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H. A. McRoberts

PERMANENT ADDRESS:

*725 Hamlet Rd
Ottawa, Ont
K1G 1P7*

DATED

Jan 22 1976

NL-91 (10-68)

Supervisor: John Porter

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SOCIAL STRATIFICATION IN
CANADA: A PRELIMINARY ANALYSIS

by

HUGH ARTHUR McROBERTS, B.A., M.A.

A dissertation submitted to the Faculty of
Graduate Studies in partial fulfilment of
the requirements for the degree of
Doctor of Philosophy

Department of Sociology and Anthropology
Carleton University
Ottawa, Ontario

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The undersigned recommend to the Faculty
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submitted by Hugh Arthur McRoberts, M.A.,
in partial fulfilment of the requirements for
the degree of Doctor of Philosophy.

.....
Thesis Supervisor

.....
Chairman, Department of Sociology
and Anthropology

Carleton University

November 26, 1975.

ABSTRACT

Social Stratification in Canada: A preliminary analysis

The research focuses on the examination of the structure and process of stratification with respect to native born Canadian males aged 25-64 in the labour force in July 1973. The data are drawn from a survey carried out in July 1973 in conjunction with the July 1973 Statistics Canada Labour Force Survey.

In the theoretical discussion the structure of stratification is defined as having two dimensions: the first is the structure of social and economic differentials which exist, the second is the degree to which social location with respect to these differentials persists across generations. The process of stratification is defined as the process whereby the institutionalized arrangements of a society either help in the maintenance of or mediate against this intergenerational maintenance. The institutionalized arrangements in western societies are identified as the educational and occupational structures, and it is argued that the former is more important than the latter in this respect.

The initial part of the analysis looks at the degree of stratification in Canada. Goodman's log-linear models

are employed to analyze the data in a way which allows the net patterns of mobility (marginal shifts controlled) to be examined. It is shown that a substantial degree of intergenerational inheritance of status occurs. Secondly, the analysis looks, using cohorts, at changes with respect to time. The findings indicate that there has been some change from a stable pre-war pattern to a stable, but slightly more open, post-war pattern, with the period from 1940 to 1949 acting as a transition period.

The second part of the analysis is concerned with the process of stratification. The Blau-Duncan model is applied to the data and a very good fit is found. This lends support to the conjecture advanced in the theoretical discussion that education is the key element in the stratification process.

The findings of the Canadian model are next compared with those of Blau and Duncan and with those of Jones (Australia). The evidence with respect to the Canadian-American comparison suggests that Canada may be slightly less open than the United States, mainly due to the lower rate of intragenerational status movement in Canada. The Australian comparison proved inconclusive due to substantial differences in the way in which the data were handled. Finally, using cohorts, the process was examined for

changes with respect to time. The results supported the earlier analysis and further suggested that greater access to education accounts for most of the change.

In the final analysis chapter the structure and process of stratification as it affects French and English Canadians was examined. It was found that while the French are disadvantaged with respect to the English that the stratification structure was converging for the two groups. Looking at the process of stratification it was found that the form of the process was similar for both groups (the Blau-Duncan model fit in both cases). However, the process was seen to be less open for Francophones than for Anglophones. Finally, when the process of stratification was examined for changes, it was found that there was a convergence between the two groups leading to a lessening of the relative disadvantage of the Francophones.

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It should be noted that the data were drawn from a larger study involving myself, Monica Boyd and John Porter at Carleton, and also Professors John Goyder (Waterloo), Frank Jones, and P.C. Pineo (both at McMaster).

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Chapter I

Introduction

The existence and nature of structured social and economic inequalities in Canadian society have been clearly and amply established in John Porter's The Vertical Mosaic (1965). What is less clear is the degree to which these structures are open to opportunity. Porter is able to demonstrate in Part II of his study that the structure is relatively closed at the very top. That is, that there is substantial closure with respect to access to that very small and very powerful group who constitute the elite of Canadian society. Additionally, Porter presents data which lend support to an inference that the whole society is much less than fully open. However, the very nature of the data which were available to him make the inference an indirect one and because of this a relatively weak one. Now, due to the availability of data from a national study entitled "Occupational and Educational Changes in a Generation: Canada", it is possible to investigate the nature of this aspect of stratification in Canada directly. (See Boyd and McRoberts, 1974 for a description of the study).

The purpose of this study will be to employ these data to look, in a preliminary and limited way, at stratification and mobility in Canadian society. More specifically, I will be looking at the structure and process of inter-generational status transmission.

In this chapter I will briefly review some aspects of the literature, both Canadian and otherwise, on social mobility. Also, I will discuss, briefly the population to be studied.

Previous Work in the Area

The literature on social mobility is extensive and voluminous. However, it can be broken down into three broad groupings: the theoretical literature of which there is remarkably little (what there is will not be discussed here but will be referred to where necessary in Chapter II), the methodological literature which is by far the largest body, and the reports of the results of original research findings.

Methodology

Much of the literature on the methodology of mobility studies has been primarily statistical in nature. I will not go into this aspect here but I will deal with it, in part, in Chapter III. However, since the end of the Second World War two (and perhaps a third) broad approaches to the measurement of mobility have been established.

The first of these was what will be called here the "matrix method". This was the method used by Glass (1954) and Rogoff (1953) in their pioneering studies of mobility and one which is still employed by even the most recent

studies. This approach focuses on a matrix of father's occupation at some early point in the son's life versus son's (the respondent's) current occupation. While other points in the father's life have been used, it has now become conventional to measure the father's occupation at the point in his life when the son (respondent) was 16 years of age. The development of this convention has two very good reasons lying behind it:

- i) In most modern societies, 16 is the earliest age at which sons typically begin to leave home and thus father's status at this point represents a good "status of departure" for the son.
- ii) Given that in most modern societies the mean length of generation is between 26 and 27 years, when the son was 16 then the father would have been between 42 to 43 years of age; in short the father would have been at approximately his mid-career point -- the point at which his career had stabilized and which would best represent his occupational status.

The emphasis in the use of this matrix has been on the comparison of the observed matrix with some baseline model -- usually some variant of the "perfect mobility" or independence model. Most of the discussion of this model has centred around the construction of measures of the way in

which the differences between the observed matrix and base-line matrix can best be measured. (See Chapter III for a fuller discussion of this issue.) However, even when this issue is to some extent resolved the matrix remains primarily descriptive of the amount of mobility or immobility in a society and as such is a limited approach to the problem.

The second major method which was developed was the "status attainment model". This was the model which Blau and Duncan initially developed and which was first reported in detail in The American Occupational Structure (1967).

Here the emphasis is on looking at the process whereby the son's status of origin is transformed into his present status. Specifically they introduced three additional variables:

- i) Father's education, which while it is closely associated with father's occupation does exert a significant independent influence on the second new variable.
- ii) Respondent's educational attainment. This variable when related to the origin variables (father's occupation and education) allows an examination of the degree to which educational attainment is a function of parental status.
- iii) Respondent's first job on completion of education. This variable in relation to education allows an

examination of the degree to which educational attainment can be translated into occupational status. In relation to education and the origin variables it allows an examination of the extent to which this translation occurs independently of origin. Finally in relation to present job and the other variables in the model it allows an examination of the degree of openness of the occupational structure.

The Blau and Duncan model has been by far the most fruitful and for two very good reasons. First, as I will suggest in Chapter's II and V the model is firmly grounded in theory. Second, the particular structure of the model and the analytic technique employed - path analysis - allows both for direct extension of the model to include different factors (e.g. Duncan, Featherman, and Duncan, 1972) or the elaboration in other research of particular aspects of the model (e.g. Sewell *et al.*, 1970).

There is a third method which is not really distinctive and which might be more properly thought of as an extension of the attainment model and this is the so-called "life history method". Here the emphasis is less on the amount of inter-generational inter-class movement but rather on the understanding of the process of career mobility in an intra-generational context. In this type of analysis,

family background (including socio-economic status) is only one of a larger member of factors involved in the examination of job moves and career mobility. (See Rossi and Ornstein, 1973, for a full discussion of this.)

Clearly the approaches are complementary. This can be seen more clearly on a closer examination of them. The matrix model which was the focus of most early investigations of mobility (Sorokin 1927, Rogoff 1953, Glass 1954) focuses entirely on the description of the amount and direction of inter-generational mobility, based on an examination of the cross-tabulation of father's occupational status. The status attainment model as developed by Blau and Duncan represents an extension of this in order to examine the process of mobility through the inclusion of educational attainment and intra-generational mobility. The life history method, it has been suggested, is little more than an elaboration of the status attainment model. In this last approach, however, there is a shift away from the examination of inter-generational mobility per se towards an examination of the opportunity structure. As my data are unsuited to the elaboration of the basic models implied by the life history method I will not discuss it further.

Findings

What is striking about the findings of mobility studies is that they are all so similar, especially those done in western industrial societies. All find net upward mobility. (e.g. Glass 1954, Rogoff 1953, Carlessen 1958, McRoberts 1971, and Blau and Duncan 1967). All find that, on the whole, mobility regardless of direction, tends to occur in single "steps". That is to say, that regardless of whether a mobile individual is upwardly or downwardly mobile, it is most likely that he will move only to a category which is adjacent to his category of origin. Finally, when we shift to a comparative focus we find "no marked differences in mobility between countries at different levels of economic development, societies with different normative orientations and with differential class structures." (Muller and Mayer, 1973: 7-8). This is not to say that there are no differences in findings from study to study. Rather, it is merely to emphasize that the differences tend to be small and that given the differences between the studies themselves of sample and measurement technique, it is difficult to attribute much substantive significance to such differences.

One study which is a landmark in the analysis of mobility is the one carried out by Blau and Duncan. It

was in this study that they developed and presented the status attainment model mentioned earlier. In addition they also applied a matrix analysis to their data with results which conformed to the expected pattern, (Blau and Duncan, 1967: Chapter 11). Of more interest are their findings using the status attainment model, in which they were able to confirm the importance of education in the process of status transmission. In Chapter V, I will be concerned with the applicability of their basic model to Canadian society.

Previous Canadian Research

There have been four mobility studies done in Canada.* The first was done by deJocas and Rocher and replicated by Dofny and Audy in Quebec. The second was done by McRoberts using a very small national sample from the Pineo-Porter prestige study. The third was done by Turrittin using data for Ontario. The fourth was done by Cuneo and Curtiss using samples from Toronto and Montreal.

deJocas and Rocher (1957), and Dofny and Garon-Audy (1969)

Under this heading there have in fact been two studies done. The original was carried out by deJocas

* There is in fact a fifth, done by Richmond on the social mobility of immigrants (1967). However, given its specific and limited focus, I will not discuss it here.

and Rocher in 1954 and followed an exact replication carried out by Dofny and Garon-Audy in 1964. Both studies look at a sample of persons who were both born and married in the Province of Quebec. Their method was first to sample the marriage records for the Province of Quebec for the years in question - 1954 and 1964 respectively. This provided them with their sample of "sons". They then went to the birth records for these sons and gathered the information about the fathers. Thus, their data compare son's occupation at date of marriage with father's occupation at the time the son was born.

Both studies employ as their principal analytic technique the application of the Rogoff (1953) and Glass (1954) mobility indices to a father - son occupational matrix.

The studies are divided into two parts. Initially they examine a matrix for French-Canadians only. They find that there is substantial occupational inheritance in both samples, but rather more mobility in 1964 than in 1954 (43.7% stable in 1954 compared to 33.5% stable in 1964) (1969: 285). Both samples indicate more upward than downward mobility and again the amount of upward mobility shows a significant increase from 1954 to 1964 (Dofny and Garon-Audy, 1969: 285). Finally, both studies found the

pattern noted earlier of the mobility tending to occur most frequently in single upward or downward steps.

The second part of both papers focuses on a comparison of French-Canadian and English-Canadian mobility patterns. Overall there is some indication to suggest that the system is rather more closed for English-Canadians than for French-Canadians. However, this appears to be due primarily to the very high degrees of occupational inheritance in the professional, managerial, and service occupational sectors. Secondly, there would appear to be slightly more upward mobility for English-Canadians than for French-Canadians. However, during the period covered by the two studies it is clear that the French-Canadian and English-Canadian mobility patterns have tended to converge. The degree to which this convergence is due to "pure mobility" or to "structural mobility" is open to question. Dofny and Garon-Audy suggest that much of the change is due to structural changes in the labour force in Quebec and that the net effect has been less "pure mobility" for French-Canadians by comparison with English-Canadians (1969: 300-301). I would suggest that in fact their data do not support this conclusion unless they are prepared to argue that these structural changes are of such an impermanent nature that they do not in themselves amount to a change in the opportunity structure in Quebec.

McRoberts (1971)

The McRoberts study was based on data which were gathered by Pineo and Porter in 1964 as part of their study of occupational prestige in Canada. (Pineo and Porter 1967). The analysis was based on the application of the Glass indices (1954) to a matrix of father's and son's occupations. The matrix for Canada as a whole revealed the same pattern as that found in other western industrial nations: moderate stability, net upward mobility, and a tendency for mobility to occur in single steps. In the case of a comparison of Anglophones and Francophones the data reveal findings much like those of the two Quebec studies, with two exceptions. First, the degree of inheritance of professional and managerial positions for Francophones was in fact significantly higher than was the case for Anglophones in Canada as a whole. Secondly, in the case of Francophones there was less inheritance than would have occurred under independence for occupations in the middle and lower white collar category.

It should be noted that the findings of this study are at best tentative due to the fact that they are based on a relatively small sample with a high non-response rate.

Turriffin (1974)

Turriffin's study reported in a paper by him on com-

parative mobility (1974) is based on a 1968 sample of Ontario households. He reports that the study of his father-son matrices reveals the standard pattern of mobility which we have come to expect in western industrial societies (1974: 165-66).

What is more interesting in Turrittin's work is the comparison, which he makes, employing path models, of the mobility process in Ontario with that of the U.S. (Blau and Duncan 1967) and with Australia (Broom and Jones 1967a and 1967b). The models are, as we would expect, remarkably similar. Education is the strongest determinant of the respondent's occupational status and father's occupation the next most important. However, the effect of education is by far the strongest for Ontario and weakest for Australia, and the effect of father's status is weakest for Ontario and strongest for Australia (1974: 178, Figure 1). Turrittin basing his conclusions, it would appear, primarily on the total variance in the dependent variable explained by the model concludes that Australia is rather more open than Ontario (1974: 177). I would suggest that he cannot maintain this interpretation in the face of the relative magnitudes of the paths mentioned above, and that the reverse is the correct conclusion particularly in view of the overwhelming importance of education as compared to

father's occupation as a determinant of present status in the Ontario data.

Cuneo and Curtis (1975)

In this study Cuneo and Curtis examine the differences between Anglophone and Francophone men and women aged 25-34 and living in Toronto or Montreal. They employ two path models to carry out the comparison, one of which is the Blau and Duncan basic status attainment model, and an extended model which adds in the respondent's mother's education and the respondent's family size.

The results show again a remarkable similarity to those found by Blau and Duncan and by Turriffin. However, beyond this gross statement it is difficult to say much more about their findings. The reason is that their samples are so small ($N = 145$ for Francophone men and $N = 163$ for Anglophone men (Cuneo and Curtis 1975: 9) that quite large confidence limits must be placed on their path coefficients. Indeed, at the 95 per cent confidence level one is talking of confidence bands of the order of plus or minus .13 or .14. In most cases then, even when relatively large differences in computed value appear on the path diagram (1975: 13) or in the tables it is very difficult to support an hypothesis of significant difference in the population.

Overall the previous Canadian studies would appear to support three broad conclusions:

- 1) That patterns of mobility in Canada are very similar in their general configuration to those found in other western industrial nations.
- 2) That while the patterns found for Francophones will differ from those found for Anglophones we can expect to find a tendency towards convergence.
- 3) That there is limited but consistent evidence to suggest that the status attainment model will apply in Canada or at least in the industrialized core of Canada - Ontario and Montreal.

The Population to be Studied

In this study I will focus on the mobility of Canadians who have the following attributes:

- 1) Male
- 2) Canadian born
- 3) In the labour force in July 1973
- 4) Aged between 25 and 64 in July 1973
- 5) Civilian non-institutionalized in July 1973
- 6) Resident in one of the ten provinces in July 1973

The latter two attributes are direct functions of our sample design which only includes those persons. The bounding on age and labour force status is based on the fact that our instrument was not designed to deal effectively with the status of those who were either not yet

in the labour force by reason of education, or who had left the labour force due to retirement.

The decision to restrict my study at this stage to those who are Canadian born is purely a pragmatic one. There can be little doubt that immigration is an important aspect of Canadian society and that it has a substantial impact on the Canadian occupational structure (see Kalback 1970). However, the impact of immigration on mobility is a complex one related not only to the facts of immigration per se but as well to the problems of ethnicity and language. While it would be possible using our data to explore this problem such a task would be a formidable one and would force the extension of this study far beyond its present scope. To simply have included immigrants in the sample to be studied in this work would have been to confound the data in such a way as to make most inferences very weak. By focusing on those who were born in Canada I will at least be able to examine the patterns of mobility experienced by native Canadians, even though one of the factors which may have affected those patterns must be excluded from the present work.

Organization

In the next two chapters I will be concerned with the statement of the theoretical and methodological issues

underlying the analysis. There will follow three analysis chapters. The first will look at the patterns of mobility as they are revealed in a father-son matrix. The second will look at the process of status attainment using path models. In the third chapter I will turn to look at differences between Francophones and Anglophones both in terms of the patterns of mobility which each group displays, and in terms of the process of status attainment. In each chapter two analyses will be done:

- 1) An analysis of the population under study as a whole.
- 2) An analysis of the population under study split into age cohorts in an attempt to locate changes over time.

CHAPTER II

A Theoretical Basis for a Mobility Analysis

Despite the fact that an unequal distribution of the social and material resources of society has been a persistent aspect of virtually all known societies, there has been remarkably little by way of formal positive theory generated.* In one way this is perhaps surprising as the stratification system of a society is in large measure the backbone of its social structure. On the other hand, it may well be that this is precisely the problem -- the subject of social stratification in total may be too broad and complex to be, at least practically, the subject of a comprehensive theory given the present state of development of the discipline. It is not my purpose in this chapter to remedy, either in whole or even in large part, this state of affairs.

In this chapter two things will be done. First, the key terms (e.g. inequality, class, strata) will be defined and the relationships between these terms will be specified. It is important that this be done in that much of the confusion in both the theoretical and empirical literature on stratification has come about because authors have insisted

* This is not to say that there has not been rather a lot of theorizing. Rather, it is to suggest that this theorizing has all too frequently lacked formal structure (see Homans, 1967), and has all too frequently taken in as assumptions or otherwise value or normative components.

on using terms such as class and strata in their own idiosyncratic ways often making no attempt at definition. As a result much discussion has simply been at cross-purposes.

Secondly, the theoretical considerations which underlie the analysis will be discussed at some length. At best this discussion will constitute a theoretical sketch from which specific propositions may be drawn or inferred. In no way is it an attempt to create a theory of stratification within the formal meaning of the term. (Homans, 1967; Braithwaite, 1968)

Social Differentials and Social Inequalities

One of the problems in the literature on social stratification and social inequality is that the same term -- "social inequality" -- is used in two senses. In the sociological literature the term "social inequality" is frequently employed as a purely descriptive term. (See, Bendix, 1974: 149; Davis and Moore, 1945). That is to say, in this usage when the writer employs the term "social inequality" the reference is to the descriptive fact that some scarce and desirable material or social resource is distributed in a differential fashion in a particular society at a particular point in time. The sense in which philosophers use the term is on the other hand primarily

evaluative. That is, when these writers use the term "social inequality" they are making a statement that a particular distribution considered from the view of an ethical theory is in a sense unfair (See Jordan, 1974).

Partly to avoid the inevitable evaluative connotations associated with the term "social inequality" and partly in deference to its long established philosophical usage I will not employ "social inequality" in my discussion when referring to distributions. Rather I will use the term "social differential" to refer to a situation in which the distribution of resources has a non-zero variance, that is, the situation in which all shares are arithmetically equal. In addition, I will use the term "extent of differentials" to refer to the relative magnitude of that variance, that is, the extent to which shares are of a greater or lesser magnitude with respect to each other. Thus, when I refer to the existence of income differentials in a society I am saying that the distribution of income in that society has a non-zero variance. When I say that the differentials are more extensive in society A than in society B, I am stating that the variance of the income distribution in society A is greater than the variance of the income distribution in society B.

Social Stratification

The study of social stratification is an empirical area of investigation and as such is concerned with the nature of a relation between certain types of empirical phenomena. More specifically the concern is with two types of phenomena. The first concern is with the description and understanding of the phenomenon of social differentials. The second concern is with the process by which these differentials are maintained in an inter-generational fashion. I will deal briefly with the essential categories in each of these two areas, and finally I will discuss the relationship between them.

The term "social differentials" refers specifically to the differential distribution of society's scarce and desirable social and material resources. In giving such a definition two points should be noted. First, the terms "scarce" and "desirable" are relative terms. By this I mean that their exact meaning in terms of specific instances in specific societies will vary depending on the value placed upon the specific resource in that society, at that time. However, following Weber, it is possible to distinguish three general categories of desirable social resources which appear to be common to most societies: power, material goods and/or their monetary equivalents, honour or prestige.

The second thing I would like to point out is the social nature of these resources. Their value and indeed their allocation is fundamentally the outcome of a social process which is relatively independent of individual idiosyncracies and evaluations. I would like to contrast these with what might be called either psychological or private resources. These would include such items as, self esteem, job satisfaction, happiness, feelings of security, etc. ... While the circumstances under which the members of a society usually will or will not have these feelings are normatively determined and are in that sense social (e.g. If you are rich you ought to be happy.), the state of any particular individual in terms of these is ultimately dependent upon that individual's psychological state. As such then, the allocation of these latter types of resources is not primarily social and differentials in their distribution are not social differentials.

In the next section of the chapter I will first discuss briefly what is meant in more specific terms by each of the major types of social differential. Secondly, I will argue that in a society such as Canadian society these differentials are allocated through a single role - the occupational role - and form a single hierarchy - socio-economic status. Further, I will argue that this hierarchy while a continuum in some

senses can be cut into a number of ordered groups called socio-economic classes.

The Major Social Differentials

Power

Of all of the social resources power is perhaps the most difficult to understand. At the same time it is essential that the concept of power and its related concepts be clarified, as, in part, it is through our understanding of power that the distribution of other resources can be understood.

The term "power" (macht) is defined by Weber as:

"...The probability that one actor will be in a position to carry out his own will despite resistance, regardless of the basis upon which this probability rests." (1968: 53)

As Weber and others have noted this basic definition, while necessary, is too broad to be very useful;

"...All conceivable qualities of a person and all conceivable combinations of circumstance may put him in a position to impose his will in a given situation." (1968: 53)

A sociological definition should meet at least two criteria:

- 1) The probability should be independent of the "qualities of a person".
- 2) The circumstances should be circumscribed so as to refer to only socially recurrent events.

In social life two particular sets of circumstances give rise regularly to power relationships.

The first arises from the structure of societal organization and within that from the relationship between roles of super-ordination and sub-ordination. Weber uses the term "domination" (Herrschaft) to refer to the manifestations of power which arise in these relationships. He defines domination as follows:

"to be more specific, domination will thus mean the situation in which the manifested will (command) of the ruler is meant to influence the conduct of one or more others (the ruled) and actually does influence it in such a way that their conduct to a socially relevant degree occurs as if the ruled had made the content of the command the maxim of their conduct for its very own sake. Looked upon from the other end, this situation will be called obedience." (1968: 946)

Thus, according to Weber, A is in a position of dominance with respect to B by virtue of the formal relationship between the respective roles of which they are incumbents, and A's power over B (the range of commands which he may give to B) is circumscribed by "the nature of that formal relationship. Indeed, he notes that in certain circumstances A may be in a situation of dominance with respect to B and in others the situation may reverse itself and B may be dominant with respect to A. (1968: 947)

The second set of circumstances under which power is frequently exercised in society is in the relationships of exchange. Power which accrues to individuals or groups as a result of an exchange relationship will be called "influence".

"Influence" refers to the probability that in an exchange carried out under the conditions of a social or economic market the incumbents of one role (or roles) will typically conclude the exchange in a fashion which is more satisfactory to them than to the incumbents of a second role (or roles).^{*} For example, if A offers service X at price Y and B wished to purchase X at price Z then if price Y prevails regularly in the sale of Y, A has influence with respect to B. If on the other hand, price Z regularly prevails than B has influence with respect to A. It should be noted that in the example the term "price" is employed in a very general sense and does not specifically imply a monetary unit of exchange, although certainly this is one commonly employed unit of exchange.^{**}

^{*}Weber was well aware of the distinction between these two manifestations of power. Indeed, he spends much of his discussion of the term "domination" on eliminating from the meaning of that term any vestige of the meaning of influence (1968: 212-215; 941-948). However, he does not formally define as a concept this latter type of power which emerges from exchange relationships. The use of the term "influence" was suggested to me by Blau's discussion of power and influence. (1964:115-119). However, I find his distinction between negative and position sanctions in exchange a bit strained.

^{**}In the next two sections prestige and material goods will be discussed. While the relative distribution of these serves as the basis for two important social ranking systems, at the same time they also constitute, as resources, the basis upon which the exercise of influence rests. Hence, one would expect that the hierarchy of prestige and material goods will in large measure reflect the hierarchy of relative influence in a society.

Two types of power have been distinguished - domination (authority)* and influence. Clearly the two are related. A position of authority often carries with it considerable potential influence. Influence is frequently employed to counter or establish authority.

Prestige

Prestige, like authority, is as I will define it, an attribute of a role. By this I mean that, while an individual may, by his behavior in a role, add to or subtract from the prestige accorded to him in that role, there is a general level of prestige which occupants of other roles are prepared to accord to all occupants of the role in question regardless of their particular personalities.

Prestige itself is the assignment to a role, or institution, of some degree of worth based upon the value system of the society. The prestige hierarchy is thus a ranking based on differential assessment of worth in terms of the social value system.

To speak in any society of a single value system at least in terms of one which is shared and adhered to by all members of society is, of course, difficult. However, as Parkin has so clearly argued there is no real need for such widespread consensus:

* Because the term "domination" carries with it in English a set of connotations which detract from its meaning in this context I will hence forward employ the term "authority" in its stead.

Expressing one of Marx's major propositions in somewhat un-Marxist terms, it is plausible to regard social honour as an emergent property generated by the class system. More concisely we can consider it as a system of social evaluation arising from the moral judgements of those who occupy dominant positions in the class structure. (Parkin, 1972: 41)

Parkin then goes on to argue that while this does not mean that all members of society are either implicitly or explicitly "taught" the ranking of occupation or other types of roles they do learn as part of their socialization the moral and social criteria to be applied in making such evaluations. Seen in this way, the prestige of a role may be defined as the rank of that position in a generally socially agreed upon hierarchy of positions with respect to prestige. In saying this however I say nothing about how or on what basis the worth of a role is assessed. The prestige of a role would appear to vary in a systematic fashion with four major factors: the authority associated with the role, the exclusiveness of the role, the desirability of the life-style associated with or thought to be associated with the role, and the degree to which the role is seen as exemplifying socially desirable traits.

Material Resources

Material or economic differentials are the simplest to define. They refer very simply to differences in material

possessions and, in a money economy, in wealth and income. Unlike authority and prestige, wealth and material resources may be inherited and may exist independently of specific occupational roles.* Income is, however, directly associated with roles and more especially with a particular type of role for stratification theory: the occupational role.

When the occupants of occupational roles share a similar income and/or degree of wealth, or typically share a similar expectation for income in a given economic structure, then they will be said to belong to the same economic level. This follows Weber's concept of "economic situation" very closely. (Weber, 1968:170).

Socio-Economic Status and Class

Access to each of the three types of resources which have been discussed is typically closely associated with specific roles in the context of a given social structure. In western industrial societies, the key role in the allocation of these resources has become the occupational role.**

* It should be noted that this statement is only partially true. In aristocratic societies and in some non-democratic societies both authority and prestige are routinely inherited. However, it should also be noted that such inheritance affects only a very small - but important - part of the population of these societies.

** This is a slight over-simplification as there are small groups at top and bottom of the social order who do not have occupational roles.

