were then sent to hiring halls. And if you were blacklisted or in any way involved in organizing you did not get a job (Baptie, 1975). Another complication to organizing the Youbou mill was that there was no union dues check-off system. The only way to collect the dues was to

catch the men on payday and collect it from them personally (Baptie, 1975). In 1946 the union, in its first organized strike won dues check-off, a forty hour week and a 15 cent an hour wage increase (Baptie, 1975).

Subsequent to the strike, union organizing was a little easier as management had now recognized that the union was a force to be reckoned with. The conflict over union representation continued for a couple of years until in 1948 emotions reached a boiling point. Throughout the valley and elsewhere there had been a general perception that the regional officers and some of the local union officials, even within the I.W.A., were communists. For example, "Blunt warning to Communists in the I.W.A was given Monday night by International President J.E. Fadling. Fadling, in a CJOR broadcast said, 'If any Communists remain in the I.W.A it is simply because their political identity has not been proven.'" (The Lake Cowichan Bulletin, Wednesday, March 17, 1948 from The Vancouver Sun, Tuesday, March 9, 1948). In terms of political persuasion (i.e communist or non-communist) there had not been much discussion over representation until it was decided by the communist backers that a break away from the I.W.A and the formation of another union would best solve the problems labour was having with

management. The feeling was that the union leaders had sold out the membership in the last contract and indeed that the leadership were acting in collusion with the mill owners. As well, several members had expressed dissatisfaction over the previous no strike policy and used this as an example of the collusion between union leaders and mill owners. It was felt that the union leaders were acting as partisan political workers urging the membership to vote for certain political candidates.

Therefore, superimposed upon the conflict between labour and management we have turmoil within the union executive. Small wonder there was instability in the rank-and-file labour force within the Youbou sawmill. It was then, in the late-1940s, that the formation of the W.I.U.C. (Woodworkers' Independent Union of Canada) took place.

Convincing workers to join the W.I.U.C. was a difficult task. Indeed, not many did join the WIUC opting to stay rather in the I.W.A.. One of the reasons for the lack of men joining the W.I.U.C lies in the fact that Americans were afraid of the Communists as were Canadians. Interestingly, several women and their husbands expressed in confidential interviews that it was the women within the Valley who were more in favour

of the more radical union. Indeed, at a Ladies Auxiliary meeting of the I.W.A local, a vote was taken and by majority it was decided that the Ladies Auxiliary disaffiliate themselves from the I.W.A. (Lake Cowichan Bulletin, October 14, 1948).

In summary, during the war years the union was created and employment conditions improved somewhat. These developments were facilitated by the fact that the mill had continued to make a profit as the union had instituted a 'no strike' policy during the war so that production runs were uninterrupted. After the war, there was significant internal conflict regarding union representation and it was not until 1949 that the I.W.A. union was firmly established as the bargaining representative for its members. After that time and for the next 30 years or so labour relations became a matter of formal negotiation between the employer and the I.W.A. The general thrust of these negotiations may be usefully summarized in terms of : (1) bargaining over wages and related benefits, (2) job control and (3) hiring and firing procedures (see Holmes, 1990).

Labour Management Relations 1949-1979 : Overview

Bargaining was conducted at the local level but under the aegis of the I.W.A., which set up the rules and general principles governing job descriptions, seniority rules and grievance procedures. At the sub-local/local level detailed job descriptions and wage rates were determined for each of the plants represented. With the coming of industry-wide bargaining, wage rates were determined by national bargaining units. This was seen by some as a welcome relief from the old system, as it removed the perception that local union officials favoured one mill over another.

Wage increases after the new system were negotiated on a yearly basis and generally consisted of small wage increases. Moreover, contracts were negotiated on a mill by mill basis, thus the increases made by one mill did not apply to other mills. As well, some of the gains made in any one year were not automatic in the next or any subsequent contract. For example, Youbou had a cost-of-living-adjustment clause inserted in the 1951 contract but, by 1952, with the new contract, this clause had been removed on the basis that the recession was reducing profits and was not re-inserted until the

1960s. This year to year bargaining lasted until the 1970s when two year contracts began to emerge. It was also around this time that the sub-local structure was dropped. Thus, in a manner similar to the UAW, we see wage rates being determined across the industry rather than on a mill by mill basis.

Job control focus linked precisely defined job tasks to the formalized and detailed nature of collective agreements. This system revolved around elaborate job classification schemes which, in number, varied from plant to plant. For example, at the Youbou mill, in 1949, there were 161 different job classifications of which twenty-five could be classified as skilled. These jobs were not necessarily grouped into career ladders so that if a worker were able to master one task that worker could move up to the next highest job. Indeed, movement up the ladder was rather limited and did not appear to be linked to seniority. Moreover, lateral movement, that is, transferring from one part of the plant to another, was also restricted if for no other reason than the worker would give up seniority. Thus, as with the UAW, this led to rigid internal labour markets (Holmes, 1990).

Under the hiring procedure the company had the right to select its employees. It was also agreed that all new employees were hired on a thirty day probation during which time the new workers were considered temporary. During this temporary period no seniority rights were recognized. After thirty days of continued service the employee was to be considered as regular and entitled to seniority privileges from the first day of entering into employment with the company (I.W.A. Master Agreement, 1949). Firing was also at the discretion of the company and this was largely based upon competence. If, for example, the company felt that a worker was unable to do the job the worker could be discharged. The discharged worker could, however, file a grievance under Article IV of the Master Agreement, and had to follow a formal procedure for doing so. First, the worker would have to approach the foreman within 14 days of the discharge. If no satisfactory conclusion resulted from this approach the next step was to see the personnel manger or the foreman (again) as designated by the company. If there was still no satisfactory outcome the grievance would go to the personnel manager (again). If this also failed the grievance would go to the union. If there was still no resolution the grievance went to arbitration under Article XVI and this had to be done within seven days after the grievance procedure had been

completed. While the procedure was formally laid out, workers would often get demoralized, because the time it took to settle, during which time they would receive no pay. In practice this generally meant not carrying the grievance to its conclusion.

During the 1950s layoffs at the mill were, however, supposed to be based upon seniority so that those with the most seniority would be laid off last (I.W.A. Master Agreement). But the letter of the contract was not necessarily the procedure which was followed. For example, if a plant lay-off had taken place, and should the mill for some reason want to take on new workers, then, based on seniority, the company should take back those laid off first. That is, the "last laid off first re-employed" principle should have been used. Moreover, plant seniority should have been dated from the time the worker was first hired. But company officials often did not follow this policy even though it was in direct contravention of the master agreement which stated that "in the event of a reduction of forces, the last person hired shall be the first released subject to competency and that when hiring new employees [preference] shall be given to those Employees of the Company having had previous seniority and who have applications on file" (Master Agreement June 15, 1949, emphasis added).

This would change in the latter part of the 1950s as the union gained strength.

New management recognized that the stability of the mill's labour force was crucial to its growth and prosperity. From the beginning of the sawmill's history labour stability had always been a problem which management had attempted to address and in 1947 in a fashion similar to that of the 1920s management felt that single workers were, in part, responsible for the instability of the labour force. The aim was, therefore, to reduce transience of the labour force by encouraging the development of more employee-owned homes within the townsite. Thus, the company reduced the cost to workers of lumber with which to build a home. The rationale behind this move was that such a policy would stabilize manpower supply problems and thereby allow management to better plan production runs.

Labour-management Relations 1947-1970s : A Chronology

During 1947 a third shift was added and this increased production by 800 MFBM per month. The increased production was, however, short-lived. as in July a new wage agreement was reached and the sawmill began operations on a forty hour work week. As a result

production declined by over 500 MFBM per month (Figure 3.2). As one informant recalled, by 1948 the situation of a stable labour force had not been rectified as the turnover rate was some 135 per cent. And this problem would last through the 1950s.

In 1950, some four years after B.C.F.P's acquisition of the mill, equipment failures began to occur on a regular basis and these failures management directly attributed to labour. An illustration of the problem can best be found in the continual breakdown of the headrig. The breakdowns, management argued, were entirely due to a lack of adequate maintenance which, in turn, ultimately attributable to the union contract which had given workers a shorter lunch hour (Mill manager report, 1951). In fact, a one hour lunch was what the workers had been getting. During this hour management would routinely require that normal maintenance be carried out. When the lunch break went to a one-half hour the amount of maintenance which could be carried out was severely cut back. Consequently, the problem for management came in the form of downtime and production costs which were increasing because (1) skilled men were sitting idly by and (2) overtime had to be paid to repair the equipment.

At times turnover rates were so high that management would have to stay on through the night to hire enough workers for the current shift, and ensure that enough workers would be available for the next shift. While the people I spoke with could not remember specific dates, it was recalled that this would happen quite regularly, particularly during the early 1950s, and thereafter with less frequency. Apparently jobs were quite easy to come by which helps account for service records which showed service of one day or less (e.g. one hour). As it turned out some workers would be hired, go to their assigned position, look at what was involved and what they were required to do and would promptly walk away without even starting. There was an apprentice system at the mill in the early 1950s, the purpose of which was to train workers for skilled positions such as millwrights. Consequently, there was no explicit policy to recruit skilled workers as these would either come from the apprentice system or would arrive at the sawmill of their own accord by any means of transport available thus enabling management to keep recruitment costs down.

At the start of the 1950s labour-management tensions were high and increasing. In July of 1951 the Green Veneer Plant was opened but by November the entire

veneer plant staff had been laid off indefinitely because of a lack of demand for plywood. These lay-offs added even more tension to labour-management problems. Indeed, several workers had filed a grievance because if they had been laid off despite the fact that they had seniority within the operation. These workers who had been employed in the sawmill were transferred to the veneer plant when it commenced operation in July 1951. The jobs within the veneer plant were accepted on the assumption that their seniority would carry over since the I.W.A. had jurisdiction over the whole mill. The contention of management was that these were separate operations and that no seniority existed between the mill and the veneer plant. Indeed, management had stated that these men were told that transferring to the veneer plant meant relinquishing seniority rights. The men, however, did not accept this edict. The dispute went to a grievance committee but the men did not win. Confidence in management was low and declining quickly and the lay-offs which took place within the veneer plant and within the sawmill in November did nothing to change this. Lay-offs continued through to March of 1952.

By April of 1952 some of the laid-off workers had been rehired. But in May of 1952 lay-offs once again

were undertaken and the talk of an impending strike once again stirred up emotions and by June 15 an industry wide strike had been called. The major issue at this time was wages. As the strike progressed employers used every tactic they could from court injunctions to criminal procedures but the strike was completely effective, lasting some 45 days. At the insistence of the union, management agreed to hearings before Chief Justice Sloan. The recommendations by Sloan called for a 5 1/2 cent per hour increase, three paid holidays and travelling expenses for loggers. After much deliberation both parties agreed to the recommendations (I.W.A., International Convention, September, 1952). Thus, the result was a 5 1/2 cent per hour increase but also the incorporation of three paid statutory holidays - Labour Day, Christmas Day and Dominion Day (Baptie, 1975).

As a result of poor morale at this time, management and the union had to reach some agreement on how best to handle the tense situation. First, it was agreed that layoffs should be avoided and only undertaken where normal turnover or attrition failed to take care of overmanning. Second, in an attempt to boost worker morale, the union felt that management should attempt to be more understanding and tolerant when dealing with

their employees. As management saw it the changing market situation necessitated the layoffs in May. These layoffs were not based upon seniority but rather on wage levels. In particular, to save money, some of the less senior and lesser paid employees were kept working while those with more seniority were laid off. This action by management created problems as it contravened of the contract. As the union saw it the manner in which these layoffs were undertaken caused a great deal of friction - friction which not only took an emotional toll but also cost the company money. After resolving the issue of layoff procedures, and in agreement with the union contract, seniority would take precedence in all future lay-off decisions. Thus, it was hoped by both parties that this would be the dawn of a new era in employer-employee relations. Indeed, there were a couple of intervening years in which most contentious issues were resolved quite amicably. But labour still did not trust management.

In 1953, in an effort to improve productivity, management undertook a program to obtain orders which were more suitable for the logs available and more in keeping with the mill's capacity. Essentially this meant planning sales and production in advance of incoming orders. As well, management developed a

philosophy which may be viewed as the 'team approach'. It was decided that crews should be individually organized and that each worker within the crew should be given an explanation of responsibilities, the results which were expected from each employee and what methods would best achieve these results. In order to implement this policy weekly meetings on production and recovery were instituted with the key machine operators in the sawmill (e.g. the head rig operator). Moreover, to try to improve productivity and worker enthusiasm within the mill, rest breaks during the first and second half of each shift were introduced for the first time - a move which did help to some degree. This is reflected in the productivity increase shown in Table 4.3 for 1954-1955 which, incidentally, was higher than any previous period.

The problems of worker trust in management addressed earlier, had not gone away. In August of 1955 a wildcat strike was called. In the opinion of management this arose because the company wanted to establish a firmer line between what were purely company matters versus those which came under union jurisdiction. The union saw this as a threat to their autonomy and thus called a strike. When management would not give in to the union demands the strike had to go ahead to avoid the

**Table 4.3 : The Long Boom:
Production/Productivity at Youbou 1947-70**

Year	MFBM	Prodn. per man day	Employees
1947	76.6	691.0	485.0
1948	76.5	641.0	485.0
1949	75.9	668.0	485.0
1950	96.5	796.0	485.0
1951 (a)	97.3	291.0	580.0
1952	N/A	N/A	607.0
1953	89.7	N/A	607.0
1954/5	94.4	861.0	607.0
1955/6	88.5	874.0	607.0
1956/6 (b)	80.9	967.0	480.0
1957/8	94.4	1163.0	457.0
1958/9 (c)	79.2	1258.0	366.0
1959/60	86.8	N/A	355.0
1960/1	76.0	N/A	360.0
1961/2	105.7	N/A	380.0
1962/3	123.8	1325.0	408.0
1963/4	138.5	1450.0	419.0
1964/5	N/A	1451.0	415.0
1965/6	139.0	N/A	420.0
1966/7	159.4	N/A	436.0
1967/8	N/A	N/A	429.0
1968/9	N/A	N/A	416.0
1969/70	138.3	N/A	403.0

Source : Mill manager reports.

Notes :

a. The decline in production was a result of serious headrig down time due to a shortage of steam, conveyor breakdowns and setworks failures.

b. This reflects a 20 per cent drop in log consumption which necessitated a similar percentage decline in manpower from 607 in 1955-56 to 480 in 1956-57. This was the first step in an effort to have log consumption conform to decreased Annual Allowable Cut under terms of the Forest Management License.

c. Machinery improvement and increased mechanization required fewer employees but those which remained had to be capable of acquiring new skills.

union officials loss of face. But, in the opinion of management the morale-company loyalty problem had not been rectified. Moreover, management blamed the union officials for not instilling a sense of confidence and trust in the workers and of conveying the fact that the company was an excellent one to work for. And until the elected union officials began to instill this sense of loyalty the problems, in management's opinion, would remain.

Through 1955-1956 worker management relations within the mill continued to show some improvement and management felt that this was a direct result of the election of new, less radical, sub-local union officials. Indeed, labour relations were such that the union and management were able to settle all contentious issues amicably with not one issue going to arbitration. Yearly contract negotiations were settled quite quickly and strikes were generally quite short (i.e. one week). This feeling of mutual cooperation would last through 1957 but not any further.

Efforts to increase productivity through 1958-1959 (Table 4.3) resulted in overall increases in daily production but total production for the year had declined due to an industry wide, 44 day, I.W.A. strike

related to wages (Figure 3.2). Labour relations for the remainder of the year remained fairly stable. Through 1959 and 1960 labour relations continued to be quite good, even though the year had been punctuated by yet another I.W.A.-led strike.

In summary the 1950s was a decade during which a pattern of hard bargaining had been established. At the beginning of the decade management blamed the union for production problems stemming from low worker morale. The union, on the other hand, said that this was management's problem, citing a lack of sensitivity toward the feelings of workers. Strikes during this period were a yearly occurrence but the changes which were taking place were not so much over wages. Indeed, as one ex-employee put it to me in this was the 'nickel and dime' era (see also, Baptie, 1975). That is, you would get an increase of five cents one year and ten cents in another. However, some significant gains were made during this period, as for example, changes in lay-off procedures, a shorter lunch break and rest breaks during the first and second half of a shift and statutory holidays (which had incidentally increased from 3 in 1952 to 9 by 1959). So the period was not one in which workers were out for more money but rather for improved working conditions. Since then the issues

have been money-related. The gains which had been made, however, are now firmly entrenched in the union contract. But in return management had received increased productivity. In terms of labour stability within the mature stage - there was, during the 1950s, very little. Turnover rates were exceedingly high, sometimes approaching 200 per cent. If there was any stability it was during the 1960s which, coincidentally, coincides with the mill's long boom which was somewhat shorter than the period 1947-1970.

Compared to the 1950s, the 1960s were more stable in terms of labour relations and labour turnover. Admittedly, there were periods of unrest and by 1966-1967 production began to decline, albeit temporarily (Figure 3.2). Moreover, manpower problems began to appear and turnover rates reached as high as 75 per cent. As it was related to me by a former worker the problem was a direct result of the 'hippy' movement. "Hippies" would come in looking for a job, be hired on, work for a while and find the job unsuitable for their lifestyle. Thus we see a repetition of the early 1950s when workers would only stay for a week or two and then move on. Moreover, the mill was experiencing a shortage of skilled labour for projects and maintenance work. By 1967-1968 these problems had been smoothed over and,

through 1968, 1969 and 1970, labour relations remained solid and the mill operated, generally, very smoothly.

For the majority of the 1960s decade the mill saw substantial growth in terms of production and this, it is felt, helped contribute to the air of labour stability. Moreover, because productivity was increasing, labour had an incentive to seek higher wage contracts. Indeed, this became the major issue during the 1960s and, because the mill owners were realizing greater profits and higher productivity, concessions were easier to come by. It was in an optimistic mood that both labour and management looked forward to the next decade.

Labour Unrest and Labour Market Changes, 1970s and 1980s

The first four years of the 1970s progressed rather well except for a 17 day I.W.A strike during 1972 and a 26 day illegal work stoppage and 21 day legal strike in 1974 over wages. It was during 1975 that labour relations began to deteriorate in a more substantive way. In this regard, it is important to place this deterioration within the context of productivity per man day during the 1970's (Table 4.4). As Table 4.4 shows, productivity levelled off and ultimately began to

**Table 4.4 : Production / Productivity at Youbou:
1970-1979**

Year	Production (MFBM)	Production per man day
1970/71	129.0	1343.0
1971/72	142.7	1325.0
1972/73	144.6	N/A
1973/74	113.3	N/A
1974/75	106.4	N/A
1975/76	150.7	1343.0
1976/77	N/A	1443.0
1977/78	162.2	1379.0
1978/79	145.3	1333.0
1979/80	128.1	1182.0

Source : Mill managers reports.

decline during this period. Consequently, when labour made demands, management were less responsive and labour-management strife resulted.

In March and in May of 1975 wildcat strikes had been called. At issue was the elimination of the chipping shift for the remainder of the year. Thus, due to these two wildcat strikes and the strike by the Pulp and Paper Workers of Canada, 47 production days were lost. These were in addition to the 15 days scheduled for holiday

shutdown - in total 1975 saw 62 lost production days. At the same time, the turnover rate had dropped to 18 per cent down from the 33 per cent of 1974 (Mill manager reports). The decrease in the turnover rate was attributable to the general turndown in the provincial economy as workers began to hold on to their jobs longer. However, absenteeism was a growing problem. In 1976, for example, 12,687 lost man-days were due to absenteeism up from the previous year's 8,319.

In addition to labour-management problems there were also problems within labour. One potential conflict arose between the International Union of Operating Engineers (I.U.O.E.) and the I.W.A., both of which had a strong union power at Youbou. For many years the mill at Youbou operated under two unions - the I.W.A. and the I.U.O.E.. The historical relationship under this dual certification was one of tranquility. The I.O.U.E. was granted certification at the mill in 1949 for its oilers, firemen and engineers at the Youbou steamplant. Additionally, the I.U.O.E. members performed work on pneumatics and hydraulics. The tranquility between the two unions prevailed until 1966 when the I.W.A negotiated an Apprenticeship Programme. The course, which required schooling at the company's expense and practical experience at the mill, contained a section on

hydraulics. Conflict then arose as the I.W.A. claimed that their apprentices found it difficult to gain practical experience as the work was being performed by I.U.O.E. members. Further the I.W.A. insisted that all air and hydraulic maintenance outside the power house should be carried out by I.W.A. members while the I.U.O.E. felt that they should do the repairs. This conflict, which lasted for 11 years, would come to a head in 1977 when the new hydraulic barker project was scheduled to be completed. In May 1977 the I.W.A. millwrights picketed the mill for one day over the jurisdictional dispute involving the I.U.O.E.. To attempt to resolve this dispute management offered a millwright upgrading course to I.U.O.E. maintenance engineers with the intent of assimilating these men (i.e. the I.U.O.E members) into the I.W.A. as millwrights. The move was seen as necessary in the event that a reduction in the power house workforce came about due to the I.W.A. gaining greater jurisdiction over more areas within the mill. The upgrading plan was carried out and the I.W.A./I.U.O.E. relationship improved somewhat during 1978. Indeed there were no jurisdictional problems between the two unions. Rather, talks had started to have the I.U.O.E. decertified with the members joining the I.W.A.. And in 1979 the

amalgamation of the I.U.O.E. and the I.W.A. certification took place, thus ending several years of jurisdictional dispute. During 1979 a new labour contract was signed and a new \$4.5 million automatic lumber sorter project began construction.

During the 1970s the decline in productivity, as shown in Table 4.4, had implications for labour relations and, indeed, for segmentation. The crux of the bargaining is related to productivity and if management see productivity declining they do not wish to give wage and benefit increases. However, in periods of productivity increases, labour-management relations are generally more peaceful. And, in periods where productivity is declining we are liable to see more labour unrest as at the end of the 1970s. These presaged fundamental changes in labour relations which became apparent during the 1980s and which are discussed in the next chapter.

It should be noted that, as productivity began to decline in the 1970s, we see the introduction of flexible working environments or the "team approach" in other mills in the industry were introduced. This approach had been looked at by management at Youbou but

was rejected in favour of another system. Under the Youbou system workers transferred from the large log to the small log mill and in each of these mills the workers perform different functions. In this way there is one small crew with the ability to perform different job tasks depending upon whether they are in the 'A' (large log) or the 'B' (small log) mill. For example, the head rig operator in the A mill becomes the quad-saw operator in the B mill. This type of system effectively allowed management to downsize the mill considerably during the early 1980s. The point was that the end of the 1970s and the beginning of the 1980s signalled a new era in labour-management relations, and these are addressed in the next chapter.

At the beginning of the 1980s there was the 'break down' of segmentation within the sawmill. This was reflected not only in the changes in productivity but also in the number of bargaining levels found within the I.W.A. contract. For example, in the late 1960s there were some 160 job classifications with 120 different group level or pay scales. By the early 1980s there were only 23 group levels. This reflected a change in labour-management bargaining resulting from declines in productivity and the introduction of new technology into the workplace with fewer employees. These new

technologies were intended to increase productivity and their introduction coincided with decreasing numbers of job demarcations, as reflected in the number of pay scales and the movement toward the 'team approach' to production such as that introduced at Chemainus (Grass and Hayter, 1989; Barnes, Hayter and Grass, 1990). As well, the new technology gave the mill some flexibility in terms of allowing it to produce a different product for different markets. Moreover an economic recession had begun and in the next chapter we look at how the company dealt with that economic downturn.