This is especially true now that politics and political office holding in industrial societies have become routinized as full time careers and are in many ways not unlike other occupations. As Blau and Duncan suggest,

The occupational structure in modern industrial society not only constitutes an important foundation for the main dimensions of social stratification but also serves as the connecting link between different institutions and spheres of social life, and therein lies its great significance. The hierarchy of prestige strata and the hierarchy of economic classes have their roots in the occupational structure; so does the hierarchy of political power and authority, for political authority in modern society is largely exercised as a full-time occupation. It is the occupational structure that manifests the allocation of manpower to various institutional spheres, and it is the flow of movements among occupational groups that reflects the adjustment of demand for diverse services and the supply of qualified manpower. The occupational structure also is the link between the economy and the family, through which the economy affects the family's status and the family supplies manpower to the economy. (1967: 6-7)

It will be noticed that much of the discussion of these three basic sources of social ranking parallels in a general way the work of Weber. However, Weber did not attempt to create a single social ordering from the combination of these bases as will be done here with two of the three.* Rather,

* Power is viewed as being a separate and independent order which both causes or is the result of the social and material orders. Power, is of course, closely related to these orders but this is not surprising in that those who have authority and/or influence are not likely to countenance a social and material order which is not in their favour. Indeed, authority and/or influence can in and of themselves be employed to command both income and prestige.

Weber saw two related orders -- the "class status" order and the "social status" order. The former is defined primarily in economic terms both with respect to present income and wealth, and with respect to future potential for income in the labour market. The latter order Weber defines as follows:

The term of 'social status' will be applied to a typically effective claim to positive or negative privilege with respect to social prestige so far as it rests on one or more of the following basis: (a) mode of living, (b) a formal process of education which may consist in empirical or rational training and the acquisition of the corresponding modes of life, or (c) on the prestige of birth, or of an occupation (1964: 428).

The two types of status are clearly closely linked and indeed as Weber notes rank in one may stand as a source of rank in the other (1964: 428-429). However, at the time at which Weber was writing (c.1900) the social and economic orders were sufficiently distinct that he could not completely integrate the two types of status.

What appears to have changed since Weber did his work is that the separation between the social and the economic orders has diminished, to the extent that the basis of allocation of both prestige and economic situation has become centred for the vast majority of the population in the occupational role. The relationship between occupational role and economic situation in terms of both present and future income is obvious. Equally clear is the relationship

between the occupational role and life-style, especially in a democratic market in which the ability to purchase any or all of the attributes of a given life-style is virtually solely a function of income. What is perhaps less clear is the relationship between the occupational role and the other elements which go into determining the prestige or social worth of the role.

Earlier I suggested that there were four attributes of a role all of which appeared to be closely associated with its prestige. Two, authority and life-style, I have already discussed. This leaves the relationship between the occupational role and exclusiveness, and representation of social values to be considered. The connection in both cases lies in the link between education and occupation. First, education because it is seen as having a relationship to occupational performance, and because it is seen as being an attribute which is earned in a fair way rather than ascribed, serves as a legitimate basis for the exclusion of individuals from occupational roles, and for the definition of social equals. Secondly, education is an attribute which is socially valued both for its perceived instrumental value and as an expression of virtue (Tumin, 1970:403; Shils, 1970:426). This, in combination with the fact that in most modern industrial societies the claims to status based on ascribed criteria are declining in legitimacy, has led to the establishment

of education as a major factor in the determination of the prestige of the occupational role and hence of its incumbents. The consequence has been that for the vast majority of people the key determinant of both their social class position and their social status has become fused in a single role, the occupational role. Hence, social class and social status have tended to become much more unitary, and it becomes reasonable to speak of a single socio-economic order in which status is determined by a combination of economic level (income) and status level (prestige). It might be noted that Weber himself anticipated this development. (1968: 937-938).

I will refer to "socio-economic status" as meaning position or rank within the socio-economic hierarchy. The term "socio-economic class" will be employed to denote collectivities, the members of which have the following attributes:

- 1) a similar socio-economic status
- 2) their members if they were to meet in a social situation would presumptively interact as social equals.
- 3) their members will tend to share elements of a common lifestyle.

It should be noted that in this usage the term "socio-economic class" in no way implies class consciousness or even

the notion of collective interaction. These classes may, like Weber's, be the basis for interaction, class consciousness, and class action, but these are only a potential outcome of their nature not their defining attributes.

This line of argument flies in the face of those who would argue that class is a multi-dimensional concept (e.g. Barber, 1968: 292). In one sense it is possible that they are correct in that it is the interaction of a number of factors which gives rise to the social class position typically associated with any given occupational role. It is the fact that, in the case of some roles, the correlations between these factors exhibit outliers on one or more dimensions giving rise to the discussions of multi-dimensionality. However, what those who argue in this way have failed to understand is that, regardless of the fact that many factors make up the status of an occupational role, the fact remains that that role, has overall in social life, only one status and one typical class position, and that the so-called multi-dimensionality is primarily a statistical artifact of our attempts to measure or create a metric of this single position. As Parkin aptly notes: "Such an approach (the multi-dimensional) tends to obscure the systematic nature of inequality and the fact that it is grounded in the material order in a

fairly identifiable fashion" (1971: 17).

Stratification and Process

Thus far I have only been concerned with viewing stratification from the perspective of social differentials and socio-economic classes. This view is, as I suggested earlier, only half of the picture. Unfortunately many writers have confused it with the whole (e.g. Davis and Moore, 1945). More recent writers have brought forth an awareness of the second dimension in which the term "stratification" is viewed as part of the verb "to stratify" and is seen as being descriptive of a process rather than a distribution.

Clearly, it makes a great deal of difference if in one society in which there are considerable social differentials there is little chance for sons to move out of their father's socio-economic class, and in another society with equally great social differentials that chance is great. Restricting the discussion solely to social differentials and class structures tends to obscure this vital difference. A difference, I might add, which is even more important if we are forced to conclude that certain types of social differentials are essential for a viable society. The degree of stratification in a society is inversely related to the degree of inter-generational mobility in the class structure of that society.

The degree of mobility in a society will be defined as the degree to which the social class positions of sons are different from the social class positions of their fathers. This concept is a continuum with perfect immobility -- all sons in the same social class as their father -- at one extreme and with perfect mobility -- fathers' and sons' classes independent of each other -- at the other extreme. Very clearly, the extensiveness of social differentials and the degree of interclass mobility are not conceptually unrelated as the following figure shows:

Figure 1

		Degree of Mobility	
		High	Low
Extensiveness of Social Differentials	low	Egalitarian	Segmental
	high	Open	Stratified

One might be tempted to call the diagram in Figure 1 a typology, but the dividing lines between the categories are not that sharp. The terms are better considered as labels for the quadrants on a graph with the two dimensions as its axes. Western industrial societies, by and large, lie in the stratified quadrant but generally towards the left hand side.

In keeping with the label of the lower righthand quadrant, the process of stratification will be defined as the process by which through the inter-generational transmission of socio-economic position classes become strata. (See Buckley 1958, for the origin of this usage.) The degree to which a socio-economic class becomes a social stratum is directly related to the degree to which there are inter-generational continuities. The ideal social-stratum would be exemplified by the idealized Indian caste in which there is in theory perfect inter-generational continuity from one generation to the next. At the other extreme there is the "pure" socio-economic class which would have no more inter-generational continuity than could be expected if the inter-generational allocative process were an entirely random one. (See Svalastoga 1965: 36-40).*

It should be noted that this usage also follows Duncan's quite closely:

*There is a third possibility suggested by Svalastoga in which the degree of inheritance becomes less than that which would occur in a random allocation and in which the relationship between father's and son's class position becomes inverse. (1965: 40) This is asserted to have occurred in some Eastern European countries often as the result of a communist takeover. I will call this situation the revolutionary situation. However, I will not consider it further. Such a situation is an inherently unstable one and in the absence of extreme social controls is unlikely to persist beyond the single generation involved in the initial revolutionary situation.

The degree of stratification -- or the degree of rigidity in the stratification system... - refers to the extent to which the level of status attainment depends upon the level of social origin. If there is much intergeneration transmission of status, a society is highly stratified; if there is little, the degree of stratification is low. To reiterate a society need not be highly stratified merely by virtue of the existence in it of much inequality of social rank. Rank may be highly differentiated, but if there is roughly equal access to unequally ranked positions, the society is not highly stratified, within the meaning of the term as it is used here. (Duncan, 1968: 696)

The degree of stratification in a society is a reflection of the nature of two major aspects of its social structure -- the distribution of resources including and especially power, and the opportunity structure. The term "opportunity structure" will be used here to refer to the structured set of arrangements which exist in a society in order to train members for and control access to occupational roles and hence to socio-economic status.* (See Sorokin 1964: 182-211)*

The Opportunity Structure

The very fact of the division of labour has given rise in virtually all societies to a very extensive and complex network of interdependent occupational roles. The nature of this interdependence makes it a matter of some importance to persons

*Although in this study I will not be looking directly at the allocation of power or the structure of power in society, it must be recalled by the reader that the basis of both authority and influence (especially the latter) is firmly rooted in the socio-economic order. High position in the socio-economic order while neither a necessary nor sufficient condition for authority or influence vis-a-vis those in lower positions is nonetheless with remarkable regularity associated with positions which have both relative influence and authority. Hence, although in any specific individual case the inference is problematic, this study while not directly looking at power in society will also give us a remarkably good indication of the way in which access to it is gained and maintained.

in other roles to ensure that performance in roles upon which they are dependent is at least minimally adequate. To illustrate in a simple way, if A decides with B that he will specialize in bow making and B will specialize in arrow making for their hunts it is a matter of no little importance to A that B know something about making arrows.

In most societies minimally adequate performance in the range of roles involved requires a broad spectrum of combinations of skills (acquired abilities) and talents (biological abilities). Given this, there is the two-fold problem of training talent and matching the combination to an occupational role. The members of most societies have responded to this problem by setting up varying types of training programmes for occupational roles and by ending these programmes with various rites de passage or certification ceremonies. The set of institutional arrangements by which this is done is the opportunity structure.

In western industrial societies the educational institutions constitute the major focus of these arrangements for training and certification and are hence the core of the opportunity structure. In referring to educational institutions the phrase is used in its broadest sense to include not just schools and universities but, as well, apprenticeship and intern types of programmes.

There is, in addition, a second component to the opportunity structure and this lies within the occupational

structure. As individuals gain experience on the job and demonstrate either their ability or perhaps their inability to perform there are opportunities for both upward and downward movement. These opportunities will, however, vary greatly with the type of work involved, with the status of the occupation, and with the age of the incumbent. The major constraint on this intra-generational mobility is the level of education certification which, except for those with B.A.'s and/or graduate training, will tend to place ceilings upon the degree to which people can be promoted upward. This constraint is most noticeable in the technical-professional sphere where certification and command of specific bodies of knowledge and expertise is considered to be of importance, and perhaps less notable in the area of management and sales where on the job performance is virtually the only criterion of success. However, it should be noted, that even in this area paper qualifications and certification are playing an increasingly important role.

Of the two components of the opportunity structure the educational component is, in modern industrial society, the more important. It is in the educational structure that individuals are initially sorted and certified and which plays a major role in terms of access to occupational roles. Once this is done, achievement within the occupational structure does, in some cases, introduce further opportunity independently of education but this is of a much lower order and is

FIGURE II.1
INTRA-GENERATIONAL DETERMINANTS OF PRESENT JOB STATUS*

much more limited. Evidence for this assertion may be found by looking at the relationship among education, first job and present job as presented by Blau and Duncan (1967: 169). Figure II.1 presents the path-diagram which may be derived from Blau and Duncan.

As can be seen from the path diagram, education has a relatively strong effect on first job. It might be noted that the estimate of this relationship is probably low. (See Blau and Duncan 1967: 166-68). The effect of education on present job is markedly stronger than the effect of first job on present job. Further, it is possible to decompose the variance explained in a dependent variable into direct and indirect components:

1. The effect of education on present job 18.5%
2. The indirect effect of education on present job acting through first job 14.3%
3. The effect of first job on present job 9.6%

From these values it can be seen that, in the United States at least, education is clearly a major determinant of occupational status and hence of social class. Thus, it is the educational structure which is the more important element in the opportunity structure than is the occupational structure after the individual begins work.

The Educational Structure

In society where access to occupational roles and hence to social status is not governed through direct inheritance

but rather through achievement in the educational system, it is clear that the nature of that system will have very real implications for the degree of stratification. Within western industrial societies the ideal which has been held out for the educational system has been the ideal of equal educational opportunity. That is, it is the situation under which individuals of equal ability should be expected to attain equal levels of education regardless of their ascribed characteristics. This notion does not imply, it might be added, individual equality of results, a notion which has produced a not inconsiderable confusion in the recent literature on educational attainment. (See for example Jencks, 1972; Coleman, 1973).

It is important to distinguish equality of opportunity from a much narrower term - equality of access. Equality of access is the condition of legal and structural equality. That is, equality of access implies nothing more than the absence of legal barriers to opportunity. As such it is a necessary condition for equality of opportunity but it is in no way a sufficient condition.

The degree to which a society is or is not stratified will vary directly with the degree to which there is or is not equality of educational opportunity. Thus, if we wish to establish the underlying causes of stratification we must look at the factors which mitigate against equality of opportunity.

Of late the factors in educational aspiration and attainment have been the subject of intensive study in both Canada and the United States.* In Canada studies carried out by Breton (Breton, 1972) and Blishen and Porter (Porter, Porter, and Blishen, 1973) exemplify primary research in this area. In the United States similar examples can be found in the work of Coleman (Coleman, et al., 1966) and Sewell (Sewell, Haller, and Ohlendorf, 1970) and in the provocative secondary analysis of a number of studies carried out under the direction of Jencks (Jencks et al., 1972). What is noteworthy, for all the differences in population, method, and in many areas conclusions, is that all of these studies share two common conclusions:

- 1) Family background is the most important determinant of educational success.
- 2) The background factors which are of most importance appear to vary systematically with social class.

Two of these studies are worth quoting in this context:

* It should be noted that in addition to the internal functioning of the two components of the opportunity structure their articulation needs to be taken into account as well. The translation of educational attainment into occupational position is always more or less problematic. This is particularly so in a society in which educational planning is carried on with little or no regard for manpower needs. The consequence of this is that the supply and demand sides of the educational-occupational boundary often get more or less seriously out of line with each other. This can occur relatively easily due to the fact that the occupational structure is considerably more sensitive to economic changes in the society than the educational structure so that educational supply is always in a position of lagging occupational demand.

"Using such measures of socioeconomic status as parental income, father's and mother's educational attainment, and father's occupation -- either singly or in combination -- we found enormous differences in educational opportunities among the various socioeconomic groups and between sexes. These differences are great regardless of what socioeconomic indices are used and regardless of how restrictively or broadly opportunity for higher education is defined -- whether it is taken to mean college entry, college graduation, professional or graduate study, or simply any kind of formal education beyond high school." (Sewell, 1971: 794-95)

* * * * *

"Even when we control for academic ability by dividing our sample into fourths according to the students's scores on standardized tests, we find that higher SES students have substantially greater post-high school education attainment than lower SES students." (Sewell, 1971: 795)

and

"So far we have presented striking evidence of the strong relationship between the income of students' families, as revealed by their fathers' occupations, and their educational aspirations and expectations. We have shown that the grade at which they planned to leave school, what they hoped and expected to do after leaving school, how they chose their high school subjects, and which program they selected, were all related to the students' social class. In fact, what is so very impressive is the linear relationship between these variables and the social class background of the students." (Porter, Porter and Blishen, 1973: 77)

Further, as Breton has written, "the existence of a relationship between socio-economic background and educational

intention is so strong and well established in research literature that any study which did not yield it would probably a priori be considered methodologically deficient." (1972: 137). Indeed, not only is the relationship between social class or origin and subsequent educational aspirations and attainment both persistent and strong, but virtually every other factor, including mental ability, which is related to educational aspiration and attainment, is related if only weakly to social class as well. (See McRoberts, 1974).

Unless one is prepared to accept the argument that there is a direct relationship between social class and mental ability, and that findings to this effect are more than just artifacts of measurement bias between social class and educational attainment, this relationship must be seen to reflect substantial departures from equality of opportunity. The reasons for this departure and its relationship to social class lie partly in the nature of the educational structure and partly in the nature of social class itself.

In looking at the factors affecting educational attainment four would appear to be of primary importance.

- 1) Mental Ability. This factor is certainly of some importance in educational attainment. However,

except for those whose ability lies at the extreme lower end of the distribution, it is perhaps less important than one might be prepared to expect, and is certainly not a sufficient condition for success.

Most studies have found a weak to moderate relationship between the measure of mental ability which they have employed and social class, but there is no clear evidence that this is not in part a result of measurement bias. Certainly there is no convincing evidence to suggest that the basic genetic component of mental ability is in any way related to class. There is evidence of a rather controversial nature which suggests that environment may account for as much as 35 per cent of the variation in the scores of mental ability tests (Jencks *et al.*, 1972: 66). It may well be that some of the relationship between social class and test measured mental ability is in fact due to the differential effects of environmental factors such as early diet. However, the effect is small in any case. Gilbert (1973) reports a correlation between social class and mental ability as measured on a "culture fair" test of .149. This means that parental social class

explains only 2.2 per cent of the variance in mental ability.

2) Resources. While early education in North America is virtually free and universal, secondary and more importantly post-secondary education involves increasing components of both real and opportunity costs. Very clearly the ability to bear these costs is directly related to family income which in turn is not unrelated to social class. (Breton, 1972: 137-148; Porter, Porter and Blishen, 1973).

3) Cultural Environment. Parental education, which is strongly related to social class, is in turn closely related to educational aspirations and attainment. (Breton, 1972: 185). The reasons for this are not hard to find. In general children raised in homes with highly educated parents are more likely to be exposed to ideas and to written materials at a much earlier age than those from homes where the parents are less educated. This in turn will tend to give these children a head start in school which those from less educated homes will find hard to overcome. Secondly, at the secondary level of education,

and beyond it is frequently necessary for students to make decisions about courses and programmes which can have far reaching consequences for their educational future. Clearly, particularly at the early secondary stage students whose parents have higher levels of education will tend to benefit from the greater relative knowledge of the system in terms of having a lower probability of making incorrect decisions.

- 4) Motivation. Ability is of little value unless it is accompanied by motivation and effort. The direct relationship which exists between social class and educational aspirations, and which remains even when factors such as present achievement and mental ability are controlled for (Porter, Porter and Blisshen, 1973: Chapter. III) suggests that there may indeed be class differentials with respect to the desire to get education. Traditionally, this differential has been explained on the basis of evidence such as that presented by Hyman (1966) which shows relatively strong relationships between social class and evaluations of education. The argument has been that the more one values education the more education one will want. More recent

research (Breton 1972; Porter, Porter and Blishen, 1973) has cast serious doubt upon Hyman's findings. In general, while small differences remain they are not sufficiently large to serve as the basis for an explanation. Jencks after considering a number of other potential explanations suggests the following which while untested seems plausible

"Even if a middle-class child does not enjoy school, he evidently assumes that he will have to stay in school for a long time. Children with working-class parents or lower-class parents evidently assume that if they dislike school they can and should drop out. As we shall see, students who plan to drop out usually assume they will have to take low status jobs. But such jobs evidently seem more acceptable to working-class students than to most upper-middle class children."
(Jencks et al., 1972: 141)

Again both of these effects are related to social class.

Thus, it would appear to be the case that the educational system serves as the link in the stratification process between the social class position of one generation and the social class position of the next generation. It constitutes the set of structural arrangements whereby the parents are able to transmit directly and indirectly the advantages and disadvantages of their class position on to their offspring.

Conclusions

In looking at a stratified society in terms of the degree of mobility in it, what on the basis of the above discussion would we expect to find?

1) In terms of the patterns of mobility:

i) We would, by definition, expect to find a definite tendency for class of origin and class of destination to be related.

ii) We would expect to find a relationship which is shaped like a U between class and the degree of inheritance in that class.

The reason for this expectation is as follows. If the major factors affecting equality of opportunity and hence mobility are strongly related to social class, then those born in the highest class have the greatest chance to retain their class position, and those in the lowest class the least chance to shed their class of origin. For those in the middle of the class structure the relationship should come close to one of independence by the same reasoning.

iii) Based upon the previous research literature it is to be expected that mobility will tend to

occur primarily in single upward and downward steps to adjacent categories.

- iv) Finally, again based upon previous research it is expected that due to changes in the division of labour between the father's generation and the son's generation there will be more upward mobility than downward mobility.
- 2) In looking at the process of stratification:
 - i) We expect to find that education is the key intervening variable between social class of origin and respondent's social class.
 - ii) We expect to find that most of the effect which social class of origin has on the social class of destination will be indirect. That is, social class of origin will have a major effect on the individual's educational attainment, some effect on the individual's point of entry into the occupational structure and little direct effect on his present social class.

More specifically the following links are suggested:

- 1) Social class of origin will exercise:
 - i) A strong influence on educational attainment for the reasons outlined earlier.

- ii) A weaker but significant influence on initial occupational status. This will occur for three not unrelated reasons:
 - a) It is not unreasonable to assume that there will be a direct relationship between social class of origin and knowledge about the occupational structure including, in addition to a knowledge of locations of jobs, things such as how to apply for them and how to function well in interviews.
 - b) Differential access by social class to the resources necessary to take advantage of occupational opportunities (e.g. loans at low or nonexistent rates to capitalize a business venture or a professional practice).
 - c) The direct intervention of the parents in the job seeking process in ways that may well range from the use of contacts within the occupational sphere or even the exercise of influence on these contacts to out-and-out nepotism.
- iii) A weak direct influence on present status due to the operation of the factors outlined in (ii).

2) Educational attainment:

i) Will exercise a very strong influence upon initial occupational status. (It is further suggested that this relationship will be stronger for younger cohorts than for older cohorts due to the increasing emphasis on credentials particularly at the point of entrance into the labour force.)

ii) Will exercise a strong influence on present occupational status and hence upon present status. The reason for this lies in the limits to intra-generational mobility set by educational credentials.

3) Initial occupational status will exercise a moderate influence upon present status due to the intra-generational mobility which does occur within the occupational structure.

These then are the basic relationships which are expected when we look at mobility in Canadian society. In the next chapter the techniques which will be employed to examine these relationships will be discussed and the basic nature of the data which have been collected to examine them will be described.

Chapter III

Methods of Analysis and Description of the Data

Analysis

In the previous chapter two approaches to stratification were suggested: A descriptive approach which examines the nature and extent of stratification, and an examination of the nature of the process of stratification. Different methods will be used to carry out each of these examinations and each of them will be discussed in this chapter. In addition, the data to be employed in the analysis will be described.

The Description of Stratification

The degree of stratification has been defined as the degree to which, in a society, the class of origin is for the members of that society also the class of destination. Or in an alternative form it is the degree to which class of origin and class of destination are associated. This very clearly, dictates an array of data in which class of origin is cross-tabulated by class of destination. This matrix will be denoted by M_{ij} , where i denotes the class of origin and j denotes the class of destination.

The problem now becomes one of how we will measure the degree of association between origin and destination. The most common approach which has been employed in the

past has been the application of the so-called "perfect mobility model" and the related indices of association and dissociation which were developed independently in the early 1950's by Glass (1954) in Great Britain and Rogoff (1953) in the United States.

The concept of the perfect mobility model is independent of the particular set of statistics which are used to measure departure from perfect mobility. It merely defines perfect mobility as being the situation under which statistical independence exists between origin status and destination status. That is, if we define a random individual X who has a class of origin C_i and a class of destination C_j , then there is perfect mobility only if for all i, j :

$$pX(C_j \cap C_i) = pX(C_i) \cdot pX(C_j)$$

The approach taken by Glass and Rogoff was to calculate the frequency for each cell in the matrix M_{ij} which could be expected to occur on the assumption of independence (Fe_{ij}). The ratio M_{ij}/Fe_{ij} was then calculated and became the index of association (for all $i = j$) and the index of dissociation for all ($i \neq j$). The interpretation of the index of association seemed quite straight forward. If the ratio was equal to one then there was independence, if it was greater than one there was inheritance, and if it was less

than one then there was disinheritance. The larger the departure from one, the greater the departure from perfect mobility for the cell in question.

However, since its introduction the index has come under attack on two grounds both based upon claims made for it by its creators.

The first criticism centres around Rogoff's claim that the ratio controls for changes in the occupational structure and hence allows for the separation of "real" and "structural" mobility, that is, to separate out the effect upon mobility of structural changes in the labour force such as a shift from the predominance of blue collar work to a predominance of white collar work. This claim has been proven false on mathematical grounds by both Blau and Duncan (1967: 91-95) and again by Tyree (1973). While it would perhaps be ideal to have a measure which did allow one to separate out the effect of structural change on mobility, the fact that one cannot do so would not be grounds for rejecting such a well developed and frequently used measure. This point will be further discussed later.

The second problem is of a more serious nature. Tyree has shown that each of the mobility ratios (indices of

association and dissociation) had a unique maximum value determined by the particular marginal proportions of the mobility matrix (1973). This means that contrary to the claims of Rogoff (1953: 32-33), and Glass and Hall (1954: 196) the magnitudes of the ratios cannot be directly compared in a straight forward manner, and that they do not form a ratio measure. Tyree considers one solution to this problem which involves standardizing the ratios by dividing each ratio by its maximum value. However, she concludes that this is not a satisfactory solution (1973: 581-582). There are, of course, a number of other possible solutions to the problem, including development of a sampling distribution for the mobility ratios and transforming to Z scores, or simply finding a transformation such that the range of all scores lie in the range of say $-\infty$ to $+\infty$. These operations would involve a great deal of effort in the face of an unknown pay-off, especially when there are more satisfactory solutions to the problem of analyzing the matrix already at hand.

A promising set of solutions were proposed by Hope (1972) and Tyree (1973). This solution was to recode the father and son status variables as dummy variables and to then create measures of association for each of the possible

father-son pairs. Hope proposed the correlation coefficient as his measure of association and Tyree proposed Yule's Q as her measure. However, the fact that on the same data the two measures can give wildly differing estimates of the strength of an association coupled with their behavior when one of the cells of the two by two table is very small, casts some doubt upon the suitability of either measure.

A third set of methods for the analysis of mobility tables has been proposed by Goodman (1965, 1969a, 1969b, 1972b). These methods are based on a more general set of methods for the analysis of contingency tables proposed by Goodman. Until recently sociologists have not made extensive use of these methods due to two factors: the difficulty of following Goodman's mathematical arguments; the problems of creating the necessary statistics. The former problem has been much alleviated by the appearance in the journals of articles employing the technique in substantive analysis (e.g. Hauser, et, al. 1975a). The latter has been rendered trivial by Goodman who has made freely available his programme ECTA which will carry out in a very efficient fashion all of the necessary calculations.

Ultimately the best choice among the available techniques appears to be the set of methods developed by Leo Goodman*

* While I will not list or even refer to all of Goodman's articles here the reader may turn to the references for an extensive if not exhaustive listing of his articles on this.

under the general heading of log-linear models. These have the advantages of not only allowing the researcher to examine the association in the cells of a table net of marginal effects (i.e., to look at "real" as opposed to "structural" effects) but also of allowing for a very straightforward way of making comparisons between cells in different tables. Additionally these techniques allow for the testing of more complex hypotheses involving several dimensions.

As this is not primarily a statistical study I do not intend to go into great detail in explaining or proving the mathematics of Goodman's work. The reader who is interested is referred to his articles. What I will do is present in summary form the basic measures which I will be employing and explain their substantive significance.

The Basic Model

Let us begin with a basic $R \times C$ table ($i = 1, 2, \dots, R$ and $j = 1, 2, \dots, C$) where $R = C$, that is, a square table like the standard mobility table. Let p_{ij} be the probability of a case falling in the (i, j) cell, and let V_{ij} be the natural logarithm of p_{ij} . Now following Goodman we can write:

$$V_{ij} = U + \lambda_j^R + \lambda_i^C + \lambda_{ij}^{RC} \quad (\text{Goodman, 1970: 228})$$

The term U is the average value of all V_{ij} , λ_j^R is the average value of V_{ij} for row j , λ_i^C is the average value of V_{ij} for column i , and λ_{ij}^{RC} is the average crossproduct ratio for all

possible 2 x 2 sub-tables involving either the row or column in question. Or to put it another way λ_{ij}^{RC} is the effect on V_{ij} of the interaction - or association - between i and j . As such this value provides a measure of cell association net of marginal effects. Thus, these values present an ideal way in which to examine the associations in a mobility table. In the case of independence λ_{ij}^{RC} will take on a value of zero, that is the interaction between i and j makes no contribution to the value V_{ij} . When λ_{ij}^{RC} is greater than zero this indicates a positive association and when λ_{ij}^{RC} is less than zero this indicates a negative association. To facilitate analysis within a table standardized values for λ_{ij}^{RC} may be calculated. Under independence the expectation for λ_{ij}^{RC} ($E(\lambda_{ij}^{RC})$) is zero. Thus, for each cell (i,j) we can calculate a score Z_{ij} where:

$$Z_{ij} = \frac{\lambda_{ij}^{RC} - E(\lambda_{ij}^{RC})}{\sigma_{\lambda_{ij}^{RC}}}$$

$$= \frac{\lambda_{ij}^{RC}}{\sigma_{\lambda_{ij}^{RC}}}$$

$$\sigma_{\lambda_{ij}^{RC}}$$

(Goodman, 1969a: 6-7)

This score yields a directly interpretable measure of the direction and magnitude of the departure from independence, and of whether or not the departure if any is a statistically significant one.

If we wish to make comparisons between two tables this can be easily done as well. If we let $G_1 = \lambda_{ij}^{RC}$ from table 1 and if we let $G_2 = \lambda_{ij}^{RC}$ from table 2 and let S_1 and S_2 be their respective standard errors, then to test for significant difference we calculate:

$$G_{diff} = \frac{G_1 - G_2}{\sqrt{\frac{S_1^2}{2} + \frac{S_2^2}{2}}} \quad (\text{Goodman, 1969a:21-21})$$

which is distributed as the unit normal.

Testing Models

While the analysis of mobility tables employing standardized lambda values is of interest and can be of analytic value, it is only the beginning of what can be done using log-linear models. Of much greater interest are the techniques for testing what Goodman calls "models".

A model in Goodman's terminology is an equation about V_{ij} , generally in the form of a null hypothesis. Goodman identifies three basic types of models: saturated models, independence models, and quasi-independence models..

The simplest type of model is the saturated model one type of which has already been discussed. It is the model in which all of the components of V_{ij} have been specified. Or in Goodman's terms in which all of the possible interactions are assumed to have non-zero values. In model testing the saturated model is the one which is adopted only when all others have been rejected.

Independence Models (Goodman, 1972b: 652-653)

In the original equation for V_{ij} it was specified that:

$$V_{ij} = U + \lambda_j^R + \lambda_i^C + \lambda_{ij}^{RC}$$

However, if we set as a null hypothesis the statement that R and C are independent we could write that null hypothesis in the following form:

$$v_{ij} = U + \lambda_j^R + \lambda_i^C$$

Note that the term λ_{ij}^{RC} has been omitted as under the assumption of independence it is assumed to have a value of zero. If we denote the maximum likelihood estimate of V_{ij} under the newly specified model as v_{ij} , then we can use V_{ij} to calculate f_{ij} (the observed frequency in cell (ij)) and v_{ij} to calculate F_{ij} (the expected frequency in cell (i,j)). With this information we can calculate a likelihood-ratio chi-square (χ^2_{LR}) test of the degree to which the model fits. That is, a test of the degree to which the f_{ij} and the F_{ij} are similar. If the χ^2_{LR} is small with respect to the $(R - 1)(C - 1)$ degrees of freedom then we would accept the null hypothesis of independence between R and C. If it is larger then we would reject the null hypothesis and conclude that the data lent support to a conclusion of association between R and C.

The method can be extended to models with more than two variables and I will look briefly at a series of three

variable models. Assume we have three variables A_i , B_j and C_k . The saturated model would be written as follows:

$$V_{ijk} = U + \lambda_i^A + \lambda_j^B + \lambda_k^C \\ + \lambda_{ij}^{AB} + \lambda_{ik}^{AC} + \lambda_{jk}^{BC} \\ + \lambda_{ijk}^{ABC}$$

The first independence model would be written as follows: (subscripts omitted)

$V = U + \lambda^A + \lambda^B + \lambda^C + \lambda^{AB} + \lambda^{AC} + \lambda^{BC}$, and the corresponding null hypothesis would be that there is no interaction between A, B, and C, or if C is a control variable that there is no association between C and the AB association.

The second set of models which can be produced involves setting one or two of the terms λ^{AB} , λ^{AC} , λ^{BC} to zero. For example, we might write a model as follows:

$$V = U + \lambda^A + \lambda^B + \lambda^C + \lambda^{AC} + \lambda^{BC}$$

The null hypothesis corresponding to this model would be that A varies with C and B varies with C but that there is no relationship between A and B and that there is no relationship between A, B, and C.

At this point it is useful to introduce a further two terms from Goodman into the discussion. The first of these is the term "effect". An effect refers to a non-zero lambda or put another way if a lambda is non-zero it is

said to have an effect in the model. The second term is the term "order". This term refers to the number of variables involved in an effect. The order of an effect is the number of variables involved in that effect. Thus, λ^A is a first order effect, λ^{AB} is a second order effect, and λ^{ABC} is a third order effect.

Returning to the last model which was specified we can now point out another feature of log-linear analysis and that is that all effects of an order higher than the highest order effect specified in the model being tested are also constrained to zero. In this sense the models are hierarchical. If a given model fits (i.e. we cannot reject the null hypothesis) then all higher order effects not specified in the model are zero. This feature is particularly valuable when one is testing models with a large number of variables and in which one's theory predicts that many of the higher order effects will in fact be zero.

While independence models (I models) are of considerable value and allow for the testing of many substantively interesting hypotheses, as Goodman has pointed out, in the case of mobility tables, the I model is a bit of a straw man. That is, in the case of the mobility we expect to find and routinely do find a strong association between father's status and son's status. Given this a null-hypothesis in

which we specify no relationship becomes almost trivially easy to reject. However, Goodman has developed a second family of models which he calls quasi-independence models which allow for the testing of some rather more interesting hypotheses.

Quasi-Independence Models (Goodman, 1972: 653-656)

In looking at quasi-independence models we return to the basic $R \times C$ table. In general quasi-independence models focus on sub-sets of cells in the table and specify as a null hypothesis that there is no association between R and C over the sub-set of cells in question. As with independence models likelihood estimates of F_{ij} are generated and a χ^2_{LR} is calculated in order to test the model. While the number of possible quasi-independence models is very large four general types of models are of particular interest to the mobility analyst:

a) The QO model:

In this model the sub-set of cells to be looked at is the set of all i, j where $i \neq j$, that is all cells not on the main diagonal of the table. The null hypothesis is that all of the association in the table is on the main diagonal, or substantively that there is no significant mobility.

b) The QO±1 model (Goodman 1969a)

Here the set of cells immediately adjacent to the main

diagonal cells is removed from consideration. The null hypothesis is that there is no significant association in the table beyond that found in the main diagonal and mobility from the category of origin to the next adjacent category.

c) The QP model

Here the sub-set of cells examined is the set of cells below the main diagonal. A fit with this model would indicate no significant association in the upward mobility triangle.

d) The QN model

Here the sub-set is the downward mobility triangle with a corresponding null hypothesis.

Q models can be extended to higher order models in precisely the same manner as can I models.

Further, models which involve the same set of variables can be compared with each other by taking the ratios of their χ^2 's. The model which places the fewest constraints on the data consistent with theory becomes the baseline model and its χ_{LR}^2 becomes the baseline χ^2 (χ_T^2). As models which further constrain the data are added we calculate $(\chi_H^2 / \chi_T^2) \times 100$ and the percentage which results is the proportion of the "variance" in χ_T^2 which remains to be explained by further constraints on the data. Or to put

it another way $100 - ((\chi_H^2 / \chi^2) \times 100)$ is the proportion of the association in the model which is accounted for by the added constraint.

Problems With the M_{ij} Matrix

As a measure of mobility there are some problems associated with the basic M_{ij} matrix which persist regardless of the particular statistical test which is employed to measure the amount of mobility in the matrix. These problems are not necessarily serious as long as it is clear what is and is not included in the matrix.

i) The Ordinal Stability of C_i and C_j

From a theoretical stand point this is not a problem in that there is no reason why we would expect the ordering of classes to change over time. However, given our indicator which is occupation this could be a problem. This will be particularly so if we consider that in the case of a respondent who is 64 years old at the time of the study, the measure of C_i will refer to the year 1925. In this time period, of course, some occupations have grown in importance and others have declined, with changes in the technology and organization of production. The question is, "What effect if any have these changes

had on status orderings?" The answer would appear to be, "Virtually none". In their study of occupational prestige from 1925 to 1963, Hodge, Siegel, and Rossi conclude "...That there have been no significant changes in occupational prestige in the United States since 1925." (1966: 329, *italics in original*). Closer to home Blishen notes that the correlation between his 1951 socioeconomic status scale and his 1961 scale, both based on Canadian Census data, "... was 96, indicating ... stability in the structure over time ...". (Blishen 1968: 744) In short, the evidence would seem to justify the assumption of little or no change in the ordering of occupational status and hence class over time, and to hence, justify the assumption that inversions in ordering in the interval between C_i and C_j is not a problem.

ii) The Problem of Structural Mobility and Real Mobility

One of the often discussed problems in the analysis of social mobility is the issue of so-called structural mobility. To state the problem in very simplistic terms structural mobility is thought to be the mobility which occurs due to changes in the labour force structure which have

occurred in the interval between the time at which one generation enters the labour force and the time when the subsequent generation enters the labour force. To illustrate, if between one generation and the next the proportion of persons in the labour force engaged in blue collar work were to decline and at the same time the proportion of persons engaged in white collar work were to increase, then it has been argued that the consequent mobility which must occur -- as it is not possible for all sons of blue collar workers to become blue collar workers -- is structural in its cause rather than the result of an increase or decrease in actual opportunity in the system.

It is conceded that from the viewpoint of an individual who has been mobile or otherwise, the question of whether his personal situation is due to either structural mobility or exchange mobility (or both) is more than a little academic. However, for the sociologist the distinction is of considerable importance. To illustrate this let us consider the case in which it can be shown that over time there has been no change in the "net" or "exchange" mobility rate and that all of the change which has occurred in this case can be attributed to structural changes in the labour force. It might be noted that just such a finding has been reported for the United States (Hauser, *et al.* 1975a), so the example is not an unrealistic one. Let us

further assume that the degree of "gross" or "observed" mobility is rather greater than the net mobility in this case, and as a consequence the society appears to be relatively open. Now, we must ask two questions:

- 1) Can the rate of structural change continue indefinitely?
- 2) What will happen, ceteris paribus, if the rate of change alters?

The answer to the first question is clearly no.

Western industrial societies have been going through a period of very rapid growth and change, especially since the Second World War. However, as Galbraith (1967) and others have noted it is very unlikely that this growth can in fact be sustained indefinitely, and we must be prepared for an initial period of a declining rate of change and then for a period of stability or at best very very limited growth. If indeed this occurs, and recent events suggest that it is, and rather sooner than we had expected, then the net mobility rates suggest the type of stratification system which we can expect to see in the future if no real changes are made in the basic components of the opportunity structure.

The problem arises in that while the marginal distribution of sons in the mobility matrix can be seen as a sample of sons, the same cannot be said of the marginal distribution of fathers. Due to differences in fertility, mortality and to migration the father's distribution

cannot be generalized to any real set of fathers. Hence, in the strictest sense to treat the shifts in the marginal distributions from father to son as being representative of the real structural changes is incorrect. However, it is possible to argue that these shifts are indicative of the real shifts in the structure and hence that, while there is some inexactitude involved, the general direction and magnitude of the changes observed in the marginals of the mobility matrix will reflect, albeit imperfectly, the changes which have in fact occurred. In the analysis the Delta index will be employed to look in a general way at structural changes, but the main focus of the analysis will be on the net rates of mobility.

iii) Differential Mortality

Our sample is a sample of sons who report on their present status and on their origin status. If there is a direct link between mortality and social class this will mean that especially with older cohorts the lower classes and the downwardly mobile will tend to be under-represented in our sample. This will have two consequences. First, the underestimation of the degree of downward mobility. Second, the underestimation of the degree of rigidity in the lower classes. American data presented by Moriyama and Guralnich suggest

that this problem is likely to be serious only for the very bottom class which has a markedly higher mortality rate than other classes (1970: 170-178).

If we had data on age specific occupation mortality it would be possible to adjust the matrix for this and to estimate the magnitude of the effect of mortality on the matrix. Unfortunately, there are no reliable Canadian data on this available - so it cannot be done.

iv) Migration

A further problem with the matrix M_{ij} as a measure of the degree of mobility within the society arises from international migration. For example, if in a given class a high proportion of the sons were to migrate out of the system, and if most of their places were to be filled by immigrants from a system in which there was rather more mobility, the matrix would tend to show a rather high level of mobility with respect to that class, while for those within the system the degree of mobility might actually be quite low.

This problem has particular salience in the Canadian context as Canada has experienced and has continued to experience relatively high levels of

both in and out migration. This has been particularly so with respect to the higher and lower ends of the occupational structure. This problem is being extensively investigated by others working on these data and is mentioned here only as a caution to the reader.

The Stratification Process

While examination of the mobility matrix is useful in looking at the degree of mobility in a society it is a limited basis for an examination of the process of stratification. To look at this path analysis, an offshoot of the technique of regression analysis, will be employed. (See, Land 1969 for a full description of the technique).

In addition to being a powerful descriptive and analytic tool the path model allows us to test whether or not the correct model has in fact been specified. Indeed, it is important that this testing be carried out before the analysis is done as the model presented will have considerable impact on the values of the coefficients obtained and hence upon the analytic interpretation of the model.

In order to carry out this testing it is essential that on the basis of theoretical considerations the complete model be specified in advance. This specification includes the ordering of the variables, and the specification of the presence or absence of a path for all possible paths.

The test is carried out by using the Path Theorem.

($r_{ij} = \sum P_{ik} r_{jk}$). Instead of inserting the values of r_{ij} and solving for P_{ij} , we reverse the procedure, which will give us a reconstruction of the correlation matrix ($\hat{R}_{ij}$) based upon the postulated structure. We can then calculate using Fisher's test a statistic based upon the hypotheses of no significant difference between each $\hat{r}_{ij}$ and each r_{ij} . Where a significant difference is found it suggests that there has been an important path omitted from the model and that the proposed theoretical structure is in need of revision. (See Burt, 1973: 107-110).

In addition it is possible to test each path for significant difference from zero using the standard t statistic for multiple regression. (See Hays and Winkler, 1971: 668). This statistic, of course, is distributed as $N(0,1)$ for large samples and it is to this distribution that we will refer the statistic.

The Data

The data upon which this study is based were gathered through the use of a questionnaire designed by a team of researchers - of which I am a member - and administered by Statistics Canada as a supplement to their July 1973 Labour Force Survey. A copy of the instrument can be found in Appendix I.

The Sample Design

The target population from which the Labour Force Survey sample is drawn is the civilian non-institutional population of Canada excluding the Northwest Territories and the Yukon, who are 14 years of age and over. The sample is a multi-stage stratified probability sample of this population. The basic unit of the sample is the household, and approximately 35,000 households are sampled each month. The participating households are divided into six panels, with each remaining in the sample for a period of six consecutive months. Thus, each month a new panel rotates into the sample and the panel in its sixth month rotates out.

The Labour Force Survey sample is drawn in two parts: Self-Representing Units and Non-Self-Representing Units. Each will be briefly described below. (Additional information on the sample design can be found in the publication Methodology: Canadian Labour Force Survey, D.B.S. 71-504: 1966.)

Non-self-representing Units

These are units which lie outside census metropolitan areas and smaller cities over 15,000 population. In these areas it is impractical to draw a wholly representative sample due to the time and cost factors involved in having

an interviewer cover these areas. Thus, a four stage sampling design is employed. At the first stage, the area is divided into strata and then into primary sampling units (P.S.U.). These are then sampled, and those P.S.U.'s selected "represent" other units which were not (hence, the term "non-self-representing"). The second stage is to divide the selected P.S.U.'s into segments which are composed of one or more Census Enumeration Areas. These are then sampled, and those segments chosen are broken down into clusters of four to five households. The final stage is the selection of households within clusters.

Self-representing Units

The self-representing unit is an urban area with a population of 15,000 persons or more, or an area which is of unique or special interest. The boundaries of these areas are the same as those used for the metropolitan areas in the Census. In the larger cities (units), the city is broken down into segments which in turn are sampled independently within each sub-unit. Households are then selected from each chosen segment. Presently, 1961 Census boundaries are used but are being corrected to 1971 Census boundaries upon re-design based on the 1971 Census.

The basic design of the Labour Force Survey is such that the data are self-weighting by province. However, due

to the very large differences in population size among the provinces, each province is sampled at a different sampling ratio. In order to make inferences to the country as a whole, it is necessary to weigh each case by the inverse of the provincial sampling ratio.

Statistics Canada also uses three other weights in order to arrive at an overall weight for the cases in the sample. The second weight is a "balancing for non-response" weight. It is calculated using "balancing units" which are urban or rural portions of primary sampling units or sub-units (compact areas of about 15,000) within self-representing units. The third and fourth weights are the "Urban-Rural factor" and the "Age-Sex factor". The computation of these latter weights is complex and will not be gone into here. Basically, sample proportions are compared with census population estimates in order to create a correction factor for "population slippage", which refers to changes in the population which occurred since the basic design of the sample was established. The final weight which is placed on each record is the product of the four weights.*

As indicated above, the Labour Force Survey sampling procedures determined the target population and the sample for the CARMAC study. However, because the instrument was not relevant to persons under 18 years of age and to full

*See Appendix II for a discussion of how weights and the problem of significance tests have been handled in the analysis.

time students, they were dropped from our sample. Consultation with Statistics Canada assured us that deletion could be made without biasing the sample or the weights.

Field Procedure

Given the decision to conduct the survey at a single point in time, the instrument was dropped off at the time of the July 1973 Labour Force Survey interview and picked up later in the week by the enumerator. This procedure was particularly useful in determining the eligibility of persons in the Labour Force Survey for the CARMAC survey.

The enumerator was instructed to note on a control form whether or not each member of the household was eligible for the CARMAC survey (over 18 and not a full time student). CARMAC respondents were then given a questionnaire and asked the time at which the enumerator would call-back to collect the completed instrument. Up to three call-backs were made in some cases. There were two exceptions to these procedures of sample selection and call-backs. First, in remote areas where consideration of time and distance made call-backs impossible, a stamped return envelope was left with the respondent. Secondly, where a family was not at home, copies of the instrument and stamped return envelope were left for every member of the household. It should be noted that the CARMAC and Labour Force Survey samples

differ in that in the latter one member of the household acts as a proxy for all members. In the CARMAC survey, each eligible individual in the household was asked to complete his/her own instrument.

A covering letter by the Chief Statistician of Canada, Dr. Sylvia Ostry, both requested the co-operation of respondents and gave them strong assurances of confidentiality for their responses. This was particularly important in view of the large amount of data which the CARMAC questionnaire required.

The results of this field work are summarized in the following table:

Total Responses to the July 1973 Labour Force Survey	73,736
Target JMS Responses	61,183
Responses unavailable due to July Temporary Absences	3,689
Expected response to JMS minus T.A.s	57,494
Response to JMS after Collection and Capture	49,324
Invalid Records due to either Totally Blank Identification or Total Blank Responses to the JMS Questionnaire	3,157
Responses as Input to Edit and Matching Programs	46,167
Unmatched Responses	1,267
Matched Responses	44,900
Responses Declared Invalid by Subject Matter Update Procedures	31
Responses Contained on the Final Tape	44,869

This leaves a Response Rate:

Usable Responses	<u>44869</u>	X 100 or
Expected Responses	57494	
Response Rate	78%	

The response rate while not overwhelming is certainly acceptable, and, it might be noted, is considerably higher than many experienced personnel at Statistics Canada had cautioned us to expect. It might be added that while extensive tests have not been completed Statistics Canada has assured us that preliminary tabulations suggest that there is little appreciable bias with respect to basic demographic and labour force characteristics as a result of the non-response.

Chapter IV

Classes and Strata in Canada

In this chapter the examination of stratification in Canada will be begun. Initially, the discussion will focus on the creation of indicators of socio-economic status and socio-economic class. In a second section of this chapter the basic mobility matrix will be presented and analyzed. In addition, the matrix will be broken down by cohorts in order to examine the extent to which there have been changes in the degree of stratification over time.

The Measurement of Socio-Economic Status and Socio-Economic Class

Before one can examine the nature of social stratification, it is necessary to first devise a means of measuring socio-economic status and socio-economic class. In Chapter II it was argued that occupational status was closely related to socio-economic status and it is an estimate of the former which will be employed as an indicator of the latter. Blishen (1958, 1967) has devised a technique for the estimation of occupational status which, it will be argued, is both theoretically and empirically sound. Before looking at Blishen's estimation technique, the nature of direct measurement

of occupational status will be examined along with the relationship of this measure to a more direct measure of socio-economic status.

Occupational Status

Apart from a very limited study by Tuckman (1947), the only major study of occupational status in Canada is the study carried out by Pineo and Porter in 1964 (Pineo and Porter, 1967).

Contrary to the title of their article and their repeated use of the term "prestige" in that article, what Pineo and Porter have measured in their study is occupational status, not occupational prestige. The instructions which the interviewers read to the respondents in that study were as follows:

"Now let's talk about jobs. Here is a ladder with nine boxes in it, and a card with the name of an occupation on each.

Please put the card in the box at the top of the ladder if you think that occupation has the highest possible social standing.

Put it in the box at the bottom of the ladder if you think it has the lowest possible social standing."

If it belongs somewhere in between, just put it in the box that matches the social standing of the occupation."

A little later on in the sorting process:

"Here are some more cards with names of occupations. Just put them in the boxes on the ladder which match the social standing they actually have."

Not once in the entire set of instructions is the term "~~prestige~~" even mentioned. The term which is repeatedly used as the stimulus in the ranking process is "social standing". This is not the same thing as prestige; rather, social standing is precisely a good indicator of the overall concept of socio-economic status which was discussed in Chapter II. Prestige is a component in the determination of social standing or status but it is by no means the same thing. Indeed, Hope, quoting Reiss (1961) notes that in the NORC study, of which the Pineo-Porter study is a replication, that after the respondents had ranked the occupations in terms of "general standing", they were asked, "When you say that certain jobs have excellent standing, what do you think is the main thing about such jobs that gives them this standing?" Hope then goes on to state:

"In the outcome, the answers given were quite varied, and, most notably, only 14% of responses were classified as referring to 'social prestige' - as against 40% referring to potential occupational rewards and 32% to job or occupational requirements."
(Goldthorpe and Hope, 1972: 28)

While Pineo and Porter did not ask a similar question, there is no reason to believe that if they had the results would

have been any different. Thus, what we do have is a measure of the variable, occupational status.

This conclusion is further affirmed by the work of Goldthorpe and Hope cited earlier. After a careful examination of the way in which occupational "prestige" scores are arrived at they conclude that there is little fit between what was being measured and the concept of prestige. They then go on to conclude:

"2) Prestige ratings may be taken as indicative of the status of occupations in the generic sense earlier distinguished - that is, as being in effect comparable with composite measures of "socio-economic" status, derived from data on income, education, housing, possessions, etc. Justification for this position is twofold: first, to repeat the observation of Reiss, respondents in prestige rating studies appear "to emphasize the relevance of indicators sociologists use to measure socio-economic status"; secondly, as shown by Duncan (1961), it is possible, at least in the American case, to predict prestige ratings fairly accurately from census data on occupational income and education. If, then, "occupational prestige" is understood in the way in question, some reasonable basis may be claimed for interpreting occupationally-measured mobility in terms of movement between grades of occupation differentiated chiefly by their levels of rewards and requirements." (Goldthorpe and Hope, 1972: 36)

In sum, the weight of evidence would tend to support the conclusion that the Pineo-Porter scale - which is a replication of two of the studies analyzed by Goldthorpe and

Hope - is a scale measuring the socio-economic status of occupations and that it is in many respects a valid measure of that concept.

The second issue to be considered is that of reliability. While there is no evidence relating the Pineo-Porter scores with any Canadian data, they do report that the 1963 N.O.R.C. study which they's replicated produced a scale which correlated .98 with the Pineo-Porter scores. Hodge et. al. in turn report a correlation of .99 between the 1963 and 1947 N.O.R.C. studies of occupational status (1967: 326). These results would tend to indicate that the technique will replicate with a high degree of consistency.

The Blishen Scale

Given the above considerations, the ideal solution to a measure of occupational status and, hence, an indicator of social status would simply be to have a representative sample of the population rank a complete set of occupational titles. However, the cost of such an undertaking would be astronomical and, even if that could be met, it is doubtful if respondents could be persuaded in any fashion short of physical force to do the task; the 1971 occupational classification for Canada lists over 400 titles at the 4 digit (of 7) level of detail. The solution

which Blishen found to this problem was the socio-economic status index which is based upon the combination of income and education. (Blishen, 1967; Blishen and McRoberts, 1976)

The creation of this scale is based on the following steps:

- 1) For each Census occupational title a measure of the level of income (I) and the level of education (E) typical of the occupation is calculated.
- 2) Where possible Census occupational titles are matched with Pineo-Porter status scale titles to give for a subset of Census titles a direct measure of Status (S).
- 3) The following regression is then calculated:
$$S = B_1I + B_2E + C$$
- 4) Tests for linearity and additivity are then carried out.
- 5) If the regression is linear and additive the socio-economic score (S^1) for each Census occupational title is then calculated in the following fashion:

$$C + IB_1 + EB_2 = S^1$$

The scale which will be employed in this study is the 1971 scale which is based on 1971 Census data and which gives a socio-economic status score for each of the occupational titles employed in the 1971 Canadian Classificatory Dictionary of Occupations Coding Manual which was the manual

which was employed to code occupational titles in this study.

The regression upon which this scale is based employed 85 occupational titles and gave the following results:

$$\hat{S} = .3069I + .3658E + 12.276$$

$$R_{s\hat{S}} = .914$$

$$R^2_{s\hat{S}} = .836$$

$$\text{Standard Error} = 7.618$$

$$F \text{ ratio} = 208.75 (2,82) p < .01$$

Tests for linearity and additivity support that the relationship is both. In addition to providing a useful method of generating a measure of occupational status this regression is of some theoretical interest as well.

Based on the argument in Chapter II the following model of status determination could be hypothesized:

Of the four variables included in this model we have a measure for all but one - prestige. This is not particularly serious in that we do have measures of each of its major determinants. Further when we recall the regression

2

4

OF/DE

it will be noted that the R^2 is .836. This in turn suggests that even if we had a measure of prestige and if the model was perfect - that is if there were no other factors which had any impact on occupational status apart from income, education and prestige - then prestige would at the very most account for an additional 16.4 per cent of the variation in occupational status.

From this it can be concluded that the measure of occupational status employed while not a perfect measure of the concept of socio-economic status is at the very least a reasonable indicator of that concept. Further, it is an indicator whose construction bears more than a passing relationship to the theoretical definition of the concept.

As I argued earlier in Chapter II occupations with a similar socio-economic status were likely to belong to the same socio-economic class. However, the identification of such classes in a case where only socio-economic status is known is a somewhat arbitrary business. Nonetheless if constructed with some care statistical classes based on placing a series of cutting points on a scale of socio-economic status can have considerable value in analysis and can bear at least an indicative relationship to the concept of socio-economic classes of which they are an indicator.

In Chapter II I suggested that the defining attributes of a socio-economic class were as follows:

TABLE IV.1

CLASS CUTTING POINTS AND CLASS DISTRIBUTION

<u>Socio-Economic Class</u>	<u>Occupational Character</u>	<u>Score Range**</u>	<u>N*</u>	<u>%</u>
Upper Middle	Professional and Executive	75 - 65	1221	13.1
Middle	Technical and Semi-professional and middle-management	64 - 53	1446	15.5
Lower Middle	Senior white collar, supervisors, sales and highly skilled trades, foremen-skilled trades	52 - 45	1554	16.7
Upper Working	Lower lead clerical, skilled trades, Foremen semi-skilled trades	44 - 35	1884	20.2
Working Class	Semi-skilled trades, unskilled white collar	34 - 28	1891	20.2
Lower Class	Unskilled blue collar, agriculture, seasonal workers	27 - 14	1345	14.4

* Based on Canadian born males age 25 - 64 in July 1973.