SUMMARY

The introduction of the union heralded a new period of labour relations at Youbou. This new period more or less coincided with the end of mill's mature stage. From the 1940s to the 1970s there had been many improvements in labour relations. Some were linked to changes in productivity. But as recession set in at the end of the 1970s labour-management relations began to change and these changes are the topic of the next chapter.

CHAPTER V

IS YOUNG WINDING DOWN : RECESSION, TECHNOLOGY AND SURVIVAL IN THE 1980s

By the 1980s the Young mill had been in the mature stage for about fifty years. When the recession set in during the early 1980s this mill, along with many other mills along the coast, was quite unprepared to meet the challenge it presented. Throughout the B.C. forest industry "...profits of \$500m in 1979 turned into a \$500m loss in 1981; debt equity levels reached unusually high levels; production levels were cut; and immediate and massive lay-offs occurred" (Grass and Hayter, 1989, p. 244).

The recession was also accompanied by the increasing use of new technologies which increased the flexibility of the production process. Moreover, the recession combined with "computerization" led to a rapid downsizing of the workforce at Young with little reduction in capacity. However, the combined effects of technology and employment downsizing raises the question of whether or not the mill is winding down.

Within the forest products manufacturing sector of British Columbia there exists a clear spatial difference between the interior and the coast. And when the

recession began the differences between the two became even more apparent. Interior job losses were substantially less than coastal, in part because the interior mills were newer and already were working with much smaller crews (Grass and Hayter, 1989 ; Grass, 1987). On the coast, however, job loss was substantial. This in turn reflected the use of older technologies which were being discarded and a shift toward the increased use of more cost-efficient newer technologies requiring fewer employees. In the wake of the recession several firms instituted what can best be described as "survive-or-die" strategies - strategies which, among other things, involved massive layoffs. At the same time many firms undertook to modernize their plants. In part this was to replace their aging equipment and in part to take advantage of technologies which allow for the ability to cut smaller diameter logs. The mill at Youbou was, in this respect, no different for in 1981 a \$5 million modernization program to upgrade the 'B' mill was undertaken.

The purpose of this chapter is to look at the impact of recession and technological change on employment at the Youbou mill during the 1980s. First, I begin by looking at the context of regional job change within the Cowichan valley. Second, some of the issues

which affect labour issues such as downsizing are considered. Third, I look at employment change within the I.W.A. local which has jurisdiction over the Youbou mill. This is done to illustrate the lack of job opportunities available within the forest sector and more specifically within the jurisdiction of the union local. Finally, I examine changes specific to the Youbou mill both in terms of occupational and market changes. The sources of information for this chapter include the union archives, Canada Employment and Immigration data, personal interviews with employees and mill manager reports.

Regional Change in the 1980s

The Cowichan Lake region of British Columbia has, over the past decade or so, been going through a period of economic restructuring. Table 5.1 and Table 5.2 summarize the changing nature of employment for the Cowichan region between 1971 and 1986. As indicated in Table 5.1 there has been a decline in employment in both the primary and secondary sectors and a move toward increasing employment in the tertiary sector. In Table 5.2 we see unemployment increasing overall from 4.5 per cent in 1971 to 13.2 per cent in 1986. By sex both male

Table 5.1 : Cowichan Valley Employed Labour Force (%)

Sector	1971	1981	1986
Primary	15.7	12.2	12.4
Secondary	30.3	28.0	27.0
Tertiary	49.3	59.2	58.9
Undefined	5.3	0.0	2.4
Total (000s)	11345	19665	21105

Source : Warren, L. Working in the Cowichan and Chemainus Valleys. C.E.I.C., Duncan, 1988.

Note : Within the primary sector the percentage of those employed in forestry declined from 11.9 per cent in 1971 to 8.5 per cent in 1981. In the secondary sector those employed in manufacturing declined from 25.4 per cent to 21.0 per cent.

and female unemployment was about three times greater in 1986 than in 1971 as unemployment among males increased from 3.0 per cent to 8.9 per cent. Over the same period the unemployment rate for females increased from 1.5 per cent to 4.3 per cent. The trends towards such high levels of unemployment are strongly associated with the closure and downsizing which has taken place within the major source of employment - the forest industry.

For Census enumeration area I, within which Youbou is located, the population declined from 1765 in 1966 to 1238 in 1986 for a net decline of 527 (30 per cent). For the Cowichan Lake area as a whole population

Table 5.2 Cowichan Valley Unemployed Labour Force (%)

Sex	1971	1981	1986
Males	3.0%	3.9%	8.9%
Females	1.5%	1.5%	4.3%
Total	4.5	5.4	13.2
Absolute total	535	1650	3209

Source : Warren, L. Working in the Cowichan and Chemainus Valleys. C.E.I.C., Duncan, 1988.

declined from 6168 in 1966 to 5030 in 1986 for a net decrease of 1138 (18.45 per cent). And, of the three major sawmills which used to produce lumber in the Lake region only one, Youbou, continues to produce and it has downsized its labour force considerably. The effects of these closures and downsizings have had widespread ramifications throughout the region and particularly within those communities which rely, or have relied, upon a single source for the bulk of their employment. One such community is Youbou.

Youbou, which is located on the northern shore of Cowichan Lake, represents the site of the only large mill currently in production at the Lake; nevertheless, its labour force has dropped from over 600 to just over

200 between 1981 and 1988. The result of this rationalization and the closures previously mentioned have been increased unemployment, increased out-migration and a change in the demographic profile of this small resource based community.

JOB LOSS IN THE COASTAL SAWMILL INDUSTRY

Job losses in the coastal sawmilling industry have been caused by a variety of conditions including changes in supply and demand conditions, the nature of technology and changes in the nature of the timber resource. In this latter respect, for example, most coastal sawmills have had to cope with a shift from large logs to small logs. This shift requires changes in both physical infrastructure and processing technology. Moreover, in the process of shifting from a large log to a small log mill configuration, based on more technologically advanced equipment, fewer employees are required. At the same time the move to smaller operations may also signal a return to a 'craft mentality' where quality rather than quantity is emphasized as customers (in different markets) are willing to pay a higher price for quality materials. Of course, fewer sawmill jobs reflects changes in ancillary services such as computers where processing

and process control are now a function of machines and electronics rather than of machines and men. In short, the new technology requires a different combination of skills. The net effect of this is to qualitatively change the nature of the workforce from predominantly "blue collar" to that of what may be described as "white-collar" technicians. Job losses have also occurred for demand-related reasons. Some coastal sawmills have failed simply because they have been unable to maintain their markets. Whatever their cause job loss has affected union membership.

Table 5.3 shows the changes which have taken place in Local 1-80 of the I.W.A.-Canada. As can be seen all but two experienced a decline. The percentage decline in membership overall between 1979 and 1989 was -51.9 per cent with an average percentage change of -36.7 per cent. For the sawmills within the Local 1-80's jurisdiction the average percentage change was -38.3 while for those which are not sawmills the decline averaged -36.0. Between 1979 and 1989 the average dues paying membership has also declined from 4725 to 2750 (-1975), prior to the merger with the Victoria local in the late 1980s, for a net percentage decline of -41.7 within the major operations under the jurisdiction of Local 1-80.

Table 5.3 : Employment Change Within Local 1-80

Operation	Dues 1979	Membership 1989	Absolute Change	Percent Change
Caycuse	250	150	-100	-40
Renfrew	280	200	-80	-28.5
YOUBOU	649	260	-389	-59.9
Cipa	83	93	10	12
Crown Forest	389	53	-336	-86.3
Doman's C.B.	158	112	-46	-29.1
Doman's Nanoose	95	90	-5	-5.2
Doman's Transport	87	67	-20	-22.9
Hearsey Transport	67	28	-39	-58.2
L/Smith Logging	34	21	-13	-38.2
M.B. Chemainus	645	135	-510	-79
M.B. Ch. Woods	306	95	-211	-68.9
M.B. N.W. Bay	128	156	28	21.8
M.B. Shawnigan	83	58	-25	-30.1
CPFP Cow. Logging	88	53	-35	-39.7
CPFP Sawmill	210	135	-75	-35.7
Total	3552	1706	-1846	-51.9

Source : I.W.A.-Canada, Local 1-80.

As Table 5.3 indicates, the overall magnitude of job change with the union local over the period 1979 to May 1989 was considerable and all operations, except two, experienced job loss. That is, fifteen of the seventeen operations listed shed employment during that ten year period. Moreover, of that fifteen only one (the Nanoose operations of Doman Industries) was less than twenty per cent. Indeed, excluding Doman's Nanoose operations, the range of job loss was from 22.9 per cent to 86.3 per cent exclusive of the mills which had completely ceased operating. The magnitude of these

changes indicate real problems for workers and communities, particularly when it is recognized that forest-related activities form the economic backbone of the regional economy. Clearly the loss of jobs is of great concern as the average percentage decline was 36.7 per cent. Disaggregating the change, the average drop in sawmill employment was -38.3 per cent while for other forest-related activities the average decrease was -36.0 per cent. It should be restated that these figures do not include the closure of the mill at Honeymoon Bay. Overall, the job loss at the seventeen operations was -51.9 per cent while for Local 1-80 the I.W.A.-Canada average dues paying membership declined by 41.7 per cent.

While the average decline in sawmill employment is quite high at 38.3 per cent, it is far below the job loss experienced at the Youbou conversion facility over the same period. At the Youbou plant employment in 1979 was 649. By May of 1989 this figure had dropped to 260 for a net decline of 59.9 per cent. To put this another way, for every ten workers at the mill in 1979 there were only four in 1989. This reduction in employment helped the firm to reduce variable costs and thereby allowed the mill to survive. In addition, employment reduction was associated with a "modernization

programme". That is, the introduction of new production technologies designed to give the mill product flexibility without a major decline in capacity. In short, without the reduction in employment there is little doubt that the mill would have been closed on a permanent basis.

Modernization at Youbou

The rationale behind the modernization plan for the Youbou mill was rather simple. Since the construction of the larger mill in 1928-1929 there had been constant upgrading and regular maintenance but this was not enough to contend with an ever increasing volume of small timber. Thus a decision had to be made on the future of the mill. On the one hand, mill ownership had the option to close the mill as they had done at Victoria. Instead, British Columbia Forest Products decided to invest \$5 million in a modernization program which allowed them to process smaller diameter logs and keep supplying pulp chips to Crofton. And while the second option led to a reduction in staffing it nevertheless saved some jobs within the Valley. While the loss of jobs did not sit well with the union they too agreed that it was better to save some jobs than to have none at all. As a result the union reluctantly

gave their blessing to the project. In other words, the modernization program helped to prolong the mature stage and, indeed, the life of the sawmill.

The Youbou sawmill had been rather fortunate throughout its life in that it had been able to rely upon a steady stream of first growth timber. Large in diameter these logs were able to yield a wide range of product lines, many of which had a high market value. However, during the 1970s much pressure was exerted upon the mill to improve its productivity and output from smaller diameter logs as the larger log supply dwindled. Thus, as the mill moved increasingly toward processing smaller diameter second growth stands of timber additional pressure was exerted to saw more accurately and to increase productivity to compensate for the lower value products in the market. So in the face of lower product values, shifts in the nature of the log supply and increased competition from other newer and more efficient sawmills a decision was made to modernize the 'B' mill. The objective of the modernization was to maintain the level of production while cutting back from 3 to 2 shifts per day in the sawmill - thus effectively reducing manpower from 215 to 143 per shift. Management had acknowledged the fact that jobs would be lost but reasoned that it was also necessary to ensure the

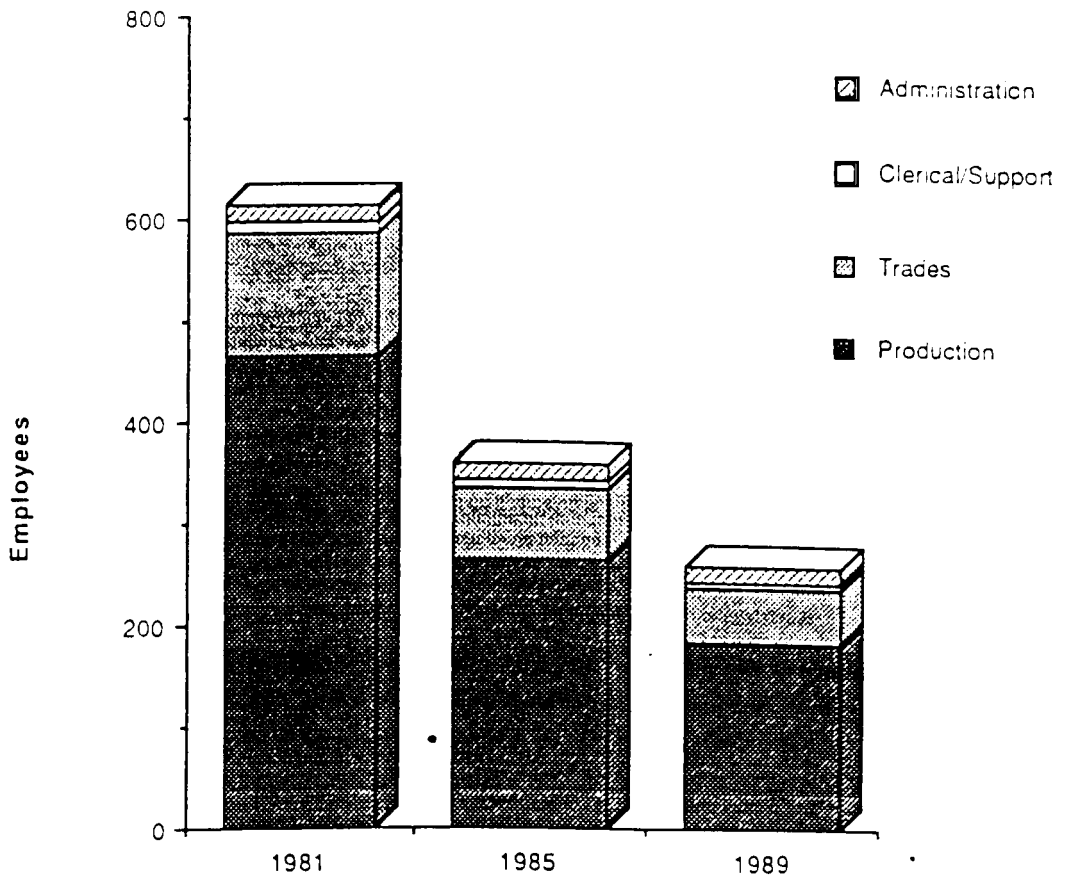
greater number of jobs threatened by the loss of the mill's competitive position. In other words it was either modernize or close. For those who would lose their jobs this was rather traumatic. But for those who would remain working it meant a cleaner, safer working environment. For the company the modernization would mean improved productivity, increased quality and a better price for the product.

Employment Change - 1981, 1985, 1989

Between 1981 and 1989 total employment declined from 615 to 260 for a decline of 57.7 per cent. In terms of percentage the most significant change occurred in the 1985-1989 period. By occupational category job loss also varied with the production line and trades both experiencing a greater than 50 per cent job loss rate (Figure 5.1).

It should be noted that the post-1985 decline in trades was related to the contracting out of certain jobs such as machining - a subject which became a contentious issue during the very bitter strike of 1986 (see, Chapter IV). By occupation female clerical workers had an absolute job loss of two over the 1985-1989 period for a net percentage change of -37 per cent.

Figure 5.1 : Employment Change at Youbou - 1980s



Note: For each year, there was one salesperson

Source: Fieldwork, 1990

Because these job losses are not 'temporary' layoffs it must be emphasized that these are **permanent** job reductions.

The variation in employment change during the 1980s reflects the following. The first was the modernization of the 'B' mill in 1980-1981. This alone reduced overall employment by 72. The effect of this modernization was immediately reinforced by the recession when a further 77 jobs were lost as the mill cut back from three to two shifts in 1982. As already noted earlier part of the 'B' mill modernization plan was to reduce the number of shifts so that the recession, in effect, helped to "justify" putting the policy into effect although, perhaps, earlier than planned. Indeed, the profile of job loss encountered at this mill fits the profile of other coastal mills during the recessionary period of the 1980s. That is, coastal multi-plant operations were more prone to cut back on employment than were single plant or interior operations (Grass and Hayter, 1989). Generally the workers who were retained were the older and skilled (e.g. the head rig operator). Those who were laid off were generally less skilled (green chain workers) and in these cases age made no difference. The minimum cut-off for the remaining workers in the mill was 17 years of seniority.

However, in some cases where the job is critical (e.g. electrician) the 17 year rule did not hold. For those who were being laid off the union managed to negotiate a settlement policy whereby any employee discharged would receive one month of pay for each year of service. For some of the other employees with long service records with the company, relocation assistance to another company plant was offered. It should be noted that about twenty-five workers with a great deal of seniority but without skill, per se, were asked to stay mainly because other workers looked up to these men. In short, this was done as much to maintain social stability as anything else.

Investment and technical change often replaces existing jobs but it may at the same time create, or at least, maintain jobs. Where the latter occurs capacity generally increases. At the Youbou mill, however, capacity was reduced by some 50,000 FBM per eight hour shift - a change which was also associated with a shift in marketing. At the same time the goal of increasing productivity per man day has been accomplished. Thus production per man day in 1981 was 1185 board feet but by 1988 this figure had risen to 2031 board feet for a net total change of 846 board feet per man day (Table 5.4).

Table 5.4 : Youbou : Production/Productivity 1981-1988

Year	Production (MFBM)	Production Per Man Day
1981	113.3	1185
1982	133.2	1433
1983	150.4	1747
1984	155.4	1840
1985	154.2	1830
1986	96.3	1805
1987	159.9	2008
1988	143.9	2031

Source : Mill manager reports.

Market Changes at Youbou During the 1980s

During the late 1970s, when it became increasingly clear that smaller logs would form the greater proportion of the cut within the sawmill, management decided that changes in marketing strategy were also required. Part of the package of change was a decision to diversify product markets. In particular, the aim was to reduce the reliance on one major market - the United States. Table 5.5 shows the shifts which have taken place and as is clear the U.K. market is now

number one while Japan is number 2. Thus the 'B' mill modernization facilitated a shift away from cutting Canadian Lumber Standard (CLS) construction grade toward cutting J-Grade construction lumber, for example, which is in demand in Japan. Essentially the difference

Table 5.5 : Export Market Participation : Youbou (%)

Market	'81	'82	'83	'84	'85	'86	'87	'88
U.S.	51.6	47.1	45.6	42.2	39.2	38.1	17.0	8.3
U.K.	6.2	13.9	12.9	17.2	13.4	18.3	25.7	20.6
Japan	6.6	11.8	8.3	7.5	17.1	16.1	18.3	15.5
China	0.0	0.0	3.3	1.6	9.2	7.1	6.1	1.8
Belgium	5.0	4.7	6.8	6.9	3.4	9.4	14.0	7.2
Australia	6.6	4.1	3.3	9.8	10.1	5.7	7.5	7.0
Germany	5.6	3.5	2.0	1.6	1.2	0.9	0.3	0.0
North Af.	6.6	7.3	3.4	6.6	3.9	4.4	6.8	8.1
Other	8.8	7.6	14.4	6.6	2.5	0.0	4.3	31.5

Source : Mill manager reports. Other markets consist of countries such as France, Switzerland, Holland, Denmark, Spain, Chile and Cuba.

between the two is in the sizes - sizes which are accommodated by newer technology. For example, if we take a 2" X 6" (CLS) the size would actually be 1 7/16" by 5 7/16" where under J-Grade cutting the size would be 1 9/16" by 6". This reflects the offshore market and

in particular the Japanese desire for a full six inch width. As is shown in Table 5.5 there had been a steady decline in sales to the United States between 1981 (51.6 per cent) and 1985 (39.2 per cent) for a net decline of 24 per cent. A closer look at the table, however, reveals an interesting point. Between 1986 and 1987 the decline in shipments to the United States was 55 per cent or 21 percentage points. This magnitude of change reflects an export tax which was imposed by the Canadian Government to allay the protectionist sentiments of the United States in October of 1986. Under the deal, Canada agreed to impose the stiff tax on Canadian lumber exports to the U.S., thereby avoiding a punitive American duty threatened to offset the value of alleged provincial subsidies to Canadian forest companies.

The agreement allowed the 15 per cent tax to be replaced by comparable increases in provincial timber cutting fees, as long as the replacement measures satisfied the American lumber industry. For the American industry, the deal had the desired effect of raising Canadian export prices and reducing sales in the American market. Thus while the shift toward other markets had already started the American move accelerated the impetus to go offshore. This offshore concentration effectively did two things. First, export taxes were avoided even

though these were replaced one year later by increased stumpage fees. And, second, the mill was able to realize a higher value for its product as the market shifted offshore.

The introduction of new technology into the 'B' mill was instrumental in allowing the plant to alter its product mix. As a result, however, production days (Table 5.6) and employment levels have declined.

Table 5.6 : Production days : Youbou.

Year	No. of Days
1981	210
1982	240
1983	247
1984	225
1985	249
1986	154
1987	239
1988	238

Source : Mill manager reports.

Indeed, while the modernization program of the early 1980s served to prolong the mature stage of the sawmill, the economic life of the mill may be reaching its end. This is reflected in the profits and losses (Table 5.7) which were recorded during the period 1981-1988.

Table 5-7 : Profit/Loss (\$M) Youbou 1980's

Year	Profit	Loss
1981	0.0	0.1
1982	0.0	1.4
1983	1.4	0.0
1984	0.0	3.1
1985	0.0	1.9
1986	0.0	2.8
1987	4.0	0.0
1988	2.4	0.0
Total	7.8	9.3

Source : Mill manager reports.

During this time period the mill had recorded a profit in only three of the eight years for a total of \$7.8 million. Over the same time period losses have amounted to \$9.3 million. This may have accounted for the takeover by Fletcher Challenge in September of 1988 and the subsequent rationalization plan which saw employment decline once again and which once again saw an outflow of residents from Youbou. The caveat to concerns over winding down is that profits were made in the last two years recorded - 1987 and 1988 (Table 5.7).

While the modernization of the 'B' mill may have stemmed from economic necessity the repercussions on employment are not only in terms of lost jobs. The remaining workers must accept and work with the new technology. The next section looks at how technological change has been accepted by those who now have to use it.

TECHNOLOGICAL CHANGE : WORKER PERSPECTIVES

During the early years of the mill's life cycle the concerns of labour were not over the use of new technology. Rather the issues were related to a fair wage for a fair day's work and safer working environments. However, since the 1950s, and most certainly since the 1960s, the union position has been in favour of technological change both of a product and process nature. Prior to that there were some complaints over technological change resulting in job loss but because employment opportunities were widely available the issue was never vigorously pursued. Over the past 20 to 30 years there has been an increased recognition that the corporate failure to invest in more technologically advanced equipment was leading to a loss

of competitive advantage. Indeed, the union has actively encouraged the parent company to invest in more technologically advanced equipment which could produce a better product at a more competitive price.

At the same time, the introduction of new technology has created problems for the workforce and for the union. For example, computerization within the mill has lessened the skills required in some jobs, such as the trimmerman. Since skill levels are no longer as high in these positions, the union argued for the need to 'red-circle' rates which meant that workers would not lose any money if they were displaced by the introduction of new technology. Red-circling effectively means that a wage rate is protected from the introduction of new technology even though the worker may have been placed in a lower paying position. That is, if a worker is shifted from a higher paying position to one with lower pay the higher pay rate remains in effect. As a result, the benchmarks required for job evaluation are not the same as they once were. At one time wage rate evaluation was based upon the extent and nature of a particular job's contribution to the production process. In effect, this evaluation reflected the negotiated importance of the job. Today, evaluation, as well as being based on the flow of production and eye/hand co-

ordination (two skills which are no longer as important), other parameters such as discomfort are used.