**See Blishen and McRoberts, 1976; Table 1 for the scores of individual occupations.

- 1) its members would share a similar socio-economic status,
- 2) its members if they were to meet in a social situation would presumptively interact as social equals,
- 3) its members would tend to share elements of a common lifestyle.

The socio-economic status scale was however the only piece of information directly related to class on which I could make judgements. Further, amazingly little work has been done on the relationship between such measures and measures of socio-economic class which take into account the elements of interaction and life style. The most notable and best documented work is that of W.L. Warner and his associates. Following his suggestions in *Social Class in America* (1960) I have cut up the socio-economic status scale into six "classes" as shown in Table IV.1.

Particularly near the boundaries of the divisions the decisions take on a distinctly arbitrary nature and to that extent these are only really statistical classes. On the other hand for most of the members of any given class their socio-economic class position is clearly related to the statistical class in which they are placed. To this extent these classes stand as legitimate indicators of the concept of socio-economic classes and will be treated as such in the analysis.

TABLE IV.2

ROW PERCENTAGES FOR CANADIAN BORN MALES AGED 25 - 64

Respondent's Socio-economic Class

Respondent's Father's Socio-economic Class	<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>	<u>V</u>	<u>VI</u>	<u>T</u>
I	43.7	27.7	15.4	6.5	5.0	1.7	100.0
II	26.3	27.8	18.2	16.3	7.7	3.9	100.0
III	22.0	19.5	24.4	16.4	12.6	5.2	100.0
IV	13.2	18.5	21.7	23.6	16.8	6.2	100.0
V	9.7	14.9	15.8	23.7	27.1	9.0	100.0
VI	6.7	9.9	12.2	20.0	24.3	27.1	100.0
T	13.1	15.5	16.7	20.2	20.2	14.4	100.0

N = 9341

As a final point it should be noted that while the highest class has been labeled Upper Middle it should really be called Upper Middle and Upper. However, the Upper Class are not, using the level of detail employed in our occupational code, occupationally distinguishable from the Upper Middle Class and further the Upper Class are such a small group (See Porter 1965 and Clement 1975 for size estimates.) that they would not, given our sample size, constitute an analysable group on their own.

The Structure of Stratification

In Table IV.2 the basic outflow table for all Canadian born males aged 25-64 is presented. While there is evidence of substantial mobility in this table - only 26.3 per cent of the respondents are in the socio-economic class of their father - the diagonal or inheritance cell remains the largest single cell in each row. Upward mobility is the most common experience for our respondents with 58.5 per cent moving up by one or more classes and with 35.9 per cent moving up by more than one class. Downward mobility was relatively uncommon with only 15.2 per cent experiencing downward mobility and only 6.1 per cent being downwardly mobile by more than one class. In short, the initial impression which this table presents is one of a relatively highly upwardly mobile society. However, this is a misleading picture.

TABLE IV.3

MARGINAL DISTRIBUTIONS OF FATHER'S AND SON'S SOCIO-ECONOMIC CLASS

<u>Class</u>	<u>Father</u>	<u>Son</u>	<u>Difference (S-F)</u>
I	4.0	13.4	9.1
II	6.3	15.5	9.2
III	12.5	16.6	4.1
IV	17.9	20.2	2.3
V	20.6	20.2	0.4
VI	38.8	14.4	-24.4

 $\Delta = 24.75$

In Table IV.3 the percentage distribution by socio-economic class for fathers and sons is presented. As can be seen from this table there has been a substantial shift in the class distribution from fathers to sons. The Working Class (V) appears to have remained relatively stable. The top four classes have all grown with the Middle Class showing the most growth and the Upper-Working Class the least. The only class to actually decline was the Lower Class which dropped from 38.8 per cent of the class distribution in the father's generation to 14.4 per cent of the class distribution in the son's generation, a decline of almost 25 percentage points. Given such a substantial shift in the marginal distributions it becomes important to look at the association between son's and father's class with the effects of the marginal shift controlled for. To do this I will now turn to look at the matrix of lambdas.

Table IV.4 presents the matrix of standardized values for λ_{ij}^{PS} . When P stands for father's socio-economic class with values $i = 1, 2, \dots, 6$, and S stands for son's socio-economic class with values $j = 1, 2, \dots, 6$. The value of lambda in any given cell (i, j) in the matrix represents the association between father's socio-economic class i and son's socio-economic class j , or between origin i and destination j . At the .01 level of significance a value

TABLE IV.4

STANDARDIZED VALUES OF λ_{ij}^{PS} : ALL CANADIANS 25-64

	Respondent's Socio-economic Class					
	<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>	<u>V</u>	<u>VI</u>
Respondent's	I	13.58	7.10	1.73	-3.80	-3.59
Father's	II	6.26	5.68	.59	.07	-4.53
Socio-economic	III	3.47	-4.47	4.39	-1.03	-1.69
	IV	-5.74	-1.92	2.13	4.72	2.14
	V	-10.60	-6.04	-3.68	5.00	10.70
	VI	-17.87	-14.20	-8.85	2.74	10.29
						19.20

of greater than 2.58 or less than -2.58 is required to support the inference that the association is significantly different from zero.

Looking for the moment only at the diagonal or inheritance cells of the table it can be seen that there is significant inheritance in all classes. The Working Class has by far the highest level of inheritance with a value of 19.20. However, while this value is larger in magnitude than the value of 13.58 found for the Upper Middle Class the difference is not statistically significant ($Z = 1.28$). But both values are significantly higher than all other diagonal values ($p < .01$). The next highest association is in the Working Class cell. This is lower than in the case of either the Upper Middle Class cell or the Lower Class cell, but it is higher than any other cell on the diagonal. The remaining three cells - Middle, Lower-Middle, and Upper-Working Class - do not differ significantly from each other in the degree to which they show an association. Thus, while the data show a significant degree of inheritance of socio-economic class to be a feature of all levels of the class structure of Canadian society, they also suggest that the extent to which this inheritance occurs varies with socio-economic class. The classes at the upper and lower ends of the social hierarchy

TABLE IV.5

SIGNIFICANT "+" CELLS FROM TABLE IV.4

Respondent's Socio-economic Class

	<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>	<u>V</u>	<u>VI</u>
Respondent's						
I	X	X				
Father's						
II	X	X				
Socio-economic						
III	X		X			
Class						
IV				X		
V				X	X	X
VI				X	X	X

p < .01, Cv = 2.58

show substantially more inheritance than do those in the middle. However, despite this evidence of stratification in the Canadian class structure it must be noted that almost three quarters of the sample were in fact mobile to one extent or another. I will now turn to look at the other cells in the table in order to look at the combined patterns of mobility and immobility.

In Table IV.5 only the cells where there was a significant positive association ($p < .01$) have been X'ed out. In a more general sense a positive association indicates that more sons have ended up in the class in question than would be expected under independence given their social origins. Looked at in this way a very interesting pattern emerges from the table. There appears to be a quite open exchange inter-generationally between the Upper-Middle Class and the Middle Class both in terms of downward mobility for the former and upward mobility for the latter. Further, it should be noted that neither class experiences any significant downward mobility into the Lower-Middle Class or into the classes below that. The Lower-Middle Class is the only group which shows any significant upward mobility into the two top classes. The Upper-Working Class recruits significantly from both the Working Class and from the Lower Class and the Working Class recruits from the Lower Class. It

should be noted in passing that with the exception of the movement from the Lower-Middle Class to the Upper-Middle Class, and from the Lower Class to the Upper Working Class all the significant mobility is to the next adjacent class.

The picture which begins to emerge from all of this is one of three broad groups. At the top there is the group made up of the Upper Middle and Middle Classes. At the bottom there is the group made up of the Working and Lower Classes. Finally, there is a pair of transition classes connected to each other such that the movement from the bottom group to the top group would appear to involve a three step process: first, mobility into the Upper-Working class, second mobility from the Upper-Working class to the Lower-Middle class, and finally mobility from the Lower-Middle class into the top group and more specifically into the Upper-Middle class.

In terms of the specific hypotheses set out in Chapter II the data indicate:

- i) That there is a significant relationship between father's socio-economic class and son's socio-economic class for all classes. To this extent then, all of the classes are also strata, and Canada can be said to be a stratified society at least with respect to the mobility of Canadian born males.

- ii) The U shaped relationship was found to exist. The highest degree of inheritance was found for the Upper-Middle, Lower-Working and Lower classes and the lowest for those classes in the middle of the class hierarchy. This is consistent both with the role of the Lower-Middle and Upper-Working classes as transition classes in the stratification process and with the proposition that the higher the socio-economic class of a person the greater the ability to both experience or prevent mobility.
- iii) The initial evidence suggests that, as other studies have found, mobility tends to occur in single steps. However, I will look more closely at this when I come to examine the quasi-independence models of mobility.
- iv) Finally, there is a substantial upward shift in the marginal distributions from fathers to sons. This shift is in turn accompanied by the fact that upward mobility was the experience of almost three-fifths of the sample. However, when the contribution of these shifts is allowed for in the table of lambdas a different picture begins to emerge which suggests that, while there has been considerable upward mobility in the absolute sense, on the whole there has been much less upward mobility into many classes than would have

TABLE IV.6
MODELS FOR FATHER-SON INTERACTION ALL CANADIANS 25-64

MODEL	χ^2_{LR}	df	Z	P	$(\chi^2_H/\chi^2_T)100$	$100-\chi^2_H/\chi^2_T$
(1) I:P,S	1745.21	25	243.27	.000	100.0	0.0
(2) QO:P,S	691.07	19	109.02	.000	39.60	60.40
(3) QO±1:P,S	69.60	9	-	.000	3.99	96.01
(4) QN:P,S	13.30	6	-	.050	0.76	-
(5) QP:P,S	31.22	6	-	.000	1.78	-

occurred by random allocation. This will be further explored when I look at the quasi-independence models.

The Models of Mobility

As I stated in Chapter III there are five models of mobility which are of particular substantive interest in the analysis of a mobility matrix. The models are:

- 1) The I-model which has as its null-hypothesis the proposition that: the son's social class is independent (statistically) from father's social class. The test of this model is presented in line 1 of Table IV.6. As can be seen the null-hypothesis is resoundingly rejected ($Z = 243.27$) leading to the unsurprising conclusion that father's socio-economic class is indeed associated with son's socio-economic class.
- 2) The QO-model. This model has as its null-hypothesis the proposition that while father's and son's social class may be associated in the diagonal cells there is no significant association in the off diagonal cells. That is to say that the null-hypothesis asserts that there is no significant upward or downward mobility. The results of the test of this hypothesis can be seen in line 2 of Table IV.6. Again the null-hypothesis is rejected with a Z value of 109.02. This suggests that there is significant upward and downward mobility.

What is of greater interest however is the ratio of χ_H^2/χ_T^2 . This ratio gives a measure of the proportion of the total association accounted for by the null hypothesis. In this case the ratio times one hundred is 39.60 which suggests that of the total association between father's socio-economic class and son's socio-economic class upward and downward mobility account for 39.60 per cent of that association. Or to put it another way we can subtract this value from one hundred and assert that the direct inheritance of socio-economic class (father-son associations on the diagonal) accounts for 60.40 per cent of the total father-son association.

- 3) The $QO \pm 1$ model. This model has as a null-hypothesis the assertion that, while there may be significant association on the diagonal and further there may be significant upward and downward mobility to the next highest and lowest class (a significant association in the cells adjacent to the diagonal) there is no significant association in the remainder of the table. The results can be seen in line 3 of Table IV.7. The null hypothesis is again rejected. However, when we look at the ratio χ_H^2/χ_T^2 and the related calculations some very interesting findings emerge. First, it can be seen that 96 per cent of the association between

father's socio-economic class and son's socio-economic class is accounted for either by direct inheritance or by movement to the adjacent class. Indeed, it is possible to go further and by taking differences (96.01-60.40) to say that 35.61 per cent of the association between father's socio-economic class and son's socio-economic class can be attributed to the relationship found in the cells immediately adjacent to the main diagonal. This evidence lends further support to the hypothesis that mobility tends to occur in single steps.

- 4) and 5) The QN and QP models. These models look respectively at the downward and upward mobility triangle with the null-hypotheses of no significant downward and no significant upward mobility respectively. The results are to be found in lines 4 and 5 of Table IV.7. They suggest that overall, upward and downward mobility contribute very little to the association between father's socio-economic class and son's socio-economic class. Indeed, in the case of downward mobility the null-hypothesis cannot be rejected.

In summary, then the examination of both the models and the basic matrix tend to support the same conclusions. A picture emerges of a relatively closed - stratified -

society in which class inheritance occurs with considerably more frequency than would be predicted by chance alone, in which mobility is typically in single steps, and in which there appear to be definite mobility barriers which act as constraints to both upward and downward mobility. On the other hand it is worth recalling that for most the actual life experience due to either structural or real mobility has been that of upward movement, and that the amount of downward mobility has been relatively small.

In the next section of this chapter I will look more closely at the issue of structural changes and changes over time in the rate of mobility.

Temporal Changes in the Rate of Mobility

In this section I will be looking at the issue of whether or not the patterns of mobility and inheritance which I examined earlier are stable with respect to time. This is a problem which has vexed mobility analysts for some time and is associated with the issue of the separation of structural and real mobility mentioned earlier.

In their recent article "Temporal change in occupational mobility: the evidence for men in the United States." Hauser, et al. discussing the controversy over changes in the rate of mobility with respect to time note that, "Indeed, students of social mobility have reached no greater consensus

on the matter than has the society they have sought to enlighten." (1975a: 279) Applying Goodman's analytical methods to the data of several major American mobility studies they conclude, "In several large bodies of data on U.S. men, we have observed that the pattern of association between father's occupation and son's occupation is largely invariant with respect to time." (Hauser, et. al.; 1975a:295). They go further and conclude that the observed differences in rates of mobility from one cohort to the next are primarily due to the changes in the marginal distributions. Indeed, they find as stated above that, when the inter-generational shifts in the marginal distributions are controlled for, the father-son association is effectively constant across cohorts.

In this section I will replicate their analysis in part. However, I will not do so completely as the findings for Native born Canadians are somewhat different than those found by Hauser et. al. for Americans.

Before I go on to the analysis some discussion of the dependent variable in this analysis is necessary. In our study as in the 1962 O.C.G. study we asked our respondents to report their first full-time job after the completion of their education (Question 8). This is a useful variable in that it gives us a measure of status

at roughly the same point in the life cycle for all of the age groups in our sample. However, this variable has two distinct weaknesses. The first is that it measures status at a relatively early point in the respondents career. This is perhaps not overly serious for the majority of our respondents whose careers are such that substantial mobility of a magnitude which would involve changes in socio-economic class is a relatively uncommon event. However, particularly for those in the higher status occupations and especially those in management the process of status attainment is often not completed until later in their lives. For these the employment of the first job measure will result in an underestimation of their mobility or stability.

The second problem is one simply of measurement. Two types of error appear to be involved here. First, some of our respondents held full-time jobs before they completed their formal education and we suspect that some of these respondents gave their first full-time job rather than their first full-time job after the completion of their education. Second, some seem to have reported either part-time jobs or to have considered full-time summer jobs as their first full-time job. We are led to support this by the fact that some respondents report quite early ages for their first job relative to their educational attainment and by the very low

status of some of the reported jobs relative to the level of educational attainment reported. In the absence of further information it is difficult to be sure which of these errors were made by these respondents or indeed, if they are errors at all. However, as they may have occurred and as they are likely to have the effect of lowering the association between background status and the measured first job status it is important to be aware of them.*

For this analysis the respondents have been divided into eight five year age cohorts (25-29, 30-34, ..., 60-64) based on their age at the time of our survey as calculated from their report of their year of birth. Thus, the period of time covered ranges from 1925 when the oldest members of the sample were sixteen years of age to the time of the study when the youngest members of our sample were twenty-five years of age.

The results can be found in Table IV.7. The first two models test the null-hypotheses of constant distributions of father's and son's socio-economic classes. As would be expected the null-hypotheses is rejected in both cases. Although it will be noted that the χ^2_{LR} for the test on the son's class distribution is very much larger than that for the father's distribution. This in turn suggests that there has been rather more variation in the son's distribution than in the father's.

*Although the tabulations also suggest that this problem may not be so serious for native born Canadians as it is for the remainder of the sample

TABLE IV.7
MODELS TESTING FOR TEMPORAL VARIATION IN FATHER-SON ASSOCIATION

MODEL	χ^2_{LR}	df	P	$(\chi^2_H/\chi^2_T)100$
(1) I:F,T	276.77	35	.000	-
(2) I:S,T	488.58	35	.000	-
(3) I:PT,ST	2189.91	200	.000	100.0
(4) I:PT,ST,PS	298.36	175	.000	13.6
(5) QO:PT,ST	695.91	152	.000	31.8
(6) QO:PT,ST,PS	215.10	127	.000	9.8
(7) Constant Inheritance (4 vs. 6)	83.26	48	.000	3.8
(8) QO±1:PT,ST	161.53	72	.000	7.4
(9) QO±1:PT,ST,PS	99.84	48	.000	4.6

The next three models constitute the first direct tests of temporal stability. Model 3 tests the null-hypotheses that the distributions in the cohort mobility tables can be explained entirely on the basis of the marginal variation. This is the state one would expect to find if there were to be no association between father's and son's status and if all of the mobility were solely due to shifts in the class structure. This hypothesis is expected to be rejected and as can be seen in the table it is.

Model 4 is rather more interesting. The null-hypothesis under test in this case is that of constant father-son interactions when the temporal variations in the marginals are controlled for. This is the case which would occur if there were no change in the basic pattern of mobility over the period in question apart from that which could be accounted for by shifts in the class distribution. As can be seen in the table model 4 must also be rejected. This is not entirely surprising as McRoberts (1971) found substantial variations in the degree of mobility for cohorts covering part of the time period in question. On the other hand this result is strongly at variance with the finding of Hauser et. al. who were clearly unable to reject an identical null-hypothesis (1975a: 284). Thus, it would

appear to be the case that in this respect at least that there is some difference in mobility patterns between Canada and the United States. Some of this difference is no doubt due to the differences in time period covered (Hauser et. al. looked at males aged 20-64 in 1962), and to the occupational classifications used in the tables. However, the difference in the probability of the null-hypothesis is so striking (U.S. $p > .5$, Canadian $p < .000$) that it is difficult to conceive of these factors accounting for all of the difference.

Thus far it has only been established that the overall association between father's and son's socio-economic class varies over time. Additionally it is worth examining whether or not specific components of this association also vary. In models five and six the main diagonal of the table has been blocked in order to examine the patterns of upward and downward mobility. Model five examines a null-hypothesis not unlike that of model three. That is, the hypothesis specifies temporally variable marginals but no father-son association, in this case off of the main diagonal. Again this hypothesis is clearly rejected as we might expect it to be. Model 6 examines the null-hypothesis of constant father-son interactions off of the main diagonal. That is, the model specifies a situation

in which the patterns of upward and downward mobility are constant and in which the patterns of inheritance are removed from consideration. This model is also rejected, contrary to the American findings. The rejection of this model allows us to specify the state of affairs rather more precisely. Not only are there temporal variations in the over all patterns of association between father's socio-economic class and son's socio-economic class, there are more exactly temporal variations in the patterns of upward and downward mobility.

The next model presented, model 7, represents the difference between models four and six. This model specifies a null-hypothesis of constant social class inheritance over time. Or, in the terms of the theoretical chapter the model specifies constant stratification. Again this model is rejected where the Americans were unable to do so. Thus it would appear from the data that not only is there variability with respect to time in the degree of upward and downward mobility, but further there is evidence of variability in the pattern of stratification or inheritance of socio-economic class as well.

In the light of the findings from the previous models, models 8 and 9 are of rather less interest. In models 8 and 9 the main diagonal cells are blocked and in addition

the cells immediately adjacent to the main diagonal are blocked. Both models as can be seen in the table are rejected. This suggests that the temporal variability extends to the associations in the upper and lower triangles of unblocked cells. This is further, but relatively uninteresting, support for the proposition that there is temporal change.

These findings of temporal change in the rate of inheritance and in the rate of mobility in Canada are not entirely surprising. Although the American data produce results which are diametrically different from mine, both of the Canadian studies which attempted to look at change found marked differences. McRoberts (1971) found a steady drop in the rate of inheritance as measured by the total index of association for cohorts from 1930 until 1949, and then some indication of a rising rate of inheritance thereafter (1971: 51). However, as the cohorts contained very small numbers of cases little attempt was made to explain the changes, although the author was reluctant to accept an explanation of structural change as the only factor. Dofny and Garon-Audy in their replication of the deJocas and Rocher study also find differences in the rate of mobility and inheritance between the original 1954 cohort and the 1964 cohort. They were prepared to attribute

most of the change to shifts in the occupational structure during the intervening decade. However, again they were not wholly convinced that there was not some further changes due to non-structural sources (e.g. the "quiet revolution"). The initial findings from these data strongly suggest that the caution expressed by the authors of both studies was justified.

To summarize, the data fail to support the suggestion arising from the American findings of temporal stability in the association between father's socio-economic status and son's socio-economic status at the time when the son first entered the labour force. Further, the data fail to support this suggestion in all respects in that there would appear to be temporal variability in both the degree of mobility (both upward and downward) and in the degree of stratification. It should further be recalled that this change is net of any changes which can be attributed to marginal variation. That is, this change is net of any father-son shifts in the occupational distribution which may have been reflected in shifts in the socio-economic class distribution. However, it would appear to be the case that observed changes in the total degree of mobility from one cohort to the next are more a function of shifts in the class distribution than they are a function of

TABLE IV.8

GAMMA VALUES FOR COHORTS, FATHER'S SES BY SON'S SES

Age 1973	Year in Which R 16	Year in Which R 18	Gamma	Index of Association*
25 - 29	60 - 64	62 - 66	.35	-
30 - 34	55 - 59	57 - 61	.40	1.93
35 - 39	50 - 54	52 - 56	.38	1.51
40 - 44	45 - 49	47 - 51	.42	1.36
45 - 49	40 - 44	42 - 46	.45	1.53
50 - 54	35 - 39	37 - 41	.47	1.69
55 - 59	30 - 34	32 - 36	.51	1.72
60 - 64	25 - 29	27 - 31	.47	1.67

*McRoberts 1971

changes in the rate of mobility net of such changes. This can be seen when we look at the χ_H^2/χ_T^2 ratio for model four. The improvement in fit of the constant association model relative to the marginal variation model accounts for all but 13.6 per cent of the original χ^2 . This in turn suggests that, while there is significant temporal variation in the net father-son association, this variation may be relatively small.

Thus far, the analysis has told us only that there is temporal variation in the pattern of stratification and mobility. It has told us nothing about the pattern or direction of such change. In the next section of this chapter I will look at some selected attributes of the mobility matrices for individual cohorts in an attempt to clarify this.

Patterns of Change

In his 1971 study McRoberts found a general tendency towards declining rigidity in the system for those cohorts which reached the age of 16 before 1950. Thereafter, the data seemed to indicate a tendency towards a closing up of the system. However, as I mentioned earlier those data, especially for the younger cohorts, were based on very small numbers of cases and hence could not be given a great deal of credence. In Table IV.8 McRoberts' (1971) data are

compared with the data from the present study. The measure of association employed in the table for the current data is the Goodman-Kruskall gamma, and for the McRoberts data the total index of association developed by Glass is used.

When the table is examined the covariation between these two quite different measures is striking. The only cohort for which they differ is the cohort aged 16 in the period 50-54 where the earlier data does not follow the pattern of decline shown in the current data.

Initially, two points seem to emerge from the data. First, there appears to be a distinct dislocation due very likely to the depression which shows itself in the high value of gamma for the cohort entering the labour force in the period 1932-1936*. This was, of course, the period in Canada, when the Depression was at its worst. As a consequence for the members of this cohort it is likely that both educational and occupational opportunities were more limited than at any other time in the timespan of

* The years in which each cohort would have reached 18 years of age is given in the table as that is the modal age at which our respondents began their first full-time job. Thus this gives a rough indication of the time period in which the members of that cohort entered the labour market. Age at first job was not employed in the creation of the cohorts due to a very high item non-response (30%) caused it would appear by an error in the questionnaire layout.

this study. Hence, it is not surprising to find that the amount of mobility is lower for this cohort than for any other.

Secondly, it would appear to be the case, not surprisingly, that the second World War represents a point of change. It will be noted that for the period 1925-1949, the value of gamma remains quite high and with the exception of the depression cohort the values are all rather similar. However, following the war the values drop and seem to remain at a lower level.

This observation led to the notion that there might be two distinct patterns of mobility for the period under study: a pre-war pattern and a post-war pattern. Accordingly the appropriate models were tested employing the cohorts from 1925-1944 as the pre-war group and the remainder as the post-war group. The result was that both models were soundly rejected.

The answer it would appear is rather more complex. In simplest terms there are two patterns - a pre-war and a post-war pattern - and in addition there is a transition cohort. The results are contained in detail in Table IV.9. and in summary form in Diagram IV.1.

The pre-War Grouping

When the depression cohort is removed from consideration

TABLE IV.9
MODELS GROUPED FOR TREND PERIODS

MODEL	χ^2_{LR}	df	P
GROUP 45-64*			
(1) I:PT,ST,PS	75.69	50	.011
(2) QO:PT,ST,PS	53.38	32	.005
(3) Constant Inheritance	22.31	18	<.100
GROUP 40-49			
(4) I:PT,ST,PS	41.47	25	.020
(5) QO:PT,ST,PS	32.15	13	.001
(6) Constant Inheritance	9.32	12	<.500
GROUP 25-39			
(7) I:PT,ST,PS	63.79	50	.091
(8) QO:PT,ST,PS	50.70	32	.010
(9) Constant Inheritance	13.09	18	<.500

*Excluding 55-59

and only the remaining three cohorts in the period 1925-1944 are examined the results are as presented in models 1 through 3. In model 1 the null-hypothesis of no change in father-son association for the three cohorts is tested. Employing a level of .01 as the critical level we are unable to reject this hypothesis. Hence it would appear that we cannot reject the conclusion that the overall pattern of father-son association does not vary in a statistically significant fashion across these three cohorts. Model 2 tests the null-hypothesis of constant upward and downward mobility. This hypothesis is rejected at the .01 level. Model 3 tests for the difference between models 1 and 2. The null-hypothesis in this case is one of constant inheritance across the cohorts in question. The model has a probability of greater than .10 and hence cannot be rejected.

An examination of Table IV.10 allows us to complete the picture. Table IV.10 reports the gross mobility patterns for each of the eight cohorts being examined. That is, it reports the percentage of the members of each cohort who were respectively upwardly mobile, stable, or downwardly mobile. Looking for the moment at columns 1 to 4 it can be seen that the depression cohort (column 2) stands out very clearly as having both the highest proportion of members

TABLE IV.10

PER CENT UPWARDLY AND DOWNWARDLY MOBILE AND STABLE BY COHORT

	Age Cohort (Year Aged 16 in Brackets)									
	60-64 (25-29)	55-59 (30-34)	50-54 (35-39)	45-49 (40-44)	40-44 (45-49)	35-39 (50-54)	30-34 (55-59)	25-29 (60-64)	T	
% Up	33.3	29.1	34.0	39.5	38.7	46.4	46.9	46.4	40.7	40.7
% Stable	43.4	45.4	43.4	39.1	34.1	31.5	30.1	28.0	35.3	35.3
% Down	33.3	25.5	22.6	21.3	27.2	22.1	23.0	25.6	24.0	24.0
T	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
N	(1853)	(1510)	(1202)	(1291)	(1109)	(1075)	(960)	(567)	(9567)	(9567)

who were not mobile (45.4 per cent) and the lowest proportion of members who were upwardly mobile. Looking at columns 1 and 3 it can be seen that they are virtually identical to the extent that one would be reluctant to attribute any substantive meaning to the very small differences which do occur. In comparing column 4 with columns 1 and 3 the pattern becomes clear. There is little difference with respect to the amount of downward mobility, some decline in the rate of inheritance and an increase in the rate of upward mobility. It would appear from the log-linear models that the increase in the amount of upward mobility does constitute a significant shift (model 2) and that the decline in the proportion remaining in the same socio-economic class as their fathers is not a significant shift (model 3).

The War Years: A period of transition

The next grouping which emerged from the data involves the two cohorts who reached the age of 16 during the period from 1940 to 1949. The 1940-1944 group while related to the pre-war pattern is also related to the 1945-1949 cohort. The 1945-1949 cohort is not related to either the pre-war group or to the post-war group. Models which attempted to relate it to either pattern were consistently rejected. It is, however, related to the 1940-1944 cohort and

models 4, 5 and 6 in Table IV.9 and columns 4 and 5 in Table IV.10 show the nature of the relationship.

The model of constant association (model 4) cannot be rejected at the .01 level nor can the model of constant inheritance (model 6). The model of constant upward and downward mobility on the other hand has a probability of only .001 and hence must be rejected. Looking at Table IV.10 it is perhaps surprising, in view of the substantial drop from the first cohort to the second in the proportion stable, that the model of constant status inheritance is rejected. However, it must be recalled that the model is looking at inheritance net of any marginal shifts whereas the proportions are unadjusted. Secondly, it would appear from the percentage table that the change in the pattern of upward and downward mobility found in Model 5 is likely due to the exceptionally high proportion of the members of the immediate post-war cohort who were downwardly mobile. The percentage in this case (27.2 per cent) is the highest for downward mobility of all those reported in the table, including that which was reported for the depression cohort.

Post-War

The post-war group includes the three cohorts who reached the age of 16 in the period 1950-1964. The trend

models for this group are models 7, 8 and 9 in Table IV.9. Model 7 which tests the hypothesis of no change in association between father's and son's has a probability of .091 and cannot be rejected. Model 8 which tests for constant upward and downward mobility also - in contradistinction to the situation in the previous groups - cannot be rejected at the .01 level. Finally, as was the case with the previous groups the model testing for constant inheritance cannot be rejected. Thus, the picture emerges of a pattern in the post-war years of considerable stability in the stratification structure.

The picture of stability is further supported when one looks at the data in Table IV.10. Comparing the last three columns (6,7,8) one sees virtually no change in the proportions who were upwardly mobile in these cohorts. When one looks at the percentage who remained in their class of origin there is a very slight downward trend (31.5 per cent to 28.0). Finally, there is a very slight rise in the proportion who were downwardly mobile.

Looking at the table as a whole it would appear to be the case that there is a distinct pattern to the change. First, the extent of downward mobility seems to remain relatively constant with only minor fluctuations about an average value of 24 per cent. Second, as the extent of

inheritance declines the extent of upward mobility rises. Third, there are as I have suggested two distinct mobility eras. The pre-war era, of which the cohort 1940-1945 is a part, which is characterized by relatively high levels of socio-economic class inheritance and by relatively low levels of upward mobility, is the first. The second is the post-war era (1950-1964) which is characterized by a relatively lower extent of class inheritance and by a substantially higher proportion of upward mobility. These two eras are linked by a transition period from 1940 to 1949 in which the proportion remaining stable declines quite sharply and in which the proportion experiencing upward mobility rises sharply.

While it is not my purpose here to provide a complete explanation of these findings, a project which would take one far beyond the scope of the present study, it is useful to at least suggest the directions in which one might look for such explanations. Certainly, some of the changes which we have seen are due in part to changes in the nature of the Canadian labour force. Two are particularly striking. First, the proportion of persons employed in white collar occupations which could in general give rise to middle socio-economic status has increased substantially over the period in question. Further, most of the increase has occurred

since 1951. This would have the effect of opening up access to occupations which command middle-class status and hence could account for some of the increase in upward mobility noted in the post-war period. Secondly, over the same period farming declined both as an occupation in the numerical sense and perhaps in status as well. The final stage of this rural decline occurred over the period 1941 to 1951. Again this shift could account for some of the increase in upward mobility.

A second factor which deserves further examination is the impact of immigration. From 1921 to 1951 net migration was a negligible factor in population growth. (See Denton, 1970: 47) However, after 1951 immigration became a major factor in the growth of the Canadian labour force. Further, over the period from 1951 to 1966 the occupational composition of this immigration flow became increasingly bi-modal. The primary mode, indeed, shifted over the period from blue collar to managers and professionals. (McRoberts, 1971: 56-58) This could have either or both of two possible effects. First, the increasing importation of highly qualified manpower could have had the effect of curtailing mobility chances for native born Canadians into the top two socio-economic classes, and hence damping down the rate of upward mobility. Second, the steady importation of unskilled

and semi-skilled labour could have had the effect of in a sense placing a floor on downward mobility.

The final factor is the increasing emphasis which was placed on education in Canada over the years in question. This is reflected in a number of ways including rising retention rates for all levels of education, increasing expenditure per-capita on education, and simply the steady rise in the average educational attainment of each cohort. While, as I argued earlier, education is the main institution in which status advantages and disadvantages are transmitted, it is by no means a perfect transmitter. Education is also the major avenue of upward mobility for the disadvantaged, and at the very least requires the advantaged to make some effort to claim their birthrite. The effect of education will be explored much more fully in the next chapter.

Conclusion

The evidence is clear that Canada is in the sense in which I use the term a stratified society, at least as it is experienced by native born Canadians. It is equally clear that the gross patterns of Canadian stratification and mobility closely resemble those found in other western industrial societies. However, it would appear that in comparison with the United States, which is the only

other country for which comparable data are reported, Canada's patterns of mobility and extent of stratification have changed over time and that there has been some increase in mobility and some decrease in inheritance.

In the next chapter I will employ the status attainment model to look at the process of stratification and mobility in Canada and at the extent to which this has changed.

Chapter V

The Process of Stratification in Canada

In the last chapter I examined the degree of stratification through an examination of the mobility matrix. I concluded that a substantial degree of stratification was indeed an ongoing feature of Canadian society. In this chapter I will look at the process of stratification in Canadian society, or in the language of Blau and Duncan I will look at the process of status attainment.

I suggested in Chapter II that the "inheritance" which was observed in Chapter IV did not come about simply as a result of inheritance in the sense of a son having a legal or normative claim on his father's occupation. Rather, I suggested that this "inheritance" resulted from the degree to which it was possible for the son to derive relative advantage in the opportunity structure due to his social background. In particular I suggested that the son's socio-economic status of origin would be of considerable importance in this respect. Further, I suggested that in western industrial societies the opportunity structure consisted of two distinct but related components. The first component consisted of the educational structure in which training and certification are received. The second component was seen as the occupational structure in which further room for achievement or failure

was seen. Thus, in this chapter I will be concerned with the way in which both of these components mediate against or assist in status inheritance or status attainment.

In the conclusions to Chapter II I outlined the basic elements of the stratification process. The process is presented in schematic form in Figure V.1. One new feature has been added to the model and this is the variable father's education. This variable along with father's socio-economic status makes up the pair of exogenous variables in the model which represent the key elements of the respondent's social background. Father's education has been added because, although it is strongly related to the father's socio-economic status (indeed, in some senses it is part of the basis upon which that status rests) there is a substantial body of both Canadian and American research which suggests that this element of a respondent's social background plays an important and independent role in the stratification process. (Blau and Duncan, 1967; Jencks, 1972; Turritin, 1974; and Cunco and Curtis, 1975)

The model in Figure V.1, is presented in the form of a path-model (see Chapter III for a discussion of this technique). Each of the arrows represents a path the magnitude of which is denoted in general form by the symbol p_{ij} . Where "i" represents the number of the variable.

into which the path is going and where j represents the variable from which the path originates. Each path represents a proposition with the sum of the propositions representing the model.

The model in Figure V.1 is made up of the following propositions:

- i) r_{12}^* - Father's socio-economic status and father's education covary.
- ii) p_{31} - Net of the influence of father's education, father's socio-economic status will directly affect son's education.
- iii) p_{32} - Net of the influence of father's socio-economic status, father's education will directly affect son's education.
- iv) p_{41} - Net of the influence of father's education and son's education, father's socio-economic status will directly affect the socio-economic status of the son at the time of his first full-time job.
- v) p_{43} - Net of the influence of father's socio-economic status and education, the son's education will directly affect the socio-economic status of the son at the time of his first full-time job.

FIGURE V.1.

THE STATUS ATTAINMENT MODEL *

* Blau and Duncan, 1967: 170

- vi)p₅₁ - Net of the influence of father's education, son's education, and son's first job socio-economic status; father's socio-economic status will directly affect son's socio-economic status in 1973.
- vii)p₅₃ - Net of the influence of father's socio-economic status and education, and son's first job socio-economic status; son's education will directly affect son's socio-economic status in 1973.
- viii)p₅₄ - Net of father's education and socio-economic status, and son's education; son's socio-economic status at the time of his first full-time job will directly affect his 1973 socio-economic status.

In addition there are two paths which have been omitted. This has been done on the basis of previous findings in both the Canadian and American literature which have found that these two paths fail to differ significantly from zero. (See Blau and Duncan, 1967: 170, Turriffin 1974, and Cuneo and Curtiss, 1975 for previous findings of this kind.) It should be noted that, with the exception of the changes introduced by the addition of the variable Father's Education, the propositions outlined above are virtually identical with those presented at the end of Chapter II.

TABLE V.1

RESPONSE CATEGORIES AND CODES FOR EDUCATION VARIABLES

Categories	
No formal schooling	1
Elementary school	
Some	6
Completed	8
High school	
Academic	
Some	10
Completed	12
Vocational or technical	
Some	11
Completed	12
After high school but not university	
Business or trades training: (e.g. secretarial schooling, hairdressing school, barbering school, trade school, etc.)	
Some	11
Completed	12
Nursing school or Teacher's College	
Some	11
Completed	14
Community College, Junior College, CEGEP, Technical Institute	
Some	13
Completed	14
University	
Some	14
Completed:	
Certificate or diploma	14
Bachelor's degree	17
Master's degree	19
Doctorate	19
Professional degree (e.g. M.D., L.L.B., C.A., etc.)	18

Before I present the results of this model it is necessary to give some discussion of the variables employed. The construction of the indicator of socio-economic status was fully discussed at the beginning of Chapter IV. This measure in uncollapsed form is employed as the indicator for all three of the status variables in the model.

Our respondents were asked two questions concerning their education: first, they were asked, "What is the highest level of education that you have completed?", and they were also asked "How many years altogether were you in school?". Table V.1 shows the response categories for the first question and the scale values assigned to these response categories. These response categories represent either the completion, or partial completion of the various levels of widely recognized educational certification. By themselves they represent an ordinal scale. However, for path analysis the variables employed are required to be interval. In order to achieve this, and in order, as well, to improve the ability of the scale to discriminate, the coding was carried out. To begin with educational level was cross-tabulated with years in school. From this cross-tabulation the mean and median years of education were calculated for each level of education. When the values were rounded to integers they were found to be identical

with one exception - the category of no formal schooling. In this category the mean and median values were 2 and 1 respectively. The mode was also 1. The decision was made to employ the median value because it was felt that the mean value in this case was overly influenced by a small number of quite unrealistically high values. Thus, the educational scale can be seen as indicating the number of years of certified education which a person has completed. This seems a reasonable way in which to proceed in the sense that it is level of certification which is the component of education which most frequently commands rewards.

The respondents were asked to provide the information on highest level of education attained for their father's as well. This information was scaled according to the values employed in scaling the variable of respondents education to create the scale of father's educational attainment.

The Canadian Status Attainment Model

Figure V.1 presents the results of the application of the status attainment model to a sample of native-born Canadian males who were between the ages of twenty-five and sixty-four in 1973. The results conform to the propositions specified earlier in all respects. The omitted paths are not significantly different from zero at the .01

FIGURE V.2

STATUS ATTAINMENT MODEL FOR CANADIAN MALES
AGED 25-64 IN 1973

level, and all included paths are significant at the .01 level. The model more than adequately reconstructs the correlation matrix and those differences which do occur are not significant at the .01 level. Further, an examination of partial residual plots suggests that there are no serious departures from linearity in any of the regressions employed. Thus, it would seem that the status attainment model as specified by Blau and Duncan applies to Canadian society as well. Having confirmed that this model is a correct model for these data I will now turn to an examination of what the model reveals in a substantive way about the stratification process in Canadian society.

First, educational attainment is clearly the most important determinant of socio-economic status. Although its direct path into present status (p_{53}) is somewhat lower than the direct path from first job to present status (p_{54}) it must be noted that education is the most important determinant of first job status. The direct effect of educational attainment p_{43} is very strong with a value of .626, and this explains thirty-nine per cent of the variance in first job status alone (p_{43}^2). In addition when we consider the magnitude of the indirect effect of educational attainment on 1973 status acting through first-job ($p_{43} \cdot p_{54} = .257$) in combination with

its direct effect on 1973 status ($p_{5,} = .322$) it is very clear that educational attainment plays a crucial role in status attainment.

This is not however to argue that first-job is not important. It has the largest direct effect on 1973 status with a path coefficient of .411. This direct effect accounts for almost 17% of the variance in present status. This suggests that next to getting a good education translating that education into a good first job is the most important step in the attainment process.

The third variable which has an effect on status in 1973 is father's socio-economic status. The effect is, however, small, as is the effect of father's socio-economic status on first-job. These effects do suggest that background can and does carry an influence, which is independent of educational attainment and even intra-generational attainment, throughout the attainment process. Although it can be seen that this effect in a direct sense diminishes at each successive stage of the process.

Turning to look at the effects of background on educational attainment it can be seen that both father's education and father's socio-economic status have a significant influence on son's educational attainment. The net effect of father's education is stronger than that of

father's socio-economic status. Given this it appears that in the case of educational attainment alone the educational attainment of the father is of rather more importance than his socio-economic status. However, the fact that p_{32} is the only significant path from father's educational attainment leads to a conclusion that beyond that stage the father's socio-economic status is more important. This is further confirmed when one looks at the correlations between each of these variables and first and present job ($r_{14} = .403$ vs. $r_{24} = .348$, and $r_{15} = .402$ vs. $r_{25} = .344$). In each case the correlation involving father's education is lower than that involving father's socio-economic status. Finally, while both of the paths into son's education are substantial, it still should be noted that they only account for twenty-four per cent of the variance in son's education attainment. This leaves a very substantial amount of variance unexplained. However, it is important to recall that studies of educational attainment which have succeeded in explaining higher proportions of the variance have found that many of the new variables which they have employed to assist them in their explication have themselves been found to be related to socio-economic background (e.g. Sewell *et al.*, 1970 and Jencks *et al.* 1972).

Based on these data it would appear to be the case that

the process of stratification in Canada is pretty much as it was expected to be. Educational attainment is the key linking variable in this process and while the data suggest that the educational institutions in Canada are much less than perfect that there is a substantial amount of transmission occurring. Finally, we can see, even when the effects of educational attainment are controlled for, that father's socio-economic status continues to play a minor but significant role in the stratification process.

Comparison with Other Models

Before going on to look for changes in the process over time it is useful to compare the results of this model with other available models. Two in particular come to mind: the famous Blau-Duncan model for the United States which set the baseline for much future research, and the Jones model for Australia (Jones, 1971). In each of these comparisons I will be employing standardized coefficients rather than metric coefficients. The reason for this is that my interest will be in the similarity of process rather than of outcomes. (See Burt, 1973: 60-61 for a full discussion of this issue.)

The Blau-Duncan Model

Figure V.3 presents the findings for the model in Figure V.9, and has added to it the results from the Blau-

FIGURE V.3

COMPARISON OF CANADIAN MODEL WITH BLAU-DUNCAN* MODEL
BLAU-DUNCAN COEFFICIENTS IN PARENTHESES

* Blau and Duncan, 1967: 170

Duncan data in parentheses. The models are not strictly comparable for a number of reasons. First, the Blau-Duncan model is based on a different age group (20-64 in 1962) than ours. Secondly, there are differences in the way in which their educational and occupational variables have been treated. The former are coded in rather less detail than ours. The latter are coded using a very similar method to ours but of course based on American data.

In comparing the two models the first thing which strikes one is their similarity. However there are important differences. The first of these is that the American model explains rather less of the variance in both present occupational status and status at the time of first job. This would appear to be due to two factors. First, the effects of intra-generational mobility would seem to be more important in the United States than in Canada. This can be seen in the lower value of the path from first job to present job. (Can. = .411, U.S. = .281) which would suggest that there is rather more intra-generational mobility in the United States than Canada.

The path from son's education to present status is higher for the American model than for the Canadian model, but the path from son's education to first-job is much

higher for the Canadian model than for the American. There are a large number of reasons why this could occur. However, one which seems plausible and which would be consistent with the data would be a situation in which occupation at time of labour force entry is less linked with educational attainment in the United States than in Canada, but in which opportunities for future upward mobility are more or less equally closely linked to educational attainment in the two countries.

There is a distinctly stronger path from father's status to son's first-job status in the American model. This is probably linked to the weaker tie in the relationship between educational attainment and first job discussed above.

Finally, when we look at the determinants of son's educational attainment it can be seen that background factors account for slightly more of the variance in educational attainment in the United States than in Canada. This is due to the slightly stronger influence which father's socio-economic status appears to play in educational attainment.

On the whole the picture would be that there is slightly less openness of educational opportunity in the United States with respect to Canada. On the other hand

education would appear to be of considerably more importance in both initial status attainment, and, given the considerably lower apparent rate of intra-generational mobility, in final status attainment. As the difference between the two models is relatively small with respect to educational attainment one would have to conclude that Canada on the whole is less open than the United States. That is to say that while background is translated into education to about the same degree in both countries, there would appear to be much more chance to escape from one's education in the United States than in Canada especially at the time of initial entry into the labour force.

The Australian Model

The comparison to be made in this case is with Australian data gathered in 1965 and reported by Jones in 1971. The comparison must in this case be much more tenuous than in the previous discussion due to substantial differences in the way in which occupations are coded between the two studies. The Australian scale "... consists of sixteen rank-order groups broadly comparable with the major occupation groups of the U.S. Census." (Jones, 1971: 528) A cursory examination of this scale and the way in which it would relate to the occupational scores

FIGURE V.4

COMPARISON OF CANADIAN MODEL WITH AUSTRALIAN MODEL*
AUSTRALIAN COEFFICIENTS IN PARENTHESES

* Jones, 1971: 534

which are employed in our study strongly suggests, while the Australian scale is hierarchical with respect to summary measures such as means and medians on such factors as education, income and status, that there is also very substantial intra-category variability with respect to all of these measures. As a result of this difficulty it is very difficult to assess the extent to which differences in paths with respect to occupations in the models are due to real differences between the two societies or are merely artifacts of the crudity with which the Australians have coded their occupational data. Education is coded into levels in a way which is roughly comparable to the scale which I have employed.

The models are presented in Figure V.4 with the values taken from the Australian model in parentheses. With two exceptions the paths in the Australian model are smaller than the paths in the Canadian model. Further, the multiple correlation coefficients are smaller for the Australian model at each stage. What this means, however, is less than clear. The first problem comes when one looks at the correlation between father's occupation and education, and at the path from son's education to son's first-job. In both cases the Australian values are considerably lower than the corresponding Canadian values.

While some of this difference may be due to a difference in the degree to which education and status are linked in the two countries, I very much doubt that this is so. Rather, it is more likely to be linked to the status heterogeneity of the Australian occupational status categories mentioned earlier. This, in turn, suggests that consideration of the "front of the models" (the paths into first and present jobs) in terms of a comparison is likely to be a pointless exercise in extended guess work. However, some tentative comparisons can be made in looking at the relationship between father's education and son's education.

The zero order correlations for father's education and son's education are .44 and .47 for Canada and Australia respectively, and it can be seen from the model that the multiple correlation coefficient for son's education is very close for both models. This would suggest that the degree to which social background plays a part in the determination of educational achievement is at least very similar in the two countries.

Canada and Australia are in some ways quite similar in the sense that both have only become "fully" industrialized since the beginning of the Second World War. Both are now more or less industrial economies. If from

TABLE V.2

CORRELATIONS OF STATUS ATTAINMENT VARIABLES BY COHORT

Correlation	Year in Which Respondent was 16								
	25-29	30-35	35-39	40-44	45-49	50-54	55-59	60-64	25-64
r_{12}	.458	.500	.504	.401	.475	.471	.549	.534	.504
r_{13}	.400	.430	.438	.386	.370	.346	.440	.366	.408
r_{23}	.526	.515	.450	.362	.401	.380	.421	.384	.443
r_{14}	.328	.440	.428	.410	.376	.367	.440	.349	.403
r_{24}	.334	.401	.317	.284	.349	.324	.356	.291	.348
r_{34}	.643	.629	.650	.637	.676	.718	.733	.660	.686
r_{15}	.372	.467	.440	.352	.391	.367	.440	.332	.402
r_{25}	.396	.431	.337	.276	.320	.319	.358	.286	.344
r_{35}	.627	.648	.614	.623	.656	.672	.678	.613	.647
r_{45}	.600	.608	.658	.610	.665	.696	.716	.694	.674
N =	470	811	918	946	1131	1061	1345	1671	8353

this one is prepared to assume that it is very likely that education and occupation are linked in a roughly similar fashion and further if one is prepared to assume that occupational incumbency will generate status in a roughly similar way, then it is at least reasonable to suggest that it is likely that there is little difference in the process of stratification between the two countries. However, on the basis of the evidence which is currently available, this must unhappily remain as conjecture.

Changes in the Process of Stratification

Thus far I have been looking at a single model of the stratification process in Canada. However, as I demonstrated in the previous chapter there have been significant changes in the degree of stratification with respect to time. Given this finding it then becomes reasonable to investigate whether or not there have been corresponding changes in the process of stratification. That will be the purpose of this section.

Table V.2 presents the zero order correlations for the five variables involved in the status attainment model for each of the cohorts listed by the years in which the respondent was sixteen years of age.

Looking first at the set correlations involving the variables of father's socio-economic status (1) and

father's education (2) with son's educational attainment what is remarkable is the absence of any clearly defined pattern in the data. To the extent that there is any trend to be seen at all, it is one of a downward trend in their value. That is, these correlations tend to have lower values after the war than before the war although the cohort who were sixteen in the period from 1955 to 1959 would appear to be an exception to this. This trend is consistent with the findings of the previous chapter in which I found evidence of a decline in the degree of stratification. However, the trend is not nearly so marked in this case.

The correlations between son's educational attainment and the socio-economic status of his first job show an increasing trend over the time period in question. This is very likely the not unexpected result of the fact that the increasing emphasis on certification which I suggested in Chapter II, is becoming increasingly a feature of the occupational structure. Additionally, it may also be a reflection of the decline over the time period in question of the proportion of the labour force involved in unskilled work, and the concomitant rise in the proportion carrying out skilled work, especially in the white collar sector. This finding is further paralleled in the trend towards a drop in the correlation between son's educational attainment and

TABLE V.3

PATH COEFFICIENTS BY COHORT

	Year in Which Respondent Age 16							
	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64
<u>D.V., Son's Ed</u>								
P ₃₁	.201	.230	.284	.287	.232	.214	.299	.225
P ₃₂	.434	.400	.307	.247	.291	.279	.257	.264
R ₃ ²	.309	.304	.262	.200	.202	.180	.240	.184
<u>D.V., S.E.S. 1st Job</u>								
P ₄₁	.085	.208	.177	.192	.146	.135	.145	.124
P ₄₃	.609	.540	.573	.563	.622	.671	.669	.614
R ₄ ²	.419	.432	.448	.438	.475	.531	.554	.448
<u>D.V., S.E.S. 1973</u>								
P ₅₁	.117	.172	.150	.066	.117	.096	.111	.063
P ₅₃	.374	.283	.281	.381	.356	.388	.305	.260
P ₅₄	.322	.395	.411	.340	.380	.418	.444	.500
R ₅ ²	.471	.508	.511	.468	.532	.531	.574	.528
<u>Indirect Effects</u>								
1 on 4	.122	.124	.163	.162	.144	.144	.200	.138
2 on 4	.264	.216	.176	.139	.181	.187	.172	.162

son's socio-economic status at the time of our study. Although in this case the range of variation in the correlations is less wide.

Finally, when we look at the correlations between the socio-economic status of the first-job and that of the present the relatively small amount of change is surprising. This is particularly so when it is recalled that many of those in the cohort who reached the age of sixteen in the period from 1925 to 1929 have been in the labour force for nearly forty years. Although in looking at this set of correlations we have both cohort and period effects compounded together the generally high values found suggest that the rate of intragenerational mobility in Canada is both relatively stable and low. If this is, indeed, the case then the factors determining educational attainment become all the more important.

Turning to the path models, the coefficients for the models for each of the eight cohorts in the study are displayed in Table V.3. The status attainment model appears to fit the various cohorts as well as it did the sample as a whole. The paths which are reported in the table are all significantly different from zero at the .01 level. The omitted paths were not significantly different from zero at the .01 level. In addition to these tests the model for

each cohort was employed to reproduce its correlation matrix and the original and estimated matrices were compared. In no case were the original and estimated correlations different at the .01 level. Hence, the same general form of status attainment model would appear to fit all of the cohorts.

Looking first at the determination of educational attainment we can see that over time there has been a decline in the impact of father's socio-economic status and father's education on this variable. For the earlier cohorts the variance explained is in the neighbourhood of thirty per cent and this drops to closer to twenty per cent for later cohorts. While there are some fluctuations in the value of the path from father's status to educational attainment (p_{31}), this path has remained relatively stable. However, there has been a clear trend in terms of a distinct decline with respect to time in the effect of father's educational attainment on son's educational attainment (p_{32}). This, in combination with the trend to a decrease in the variance explained in son's educational attainment is consistent with the suggestion made in the previous chapter that the stratification system is becoming more open. Nor is such a finding surprising in that there has been a substantial growth in both expenditure on education and in the

proportion of the population involved at each level of the educational system. In the period from 1931 to 1961 the percentage of the population aged 15 to 19 years in Canada who were attending school has risen by 24.8 percentage points from 33.7% in 1931 to 58.5% in 1961. Further, it is worthy of note that most of this growth occurred in the period from 1951 to 1961 (18 percentage points). (Porter, 1967: 113) The Economic Council of Canada reports that the participation rate in post-secondary education among the 18 to 24 year old age group as doubled in the period from 1951 to 1961. (E.C.C., 1970: 58-59) Further, they have noted a concomitant rise in expenditures in the same time period.

In saying that the educational system in Canada appears to have become more open to talent I do not wish to imply that we have yet in any sense developed a system which could be called open. Although earlier studies are not available for comparison, recent studies in Ontario suggest that when the basic model is extended to include other factors in addition to father's education and father's occupation that family background factors account for as much as 40 per cent of the variance in early educational attainment. Further, when educational aspirations are examined the evidence is strong that these are still quite closely related to socio-

economic status (Porter, Porter, and Blisshen, 1973).

Breton, in a study which looks at educational aspirations in a study covering all areas of Canada also reports similar findings (Breton, 1972). In short, while there is some evidence of the system having become more open with respect to the impact of family background factors on educational attainment this evidence is not of a sort to justify much self-congratulation on the part of Canadians.

Looking now at the second stage of the models we have the socio-economic status of the son at the time of his first full-time job as the dependent variable. Two factors have a significant net influence on this variable - father's socio-economic status, and son's educational attainment. Although father's educational attainment has a substantial association with son's status at first-job (see r_{42} in Table V.2) it would appear that most if not all of this association is due to the very important role which father's educational attainment plays in the determination of son's educational attainment. Although as I noted this role has declined modestly in its impact. An examination of the indirect effects of father's education on son's status at the time of his first-job also shows this trend of declining impact. (See Table V.3)

When we look at the effect of father's occupational status on son's status at the time of first-job we find, while the path is relatively weak with respect to others in the model, that it is persistent. In terms of its direct effect this path shows a very slight trend towards lower values for the younger cohorts. However, this decline may be to some extent affected by the slight rise in the indirect effect of father's status on son's status, as it acts through son's educational attainment. The magnitude of these values (Table V.3), while again small with respect to others in the model, is certainly not negligible. When both the indirect effects and the direct effects of father's status on son's first-job status are viewed in combination it becomes clear that this is a factor which certainly cannot be ignored. Further, the declining trend in the direct effect appears to be to some extent offset by the rise in the indirect effect, and the net result would appear to be one in which the overall effect of father's status on son's status at the time of first-job is in effect relatively invariant with respect to time. This may at first appear to contradict the findings presented in Chapter IV. However, it must be recalled that these effects are net of the effects of son's educational attainment on son's status at the time of his present job.

Turning now to look at the effects of son's educational attainment on his status at the time of his first-job we can see that this is consistently the strongest path in the entire model. In addition, there is a slight but distinct upward trend in the value of this path. This increase is paralleled by an increase over time in the variance explained in son's status at first-job. The increase in the path from educational attainment to first-job is not surprising for the reasons outlined earlier. That is, as the labour force expands in the white collar and professional/technical areas relative to other types of occupation we would expect the link between education and occupation to become stronger.