The net effect of technological change has, therefore, been to reduce the number of available jobs, and to change them qualitatively and to affect how jobs are evaluated. Today, the workers remaining are in a better position (less noisy and somewhat safer and cleaner) but this has come at a great expense in terms of jobs permanently lost.

Skill Change

One of the arguments, when looking at skill change within an industry, firm or occupation is that technology deskills labour. In this view, job content, when linked to automation, shifts from direct operation or control of machinery to the monitoring of machinery which very nearly controls itself. An alternative view suggests that shifts in job content are not necessarily a deskilling of labour but rather they represent a shift toward superior use of mental skills. The net effect results from the extent to which skilled jobs require less discretion, judgement and skill than the previous positions or craft jobs.

Automation may also have the effect of reducing the number of employment classifications while widening the range of activities within each classification. This regrouping may involve a wider range of skills which reflects an expansion of worker responsibility and the rotation of workers through different positions or what some call the team approach. The next section looks at some of the changes within the context of the Youbou sawmill from the perspective of the people involved.

Acceptance of Technology

One of the biggest changes at the Youbou sawmill has been the reduction in the number of employees and the subsequent changes in employment descriptions. For example, an edgerman in the 'A' mill is now also the 10" double arbor saw operator in the 'B' mill while a sawyer in the 'A' mill is now also a quad saw operator in the 'B' mill. In short, where there were at one time four employees performing these jobs there are now two as they move between the large log 'A' mill and the small log 'B' mill. In general most workers accepted the technology although some were frustrated because they did not understand what the equipment was doing or, more to the point, why this new technology was better than

they were. It was felt that the opposition to new technology might have had some relationship to the age of employees. This, however, was not the case. Indeed, the questionnaire revealed most were interested and enthusiastic (Appendix 1). Workers generally realized that the industry is changing and that to remain competitive and profitable in a changing economic environment modernization was inevitable. They also realized that in the final analysis it became a case of either modernize and save one-third of the jobs or close permanently.

In terms of skill change worker "A" (to maintain confidentiality all workers referred to here have been assigned an identifying letter) felt that employees now had a greater range of skills and as a result were better off. This feeling had arisen because the new equipment reduces the amount of "bull work" required and through the course of the day workers become less fatigued. With the decreased fatigue factor more attention can be directed toward quality control as workers now have time to 'think' about what is being manufactured. By occupation electricians have had to keep abreast of changes in computer technologies. In the past they were neither computer programmers nor computer technologists. Today these two skills are

essential as repairs are mainly carried out on site. In short, electricians are becoming more skilled more quickly as they have pressure to keep apace of the latest technological developments. As one electrician put it to me "skills are increasing exponentially - they must otherwise we are just wire-pullers and will always remain so".

Other workers expressed similar sentiments in a variety of ways. For example, employee "B" noted that since the changes had come people now enjoy the work more and as a result there had been a drop in the absenteeism rate. This employee went on to say that the skills had been enhanced as now part of the job tasks involve software programming for the computer system - a skill which this employee did not have prior to the changeover. With the advent of technological change employee "C" noted that the equipment enabled him to go from a 'bull-worker' mentality to a more sophisticated approach and that the use of brains over brawn had made him feel more professional. What this translates to is more pride in the job and more pride in the product being manufactured. For worker "D" the job is now safer and less strenuous. As a result there had been a reduction in time lost due to injury. Technological change had also allowed this worker to set many cuts at

a time rather than individually. Now settings can be done from a control panel which has the effect of increasing throughput and productivity. From the perspective of skill nothing has changed. In short, this worker felt that he is neither more nor less skilled - the job is now just safer and more relaxing and because of that he now has more energy to spend time with his family.

While the preceding represents a simplistic account of the nature of skill change it is indicative of how some workers felt about the introduction of new technology. In this way we can get a better appreciation of how workers "on-the-line" have accepted or rejected the new technology. The next section will look at this in greater detail.

The way workers perceive new technology can and does play a larger role in the smooth running of a manufacturing facility. Table 5.8 and Table 5.9 give some indication of how labour has reacted to new process technologies both from a job quality and personal attitude perspective. The results shown in these tables relate job quality change to twelve parameters for production and trades workers respectively. In this context it is interesting to note that seventy per cent

of production workers had felt that job security had decreased while sixty per cent indicated that stress levels had increased (Table 5.8). Similarly 70 per cent of the trades workers had felt an increase in stress

Table 5.8: Job Quality Change:Production Workers Youbou

Parameter	-----Percent (%)-----		
	Increase	Decrease	No Change
Security	10%	70%	20%
Job Ease	40%	30%	30%
Stress	60%	10%	30%
Contact	10%	40%	50%
Supervision	35%	25%	40%
Control of Work	30%	20%	50%
Volume of Output	80%	10%	10%
Mgt. Monitoring	40%	15%	45%
Challenge	40%	30%	30%
Skill Requirements	50%	10%	40%
Monotony	50%	15%	35%
Specialization	50%	15%	35%

Source : Fieldwork, 1989. N=80.

levels although 40 per cent felt less secure (Table 5.9). This clear trend towards higher stress levels stems, in part, from the fact that both production and trades people are now dealing with more sophisticated equipment and they must keep that equipment operating at 100 per cent at all time. In terms of skill

requirements both production (50%) and trades (80%) had felt that this had increased since the introduction of the new technology. In short, these workers had felt that they had become enskilled. At the same time 40 per cent of the production workers had felt that their job had become somewhat easier (Table 5.8) while only 20 per cent of the trades workers felt their job had become easier (Table 5.9).

About eight production workers had felt that their skills had been diminished as a result of the new technology. This stands in contradistinction to the trades workers who all felt that there had been an increase in skill levels or at the very least no change. All had noted that they were now required to use their mental skills more and that this had given them a new sense of professionalism. The use of new manufacturing technologies also reduced the fatigue factor such that workers are now able to concentrate on product quality. When combined - i.e. the professionalism and product quality - the result is a greater sense of pride in where the workplace. Most employees had also noted that there would be no jobs at all if there had not been investment in new technology. Undoubtedly there are some cases where technology reduces skill by taking decision making out of the manufacturing process as for

Table 5.9 : Job Quality Change : Trades, Youbou.

Parameter	-----Percent (%)-----		
	Increase	Decrease	No Change
Security	40%	40%	20%
Job Ease	20%	30%	50%
Stress	70%	10%	20%
Contact	30%	30%	40%
Supervision	30%	30%	40%
Control of Work	40%	30%	30%
Volume of Output	60%	10%	30%
Mgt. Monitoring	10%	50%	40%
Challenge	70%	10%	20%
Skill Requirements	80%	0%	20%
Monotony	20%	50%	30%
Specialization	90%	0%	10%

Source : Fieldwork, 1989. N=40.

example, edger optimizers which remove trimming and edging decisions.

In terms of productivity per man day there has also been an increase. Without the sorters and other new technologies the complex was able to produce 600,000 MFBM with 650 employees. The mill can now produce the equivalent with just 250 employees. Moreover, the

quality of the product has been improved. This was the result of an eight million dollar investment program which included the new 'B' mill and planer project - projects which it is argued here helped to extend the mill's mature stage. In general the workers were quite receptive to the new technologies which had been introduced into the mill. Indeed, 70 per cent of the production workers and 90 per cent of the trades workers were either enthusiastic or receptive to the new technology (Table 5.10). Generally, this reflects the belief that the new technologies have led to an increase in skills such as, for example, the use of computers.

Table 5.10: Personal Attitudes Towards New Technology

Attitude	-----Percent (%)-----	
	Production Trades	
Hostile	10%	0%
Uneasy	20%	10%
Receptive	60%	70%
Enthusiastic	10%	20%

Source : Fieldwork, 1989. N=120.

The reduction in crew size apparently has not negatively affected morale. Indeed, it seems there has been the creation of a 'family' atmosphere and thus better working relationships between employees and management as evidenced by the introduction of a social

club in 1985. This social club is similar to intramural activities found on college and university campuses. And while this may have been a positive outcome there have been, however, some negative effects.

Technology and the reduction in the crew size has created what may be a problem in the long term. Because it is difficult for young people to enter the mill's workforce there are no employees 'coming up through the ranks'. What this means to this mill, as well as others, perhaps, is a training gap. This results from the fact that some of the jobs have no apprentice system in the formal sense. Rather these jobs require hands on training. Thus the present workforce is aging as younger people no longer consider sawmilling to be a viable job opportunity. And, by not gradually bringing in new employees and as downsizing and attrition proceed the mill could face quality/extraction problems. This takes place as the people on the spareboard are called in to work and these are not always the same people. Thus their commitment to quality and their sense of pride may not be as great as the other employees within the mill.

SUMMARY

Throughout the mill's life cycle there have been different forms of labour relations. The mill began during the period of homogenization. This form of labour relations, where workers had no rights, was replaced in the early 1940's by a new form namely, segmentation. Segmentation, which saw the emergence of collective bargaining and increased worker benefits lasted until the early 1980's when a new form of labour relations based upon flexibility began to emerge. However, in spite of this new flexible form segmentation this remains. There are still core and peripheral groups of workers but these workers are now able to perform more job tasks. Generally, this has been the result of the introduction of new technologies - new technologies which have enskilled workers.

The new skills which the workers have acquired have in one sense made these workers more portable. That is, they now have the ability to move from one job to another within the mill. However, because of seniority rules there is no opportunity to take those skills to other mills and retain seniority. Similarly, the skills, which are sawmill specific do not allow the workers to go to another industry and use those newly acquired skills.

The introduction of new technology and the subsequent downsizing of the sawmill have had consequences for the community as well. Downsizing has meant a reduction in direct employment and this has led to a significant downward multiplier. The reduction in employment has also meant that the mill has become less of a conduit for working people. In short, the mill has shifted from one with numerous full time, part-time and seasonal jobs to a mill with limited ports of entry, mainly for full-time employment. This limitation has meant that young people seeking either their first, or a summer job, have to leave the community. Finally, the downsizing of the sawmill has meant a change in the nature of the community. When the downsizing occurred many laid-off workers sold their homes. Because of the low prices many new, young families moved to Youbou. Similarly, many seniors finding the prices attractive also moved into Youbou to retire. Thus the community has gone from a predominantly "working class" to a bedroom/ retirement community. In conclusion, the introduction of new technology and the subsequent downsizing has had several implications for the community of Youbou. The next chapter briefly looks at the residents perceptions of those recent changes.

CHAPTER VI

CONCLUSIONS : A DOWNSIZED MILL AND A CHANGING COMMUNITY

Sawmills and "milltowns" are an important part of the economic landscape of British Columbia. To better understand the changing nature of mills and, by implication, "milltowns" this thesis has adopted a life cycle approach. The unit of investigation has been the plant located at Youbou and special emphasis has been given to labour relations and to those technological changes which have had a significant influence on employment patterns. Previously, analyses which have incorporated the life cycle model have focussed on one specific time period or one specific stage. This dissertation however, has, looked at virtually the full life cycle of a sawmill. The longitudinal approach adopted here, together with the incorporation of the changing nature of labour relations and technology, has served to broaden conventional thinking about life cycle processes affecting Canadian resource operations and communities. Moreover, this thesis has illustrated the use of the life cycle approach and its application to industrial facilities over long periods of time. The changes that have occurred during the 1980s at the Youbou sawmill have immediate and profound implications

on the community such as the departure of many of its citizens. It may well be that the community can survive. This matter is problematical, however. In this the last chapter I review resident perceptions about the community, including, with respect to the mill, and then in conclusion summarize the evolution of the Youbou sawmill from 1913 to 1989.

Resident Views of Contemporary Youbou

To get a better perspective of contemporary Youbou a random sample of 50 of the 300 homes was drawn during the summer of 1989. The response rate was 100 per cent as not one refusal was encountered. In part this was due to the eight month assimilation process which I went through. That is, for eight months I visited and wandered through the community so that the residents would feel comfortable with me. The other reason for the response rate lies in the fact that people were more than willing to speak of their community. The following section summarizes the results of that survey (Appendix 2).

The first three questions were general and asked how long the respondents had lived in Youbou, why did they move to Youbou and from where did they come. By years of residency 10 (20%) had been in Youbou five

years or less, 7 (14%) from 6 to 10 years, 10 (20%) from 11 to 20 years, 9 (18%) from 21 to 30 years, 8 (16%) from 31 to 40 years, 3 (6%) and 41 and over 6 (12%) (Table 6.1).

Table 6.1: Length of Residence

Number of Years	Responses	Percent (%)
0-5	10	20%
6-10	7	14%
11-20	10	20%
21-30	9	18%
31-40	8	16%
41+	6	12%

Source: Fieldwork, 1989.

By geographic origin 4 (8%) were born in Youbou, 28 (56%) came from other parts of British Columbia and the remainder 18 (36%) from other parts of Canada (Table 6.2).

Table 6.2: Previous Residence

Location	Responses	Percent (%)
Youbou	4	8%
Other B.C.	28	56%
Alberta	5	10%
Sask.	4	8%
Manitoba	4	8%
Ontario	5	10%

Source: Fieldwork, 1989.

When asked why they had moved to Youbou the responses were as follows: 4 (8%) were born there, 18 (36%) came

to Youbou to find work, 5 (10%) moved there to retire, 8 (16%) moved to Youbou because of the environment, 3 (6%) because of inexpensive housing, 5 (10%) moved there with their parents and the remainder 7 (14%) for various other reasons (Table 6.3).

Table 6.3 : Reasons for Coming to Youbou

Parameter	Responses	Percent (%)	Rank
Work	18	36%	1
Retire	5	10%	4
Environment	8	16%	2
Housing	3	6%	6
With parents	5	10%	4
Born there	4	8%	5
Other	7	14%	3

Source: Fieldwork, 1989.

To gain some insight into how the residents feel their community had changed respondents were asked to list what they had felt had been the most significant changes since coming to Youbou. Clearly the most important issue, for those who responded to the question, (40 out 50) was the mill cutbacks at 31 (77.5%). Second was people moving away 24 (i.e loss of friends) (60%), retirees moving in was third at 22 (55%) followed by the loss of businesses at 21 (52.5%). These were followed by increased unemployment at 19 (47.5%) and the change from a company town into a retirement community at 16 (40%). The complete results are shown in Table 6.4 and indicate the diversity of response.

Table 6.4: Changes to Youbou since arrival

Parameter	Number of Mentions	Rank
Loss of business	21	4
Mill cutbacks	31	1
People moving away	24	2
Retirees moving in	22	3
Railway tracks gone	11	8
Townsite grew	7	10
Company to retirement town	16	6
Take over by CVRD	5	12
Electricity/streetlights	9	9
Mill workers commute	11	8
Company to private owner	14	7
Unemployment	19	5
Less isolated	6	11
Television	3	13
Less trustworthy	2	14
New housing	11	8
Lake polluted	1	15

Source: Fieldwork, 1989.

Table 6.5: Disadvantages of Youbou

Parameter	-----Rank-----				
	1	2	3	4	5
Shopping	14	7	0	0	0
Job loss	16	8	1	0	0
No buses	10	3	0	0	0
Rain	5	5	3	0	0
Tourists	3	2	0	2	0
Culture	3	3	0	0	0
Privacy	1	0	1	0	0

Source: Fieldwork, 1989.

In terms of disadvantages the mill shedding employment and the overall lack of employment opportunities within Youbou received the greatest number of mentions at 25 with 16 ranking this variable first. Coming second in terms of mentions was the lack of shopping or services with 22 mentions, 14 of these being first. Furthermore, some had seen this as a major problem as there is no competition thus the grocery stores prices may be higher than might otherwise be. The remainder of the disadvantages are given in Table 6.5.

Life Cycle of the Youbou Sawmill

Since its start-up in 1913 employment conditions at the Youbou sawmill have changed considerably. Beginning with 25 employees or so the mill reached full capacity around 1933 when it employed over 300 workers. At this time, however, the demand for lumber declined during the 1930s as housing starts were down, the Smoot-Hawley Act (U.S.) which put a tariff on Canadian lumber was in effect and exchange rates fluctuated as the world economy found itself in a depression.

The period which has been characterized as the long boom was, as was shown, not so for Youbou. In 1952, for example, profits declined due to lower market prices as the Canadian dollar was devalued vis-a-vis the American

dollar. By 1954 profits had increased as the volume of product shipped had increased sharply due to an industry wide strike in the Western United States. But this was short lived as profits once again declined in 1956. This time the decrease was due to a tight money policy in the United States - a policy which made mortgage money difficult to come by. This, coupled with a decline in purchases from the United Kingdom led to a drop in the selling price of lumber - a situation which would continue until 1957. Turnover rates during this period were often in excess of 100 per cent and this created problems of union solidarity within the mill.

The 1970s also proved to be a crucial time in the life history of the mill. In 1971, for example, the United States imposed a surtax on lumber products going into the United States. This surtax effectively increased the tariff from 20-30 cents per 100 FBM to \$3 to \$4 per 100 FBM depending upon the species. The 1970s was also the decade of the OPEC "oil shocks" and these were reflected in declining production levels at Youbou. As the first oil price rise set in production dropped from 144.6 MFBM to 113.3 MFBM. The same was also true for the second oil price rise as production dropped from 162.2 MFBM to 128.1 MFBM.

Production and labour relations problems were also experienced during the 1980s - a decade punctuated by recession and a rather bitter strike. In an attempt to improve productivity, the "B" mill was modernized and this modernization led to a downsizing of the workforce. Some workers as well as community residents expressed the feeling that the mill may not be around for much longer. In short, it may well be that the mill has entered the winding down stage.

It is also evident that during the evolution of this mill labour changed profoundly and the principle periods of labour relations roughly correspond to the life cycle of the mill. The first period, homogenization, covers the mill's birth and growth stages as well as the early part of the mature stage. The second period, segmentation, covers the majority of the mature stage while winding down covers the 1980s.

Each of the three periods carried with it a different set of labour relations. During the period of homogenization labour neither had bargaining rules nor job security. The period of segmentation witnessed the coming of the I.W.A as the bargaining mechanism for

negotiating wage raises and the bringing of job security to the mill in exchange for improvements in productivity. The final period, from the beginning of the 1980s, has seen a downsizing of the mill and a move towards flexible manufacturing.

Changes in the nature of labour relations were also associated with changes in mill ownership. For example, British Columbia Forest Products assumed ownership in 1946 shortly after the period of segmentation began and the union gained more power. As well, Fletcher Challenge, the fourth, and current owner, took over control of the mill shortly after the winding down period began. Finally, it should be noted that settled labour relations helped to create a community during the mature stage. The union did not cause maturity nor did maturity cause the formation of the union. However, segmentation and bargaining did help to create a structured community reinforced by a sense of permanence. But since the early 1980's the uncertainty in the mill has been matched by uncertainty in the community.

Suggestions For Further Research

Interest in single plant employers and their relationship to community change requires much more attention within economic geography. In particular, there is a need to conduct more in-depth inquiry into wood processing communities throughout British Columbia. Some of these communities have lost their sole source of employment and have had to look to other sources of employment such as tourism. Still other communities have not been able to adapt to the closure of their mill's.

An important question revolves around impacts of regional employment change. To fully understand the implications of employment change within the Cowichan Valley a larger more comprehensive study which compares and/or contrasts Youbou with other sawmill communities in the region could be conducted. In short, it would, be of great interest to examine those communities which have had their prime source of employment withdrawn to see how they have responded and fared since closure. Hopefully these communities have become more diverse in their economic base. The questions are: what have they diversified into? and how was this diversification accomplished?

In conclusion, if we are to have a better understanding of industrial plant change using a life cycle approach factors other than sociological must be accounted for. Two such factors, labour relations and technology serve to broaden the life cycle model thus making it a useful and effective tool for examining the growth and development of an industrial facility.

APPENDIX 1

MILL QUESTIONNAIRE

(all responses are confidential)

1. When did you come to the mill? 19____

2. Are you a production worker or trades person?
production____ trades____

3. With respect to my job the introduction of new technology has meant the following: (check one from each category)

	<u>Increase</u>	<u>Decrease</u>	<u>No Change</u>
stress	_____	_____	_____
monotony	_____	_____	_____
volume of output	_____	_____	_____
security	_____	_____	_____
contact with workers	_____	_____	_____
job ease	_____	_____	_____
supervision	_____	_____	_____
control of work	_____	_____	_____
mgt. monitoring	_____	_____	_____
challenge	_____	_____	_____
skill requirements	_____	_____	_____
specialization	_____	_____	_____

4. How do you personally feel about the introduction of new technology? (check off one)
____uneasy ____receptive ____hostile__enthusiastic

5. As a result of new technology do you feel your skill level has: (check off one)
____increased ____decreased ____not changed

APPENDIX 2

COMMUNITY QUESTIONNAIRE

(all responses are confidential)

1. How long have you lived in Youbou? ____yrs. ____mos.

2. Prior to Youbou where did you live?

3. What was the major reason for coming to Youbou?

4. Do you consider Youbou isolated? Yes___ No___

5. What do you feel are some of the advantages of living in Youbou?

6. What do you feel are some of the disadvantages of living in Youbou?

7. Are you: married___ single___ divorced___ separated___

8. Do you have any children? Yes___ No___

If yes, how many? _____

9. Do you have any children of adult age? Yes___ No___

10. If yes, have any been employed at the sawmill?

Yes___ No___

11. Have you or your spouse (if married) been employed at the sawmill?

Yes___ No___ If yes, for how long? _____

12. Are you retired? Yes___ No___

13. If not retired do you plan to live in Youbou after retirement? Yes___ No___

14. If no to Question 13 where do you plan to live?

15. What do you do for recreational activities?

Where? _____

16. Do you have any preteen children? Yes___ No___

If yes, what do they do for recreational activity?

Where? _____

GLOSSARY

- Annual Allowable Cut** average volume of timber that may be harvested annually in perpetuity from a given area.
- Arbor Saw** a saw which consists of two circular blades, one of which works from below and the other from above.
- Baby Square** a piece of lumber produced for the Japanese market. A baby square is approximately four inches square with lengths of about 3 to 4 metres.
- Band Saw** a continuous piece of flexible steel with teeth on one or both sides. A band saw is used to produce cants.
- Barker** a machine used to remove bark from a tree.
- Bin Sorter** a mechanized system whereby lumber is sorted and dropped into individual bins by length, width, or thickness. Also called a J-Bar sorter.
- Bull Edger** the first, and generally the largest edger to which low grade cants are directed. The bull edger sits behind the headrig and is used to rip cants into widths suitable for remanufacture on a trimmer or resaw.
- Cant** large slab of wood cut from a log at the headrig.
- Canadian Lumber Standard (CLS)** product standard which governs the sizing and grading of lumber manufactured in Canada. Products which are graded under CLS standards are acceptable by U.S. building authorities.
- Carriage** equipment which holds a log in place during cutting at the headrig.
- Chips** small pieces of wood used to make pulp. Usually of uniform size, chips are coarser and larger than sawdust.
- "Chip-N-Saw"** a brand of chipping headrig.
- Chipper-Canter** the machine which makes cants utilizing whole logs. This machine uses no saws only chipping heads.

Chipping Edger this is an edger which uses chipping knives instead of saw blades.

Chipping Headrig this equipment mills small diameter logs simultaneously into chips and lumber.

Common utility purpose and general construction lumber.

Debarker machine which removes the bark from logs prior to manufacturing them into plywood or lumber.

Double Arbor Edger an edger made up of two circulars saws one working from below and the other from above.

Edge narrow face of a rectangular piece of lumber.

Edger equipment used to manufacture saw cants after processing at the headrig.

Edgerman person who operates the edger.

Flunkie a cook's helper employed to perform menial jobs.

Gang Saw equipment with two or more saws mounted together. The gang saw is used to saw either cants or logs.