Seen as a whole three conclusions about the changes in the process of status attainment with respect to time would appear to be in order:

- 1) The effect of father's socio-economic status on the son's educational attainment and on the son's status at the time of his first-job would appear to be relatively stable but of a modest magnitude.
- 2) The independent effect of father's educational attainment has declined, and as a consequence of this the overall impact of background variables (father's education and father's status) on both son's educational attainment and son's status at the time of his first-job have

declined. To this extent the stratification process has become more open over time.

- 3) The extent to which son's educational attainment is translated into status at the time of first-job has increased with respect to time. This in turn suggests that in as much as advantage or disadvantage have been passed on in the educational attainment process they will be more readily and surely confirmed in terms of status on entry into the occupational structure. This it might be added lends some support to the conjecture made at the end of Chapter IV that some of the changes in the patterns of inheritance and mobility which were observed in that chapter can be attributed to changes in the degree of educational opportunity in Canadian society.

Because the data in the last stage of the model with son's socio-economic status as the dependent variable confound both period effects and cohort or age effects I will not discuss them. It should be noted that the model does fit each successive cohort.

Conclusions

A number of conclusions can be drawn from this analysis. First, the status attainment model as a model of the Canadian stratification process fits the data. Further, it fits the

data in a relatively consistent fashion across all of the cohorts employed in the analysis. Thus, it would appear that the description of the stratification process provided in Chapter II represents an adequate if sparse discussion of the process of the stratification process, and one which has not been disconfirmed.

The suggested salience of educational attainment in the stratification process in Canada has been amply supported throughout the analysis, as has the suggestion that this attainment was in some measure a function of the respondent's social background. Further, the educational attainment of the respondent has been shown to be of crucial importance not only at the beginning of the respondent's career but throughout it as well.

The substantial (for this type of study) path value (.411) and correlation (.674) between the respondent's first-job socio-economic status and the respondent's present socio-economic status suggest that the amount of intra-generational social mobility is fairly low. This is further confirmed when it is noted that these values do not drop substantially even when one looks at the oldest cohorts in the sample. This in turn further supports the notion that the major area of opportunity in the Canadian opportunity structure lies in the educational structure and not in the occupational structure.

There is some evidence in the analysis of changes with respect to time to support the claim that the stratification process is becoming more open. However, it should be noted that the changes while present are of a relatively small magnitude.

Finally, in comparison to two other modern English speaking nations, the United States and Australia, there is some evidence to suggest, at least in the United States, that the occupational component of their opportunity structure is more open than is the case in Canada. That is, while the data suggest that background factors are as important or more so in educational attainment in the United States vis-à-vis Canada, they also suggest that the attainment of occupational status is less dependent on educational attainment, and the American data show rather more evidence of intra-generational mobility than is found in Canada.

Chapter VI

The Canadian Duality

Thus far in discussion I have been discussing Canada as if it was a culturally homogeneous whole. While this may be more or less true for many European societies it is certainly not so in the case of the "new-nations", and in the case of Canada in particular. Canada is a nation built out of the coming together of many ethnic and cultural groups and this has had its impact on the structure of stratification in Canadian society. As Porter has stated in the Preface to The Vertical Mosaic:

"In a society which is made up of many cultural groups there is usually some relationship between a person's membership in these groups and his class position and, consequently, his chances of reaching positions of power. Because the Canadian people are often referred to as a mosaic composed of different ethnic groups, the title, "The Vertical Mosaic", was originally given to the chapter which examines the relationship between ethnicity and social class. As the study proceeded, however, the hierarchical relationship between Canada's many cultural groups became a recurring theme in class and power." (Porter, 1967: xii-xiii)

While an examination of the relationship between membership in the many ethnic and cultural groups which make up Canadian society and the stratification system would be desirable, such a study lies beyond the scope of this work. However, one of the divisions in Canadian society along cultural-linguistic lines is so fundamental to the very

structure of Canadian society that it cannot be ignored. This is the division in Canada between the two "charter groups" which make up Canada - the Anglophones and the Francophones. Seen especially in linguistic terms these two groups, corresponding to the two official languages of Canada, form a division which is virtually all encompassing; to be Canadian is statistically, at the very least, to belong to one or another of these groups. By comparison to the fundamental nature of this division the other ethnic divisions which cross-cut it are virtually of an order of magnitude lower in importance.

This would particularly seem to be the case if one is prepared to accept the argument of the Royal Commission on Bilingualism and Biculturalism that: "... the vitality of the language is a necessary condition for the complete preservation of a culture ...". (Vol. I: xxxvii) As de Vries states in his study of language maintenance, based on the 1971 Census of Canada:

"Even more strongly than in previous decades, language maintenance appears to be associated with immigration: language support among the Canadian-borns tends to be concentrated in the higher age groups, while increasingly families with children in the school going ages appear to adopt English or French as the language spoken most often in the home." (1974: 32)

Given these conditions the argument can be made that the necessity imposed by the reality of Canadian life to chose

between English or French as a main language - a choice which, based upon de Vries' evidence, those of third languages are making - must result in the relegation of other ethnic identities to second order phenomena. In saying this two qualifications must be made. First, this view-point involves a longer term perspective. The high rate of immigration to Canada of third language groups means that ethnicity and language seen in terms other than English-French maintain some importance for these people. Second, to say that the issue of the other ethnicities is a second order phenomena does not mean that they are not an important aspect of Canadian life.

Francophone and Anglophone

I have stated that the major division in Canadian society is between those whose linguistic identification is French and those whose linguistic identification is English. The problem now becomes one of deciding what type of social group each of these aggregates is, and of deciding what the relationship of these groups is to the stratification system.

Even the most cursory examination of the literature reveals two points: the most astonishing, particularly in view of the immense amount of energy which has been put into the examination of this question in Canada in the last decade, is the scanty and fragmented nature of the empirical

evidence which has been brought to bear on the issue; the second point is the degree of disagreement which exists amongst writers on the topic particularly as to the nature of the Francophone fact. By and large, the nature of the Anglophone fact has been regarded as non-problematic. The Anglophone population is the dominant group in demographic, geographic, and economic terms. They exist on an Anglophone continent as an intergal part of the economic structure which dominates and sets the pattern for western industrial society. While serious questions have been raised as to whether even within this group one can reasonably, in the face of regional and economic disparities, speak of English Canada as a unitary group or of a single English Canadian stratification system, this issue will not be dealt with here. Suffice it to say that there appear to be systematic socio-economic differentials in Canadian society which transcend regional boundaries to an extent which makes the notion of an Anglophone society and stratification system plausible.

When we turn to look at the Francophones and at the relationship of the members of this group to the Anglophone majority a number of problems arise. The first, which has already been mentioned, is the general absence of good and recent data. The second, is that in the last fifteen years the situation of Francophone Canada vis-a-vis Anglophone

Canada has altered radically, particularly due to the so-called "quiet revolution" in Quebec, partially due to the effects of the Royal Commission on Bilingualism and Biculturalism, and partially due to the pressures and changes arising out of being a part of the North American economy. The third, concerns the problem of the relationship between three distinct groups: i) the French in Quebec, ii) the French in the "bilingual belt" in New Brunswick, and Ontario, iii) the scattered pockets of French in the remainder of the country. (See Map 4 in Vol. I, Report of the Royal Commission on Bilingualism and Biculturalism.) Problem three will be considered first followed by problem two.

Of the three Francophone groups the group which is likely to be most different from the others is the group who live in scattered pockets outside of Quebec and the bilingual belt. The small numbers of these persons appearing in the sample necessitates their exclusion from our analysis on this aspect of Canadian stratification.

The most problematic group are those Francophones living in the bilingual belt outside of Quebec. While in one sense they are a part of whatever might be called Francophone society and at the social level engage in social relations which transcend provincial boundaries, on the

other hand they lack the support of a complete economic and, more importantly, political system. Further, in terms of work and general milieu they typically exist as a minority in an Anglophone environment. They tend to be located in the poorer economic regions of Ontario and New Brunswick where much of the work is primary and extractive in nature. Thus, they are part of a larger Anglophone economic system. It would be expected that if this group could be examined the greatest difference with respect to the Anglophone population would be in two areas. First, they would tend to be mostly lower class. Secondly, they would tend to show less mobility than Anglophones of the same class. This would occur primarily because to be upwardly mobile from the ranks of the blue collar workers into the professions or management would require loss of French as a working and perhaps even as a main language. Indeed, upward mobility for this group would typically be accompanied by language shift.

The third group are the Francophones in Quebec. There is little doubt that these people are members of a distinct linguistic and social entity. The question is one of whether this is an entity which possesses its own and unique stratification system or whether the stratification system is simply a part of the larger Canadian system and language merely a variable.

Unfortunately, the answer to this question in terms of the present situation is not at all clear. Until as late as 1965 it was possible for Porter to write:

"Within its own social system French Canada has a class structure perhaps unique in North America for its similarity with older European class structures. Because of differences in wealth and education, particularly because secondary education was until the 1960's based on private fee-paying schools, Quebec was even more out of the general North American value pattern of social equality than the rest of Canada." (1965: 93)

However, even as Porter wrote Quebec was undergoing what has been called the "quiet revolution" and was beginning to try and break out of the "pre-industrial" mould in which it had lain for most of the first sixty years of this century. During this earlier period Franco-phone participation in the industrial economy tended to be limited to the blue collar level much as it is described by Hughes in French Canada In Transition. The typical industrial structure in Quebec consisted of Anglophone (Canadian or American) ownership and management and Francophone factory workers. Brazeau citing the work of Hughes and Jamieson describes the situation as follows:

"He (Jamieson) pointed out some interesting facts about the French-Canadian professionals, owners, and managers. The French elite was made up, he said, of members of the liberal professions: priesthood, medicine, and law mainly, and secondarily, engineering and accountancy. He found that the French professionals were less specialized than

their English counterparts, that they belonged to smaller offices, and that they offered their services mainly to French clients either in French-language enterprises or as junior partners in English-language ones. Owners and managers were found likewise to be concentrated in small and medium-sized French-language enterprises. The role of French Canadians at managerial levels in Quebec's large corporate enterprises was defined by Professors Jamieson and Hughes around 1935 as follows: to act as intermediaries between English-language management and a mixed customer group in large part French, and as intermediaries between management and a mixed labour force which was overwhelmingly French at the assistant foreman's level and below. This general picture has been shown not to have changed very much. The French-Canadian middle class is not yet appreciably made up of commercial, financial, and industrial technocrats engaged in the activities of large national enterprises. Members of this class who are so engaged represent a small minority among their English-speaking colleagues and they tend to be concentrated in sales, public relations, and personnel work rather than in production and general administration. With the exception that may slowly become more numerous, I believe the French-Canadian middle class still is relatively uninvolved in industrial administration." (Brazeeau, 1965: 322)

However, this situation is changing. In large measure as a result of the work of the Parent Commission, education for Francophones is moving away from the tradition of the elitist fee-paying college classiques with their emphasis on the classical liberal education and towards the CEGEP's and publically supported education with a more specialized and technical content. At the same time the Government of

Quebec is taking steps to encourage, as much as possible, Francophone participation in the management of Anglophone firms to the extent of recently passing legislation which would make French the only official language in Quebec, Bill 22.

These changes appear to be producing two counter trends. On the one hand the very process of becoming involved in industrialization particularly in an economic environment in which English is the language of commerce and where industrial patterns of organization are fixed by external forces will tend to produce a trend towards homogenization in which the differences between Anglophones and Francophones become increasingly reduced to those of language and little more. On the other hand the trend towards increasing Francophone participation in the industrial and commercial sphere also will tend to produce the type of institutional completeness which could make a distinct French-Canadian society or sub-society a viable possibility, and which could ultimately lead to a class and stratification system which is quite distinct. At the present time, however, the trend would appear to be towards homogenization. (See Doigny and Garon-Audy, 1969)

What then would we expect to find when we look at class and stratification in Francophone Quebec in comparison to Anglophone Canada?

i) Class Structure

In terms of the heirarchical ordering of status and classes, it is expected that little difference will be found between the two groups. (Pineo and Porter, 1967). For the cohorts in the labour force before the late 1950's it is expected that the pattern found by Porter (1965: 94-95) will be found, with Francophones under-represented in the higher socio-economic classes and over-represented in the working classes. For cohorts entering the labour force after this time it is expected that the differences between the distributions will decrease.

ii) Stratification

Based upon the literature cited in Chapter I it is expected that for those entering the labour force before the late 1950's, that the degree of stratification in the Francophone population will be higher than that for Anglophones. For later entrants a convergence in the degree of stratification is expected.

iii) The Process of Stratification

Due to the elitist educational system in Quebec, the effect of the type of education received on occupational access, and the potential barrier effects of

language on occupational opportunity, it is expected that Francophone and Anglophone modes of occupational attainment will be quite different for all but the most recent age group. The difference lies not in the basic structure of the stratification process but rather in the relative importance of the relationships between the components. In general it is expected that background factors will be considerably more important in their influence upon both educational and occupational attainment for Francophones than for Anglophones, and that the opportunity structure will be more constricted for Francophones.

Specifically it is expected that with respect to Anglophones the Francophone structure will show:

- a) A stronger effect of background attributes on educational attainment first job status and present status.
- b) A weaker link between both educational attainment and first job status, and between educational attainment and present status (See Royal Commission on Bilingualism and Biculturalism, Vol. 3A: 45-47).
- c) A stronger link between first job status and present job status. This, it is suggested, will be due to barriers to upward movement based upon language.

Definition of Anglophone and Francophone

Before going on to examine the data in terms of the conjectures set out above it is necessary to first define what I mean by the terms "Anglophone" and "Francophone" within the context of this analysis. Two questions were asked on the survey concerning the respondents language. The first was concerned with the respondents mother tongue, that is, the language which the respondent first learned to speak but which the respondent might not at the time of the survey necessarily understand. The second was concerned with the respondents present main language, that is, the language in which the respondent felt most comfortable in carrying on a conversation. It was decided to carry out the analysis in this chapter solely on the basis of the second question. The reason for this is, while the use of a combination of the two questions would produce a purer measure of language than either, that main language represents the respondents current and adult language affiliation. Thus, Anglophones are defined very simply, as those members of the sample under study whose main language is English.

The definition of Francophones is rather more difficult. Ideally one would like to separate out the three distinct groups discussed earlier and to analyse each separately.

TABLE VI.1
 'QUEBEC VS. ENGLISH CANADA FATHER'S SES BY SON'S PRESENT SES

MODEL	χ^2_{LR}	df	P
(1) I:SL,PL,PS	37.80	25	.048
(2) QO:SL,PL,PS	25.69	13	>.01
(3) Constant Inheritance	12.11	12	>.25

However, given the way in which the data are coded geographically this is not possible at this time. As a consequence I have decided to focus this analysis on the heartland French or rather on the French who live in the Province of Quebec. This is by far the largest group of French in Canada, and as noted earlier the one group which lives in a complete social, economic, political, and geographic entity. Further, this group has had a common educational and occupational experience. Hence, I have defined Francophones for the purpose of this analysis as those members of the sample whose main language is French and who were resident in the Province of Quebec at the time of the study.*

The Father-Son Matrix

As a first approach to the data the matrices of father's socio-economic class by son's present socio-economic class for French and English are compared. Table VI.1 presents the results of this comparison for these key models. Model 1 tests the null-hypothesis that there is no difference in the father-son association between the two matrices. As can be seen the null-hypothesis cannot be rejected at the .01 level. This means that in terms of the association between father and son there is no significant difference between the

* I will use the terms Francophone and Anglophone and French and English interchangeably in the following discussion. The reader should be reminded that I am talking of linguistic not ethnic groups.

French and English matrices where marginal differences are controlled for. To further confirm this the lambda values for each cell were tested for individual significant difference using the formula given in Chapter III. Only two cells were found to be significantly different at the .01 level. One was the father-lower class and son-upper class cell (6,1) where the English association was slightly less negative than the French association. The other was the father-lower class and son-lower working class cell (6,5) in which the French association was higher than the English association (both associations were significantly different from zero). The pattern of positive association is identical to that shown in Figure IV.5 in Chapter IV for the sample as a whole.

However, to infer from this that the real or experienced mobility is not different would be misleading. When we compare the gamma measures for the two matrices values of .367 and .412 are found for the English and French respectively. These measures do not control for differences in the marginal distributions, unlike the measures employed in the models, and hence give a measure of the experienced association between father's and son's socio-economic class. As can be seen the Francophone value is markedly higher than the Anglophone value which in turn suggests that Francophones experienced less mobility than their Anglophone counterparts.

As the difference does not appear when the marginal differences are controlled, the source of this difference must lie in the changes in the class distribution from father to son. When the delta indices are calculated they tend to bear this out. Comparing first of all the father's and son's distributions, the delta indices are found to be 23.66 and 25.96 for French and English respectively. This would indicate that the English fathers and sons have become more unlike in terms of their respective class distributions than have French fathers and sons. Further when the class by class differences are examined only the lowest classes have negative values (S-F) indicating that both groups have experienced net upward mobility. The French simply have not experienced as much upward mobility as English.

This notion is lent some further support by Models 2 and 3 in Table VI.1. Model 2 blanks the main diagonal and tests a null-hypothesis of no significant differences in mobility between the two groups. The hypothesis cannot be rejected at the .01 level, however, it comes very close to being so, with a probability which is only very slightly larger than .01. Model 3 tests the null-hypothesis of no difference in the pattern of inheritance between the two groups and clearly cannot be rejected at any of the

conventional levels. Thus, it would appear that any difference between the Francophones and the Anglophones with respect to the basic father-son matrix lie in the amount of mobility experienced. Further it would appear to be the case that this difference which is much reduced when the marginals are controlled for is primarily due to differences in the father-son class distributions.

The matrix as it has been discussed in this section, however, is probably misleading in the sense that is dominated by the relatively young for whom it is expected that the difference between French and English in terms of mobility will be minimal. As a consequence in the next section I will look at three separate cohorts with a particular focus on the degree to which the mobility patterns in the French and English cohorts converge as we look at successively younger groups.

Changes over time

In this section I will look at 3 cohorts: those who reached their sixteenth birthday between 1935 and 1944, those who became sixteen between 1945 and 1954, and those who were sixteen years of age between 1955 and 1964.

Because of the small number of Francophones in the sample it was necessary to drop the two oldest cohorts which were employed in the two previous chapters entirely, and to

TABLE VI.2
SELECTED COHORT MODELS FOR FRENCH-ENGLISH DIFFERENCES

MODEL	χ^2_{LR}	df	P
(1) I:PL,SL,PS	43.21	25	.013
(2) QO:PL,SL,PS	30.13	13	<.01
(3) Constant Inheritance	13.08	12	>.25
45 - 54			
(4) I:PL,SL,PS	34.05	25	.107
(5) QO:PL,SL,PS	28.90	13	<.01
(6) Constant Inheritance	5.05	12	>.5
55 - 64			
(7) I:PL,SL,PS	26.16	25	.399
(8) QO:PL,SL,PS	14.94	13	>.250
(9) Constant Inheritance	11.22	12	>.5

collapse the remaining five year cohorts together into 10 year cohorts for this analysis.

As in the previous chapters when we look at changes with respect to time in the data the son's socio-economic status at the time of his first job becomes the dependent variable in an attempt to, as much as possible, eliminate cohort effects and isolate period effects.

Table VI.2 presents the results of the application of three models to each of the three cohorts of French and English. Models 1, 4 and 7 test the hypothesis of no significant difference in father-son mobility between English and French for the cohorts who were aged 16 in 1935-1944, 1945-1954, and 1955-1964 respectively. In all three cases the hypothesis of no difference cannot be rejected at the .01 level. However, when we look at the probabilities which are associated with this hypothesis a distinct trend can be seen. For the oldest cohort the value of the probability is .013 which, while it means that at the .01 level the no-difference hypothesis cannot be rejected, also means that in substantive terms there are very likely to be some differences. For the middle cohort (aged 16 between 1945 and 1954) the probability of the no-difference hypothesis increases by a factor of almost 10 by comparison with the probability for this

TABLE VI.3

GAMMAS FOR COHORTS BY LANGUAGE

COHORT	LANGUAGE		DIFFERENCE
	ENGLISH	FRENCH	
1935 - 1944	.451	.477	.026*
1945 - 1954	.384	.434	.050*
1955 - 1964	.350	.407	.057*

* Not significant at the .01 level

hypothesis associated with the earlier cohort. This in turn suggests that the degree of difference between the French and English with respect to the father-son association has substantially decreased. For the youngest cohort the probability of the no-difference hypothesis rises further to a value of .399. Thus, in terms of the degree of association between father's socio-economic class and son's socio-economic class at the time of his first job, the difference between the Francophones and the Anglophones decreases with each successive cohort, to the point that one would be prepared to say with confidence in the case of the youngest cohort that the fact of no statistically significant difference also implies no substantively significant difference as well.

Again it must be recalled that this refers to the situation in which the differences in the marginal distributions have been netted out. When we look, as in Table VI.3, at a measure of association such as gamma in which the marginal distributions are not controlled a somewhat different picture emerges... First, as can be seen in the Table the differences between the pairs of Gammas for each cohort in fact increase in magnitude over time although in no case is the difference actually statistically significant. Second, it can be seen that there is a trend for

both the Anglophones and the Francophones towards a lessening of the relationship between father's and son's socio-economic class with respect to time. However, it would appear from looking again at the magnitudes of the differences that this process may not be proceeding as rapidly for the Francophones.

Given the somewhat different picture which emerges when the marginals are not controlled vis-a-vis the picture which emerges when they are controlled, it seems reasonable to conclude that the major source of difference between Anglophones and Francophones lies in the changes with respect to time in the socio-economic class distribution. Before going on to look at this, however, let us examine the remaining Models in Table VI.2.

Models 2, 5, and 8 test for each cohort the null-hypothesis of no difference between Francophones and Anglophones with respect to mobility, that is, associations occurring off of the main diagonal. When we look at the results, it can be seen that this hypothesis must be rejected for the two earlier cohorts (1935-1944 and 1944-1954), but that it cannot be rejected for the most recent cohort. This provides further evidence for the hypothesis of increasing similarity between Francophones and Anglophones with respect to mobility.

Finally, Models 3, 6, and 9 test a null-hypothesis of no-difference between French and English with respect to the inheritance of socio-economic status. In all three cases the no-difference hypothesis cannot be rejected at any usual level. Indeed, in the latter two cohorts the χ^2_{LR} is less than its expectation.

From this a number of conclusions can be drawn:

1) With respect to the association between father's and son's socio-economic class when differences in the class distributions are controlled for:

- i) French and English do not differ significantly by cohort with respect to the strength of socio-economic class inheritance.
- ii) That with respect to the overall association French and English are becoming more alike.
- iii) That with respect to mobility the French and English are becoming more alike and, indeed, that in the most recent cohort there is no significant difference between them.

2) With respect to the association between father's and son's socio-economic class when the marginals are not controlled for:

- i) The degree of association declines for each succeeding cohort for both groups.

TABLE VI.4

SOCIO-ECONOMIC CLASS DISTRIBUTIONS OF FRENCH AND ENGLISH SONS BY COHORT

Socio-Economic Class	Year Respondent Aged 16					
	1935 - 1944		1945 - 1954		1955 - 1964	
	French	English F - E	French	English F - E	French	English F - E
I	3.08	5.71 -2.63	9.25	8.38 .87	2.61	12.42 -2.81
II	2.75	6.33 -3.58	5.24	8.02 -2.78	9.21	11.67 -2.46
III	14.54	13.85 .69	11.35	16.47 -5.12	14.94	14.80 .14
IV	14.18	22.56 -8.38	17.53	20.73 -3.20	19.74	21.43 -1.69
V	21.95	24.15 -2.2	27.48	25.85 1.63	24.99	24.09 .9
VI	43.49	27.41 16.08	29.15	20.56 8.59	21.51	15.58 5.93

$$\Delta (E_n - E_{n+1})$$

8.68

8.4

$$\Delta (F_n - F_{n+1})$$

17.54

10.13

- ii) That for each cohort the difference in the degree of association for each group is not significantly different, although the magnitude of the gammas for the French is consistently higher than for the English.
- iii) That contrary to what might be expected the differences between the gammas for each cohort increases slightly with time rather than decreasing. Although it should also be noted that these increases are trivial in magnitude.

From the above the inference would seem warranted that the source of the differences in mobility between the Anglophones and the Francophones in the two older cohorts is due to differences in the distribution of socio-economic class. Or in other words, to the degree that these distributions reflect the opportunity for class attainment in the occupational structure these differences may be attributed mainly to differential rates of structural mobility.

To pursue this idea a bit further we can look at Table VI.4. This table shows the socio-economic class distribution of sons by cohort and by language. First it can be seen that the proportion of Francophones in the lower three classes relative to the proportion of Anglophones in the lower three classes is declining across the cohorts. The situation with respect to the upper three

classes - the Middle classes - is less clear. On the one hand there is a greater percentage of Francophones in these three classes in each successive cohort. On the other hand the same is true for Anglophones as well and the degree to which Francophones are under-represented in the Middle classes is very close to the same for the earliest and most recent cohorts. In the second part of Table VI.4 the Delta indices for the distributions of successive cohorts are presented. Looking at the Deltas for the Anglophones first, it can be seen that the two values are virtually constant. From this it can be concluded that the rate of change in the Anglophone class structure is relatively stable. When we look at the Deltas for the Francophones we can see that the second value is much lower than the first indicating that the most rapid transformation of the Francophone class structure occurred between the 1935-1944 cohort and the 1945-1954 cohort. The second Delta while lower than the first is still higher than either of the Anglophone Deltas, indicating that the Francophone class structure is changing more rapidly than the Anglophone structure.

This can be further pursued in looking at Table This table presents a number of Delta indices calculated for each cohort by language. The first set of Deltas

TABLE VI.5

A INDICES BY COHORT FOR FRENCH AND ENGLISH

	Year Son Ages 16		
	1935 - 1944	1945 - 1954	1955 - 1964
English Father vs. English Son	16.96	17.28	12.48
French Father vs. French Son	8.25	10.09	14.57
French Father vs. English Father	7.30	5.21	9.4
French Son vs. English Son	16.78	11.10	6.96

compare the distributions of fathers and sons for each cohort by language. In line one of the table it can be seen that the value of the Deltas for Anglophones is declining across successive cohorts. What this means is that the father-son socio-economic class distributions are becoming less unlike each other with each successive cohort. This in turn indicates a declining rate of structural mobility for the Anglophones. When we look at line two in the table we find just the opposite occurring. The values of the Deltas for Francophones rise with each successive cohort indicating a rising rate of structural mobility. Further the Francophone Delta is larger than the Anglophone Delta for the most recent cohort (1955-1964) and this suggests that the rate of structural mobility is likely to be higher for Francophones in this cohort than for Anglophones in the cohort.

Lines three and four in Table VI.5 compare for each cohort the French father's distribution with the English Father's distribution and the French son's distribution with the English son's distribution. By comparing these values within each cohort we can see relative to the fathers' distributions whether the sons' distributions have become more or less similar as a result of mobility. For the two oldest cohorts the son's distributions have

in fact become less similar which suggests that in terms of structural mobility Francophones ended up more disadvantaged with respect to Anglophones as a result of differential rates of structural mobility. For the youngest cohort the situation is reversed and suggests that at least in terms of structural mobility the socio-economic class distributions of French and English sons have become more similar than their fathers'.

From all of this the additional conclusion, that not only are French and English becoming more similar with respect to their net rate of mobility, but they are also becoming more similar in terms of socio-economic class distributions and in terms of structural mobility, would be warranted.

In this section we have seen while the French remain in a disadvantaged position in the socio-economic class structure vis-a-vis the English, that this disadvantage has decreased substantially. Second, we have seen that while the French continue to experience less mobility and more inheritance than the English that the difference here is decreasing as well. Finally, we have seen when the effects of structural mobility, as reflected in the father-son shifts in the marginal distributions, are controlled for that in the most recent cohort there are

no significant differences with respect to overall father-son association, mobility, or inheritance. In sum, the convergence in degree and form of stratification which it was expected that we would find has indeed shown itself clearly in the data. In the next section I will go on to look at the process of stratification employing again the status attainment model introduced in Chapter V.