Grader a person who inspects wood products and assigns a grade according to an established set of guidelines.

Greenchain a moving belt or chain which transports lumber from the saws within the mill. The lumber is manually pulled off, stacked and sorted by size, species and length.

Head Rig the main saw in the sawmill where logs are first cut into cants prior to moving to other parts of the mill for additional processing.

Head Rig Operator the person who operates the head rig. Also known as a sawyer.

Kerf width of a saw cut; kerf is dependent upon saw type, saw thickness and sharpness.

Mark symbol which is stamped on wood products to indicate ownership and quality.

Marker person who applies the quality and ownership symbols.

Off Bearer a person who handles material coming from the headrig directing the material for further processing.

Puller a worker on the greenchain.

Resaw a bandsaw which cuts lumber along its horizontal axis.

Sawyer person in the sawmill who operates the headrig, making the first cuts into the log.

Setworks the part of the headrig carriage which positions the log or the cant to be sawn.

Spareboard a list of part-time employees.

Sorters machinery which sorts the lumber by thickness, length and width and drops the lumber into preassigned bins.

Tailsawyer also known as an offbearer.

Veneer wood which has been sawn or peeled into sheets of uniform thickness. When combined with glue sheets of veneer make up plywood.

BIBLIOGRAPHY

- ABC Lumber Directory and Yearbook. Various years.
- Allen, R. and Rosenbluth, G. 1986. Restraining the economy. New Star Books, Vancouver.
- Aw, C. 1980. A Dual Labour Market Analysis : A Study Canadian Manufacturing Industries. Discussion paper, Labour Canada, Ottawa.
- Baigent, J. Personal letter to J. Warr re : Bunkhouse Fire. May 5, 1975. B.C.F.P. Archives.
- Baldwin, D. 1982. "The development of an unplanned community : 1903-1914." in R. Bowles (ed.). Little Communities and Big Industries. Butterworths, Toronto.
- Baptie, S. 1975. First Growth. The Story of British Columbia Forest Products Limited. British Columbia Forest Products Limited, Vancouver, B.C.
- Barker, K. 1987. "Dieting Saws." Logging and Sawmilling Journal. May, pp. 16-17.
- Barnes T., Hayter, R. and Grass, E. 1990. "MacMillan Bloedel : Corporate Restructuring and Employment Change." in M. De Smidt and E. Wever (eds.). The Corporate Firm In A Changing World Economy. Routledge, London and New York.
- B.C. Lumberman. "Getting the right guides." May, 1977, p. 17.
- Beckett, J.O. 1988. "Plant Closings : How Older Workers Are Affected." Social Work, Vol. 33, No. 1, pp. 29-33.
- Bergren, M. 1967. Tough Timber: The Loggers of B.C.- Their Story. Progress Books, Toronto.
- Blakaby, F. 1979. De-industrialization. Heinemann.
- Bluestone, B. and Harrison, B. 1982. The de-industrialization of America. Basic Books, New York.
- Bosworth, D. (ed.), 1983. The Employment Consequences of Technological Change. MacMillan Press, London.

- Bowles, R. (ed.) 1982. Little Communities and Big Industries. Butterworths, Toronto.
- Bradbury, J. 1984. "The impact of industrial cycles in the mining sector : the case of the Quebec-Labrador region in Canada." International Journal of Urban and Regional Research. No. 3, September.
- Bradbury, J. and St. Martin, I. 1983. "Winding down in a Quebec mining town : A case study of Schefferville." Canadian Geographer, 27(2), pp. 128-144.
- Braverman, H. 1974. Labour and Monopoly Capital. Monthly Review Press, New York.
- British Columbia Forest Products. Internal Corporate Directive, Year Commencing October 1, 1950. B.C.F.P. Archives.
- _____. Memo from D.L. McMullan, 1966. B.C.F.P. Archives.
- _____. Internal letter from H.G. Munro to E.P. Taylor, May 20, 1949.
- British Columbia Lumberman. Vol. 9, No. 3, March 1925.
- _____. Vol. 10, No. 2, February, 1926.
- _____. Vol. 10, No. 5, May, 1926.
- _____. Vol. 10, No. 10, October, 1926.
- _____. Vol. 10, No. 12, December, 1926.
- _____. Vol. 13, No. 7, July, 1929.
- _____. Vol. 15, No. 2, February, 1931.
- _____. Vol. 15, No. 3, March, 1931.
- _____. Vol. 15, No. 6, June, 1931.
- _____. Vol. 16, No. 10, October, 1932.
- _____. Vol. 17, No. 4, April, 1933.
- _____. Vol. 17, No. 9, September, 1933.
- _____. Vol. 17, No. 12, December, 1933.

- _____. Vol. 21, No. 5, May, 1937.
- Buongiorno, J. et. al. 1981. "Economies of Plant and Firm Size in the United States Pulp and Paper Industries." Wood and Fiber, 13(2), pp. 102-114.
- Burawoy, M. 1983. "Between the labor process and the state: the changing face of factory regimes under advanced capitalism." American Sociological Review, 48, October, pp. 587-605.
- Byron, R. 1978. "Community stability and forest policy in British Columbia." Canadian Journal of Forest Research, 8, pp. 61-66.
- Canada Lumberman. March, 1931, p. 44.
- Canadian Timberman. March, 1952, pp. 110.
- Clark, G. 1984. "The changing composition of regional employment." Economic Geography, No. 60, pp. 175-193.
- Clement, W. 1986. The Struggle to Organize. McClelland and Stewart Limited, Toronto.
- Conley, J. 1988. "Relations of Production and Collective Action in the Salmon fishery, 1900-1925". in Warburton, R. and Coburn, D. (eds.) Workers, Capital and the State in British Columbia. University of British Columbia Press, Vancouver.
- Cowichan Leader. December, 15, 1915.
- _____. March 19, 1925.
- _____. September, 12, 1929.
- _____. January 28, 1943.
- _____. May 13, 1948.
- _____. May 18, 1948.
- Cortese, C. 1982. "The impacts of rapid growth on local organizations and community services." in B. Weber and R. Howell (eds.). Coping with Rapid Growth in Rural Communities. Westview Press, Boulder.

- Cox, K.R. and Mair, A. 1988. "Locality and Community in the Politics of Local Economic Development." Annals of the American Association of Geographers, 78(2), pp. 307-325.
- Daily Colonist. 1966. "Five Denominations All Occupy Church at Youbou." November 5, 1966, p. 25. Victoria.
- Dean, W. (editor). 1984. Terms of the Trade. Random Lengths Publications, Eugene, Oregon.
- Dessauer, F. 1949. Stability. MacMillan Co. New York.
- Detomasi, D. and Gartrell, J. 1984. Resource Communities : A decade of Disruption. Westview, Boulder.
- Diprete, T.A. 1988. "The upgrading and downgrading of occupations : status redefinition vs deskilling as alternative theories of change." Social Forces, Vol. 66, 3, March, pp. 725-746.
- Doeringer, P. and Piore, M. 1971. Internal Labour Markets and Manpower Analysis. Studies in Social and Economic Processes. D.C. Heath, Lexington.
- Dougan, R.I. 1973. Cowichan, My Valley. Duncan Print-Craft, Duncan, B.C.
- Easterbrook, W.T. and Aitken, H.G. 1956. Canadian Economic History. Macmillan of Canada, Toronto.
- Edwards, R. 1979. Contested Terrain: The Transformation of the Workplace in the Twentieth Century. Basic Books, New York.
- Edwards, R., Reich, M. and Gordon, D. (editors). 1975. Labor Market Segmentation. D.C. Heath, Lexington, Mass.
- Employment and Immigration, Canada. 1987. Canada's Single Industry Communities : A Proud Determination to Survive. A report presented to the Minister of Employment and Immigration by the Canada Employment and Immigration Advisory Council. Ottawa.
- Englebert, P. 1948. "Youbou Mixes Fun and Lumber." The Vancouver Sun Magazine Supplement. February 21, 1948, pp. 9-10. Vancouver.
- Forest and Mill. October 22, 1952. p.1.

- Forestry Canada. 1990. Forestry Facts. Minister of Supply and Services, Cat. No. Fo1-4/1990, Ottawa.
- Freundenberg, W. 1982. "The impacts of rapid growth on the social and personal well-being of local community residents." in B. Weber and R. Howell (eds.). Coping with Rapid Growth in Rural Communities. Westview Press, Boulder.
- Galois, R.M. and Mabin, A. 1987. "Canada, The United States and the World System : The Metropolis-Hinterland Paradox." in L. McCann (ed.). Heartland and Hinterland. Prentice Hall, Toronto.
- Gill, A.M. 1986. "New Resource Communities : The Challenge of Meeting the Needs of Canada's Modern Frontierspersons." Environments, 18(3). pp. 22-34.
- Gold, W.H. n.d. "Youbou." Source unknown.
- Gordon, M., Edwards, R. and Reich, M. 1982. Segmented work, divided workers : the historical transformation of labor in the United States. Cambridge University Press.
- Goss, D. 1988. "Diversity, Complexity and Technological Change : An Empirical Study of General Printing." Sociology, Vol. 22, No. 3, pp. 417-431.
- Grass, E. and Hayter, R. 1990. The Life Cycle of a Sawmill : A Case Study of the Youbou Sawmill. Paper presented at the Sixth B.C. Studies Conference. University of British Columbia. November 2-4.
- Grass, E. and Hayter, R. 1989. "Employment Change During Recession : The Experience of Forest Products Manufacturing Plants in British Columbia, 1981-1985." Canadian Geographer, 33, No. 3. pp. 240-252.
- Grass, E. 1988. Employment Changes During Recession : The Case of the British Columbia Forest Products Manufacturing Industries : 1981-1985. M.A. Thesis, Department of Geography, Simon Fraser University, Burnaby, B.C.

- Hardwick, W.G. 1963. Geography of the Forest Industry of Coastal British Columbia. Occasional Papers in Geography, Number 5. Canadian Association of Geographers, British Columbia Division. Department of Geography, University of British Columbia. Vancouver.
- Hayter, R. 1976. "Corporate Strategies and Industrial Change in the Canadian Forest Products Industries." The Geographical Review, pp. 209-228.
- Hayter, 1979. "Labour supply and resource-based manufacturing in isolated communities : The Experience of Pulp and Paper Mills in North-Central British Columbia." Geoforum, 10, pp. 163-177.
- Hayter, R. 1985. "The restructuring of traditional industries in a time of recession." Tijd. voor Econ. en Soc. Geografie, 76, No. 2, pp. 106-120.
- Hayter, R. 1986. "The export dynamics of firms in traditional industries during recession." Environment and Planning A, 18, pp. 729-750.
- Hayter, R. 1987. "Innovation Policy and Mature Industries : The Forest Product Sector in British Columbia." In K. Chapman and G. Humphrys (eds.). Technical Change and Industrial Policy. Basil Blackwell, Oxford.
- Hayter, R. and Barnes, T. 1990. "Innis' Staple Theory, Exports, and Recession : British Columbia, 1981-86." Economic Geography, Vol. 66, No. 2, April, pp. 156-173.
- Hayter, R. and Barnes, T. 1991. Recession and Labour Markets : Employment Change in British Columbia. Paper presented at the Institute of British Geographers, January, 1991.
- Himelfarb, A. 1982. "The social characteristics of one-industry towns in Canada." in R. Bowles (ed.). Little Communities and Big Industries. Butterworths, Toronto.
- Hirst, P.Q. and Zeitlin, J. 1989. Reversing industrial decline: industrial structure and policy in Britain and her competitors. Berg Publishers, Oxford, New York and Hamburg.