Francophone-Anglophone Differences in the Process of Stratification

In looking at the differences between French and English in the process of status attainment I will be concerned not only with the similarities and differences in the process itself but also I will be interested in the relative advantage or disadvantage accruing to each group as a result of the process of stratification. As a consequence of this it will be necessary to employ "raw" or "metric" coefficients in addition to path or Beta coefficients in my analysis. While standardized coefficients allow us to look at the net association between two variables with others controlled they do not allow us to draw inferences about the relative impact of one variable on another across groups. For example, assume that in two different groups the association between education and income was the same but that in group A the members received \$5000 per

FIGURE VI.1

BASIC STATUS ATTAINMENT MODEL FOR ANGLOPHONES AND FRANCOPHONES 25-64, FRANCOPHONE COEFFICIENTS IN PARENTHESES

year for the first year of education and \$1000 per year more for each additional year, and in group B the members received \$2000 per year for the first year of education and \$1000 for each additional year of education. If we were to look at the standardized Betas (path coefficients) for these two groups the values would be identical and we would conclude that both groups received the same rate of return for increments in educational attainment. However, this conclusion, while strictly correct, is also misleading as it masks a systematic inequality in the return to education as at any given level of education the members of group B will earn in fact \$3000 less than those with the same education in group A. Only by looking at the intercept term and the mean income for each group would we find this out. This is the reason for employing the raw coefficients.

The Basic Model

Figure VI.1 presents the basic models for French and English in terms of path coefficients with the Francophone coefficients in parentheses. The model fits both groups in that all included paths are significant at the .01 level and all deleted paths are not significantly different from zero at the same level. Further, in the case of both models examination of residual plots suggests no departures from linearity. The models both re-create their correlation

matrices in an adequate fashion and individual tests for the differences between the observed correlations and the correlations as estimated from the model reveal no significant differences at the .01 level. Finally, the model is similar for both English and French inasmuch as the relative magnitudes of the paths within each model are identical. From this it would appear that the stratification process is similar in form for both English and French.

While the models are similar in form there are nonetheless differences in the way in which the stratification process works out for English and French. Looking initially at the determination of son's education it can be seen that the impact of father's education and father's occupation on son's education is stronger for the French than the English when the multiple correlation coefficients are compared. These background attributes account for over 27 per cent of the variation in son's educational attainment for Francophones and for only 21 per cent of the variance for Anglophones.

In the case of both groups the impact of father's socio-economic status is about the same. The key difference appears to lie in the area of the impact of father's education. In the case of the Anglophones this

TABLE VI.6
BASIC STATUS ATTAINMENT MODEL FOR ENGLISH AND FRENCH 1925 - 1964

Dependent Variable: Son's Education (X_3)						
	R^2_3	b_{13}	b_{23}	C_3	r_{12}	β_{13}
English	.213	.061	.254	7.24	.509	.260
French	.275	.069	.443	4.65	.472	.245
Dependent Variable: Sons's Socio-Economic Status at time of First Job (X_4)						
	R^2_4	b_{14}	b_{34}	C_4	β_{14}	β_{34}
English	.472	.158	2.78	2.22	.150	.614
French	.508	.165	2.60	5.06	.144	.640
Dependent Variable: Son's Socio-Economic Status in 1973 (X_5)						
	R^2_5	b_{15}	b_{35}	b_{45}	C_5	β_{15}
English	.499	.118	1.59	.402	6.99	.106
French	.567	.111	1.11	.508	7.97	.095
MEANS						
	X_1	X_2	X_3	X_4	X_5	
English	35.88	8.51	11.58	40.08	45.79	
French	33.97	7.29	10.22	37.19	41.97	
Difference	1.91	1.22	1.36	2.89	3.82	

effect (p_{32}) is of only a marginally higher magnitude than the effect of father's occupation. Whereas in the Franco-phone case the effect of father's education on son's education is much stronger than the effect of father's socio-economic status on son's education. At least some of this difference is due to the stronger relationship in the English group between father's occupation and father's education (r_{12}). This in turn suggests that at least in the father's generation the link between education and socio-economic status is a closer one for Anglophones than for Francophones.

To explore the relationship between background attributes and educational attainment further it is necessary to turn to Table VI.6 in which the raw regression equations for the models are displayed. Looking at the parameters of the equation for the prediction of son's educational attainment we can see first of all that the effect of father's socio-economic status net of father's education is of a very small magnitude for both French and English. Further, when tested the values of b_{13} were found to be not different at the .01 level. However there is a substantial difference between the two groups when we look at the coefficients for the effect of father's education (b_{23}) and at the intercept terms (C_3). The slope

(b_{23}) of the regression for the Francophones is almost twice as steep as the slope for Anglophones which suggests that the increment in son's education for each year of father's education will be almost twice as great for Francophones as for Anglophones. The much lower intercept is a reflection of the initial disadvantage of the Francophones and of the steeper slope of their regression.

Looking at the means on education at the bottom of Table VI.6 the position of relative disadvantage can be more clearly seen. Anglophone fathers have 8.51 years of education compared with Francophone fathers with only 7.29 years of education for a difference of 1.22 years of education. Anglophone sons have 11.58 years of education compared to Francophone sons with 10.22 years of education for a difference of 1.36 years. Both groups show a difference of about three years of education between fathers and sons. Thus, while both groups have shown the sons gaining, on the average, about the same amount of education relative to their fathers and while the rate of gain relative to their father's education has been much higher for Francophones than for Anglophones, the relative positions of Anglophone and Francophone sons on the average has not changed. This is due however to the fact that the distribution of father's education is much more right skewed

for Francophones than for Anglophones and the son's gains relative to Anglophones have been more reflected in a lessening of the skew than in their overall average attainment.

To summarize, the degree to which background factors play a role in educational attainment for Francophones vis-a-vis Anglophones is higher for the former than the latter. The chief difference appears to lie in the importance of father's educational attainment which is of considerably more importance in terms of its effect on the son's educational attainment for Francophones than for Anglophones. However, the educational structure has not served to lessen the average difference between the two groups. The French sons continue to lag behind the English in terms of educational attainment, and on the average by about the same amount as their fathers, but the form of the son's distribution is more alike than that of their father's. Overall, then, it would appear that the educational structure is more closed for Francophones than for Anglophones and that it is more likely to perpetuate initial inequalities for the former group than the latter.

Turning to look at the son's socio-economic status at the time of his first job as the dependent variable we can see that again the variance explained is higher for the

French than for the English. This is due to two factors: the slightly higher effect of the son's educational attainment on his status in his first job, and the stronger impact on this variable of the indirect effect of father's education acting through son's educational attainment. The difference in the indirect effects is substantial (the indirect effect of father's education on son's first job status through son's educational attainment ($p_{32} \times p_{43}$) is .167 for Anglophones and .232 for Francophones) and further is larger than the difference in the direct effect of educational attainment. The direct and indirect effects of father's socio-economic status on son's first job status are, while significant, smaller than either of these other effects, and further there is virtually no significant difference between the groups in the magnitude of these effects.

Looking at the raw regression in Table VI.6 we can see that the effect of father's status on son's first job status (b_{14}) is small relative to the effect of son's educational attainment, and that the magnitude of this coefficient is very similar for both English and French. When we look at the coefficient for the effect of son's educational attainment on son's status at first job (b_{34}) we can see that the slope is flatter for Francophones than for Anglophones, indicating

that the rate of status gain for each increment of education is lower for Francophones than for Anglophones. Further, while the Francophone intercept is higher indicating a higher return for no-education for Francophones, the French and English lines intersect at a value of 46 for the dependent variable, indicating that above this value the difference in the rate of increase will also result in an increasing absolute disadvantage accruing to Francophones as well. Or, in other words the higher the educational level the greater will be the difference between the socioeconomic status of Francophones and Anglophones with the same educational attainment, and that difference will be increasingly to the advantage of the Anglophone and to the disadvantage of the Francophone. Coupling this with the earlier findings about education and with the fact that the association between education and first job status is tighter for Francophones than for Anglophones and we can see that the opportunity structure is less open for the former than for the latter. Further, when we look at the fact that the mean status difference between French and English son's at the time of their first full-time job is greater than it was for their father's, it is clear that this process is operating to the relative disadvantage of the Francophone.

When we turn to look at the final stage of the models in which the son's present (1973) socio-economic status is the dependent variable the same picture as in the earlier stages emerges only with the French-English differences further exacerbated. The multiple correlation coefficient is made higher for the French than for the English (.567 vs. .499 respectively). This is due mainly to the lower rate of intra-generational mobility experienced by the Francophones in comparison with the Anglophones, and is indicated by the much larger path for Francophones from son's socio-economic status at first job to son's present status (p_{54}). At the same time we can see that the son's educational attainment has less impact on his current socio-economic status if he is a Francophone than if he is an Anglophone (p_{53}). There is again little difference between the two groups in terms of the impact of father's socio-economic status on current status.

The raw regression further fills the picture in. Educational attainment is the most important determinant of socio-economic status and the rate of return in terms of status to educational attainment is clearly stronger for Anglophones than it is for Francophones. The lower Anglophone value for the effect of first job status on present status reflects the earlier observation that

Francophones appear to experience lower rates of intra-generational mobility. Finally, when we look at the mean values for current socio-economic status we find that the gap has widened further. The status difference between French and English was 2.89 points at the time of their first job and has increased through intra-generational mobility to a difference of 3.82 points.

We can conclude then, that while the same process of stratification applies to both French and English in Canada, that process operates to the advantage of Anglophone Canadians and the disadvantage of Francophone Canadians at every stage. In getting an education the Francophone Canadian is less likely to escape his origins than an Anglophone Canadian. When he does complete his education the Francophone cannot translate this education into occupational status and socio-economic status at the same rate as an Anglophone Canadian. In the occupational structure the Francophone is less likely to be mobile with respect to his entrance status, and his education is less likely to benefit him in doing so, than is the case for his Anglophone countrymen.

This bleak picture may, however, be a bit misleading in the sense that it describes the experience of Anglophones and Francophones whose ages span a range of some forty years.

TABLE VI.7

REGRESSIONS FOR SON'S EDUCATION BY COHORT AND LANGUAGE

	R^2_3	b_{13}	b_{23}	C_3	r_{12}	β_{13}	β_{23}
1935 - 1944							
English	.197	.072	.192	6.95	.466	.308	.207
French	.304	.085	.422	3.26	.404	.301	.356
1945 - 1954							
English	.144	.058	.211	7.77	.460	.233	.210
French	.303	.058	.513	4.53	.496	.217	.409
1955 - 1964							
English	.201	.055	.219	8.37	.551	.262	.248
French	.198	.068	.274	6.99	.495	.264	.250
MEANS	X_1	X_2		X_3			
	35-44	45-54	55-64	35-44	45-54	55-64	
English	34.3	35.3	38.0	7.9	8.3	9.3	11.6
French	32.2	35.0	35.7	6.8	7.4	7.8	10.4
Difference	2.1	0.3	2.8	1.1	0.9	1.5	1.2
							1.0

We have seen that there is evidence which suggests that the class structure may be becoming more open over time for Francophones and Anglophones alike, and that in this process stratification for the two groups is also becoming more alike as well. In the final section of this chapter I will look at changes in the process of stratification to see if this convergence in the structure which we saw earlier is paralleled in the process.

Changes in the Process of Stratification

As in the earlier section of this chapter in which I looked at changes in the structure of stratification, it is necessary due to the small numbers of French in the sample to look at only three ten year cohorts in making the comparisons. Secondly, as earlier the ultimate dependent variable is not son's present socio-economic status but rather, son's socio-economic status at the time of his first full-time job.

Table VI.7 presents the regressions for the first stage of the model in which son's educational attainment is the dependent variable for each of the three cohorts by language. Looking at the two older cohorts we can see that the results very much parallel those which we have looked at in the previous section. The multiple correlation coefficient is substantially higher for Francophones than

TABLE VI.8

REGRESSIONS FOR SON'S SOCIO-ECONOMIC STATUS BY COHORT AND LANGUAGE

	R^2	b_{14}	b_{34}	C_4	β_{14}	β_{34}
1935 - 1944						
English	.432	.176	2.44	5.22	.175	.567
French	.410	.206	1.88	10.19	.202	.524
1945 - 1954						
English	.476	.158	2.75	2.96	.145	.628
French	.536	.148	2.86	2.69	.129	.668
1955 - 1964						
English	.475	.140	3.24	-2.90	.130	.627
French	.534	.180	3.15	-2.08	.146	.661
MEANS	X_1	X_4				
	35-44	45-54	55-64	35-44	45-54	55-64
English	34.3	35.3	38.0	37.9	40.4	42.9
French	32.2	35.0	35.2	33.6	37.7	40.6
Difference	2.1	0.3	2.8	4.3	2.7	2.3

for Anglophones. Father's educational attainment is the most important determinant of son's educational attainment for both groups, and more important for French than English. Father's socio-economic status is less important in the process and is of about equal importance for each group. And when we look at the means it is clear that the picture again emerges of greater Francophone disadvantage relative to the Anglophones after education than before in the sense that the father's educational attainment on the average is more alike than the son's.

However, when we turn to look at the results for the cohort who were sixteen between 1955 and 1964, it is a different matter. The multiple correlation coefficients are virtually identical. Indeed, they are not significantly different at the .01 level. When we look at the path coefficients (Betas) it can be seen that in the case of the effect of father's occupation and in the effect of father's education on the son's educational attainment that the values for French and English in each case are effectively identical. Turning to look at the raw regressions we see that some differences do remain. The rate at which father's education effects son's education is still higher for the French than it is for the English, and the French inter-

cept is still somewhat lower than the English intercept. When we look at the means we can see that in this cohort the mean educational difference between English and French actually declines slightly from father to son. Although the French still remain at a disadvantage with respect to the English.

Looking at this stage of the model there is clear evidence of increasing educational opportunity for Francophones with respect to Anglophones to the extent that the educational system would appear to be equally open to both groups. Or perhaps equally closed would be a better way to phrase it given the still significant effects of father's education on son's educational attainment regardless of group. Finally, while Francophones on the average continue to have lower levels of educational attainment than Anglophones the gap shows some evidence of closing.

Table VI.8 presents the regressions for each cohort by language with the son's socio-economic status at the time of his first full-time job as the dependent variable. The convergence between French and English occurs somewhat earlier in this stage of the model than in the previous stage. The differences between English and French are relatively minor for both of the most recent cohorts.

The major changes are in the intercept terms and in

the magnitudes of the raw coefficients for son's educational attainment. In the cohort who were 16 between 1935-1944 the results are the most different with the rate at which education was converted into status being much lower for the Francophones than for the Anglophones. The flatter slope for the Francophones is, in this case, the primary source of the higher intercept. When we look at the two more recent cohorts it can be seen that the French and English regressions are quite similar in both cases. Although the multiple correlation coefficient is higher for the Francophones than for the Anglophones in both cases.

The important change which is common to both groups is the increasing value with respect to time of the raw coefficient for son's educational attainment. This indicates that education is showing an increasing rate of return in terms of status. Coupled with this increase, the parallel increase in the path coefficient from son's education to son's status at the time of his first job indicates an increasing association between educational attainment and status.

Finally, as can be seen when looking at the differences in means between the French and English with respect to status at first job, the extent to which Anglophones enjoy a status advantage with respect to Francophones decreases with each successive cohort.

Summing up, two types of conclusions can be drawn from these data:

- 1) With respect to trends affecting both French and English: the stratification process seen with respect to the effect of background factors (father's socio-economic status and father's education) is becoming more open; the stratification process seen in terms of the increasingly strong relationship between educational attainment and socio-economic status at the time of first job is becoming rather more rigid.
- 2) With respect to French-English differences: the French at every point in the stratification process are at a disadvantage in relation to the English, but the degree of this disadvantage is lessening; the process of stratification in terms of the relative importance of its various components has for the most recent cohort become virtually identical.

Thus, these results tend to lend further support to the conjecture of convergence in both structure and process of stratification set out at the beginning of this chapter. Further, the analysis of the process of stratification supports my earlier contention that Dofny and Garon-Audy were incorrect in suggesting that the major element which seemed to account for the convergence between French and

English mobility which they found was "structural mobility", and that this convergence was not really indicative of more basic changes in the opportunity structure. The evidence which I have presented strongly suggests that it is precisely the basic opportunity structure which has changed, and further that it has changed in a way which has made both the structure and process of stratification more alike for Francophones and Anglophones in Canada.

Chapter VII

Conclusions

This has been a study of three basic aspects of social stratification in Canadian society. The first aspect examined was the degree of stratification per se. That is to say, the focus was on the extent to which through inter-generational continuity the socio-economic classes in Canadian society are also strata. In this examination the analysis was concerned with three elements of stratification: the degree to which the socio-economic class of the son was dependent upon the socio-economic class of the father; the degree to which change has occurred in this dependence; and the extent to which the changes found were due to shifts in the basic pattern of status transmission and the degree to which they were due to changes in the class structure.

The second aspect of stratification to be examined was the process of stratification. This was done employing the status attainment model. This model focuses on the two basic components of the opportunity structure and allows an examination of the effect of socio-economic background on the success or failure of individuals in the structure, and an examination of the openness of the structure itself.

The focus is, to be more specific, on three critical junctures in the opportunity structure. The first is concerned with achievement in the educational structure, and the degree to which the advantages and disadvantages of social origin affect that achievement. The second juncture is the translation of the education received into an occupation which carries with it appropriate status. Here the concern is both with the translation *per se* and with the degree to which background factors also become involved in the process. Finally, the concern is with the degree to which within the occupational opportunity structure initial occupational status is translated into still higher status. Again there is also a concern with the extent to which educational achievement continues to affect this movement in the occupational structure, and also with the degree to which socio-economic origins also continue to affect this movement. As was the case in the examination of the degree of stratification there was also concern with the ways in which this process was changing with respect to time.

Finally, once the process and structure had been examined in a national context there was an examination of the ways in which these two aspects of stratification operated differentially for Anglophones and for Francophones.

Findings

Before summarizing the findings of this study it is well to recall that they apply only to a limited population of Canadians. The analysis was concerned only with the experiences of native born Canadian males who were between the ages of 25 and 64 in July 1973, who were non-institutionalized civilians in the labour force in July 1973, and who were resident in Canada excluding the Yukon and Northwest Territories in July 1973. In short a substantial number of Canadians are not included in this analysis. Apart from females two important groups have been excluded. The first is native born Canadians who are either permanently or temporarily resident abroad. There is little that can be done about these in that as a group very little is known with any certainty about them.* The second major group which has been excluded from the analysis are all immigrants to Canada. Given the major impact of immigration on Canada especially since the Second World War this group is a very important part of stratification in Canada. However, an analysis of their role would be complex and their

*It should be noted however that there is some hope that the American study OCG:II will be able to provide us with some information on those Canadians who were resident in the United States in 1973.

inclusion in this analysis would have obscured our view of Canadian institutions.

In Chapter IV the degree of stratification was examined. It was found that there is substantial inheritance of socio-economic class in Canada. This inheritance was found to occur in all classes to a degree which represented a significant departure from independence. Further, the degree of inheritance was found to be significantly higher for the Upper-Middle class (the highest class in the analysis) and the Lower class (the lowest class in the analysis) than for the other classes.

We also found a considerable degree of constriction in the patterns of mobility. Although there was a substantial gross amount of upward mobility much of this was associated with shifts in the marginals. When this mobility was examined to ascertain the extent to which it could have occurred by chance alone, a much more constricted pattern was found. First, it was found that there was relatively free mobility exchange between the two top classes - the Upper-Middle and the Middle class. However, there was no significant downward mobility out of these two classes into any of the four lower classes beyond that which could

have occurred by chance. Secondly, in looking at the bottom three classes (the Upper and Lower Working and the Lower class) it was found that there was relatively free exchange within these classes, but that there was no significant upward mobility from any of these classes into the top three classes in the analysis. Finally, it was found that the association between father's socio-economic status and son's socio-economic status in the main diagonal of the mobility matrix, that is inheritance, accounted for sixty per cent of the total father-son association, and that if the cells immediately adjacent to the main diagonal were included that 96 per cent of the association could be accounted for. All of this lent support to a picture of constricted mobility in which most significant movement was to the class immediately above or below the class of origin.

These findings tend to support the notion that Canada at least for the native born population has a degree of stratification which is not unlike that found in other western industrial societies in which such research has been carried out. The pattern of both inheritance and mobility is very much like what has been found in other countries. The extent to which the exact degree of stratification is greater or less than that found for

other countries cannot be answered here as no attempts at exact comparisons were made.

In the latter part of Chapter IV the degree of stratification in Canada was examined for eight five year cohorts spanning a period from 1925 to 1964 in order to see if there had been changes over time. It was found that unlike the findings coming out of a similar investigation in the United States, but like an earlier investigation carried out in Canada, there had indeed been changes in the degree of stratification in Canadian society. The findings indicated that there were two periods over which the degree of stratification had remained stable. The first was the pre-World War II period in which the degree of socio-economic class inheritance was relatively high and the amount of mobility was lower. The second was the post-World War II period in which there was an increase in the amount of mobility by comparison with the earlier period and a decrease in the amount of inheritance. It should be noted that the extent of these changes while significant was relatively small and that the data show no evidence of change over the period 1950 to 1964. In short there is a slight shift to more openness following the Second World War, but no evidence of a further trend to increasing openness thereafter.

The findings in Chapter IV leave little doubt that Canada is a stratified society. In Chapter V the process by which that stratification occurs is examined. An examination of the basic status attainment model showed that education was indeed the key link between generations. Social origins were shown to account for almost a quarter of the variance in the son's educational attainment. Of the two indicators of social origin the father's education was seen to be of slightly more importance in the determination of the son's educational attainment than the father's socio-economic status. The educational attainment of the son is shown to be the most important factor in determining his socio-economic status at the time of his first job, accounting through its direct effect for 39% of the variance in his first job status alone. However, the impact of social origins is still substantial as the father's socio-economic status both directly and through its influence on the son's educational attainment, and the father's educational attainment through its effect on the son's educational attainment in combination account for a further ten per cent of the variance in the son's status at the time of his first job. In looking at the son's socio-economic status in 1973 his status at the time of his first job was seen to be the most important factor exercising

a direct influence. However, the direct effect of his educational attainment and its indirect effect acting through his first job status was the most important effect overall on the son's socio-economic status. Father's socio-economic status exercises a small direct effect on son's present status but also exercises a substantial indirect effect.

The model tends to show that education to the extent that it is open is the major source of opportunity in Canada. The latter stages strongly suggest that after education has been obtained the opportunity for further mobility is relatively constricted.

In the second part of Chapter V the basic model was briefly compared with the American and Australian models. Due to the major differences in the way in which the Australians treated their data on occupations little could be made of that comparison. The American data are rather more like ours and the comparison proved to be of some interest. The impact of social origins on educational attainment was seen to be very similar for the two countries. However, when it came to looking at the latter stages of status attainment the results diverged in a way which suggested that education and first job status have much less effect on intra-generational mobility in the United States by comparison with Canada.

In the last part of Chapter V the path models for the eight five year cohorts employed in Chapter IV were examined to see if the changes in the degree of stratification which were found in Chapter IV were paralleled by changes in the process of stratification. The finding was that the parallels were there. There were two major shifts found. The first was that the impact of social origins on educational attainment decreased quite sharply. The second, however, was that the impact of educational attainment on socio-economic status at the time of first job increased somewhat over the same time period. The net effect was to produce a process which is more open in terms of opportunity for education but in which once that education has been obtained has become slightly more rigid.

In Chapter VI Francophone-Anglophone differences in the degree of stratification and in the process of stratification were examined. In comparing the matrices of father's socio-economic status by son's present socio-economic status no significant difference in the father-son association was found between the two groups. The same proved to be the case when the two groups were compared for differences in mobility and for differences in the degree of association in the main diagonal. This is only the case, however, when the differences in the marginal

distributions are controlled for. Looking at the father-son association reveals that when the class distribution differences are not controlled for the Francophones show a higher degree of association between father's and son's socio-economic class than is the case for Anglophones. Further, when the marginals are examined it is found that this higher association compounds the initial disadvantage of the Francophones due to the greater likelihood of their having lower class origins than the Anglophones.

When the two groups were examined with respect to changes in the degree of stratification over time several things were found. First, it was found that both groups were becoming more open, that is there was a decline in the strength of the association between father's socio-economic class and son's socio-economic class at the time of his first job. Secondly, when changes in the marginal distributions were controlled for it was found that there was a convergence in terms of the degree of association, the degree of mobility and the degree of inheritance with respect to time between the two groups. Thirdly, when the class distributions were examined it was found, while the Francophones remained disadvantaged relative to the Anglophones throughout the comparison, that the differences were smaller for each successive cohort.

When the French and English were examined for differences in the process of stratification the results paralleled those found earlier. In looking at the basic status attainment model it was found that:

- i) Social origins and in particular father's education played a much stronger role in determining the educational attainment of the Francophone sons than was the case for Anglophone sons.
- ii) While there was a stronger relationship between educational attainment and socio-economic status at time of first job for Francophones in comparison to Anglophones, the rate at which educational attainment "paid off" in status was higher for the latter than for the former.
- iii) Anglophones experienced higher rates of intra-generational mobility than Francophones and in addition the educational attainments of the latter group were of less value to them in this process than for the former group. In sum, it was found that for the Francophones the status attainment process was more closed than for Anglophones at every stage, and that that process operated to the relative disadvantage of the Francophones at every stage.

When the attainment model was applied to three cohorts of French and English to look for changes with

respect to time the results are less grim. Although throughout the time period under examination the French are always at a disadvantage relative to the English, for the most recent cohort the process of stratification has become remarkably similar for both groups. This is particularly the case when the effect of social origins on education attainment is examined.

In looking at social stratification in Canada either as a whole or in terms of its two major groups, the French and English, the picture is not wholly black. Canada is a stratified society of that there can be no doubt. However, over the last forty years it has become slightly less stratified. In looking at the process of status attainment there is some evidence that this process is becoming more open. At least the educational attainment of Canadians is less dependent upon their social origins than it used to be. However, the increasingly strong relationship between educational attainment and socio-economic status appears to have restricted the degree of opportunity for intra-generational mobility and at the same time placed an even heavier emphasis on the need for openness on the educational institutions of the country.

This emphasis on education is not surprising. Those who have written on the process of industrialization have

remarked with great uniformity on the growing demand which an increasingly technological society places upon education. (See Bell, 1973: Chapters I and III for a particularly eloquent discussion of this theme.) If the trend towards an increasing dependence on education to sort and prepare the members of society for their place both in the division of labour and in the socio-economic hierarchy is to continue, then increasingly attention must be focused on the further opening up of educational opportunity to all sectors of society.

Other Directions

As I stated at the outset this has been a preliminary analysis of social stratification in Canada. It has been limited in scope of focus, in method, and in population studied. Given the richness of the data and the corresponding richness of available methods the number of possible directions in which the present work could be extended is very large. Some of the possible directions for extension have been outlined in a paper which I wrote with Professor Boyd. This paper (Boyd and McRoberts 1974) is included as Appendix III to this report. However, there are two major problems which flow very directly from the present analysis and which I will discuss here.

The first problem concerns the further elaboration of the relationship between language and status attainment.

There has been a conjecture in Canadian social science for some time which asserts that for the Francophone upward mobility is frequently associated with the necessity to work in English and indeed in many cases to "lose" his language. (See B & B Report Vol. 1116, pp. 480-482 for one recent statement of this conjecture.) In our study, with this in mind, we asked our respondents which language they used on both their first full-time job and their present job. Employing these additional data we can shed some light on this conjecture. First, the extent to which mother tongue and main language are identical will give a measure of language loss in general. Then by comparing language at first job with mother tongue and main language we can examine the extent to which those who have retained their language in the work world are different with respect to mobility from those who have switched language. If the language loss conjecture is correct we would expect that Francophones who have retained their language in the work world would not fare as well as those who work in English. Secondly, we can look at the relationship between language at first job and language at present job, to examine the degree to which shifting of working language affects career mobility. If the conjecture is correct we would expect those who shift

to English to fare best, those who remain working in French to fare less well, and those who revert from English to French to suffer heavy career costs by doing so. Although it should be noted that recent changes in Quebec, and in the Federal Civil Service (the largest employer of Francophones outside of Quebec) may tend to reduce the costs of working in French for the youngest cohort.