- Holmes, J. 1990. "The break-up of an international labour union: uneven development in the North American auto industry and the schism in the UAW." Environment and Planning A, 1990, Vol. 22.
- International Woodworkers of America. 1943. Memo. Trade Union Research Bureau. University of British Columbia Archives, Box 13.
- I.W.A.-Canada C.L.C. 1988. Master Agreement 1988-1991. Vancouver, B.C.
- Jones, D. 1983. "Technological Change, Demand and Employment." in D. Bosworth (ed.). The Employment Consequences of Technological Change. MacMillan Press, London.
- Jones, B. 1989. "Flexible Automation and Factory Politics: The United Kingdom in Comparative Perspective." in Hirst, P.Q. and Zeitlin, J. (eds.), Reversing industrial decline: industrial structure and policy in Britain and her competitors. Berg Publishers, Oxford, New York and Hamburg.
- Kalleberg, A. and Berg, I. 1987. Work and Industry. Structures, Markets and Processes. Plenum Publishing, New York.
- Lake Cowichan Bulletin. March, 17, 1948, p. 12.
- _____. July 28, 1948, p. 11.
- _____. August 11, 1948, p. 4.
- _____. August 18, 1948, p. 1.
- _____. October, 14, 1948, pp.1-2.
- _____. October 20, 1948, pp. 1-2.
- _____. October 27, 1948, pp. 1-2.
- _____. January 5, 1949, pp. 1-2.
- _____. August 17, 1949, pp. 1-2.
- Lake News. January 17, 1968, p. 2.
- _____. January 31, 1968, p. 4.

_____. February 14, 1973, pp. 1-2.

Leier, M. 1990. Where the Fraser River Flows. New Star Books, Vancouver.

Lembcke, J. and Tattam, W. 1984. One Union in Wood. Harbour Publishing, Madeira Park, B.C.

Lillard, C. 1986. Seven Shillings A Year. The History of Vancouver Island. Horsdal and Schubart Publishers Ltd. Ganges, B.C.

Lloyd, C. 1989. "Restructuring in the West Midlands clothing industry." New Technology, Work and Employment, Volume 4, Number 2, pp. 100-107.

Loveridge, R. and Mok, A. 1979. "Theoretical approaches to segmented labour markets." International Journal of Social Economics, 7, pp. 376-411.

Loveridge, R. 1987. "Social Accommodations and Technological Transformations - The Case of Gender." in G. Lee and R. Loveridge (eds.), The Manufacture of Disadvantage. Open University Press, Milton Keynes.

Lucas, R. 1971. Minetown, Milltown, Railtowns : Life in Canadian Communities of Single Industry. University of Toronto Press, Toronto.

Lumber Worker. July 12, 1943.

Mackay, D. 1982. Empire of Wood. Douglas and McIntyre, Vancouver and Toronto.

Marchak, M.P. 1988 "Public Policy, Capital, and Labour in the Forest Industry." in R. Warburton and D. Coburn (eds.). Workers, Capital and the State in British Columbia. Selected Papers. University of British Columbia Press, Vancouver.

Marchak, M.P. 1983. Green Gold. University of British Columbia Press, Vancouver.

Marr, W.L. and Paterson, D.G. 1980. Canada : An Economic History. Macmillan of Canada, Toronto.

Massey, D. and Meegan, R. 1979. The Anatomy of Job Loss. Methuen, London.

- Massey, D. 1984. Spatial Divisions of Labour. Social Structures and the Geography of Production. Macmillan, London.
- Meyers, J. 1988. "Class and Community in the Fraser mills Strike, 1931." in Warburton, r. and Coburn, D. (eds.) Workers, Capital and the State in British Columbia, Selected Papers. University of British Columbia Press, Vancouver.
- Moloney, M. n.d. "In One Ear." Source unknown.
- Morrison, P.S. 1990. "Segmentation theory applied to local, regional and spatial labour markets." Progress in Human Geography, Volume 14, Number 4, December. pp. 488-528.
- Moul, A. 1982. "The Ultimate Sawmill : Primary Breakdown." British Columbia Lumberman. April, pp. 16-18.
- Munro, J. and O'Hara. 1988. Union Jack. Douglas and McIntyre, Vancouver and Toronto.
- Muralt, D. 1986. "Industrial Timer Mills." Whistle Punk. Spring, pp. 22-29.
- Murdock, S. et. al. 1982. "Local Demographic Changes Associated With Rapid Growth." in B. Weber and R. Howell (eds.). Coping With Rapid Growth In Rural Communities. Westview Press, Boulder.
- Murray, J. and Weber, B. 1982. "The impacts of rapid growth on the provision and financing of local public services." in B. Weber and R. Howell (eds.). Coping With Rapid Growth In Rural Communities. Westview Press, Boulder.
- Nielsen, L.D. 1988. "Technology and Local Labour Markets : What Will Happen to Women's Work?" Acta Sociologica, 31, 3, pp. 249-263.
- Norcross, E.B. 1975. The Warm Land. A History of Cowichan. Island Books, Duncan.
- Olien, R. and Olien, D. 1982. Oil Booms. Social Change in Five Texas Towns. University of Nebraska Press, Lincoln and London.

- Olsen, M. et. al. 1985. "A value-based community assessment process : integrating quality of life and social impact studies." Sociological Methods and Research. Vol. 13, No. 3, pp. 325-361.
- Pacific Coast Lumberman. Vol. 2, No. 10, October, 1918.
- _____. Vol. 3, No. 8, August, 1919.
- _____. Vol. 5, No. 1, January, 1921.
- _____. Vol. 5, No. 2, February, 1921.
- _____. Vol. 5, No. 4, April, 1921.
- _____. Vol. 5, No. 6, June, 1921.
- _____. Vol. 6, No. 2, February, 1922.
- _____. Vol. 6, No. 6, June 1922.
- Penn, R.D. 1983. "Theories of Skill and Class Structure." Sociological Review, New series, No. 1, pp. 22-38.
- Piore, M. J. and Sable, C.F. 1985. The Second Industrial Divide. Basic Books, New York.
- Qadeer, M. 1977. Canadian Regional Development in Transition. Department of Regional and Economic Expansion. Ottawa.
- Rajala, R. 1987. Lumbering at the Lake : The Cowichan Lake Lumber Industry 1900-1950. Unpublished report prepared for the Cowichan Lake Heritage Advisory Committee.
- Reich, M., Gordon, D. and Edwards, R. 1973. "A Theory of Labor Market Segmentation." American Economic Association, Vol. 63, No. 2, May 1973.
- Rinehart, J.W. 1987. The Tyranny of Work. Alienation and the Labour Process. Second edition. Harcourt Brace Jovanovich, Toronto.
- Roberts, R. and Fisher, J. 1984. "Canadian resource communities : The residents' perspective in the 1980s." Mining Communities : Hard Lessons for the Future. Proceedings of the Center for Resource Studies, No. 14. Queens University, Center for Resource Studies, Kingston.

- Roberts, R. 1985. Growth Management : Implementation in an Environment of Complexity. Paper prepared for the Western Regional Science Association, 25th Annual Meeting, Laguna Beach, California, Feb. 26-Mar. 1.
- Root, K. 1984. "Phasing and Timing of Projects : Decommissioning and Shutdown Issues." in D. Detomasi and J. Gartrell (eds.). Resource Communities : A Decade of Disruption. Westview Press, Boulder.
- Rothwell, R. and Zegveld, W. 1979. Technical change and employment. St. Martin's Press, New York.
- Rothwell, R. 1982. "The role of technology in industrial change : implications for regional policy." Omega, Vol. 9, No. 3, pp. 229-245.
- Sabel, C.F. 1989. "Flexible Specialisation and the Re-emergence of Regional Economies." in P.Q. Hirst and J. Zeitlin (eds.), Reversing industrial decline: industrial structure and policy in Britain and her competitors. Berg Publishers, Oxford, New York and Hamburg.
- Saywell, J. 1967. Kaatza, The Chronicles of Cowichan Lake. Peninsula Printing Co. Ltd., Sydney, B.C.
- Scweickart, D. 1984. "Plant Relocations : A Philosophical Reflection." Review of Radical Political Economics, Vol. 16(4), pp. 32-51.
- Schmenner, R.W. 1983. "Every factory has a life cycle." Harvard Business Review, March-April, pp. 121-129.
- Schoenberger, E. 1988. "The Ambiguous Future of Professional and Technical Workers in Manufacturing." Acta Sociologica, 31, (3), pp. 241-247.
- Schoenberger, E. 1989. "Business Dilemmas and Social Dilemmas: Social and Geographic Aspects of Industrial Competitiveness." Geografiska Annaler, Series B, Human Geography, Volume 71B, Number 1, pp. 19-30.

- Seager, A. 1988. Workers, Class and Industrial Conflict in New Westminster, 1900-1930." in Warburton, r. and Coburn, D. (eds.) Workers, Capital and the State in British Columbia, Selected Papers. University of British Columbia Press, Vancouver.
- Starbuck, W.H. 1971. "Organizational Metamorphosis." Chapter 7 in Organizational Growth and Development, W.H. Starbuck, editor. Penguin Books, Hammondswoth.
- Stone, K. 1975. "The Origins of Job Structures in the Steel Industry". in Edwards, Reich and Gordon (eds.) Labor Market Segmentation, D.C. Heath, Lexington.
- Storper, M. 1985. "Oligopoly and the product-cycle: essentialism in economic geography". Economic Geography, 61, pp. 260-282.
- Summers , G. and Branch, K. 1984. "Economic Development and Community Social Change." Annual Review of Sociology. 10, pp. 141-166.
- Taylor, C.J. 1987. The Heritage of the British Columbia Forest Industry : A Guide for Planning, Selection and Interpretation of Sites. Environment Canada, Parks Branch, Microfiche Report Series 300, Ottawa.
- Taylor, G.W. 1975. Timber. History of the Forest Industry in B.C. J.J. Douglas Ltd., Vancouver.
- Taylor, M. 1986. "The product-cycle model: a critique". Environment and Planning A, Volume 18, pp. 751-761.
- The Timberman. January 1939, p. 27.
- _____. February 1940, p. 70.
- _____. February 1942, p. 34.
- _____. February 1951, p. 90.
- Thomson, M. 1981. "Economic conditions affecting the communities and mining activities in the iron-ore region of the Quebec-Labrador trough." in J. Bradbury and J. Wolfe (eds.). Perspectives on Social and Economic Change in the Iron - Ore Mining Region of Quebec-Labrador. McGill University Press, Montreal.

- Townsend, A. and Peck, F. 1985. "An approach to the analysis of redundancies in the U.K. (post-1976): some methodological problems and policy implications." in D. Massey and R. Meegan (eds.), Politics and Method. Contrasting Studies in Industrial Geography. Methuen, London.
- Unren, J. 1985. "Born to Die." Canadian Heritage II. October/November.
- Vallas, P. 1988. "New Technology, Job Content and Worker Alienation : A Test of Two Rival Perspectives." Work and Occupations, Vol. 15, No. 2, May, pp. 148-178.
- Vancouver Sun. 1948. Tuesday, March 9.
- Vietorisz, T. and Harrison, B. 1973. "Labor Market Segmentation : Positive Feedback and Divergent Development". American Economic Review, May, pp. 366-376.
- Waggener, T.R. 1977. "Community stability as a forest management objective." Journal of Forestry, 75, pp. 710-714.
- Walsh, E. 1950. "Youbou : Vancouver Island's Model Mill Town." Daily Colonist, Sunday, August 27, p. 3. Victoria.
- Warren, L. 1988. Working in the Cowichan and Chemainus Valleys. Canada Employment, Duncan, B.C.
- Wear, D.N., Hyde, W.F. and Daniels, S.E. 1989. "Even-Flow Timber Harvests and Community Stability." Journal of Forestry, September, pp. 24-28.
- Weber, B. and Howell, R. (editors). 1982. Coping with Rapid Growth in Rural Communities. Westview Press, Boulder.
- West Coast Lumberman. January, 1945.
- _____. January 1938, p. 5.
- _____. March 1939, p. 13.
- _____. February 1941, p. 16.
- U.B.O. Bulletin, 1940-1945, various issues.

Utterbach, J.M. and Abernathy, W.J. 1975. "A dynamic model of process and product innovation." Omega, 3, pp. 639-656.

Youbou sub-local executive meeting. 1943. Minutes,
____ June 27.