Structural Effects

In a series of two papers, one of which was discussed earlier, Hauser et. al. have focused on the issue of structural versus real mobility (1975a, 1975b). In the first paper they show that the net rate of mobility has been invariant with respect to time for American men, and suggest that the change in the observed rate of mobility can be wholly accounted for by changes in the occupational distribution with respect to time. In the second paper in the sequence they pursue the issue further and argue that if the net rate of mobility (as reflected in the internal odds ratios of the mobility matrix) is invariant with respect to time and if structural change (as reflected in the marginal distributions of the table) is the sole source of change, then if we can adjust the marginals of a table without affecting the odds ratios of the table it would be possible to predict the mobility of one cohort simply

through a knowledge of the marginal distributions of that cohort (1975b). Their findings have three important implications for future mobility research.

First, by projecting the mobility rates forward and backwards within an existing data set such as ours it is possible to quantify the contribution of structural change in the labour force composition to changes in the observed rate of mobility. This can, however, only be done in the case where the net rate is found to be invariant over time (e.g. the period 1950-1964 in our data). Secondly, as Hauser, et. al. note, if we assume future invariance in the net mobility rate, then:

"For example, one can project future industrial growth and then aggregate industry-specific occupation distributions across industries. Once projections of the occupation distribution were obtained, it would be possible to estimate all of the entries in a future mobility table using the method applied here. Were there published forecasts of the distribution of occupation by age, we could forecast the future of occupational mobility." (Hauser, et. al. 1975b:596)

The third implication is for comparative research. Using log-linear techniques it is possible to compare net mobility between two nations if one can structure the tables in a sufficiently similar manner. In addition, even where differences are found it is possible to employ the log-linear models in conjunction with marginal adjust-

ment techniques to examine the impact of differential rates of labour force change.

Coda

I have shown that in Canadian society, for native born males, the inter-generational transmission of socio-economic class is still very much a feature of the stratification system. Indeed, every indication suggests that Canada is a stratified society. In looking at the evidence it would appear to be the case that unlike the United States Canada has become more open. The point of change would appear to be the Second World War. This is not entirely surprising as major wars have in the past been a significant source of social change particularly in the stratification systems of heavily involved nations. It must be noted that the change, while significant, was not all that large. Further, it was found that since 1950 there has been no significant change in the net rate of mobility, although some change was observed in the gross rate of mobility in the direction of greater mobility. It would appear to be the case for post-war Canada that this increased mobility is primarily due to structural change, although there is some evidence of increased educational opportunity as well.

This invariance in the net rate of mobility since 1950 is disturbing. The reason for this is that Canada cannot

(and has not) continued to sustain a high rate of growth. If the decline in the rate of growth cannot be accompanied by changes in the internal functioning of the opportunity structure then we must be prepared to face the prospect that observed mobility in Canada will begin to converge with the patterns of net mobility, and that Canadian society will become increasingly a more stratified society. More specifically what is disturbing is that the most recent evidence on education in Canada does not suggest that opportunity in this crucial sphere is becoming significantly more open (Breton, 1972; Porter, Porter, and Blishen 1973). In short, the data available give scant grounds for optimism about the prospect of Canada becoming a more open society.

References

- Barber, Bernard
1968 "Social Stratification" in International Encyclopedia of the Social Sciences, Vol. 15.
- Bendix, R.
1974 "Inequality and Social Structure: A Comparison of Marx and Weber", A.S.R. Vol. 39: 149-61.
- Blau, Peter M. and Otis Dudley Duncan
1967 The American Occupational Structure, New York: Wiley.
- Blau, P.M.
1964 Exchange and Power in Social Life. John Wiley and Sons: New York.
- Blishen, B.R.
1970 "Social class and opportunity in Canada", in Canadian Review of Sociology and Anthropology, 7: 2.
- Blishen, Bernard R.
1967 "A socio-economic index for occupations in Canada". Canadian Review of Sociology and Anthropology 4: 41-53.
- Blishen, B.R.
1958 "The construction and use of an occupational class scale", in Canadian Journal of Economic and Political Science, pp. 519-31.
- Blishen, B.R., and McRoberts, H.A.
1976 "A revised socio-economic index for occupations". Canadian Review of Sociology and Anthropology. February.
- Boyd, Monica, and McRoberts, H.A.
1974 "Design of the 1973 Canadian National Mobility Study on Occupational and Educational Change in a Generation". A paper presented to the North Central Sociological Association Meeting, Windsor, Ontario, May 2-4, 1974. (Mimeo)
- Braithwaite, R.B.
1968 Scientific Explanation, Cambridge University Press: Cambridge.

- Brazeau, E.J.
1965 "Language Differences and Occupational Experience".
in French Canadian Society, (ed.) Rioux and Martin
French Canadian Society, Vol. 1: 296-306.
- Breton, Raymond
1972 Social and Academic Factors in the Career Decisions
of Canadian Youth. Ottawa: Manpower and Immigration,
Gov't of Canada.
- Broom, L. and Jones, F.L.
1969a "Father-to-son mobility: Australia in a comparative
perspective", A.J.S. 74: 333-342.
- Broom, L. and Jones, F.L.
1969b "Career mobility in three societies: Australia,
Italy and the United States". A.S.R. 34: 650-58.
- Buckley, Walter
1958 "Social Stratification and the Functional Theory
of Social Differentiation". A.S.R. 23: 369-375.
- Burt, Ronald S.
1973 The Theory Construction Potential of Path Analysis:
An Interdisciplinary Perspective. Monograph #002,
International Centre for Social Research, Department
of Sociology, S.U.N.Y.: Albany.
- Carlsson, G.
1958 Social Mobility and Class Structure. Lund: Gleerup.
- Clement, W.
1975 The Canadian Corporate Elite. Carleton Library:
Ottawa.
- Coleman, James S. et al.
1966 Equality of Educational Opportunity. U.S. Office
of Education.
- Coleman, James S.
1973 "Equality of opportunity and equality of results",
Harvard Educational Review Reprint Series No. 8.
Cambridge: 93-101.
- Cuneo, C.J. and Curtis, J.E.
1975 "Social ascription in the educational and occupa-
tional status attainment of urban Canadians",
Canadian Review of Sociology and Anthropology,
12: 6-24.

- Davis, Kingsley and Wilbert E. Moore
1945 "Some principles of Stratification", A.S.R.
10: 242-249.
- deJocas, Yves, and Rocher, Guy
1957 "Inter-generation occupational mobility in the
Province of Quebec". The Canadian Journal of
Economics and Political Science, 23: 57-68.
- Deming, W. Edwards
1943 Statistical Adjustment of Data. New York: Wiley.
- Denton, F.T.
1970 The Growth of Manpower in Canada. Queen's
Printer, Ottawa.
- deVries, John
1974 "Language Maintenance and Shift Among Canadian
Ethnic Groups", a report prepared for the Citizenship
Branch, Department of the Secretary of State, Ottawa,
(Mimeo).
- Dofny, Jacques, Garon-Audy, M.
1969 "Mobilites professionnelles au Quebec" in Sociologie
et Societes 1: 277-301.
- Duncan, Otis Dudley
1961 "A socio-economic index for all occupations."
Pp. 109-138 in A.J. Reiss, P.K. Hatt and O.D. Duncan,
Occupations and Social Status, New York: Free Press.
- Duncan, Otis Dudley
1965 "The trend of occupational mobility in the United
States." American Sociological Review 30: 491-498.
- Duncan, Otis Dudley
1966 "Methodological issues in the analysis of social
mobility." Pp. 51-97 in Neil J. Smelser and Seymour
Martin Lipset (eds.), Social Structure and Mobility
in Economic Development, Chicago Aldine.
- Duncan, Otis Dudley
1968 "Social stratification and mobility: problems in
the measurement of trend." Pp. 675-719 in Eleanor
Bernert Sheldon and Wilbert E. Moore (eds.), Indicators
of Social Change. New York: Russell Sage.
- Duncan, Featherman and Duncan
1972 Socioeconomic Background and Achievement. Seminar
Press: New York.

- Featherman, D.L. and R.M. Hauser
1973 "Design for a Replicate Study of Social Mobility in the United States." In D. Land and S. Spilerman (eds.) Social Indicator Models. New York: Russell Sage.
- Galbraith, J.K.
1967 The New Industrial State. Houghton Mifflin: Boston.
- Gilbert, Sid
1973 "Educational and Occupational Aspirations of Ontario High School Students: A Multivariate Analysis", Ottawa: Ph.D. thesis, Department of Sociology and Anthropology, Carleton University.
- Glass, D.V. (ed.)
1954 Social Mobility in Britain, London: Routledge Kegan Paul.
- Goldthorpe, J.H., and Hope, K.
1972 "Occupational grading and occupational prestige", in The Analysis of Social Mobility (ed.) K. Hope, Clarendon Press: Oxford, pp. 19-80.
- Goodman, Leo A.
1965 "On the statistical analysis of mobility tables." American Journal of Sociology 70: 564-85..
- Goodman, Leo A.
1968 "The analysis of cross-classified data: independence, quasi-independence, and interactions in contingency tables with or without missing entries." Journal of the American Statistical Association 63: 1091-131.
- Goodman, Leo A.
1969a "How to ransack social mobility tables and other kinds of cross classification tables." American Journal of Sociology 75: 1-39.
- Goodman, Leo A.
1969b "On the measurement of social mobility: an index of status persistence." American Sociological Review 34: 831-50.
- Goodman, Leo A.
1970 "The multivariate analysis of qualitative data: interactions among multiple classifications." Journal of the American Statistical Association 65: 226-56.

- Goodman, Leo A.
1971 "The analysis of multidimensional contingency tables: stepwise procedures and direct estimation methods for building models for multiple classifications." *Technometrics* 13: 33-61.
- Goodman, Leo A.
1972a "A general model for the analysis of surveys." *American Journal of Sociology* 77: 1035-1086.
- Goodman, Leo A.
1972b "Some multiplicative models for the analysis of cross-classified data." Pp. 649-96 in *Proceedings of the Sixth Berkeley Symposium on Mathematical Statistics and Probability*. Berkeley: University of California Press.
- Hauser, R.M., Koffel, J.N., Travis, H.P., and Dickinson, P.J.
1975a "Temporal change in occupational mobility: evidence for men in the United States." *American Sociological Review*, 40: 279-297.
- Hauser, R.M., Koffel, J.N., Travis, H.P., and Dickinson, P.J.
1975b "Structural changes in occupational mobility among men in the United States." *American Sociological Review*, 40: 585-598.
- Hays and Winkler
1971 *Statistics*. New York: Wiley.
- Hodge, Siegel and Rossi
1966 *Occupational Prestige in the United States: 1925-63*, in Bendix and Lipset, *Class, Status and Power* 2nd ed.
- Homans, G.C.
1967 *The Nature of Social Sciences*, Harcourt, Brace and World: New York.
- Hope, Keith
1972 "Quantifying constraints on social mobility: the latent hierarchies of a contingency table." Pp. 121-190 in Keith Hope (ed.), *The Analysis of Social Mobility: Methods and Approaches*. Oxford Studies in Social Mobility. Working Papers 1. Oxford. Clarendon Press.
- Hughes, E.
1943 *French Canada in Transition*. Chicago: University of Chicago Press.

- Hyman, H.H.
1966 "The value systems of different classes" in Bendix and Lipset, Class, Status and Power, 2nd ed.
- Jencks, Christopher et al.
1972 Inequality. New York: Basic Books.
- Jordon, Z. **4**
1974 "The Idea of Equality and the Different Types of Inequality", Mimeo: Carleton Univerisity.
- Jones, F. Lancaster
1971 'Occupational achievement in Australia and the United States: a comparative path analysis.' American Journal of Sociology 77(3): 527-39.
- Kalbach, W.
1970 The Impact of Immigration on Canada's Population. Ottawa: The Queen's Printer.
- Kish, L.
1967 Survey Sampling, John Wiley: New York.
- Kish, L., and Frankel, M.R.
1970 "Balanced repeated replications for standard errors." Journal of the American Statistical Association, 65: 1073-1094.
- Land, K.C.
1969 "Principles of path analysis" in Edgar Borgatta (ed.), Sociological Methodology 1969. San Francisco: Jossey-Bass.
- Lenski, Gerhard E.
1966 Power and Privilege, New York: McGraw Hill.
- McRoberts, H.A.
1971 Explorations in Canadian Occupational Mobility. M.A. Thesis, Carleton University, Ottawa. (Mimeo).
- McRoberts, H.A.
1974 "Follow-up of Grade 12 students from the Blishen-Porter study of educational aspirations." Carleton University (mimeo).
- Moriyama and Guralnick
1970 "Occupational and Social Class differences in Mortality" in Tumin, Readings on Social Stratification. New Jersey: Prentice Hall.

- Mosteller, Frederick
1968 "Association and estimation in contingency tables."
Journal of the American Statistical Association
63: 1-28
- Muller, and Mayer
1973 Social Stratification and Career Mobility, Mouton,
Paris.
- Parkin, F.
1972 Class Inequality and Political Order, Paladin.
Ch. 1.
- Parsons, Talcott,
1953 "A revised analytical approach to the theory
of social stratification" in Bendix and Lipset,
Class, Status and Power, Glencoe, The Free Press,
1953, pp. 92-128.
- Pineo, P.C. and Porter John,
1967 "Occupational Prestige in Canada." C.R.S.A. 4:
24-40.
- Porter, John
1967 Canadian Social Structure. Carleton Library:
Ottawa.
- Porter, John
1965 The Vertical Mosaic, Toronto: University of
Toronto Press.
- Porter, Porter, and Blishen
1973 Does Money Matter? Toronto: I.B.R., York
University.
- Richmond, A.H.
1967 Post War Immigrants in Canada, University of
Toronto Press, Toronto.
- Riess, A.J.
1961 Occupations and Social Status. Free Press of
Glencoe: New York.
- Rogoff, N.
1953 Recent Trends in Occupational Mobility. Chicago:
Free Press.

Rossi and Ornstein

- 1973 "The impact of labour market entry factors: illustrations from the Hopkins Social Accounts Project" in Muller and Mayer (ed.) Social Stratification and Career Mobility, Paris: Mouton. Pp. 269-312.

Sewell, William H.

- 1971 "Inequality of opportunity for higher education." American Sociological Review 36 (October): 793-809.

Sewell, Haller, and Ohlendorf

- 1970 "The educational and early occupational status attainment process: replication and revision." A.S.R. Vol. 35: 1014-1027.

Shils, E.A.

- 1970 "Deference", in The Logic of Social Hierarchies, (ed.) Lauman, Siegel, Hodge, Markham Publishing: Chicago, pp. 420-428.

Sorokin, P.A.

- 1927 Social and Cultural Mobility. Chicago: Free Press (1964)

Svalastoga, Kaare

- 1965 Social Differentiation. New York: David McKay.

Tuchman, Jacob

- 1947 "The Social Status of Occupations in Canada", Canadian Journal of Psychology, 1: 71-94.

Tumin, M.M.

- 1963 "On Inequality." A.S.R. 28: 13-28.

Turritin, A.A.

- 1974 "Social Mobility in Canada: a comparison of three provincial studies and some methodological questions" in C.R.S.A. Special Edition, pp. 163-186.

Tyree, Andrea

- 1973 "Mobility Ratios and Association in Mobility Tables." Population Studies, 27: 577-588.

Weber, Max

- 1964 The Theory of Social and Economic Organization. Henderson and Parsons (ed.), New York: The Free Press.

Weber, Max
1968

Economy and Society. Edited by Roth and Wittich, .
New York: Bedminster Press.

Wrong, Dennis H.
1970

"The functional theory of stratification: some
neglected considerations." Pp. 132-142 in Lauman,
Siegel, and Hodge (eds.), The Logic of Social
Hierarchies, Markham: Chicago

Economic Council of Canada

1970

Seventh Annual Review, Patterns of Growth. Queen's
Printer, Ottawa.

The Report of The Royal Commission on Bilingualism and
Biculturalism, Volumes I, II, IIIa, IIIb, and
IV. Queen's Printer, Ottawa.

Appendix I

Statistics Statistique
Canada Canada

Ottawa

July 23, 1973.

Dear Sir or Madam:

Statistics Canada conducts the Labour Force Survey each month to gather information about the employed and unemployed in Canada. In addition, this month, we are interested in obtaining statistics about the changes in the types of jobs Canadians have had during their lifetimes. While you may have answered questions on similar subjects in previous surveys, the questions in this survey are worded in a different fashion in order to obtain more specific responses than those previously provided. This information will be very helpful to the government in improving employment conditions in Canada.

The Statistics Canada interviewer was instructed to leave this questionnaire for you to complete and she will call back to pick it up on the date recorded.

A large number of persons, along with yourself, have been chosen by careful sampling methods to complete this questionnaire. While there is a large sample, your individual return is very important in that it will be used to represent some 200 other Canadians whose activities during 1973 are similar to yours. Therefore, your co-operation in having this questionnaire completed when the interviewer calls again will be appreciated.

I assure you that the information given by you on this questionnaire is confidential and will only be used for statistical purposes.

Yours very truly,

(Mrs.) Sylvia Ostry,
Chief Statistician of Canada.

JOB MOBILITY SURVEY

Authority - Statistics Act, Chapter 15, Statutes of Canada 1970-71-72

Name (surname)

(Given names)

This questionnaire will be picked up by your interviewer on

PST

1	2	3	4
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Segment

6	7	8
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Listing

9	10	11	12
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Line

13	14
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M

15

F

16

A

17	18
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Answers to most of the questions in this survey require only a check mark ☐ in the appropriate box. Answers which require a number should be written in the boxes provided. Please remember to write zero where appropriate. If you should have any difficulties with a question note this in the space on the back of the form, and ask your Statistics Canada interviewer for assistance when she returns.

You will find that a number of questions ask about jobs that you or your father have had during your lifetime. In this survey a "job" is defined as "working for pay or profit". As a reminder, this expression has been included in brackets after the word "job" in some questions.

18-20

1. In what year were you born?

1	2	3	4
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(year)

2. Where were you born? (Check one only, according to present boundaries.)

Newfoundland ☐ 00	Portugal ☐ 17
Prince Edward Island ☐ 01	France ☐ 18
Nova Scotia ☐ 02	Greece ☐ 19
New Brunswick ☐ 03	Other Western Europe (e.g. Spain, Belgium, Scandinavia, Finland, Austria, etc.) ☐ 20
Quebec ☐ 04	Poland ☐ 21
Ontario ☐ 05	Ukraine ☐ 22
Manitoba ☐ 06	Other Eastern Europe (e.g. U.S.S.R., Hungary, Italian States, etc.) ☐ 23
Saskatchewan ☐ 07	Middle East or Asia Minor (e.g. Lebanon, Turkey, Israel, etc.) ☐ 24
Alberta ☐ 08	British West Indies ☐ 25
British Columbia ☐ 09	China or Japan ☐ 26
Yukon ☐ 10	Other ☐ 27
North West Terr. ☐ 11	
United Kingdom ☐ 12	
United States of America ☐ 13	
Italy ☐ 14	
Germany ☐ 15	
Netherlands ☐ 16	

3. If you were not born in Canada, answer the following question; otherwise go to question 4. In what year did you last take up residence in Canada? (Do not consider as a break in residence time spent studying abroad, or short visits outside of Canada, e.g. away 6 months or less.)

28-34

1	2	3	4
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(year)

4. What is the highest level of education that you have completed? (If you were not educated in this country check the category which best describes your educational attainment.) (Check only one in the entire list.)

No formal schooling ☐ 00

Go to question 6

Elementary school

Some ☐ 01
Completed ☐ 02

High school

Academic
Some ☐ 03
Completed ☐ 04

Vocational or technical

Some ☐ 05
Completed ☐ 06

After high school but not university

Business or trades training (e.g. secretarial school, hairdressing school, barbering school, trade school, etc.)

Some ☐ 07
Completed ☐ 08

Nursing school or Teacher's College

Some ☐ 09
Completed ☐ 10

Community College, Junior College, CEGEP, Technical Institute

Some ☐ 11
Completed ☐ 12

University

Some ☐ 13
Completed ☐ 14

Certificate or diploma ☐ 15Bachelor's degree ☐ 16Master's degree ☐ 17Doctorate ☐ 18Professional degree (e.g. M.D., L.L.B., C.A., etc.) ☐ 19

20-28

5. How many years altogether were you in school?

1	2	3	4
---	---	---	---

(years)

6. Aside from regular school, did you ever complete an apprenticeship, a full-time program in a company training school lasting six weeks or more, or training in the Canadian Armed Forces leading to qualification in a trade? Yes ☐ 0 No ☐ 1

7. If you have ever served in the Canadian Armed Forces, answer the following question; otherwise go to question 8. What was your longest period of continuous service? (Do not count service in the cadet, militia, or reserve units.)

30-31

1	2	3	4
---	---	---	---

From (year)

32-33

1	2	3	4
---	---	---	---

to (year)

NOW WE WOULD LIKE TO ASK YOU SOME QUESTIONS ABOUT JOBS WHICH YOU HAVE HAD STARTING WITH YOUR FIRST JOB

8. Describe your first full-time job (for pay or profit) after completing your education as indicated above in question 4. (If you never had a full-time job after completion of your education go to question 20.)

(i) What kind of work were you doing? (Give a full description, e.g. selling shoes, motor vehicle repairing, metal machining, clerical work, secretarial work)

(ii) What were your most important activities or duties? (e.g. fitting shoes, auto body work, operating lathe, posting invoices, taking dictation and typing)

(iii) What was your job title? (e.g. manager of shoe department, auto body repairman, lathe operator, invoice clerk, secretary-stenographer)

(iv) In what kind of business, industry or service was this job? (e.g. retail shoe store, auto body repair shop, machine parts mfg., medical clinic)

Or

For office
use only

34-37

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(v) If, in this job, you owned a business or farm, or if you were a manager or supervisor, answer the following question, otherwise go to question 8 (vi). How many personnel did you usually employ or have working under you?

- None ☐ 0
1-5 ☐ 1
6-10 ☐ 2
11-20 ☐ 3
21-74 ☐ 4
75 or more ☐ 5

(vi) In what year did you begin working at this job?

1			
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(year)

9. Did you use English or French on your first full-time job? (Check one only)

- English but not French ☐ 0
French but not English ☐ 1
Both English and French ☐ 2
Neither English nor French ☐ 3

10. From the beginning of your first full-time job until now, in how many years have you worked full-time for pay or profit? (Count as a full year any in which you worked for a period of seven months or more.)

42-43

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(years)

11. Since you began your first full-time job, was there a single period of one year or more when you were not working for pay or profit?

- No ☐ 0 → Go to question 16
Yes ☐ 1 → Go to question 12

45-46

12. In what year did this period begin? (First period if more than one.)

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(year)

13. At any time after that, did you return to a full-time job (for pay or profit) for a single period of 7 months or more?

- No ☐ 0 → Go to question 19
Yes ☐ 1 → Go to question 14

48-49

14. In what year did you return? (Most recent if more than once.)

1			
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(year)

15. In the space provided below describe the job to which you returned. (Most recent if more than one.)

(i) What kind of work were you doing? (Give a full description, e.g. selling shoes, motor vehicle repairing, metal machining, clerical work, secretarial work)

(ii) What were your most important activities or duties? (e.g. fitting shoes, auto body work, operating lathe, posting invoices, taking dictation and typing)

(iii) What was your job title? (e.g. manager of shoe department, auto body repairman, lathe operator, invoice clerk, secretary-stenographer)

(iv) In what kind of business, industry or service was this job? (e.g. retail shoe store, auto body repair shop, machine parts mfg., medical clinic)

For office
use only

50-53

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(v) If, in this job, you owned a business or farm, or were a manager or supervisor, answer the following question, otherwise go to question 17. How many personnel did you employ or have working under you?

- None ☐ 0
1-5 ☐ 1
6-10 ☐ 2
11-20 ☐ 3
21-74 ☐ 4
75 or more ☐ 5

GO TO QUESTION 17

16. In the space provided below describe the job (for pay or profit) which you held ten years ago, i.e., in July 1963. (If you were not working at that time describe the last job which lasted 7 months or more which you had prior to July 1963. If you did not have one go to question 17.)

(i) What kind of work were you doing? (Give a full description, e.g. selling shoes, motor vehicle repairing, metal machining, clerical work, secretarial work)

(ii) What were your most important activities or duties? (e.g. fitting shoes, auto body work, operating lathe, posting invoices, taking dictation and typing)

(iii) What was your job title? (e.g. manager of shoe department, auto body repairman, lathe operator, invoice clerk, secretary-stenographer)

(iv) In what kind of business, industry or service was this job? (e.g. retail shoe store, auto body repair shop, machine parts mfg., medical clinic)

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55-58

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(v) If, in this job, you owned a business or farm, or were a manager or supervisor, answer the following question, otherwise go to question 17. How many personnel did you employ or have working under you?

- None ☐ 0
1-5 ☐ 1
6-10 ☐ 2
11-20 ☐ 3
21-74 ☐ 4

17. Describe your present job (for pay or profit) - main job if more than one. If you are not working now, or if you are retired, answer for your last job which lasted 7 months or more.

(i) What kind of work are (were) you doing? (e.g. selling shoes, motor vehicle repairing, metal machining, clerical work, secretarial work)

(ii) What are (were) your most important activities or duties? (e.g. fitting shoes, auto body work, operating lathe, posting invoices, taking dictation and typing)

(iii) What is (was) your job title? (e.g. manager of shoe department, auto body repairman, lathe operator, invoice clerk, secretary-stenographer)

(iv) In what kind of business, industry or service is (was) this job? (e.g. retail shoe store, auto body repair shop, machine parts mfg., medical clinic)

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(v) If, in this job, you own (owned) a business or farm, or are (were) a manager or supervisor, answer the following question; otherwise go to question 17 (vi). How many personnel do (did) you employ or have working under you?

- None ☐ 0
1-5 ☐ 1
6-10 ☐ 2
11-20 ☐ 3
21-74 ☐ 4
75 or more ☐ 5

(vi) In this job are (were) you working:
(Check one only)

(a) For others (for wages, salary or commission) ☐ 0

(b) In your own business, farm or professional practice, that is:

(i) incorporated? ☐ 1

(ii) unincorporated? ☐ 2

(vii) If you are now retired or not working, answer the following question; otherwise go to 17 (viii). In what year did you leave the job described above?

66-67
(year)

(viii) Are (were) you working at this job:

Usually 35 hours or more per week? ☐ 0

Usually less than 35 hours per week? ☐ 1

18. Do (did) you use English or French on the job indicated in question 17? (Check one only)

English but not French ☐ 0

French but not English ☐ 1

Both English and French ☐ 2

Neither English nor French ☐ 3

19. From the beginning of your first full-time job (for pay or profit) to the present, how many periods of more than 3 months were you not working for pay or profit?

- None ☐ 0
One period ☐ 1
Two periods ☐ 2
Three periods ☐ 3
Four periods ☐ 4
Five to ten periods ☐ 5
Eleven to twenty periods ☐ 6
Twenty-one or more periods ☐ 7

NOW WE WOULD LIKE TO ASK YOU SOME FURTHER QUESTIONS ABOUT YOURSELF, YOUR FAMILY AND YOUR PARENTS

20. What is your present marital status?

Single (never married) ☐ 0

Go to question 27

Married ☐ 1

Separated ☐ 2

Divorced ☐ 3

Widowed ☐ 4

21. In what year were you married? (If you were married more than once, give the year of your first marriage.)

72-73
(year)

22. How many children have you had (count all live births)?

0 ☐ 0

Go to question 27

1 ☐ 1

2 ☐ 2

3 ☐ 3

4 ☐ 4

5 ☐ 5

6 ☐ 6

7 ☐ 7

8 or more ☐ 8

23. How many of these children are now living with you?

0 ☐ 0

1 ☐ 1

2 ☐ 2

3 ☐ 3

4 ☐ 4

5 ☐ 5

6 ☐ 6

7 or more ☐ 7

MALES GO TO QUESTION 27

24. In what year was your youngest child born?

76-77
(year)

25. After your first child was born, but before your last child (if more than one) began school, did you have a job (for pay or profit) for at least one period of 7 months or more?

Yes, full-time (usually 35 hours or more per week) ☐ 0

Yes, part-time (usually less than 35 hours per week) ☐ 1

26. After your youngest child began school, did you have a job (for pay or profit) for at least one period of 7 months or more?

- Yes, full-time (usually, 35 hours or more per week) ☐ 0
- Yes, part-time (usually less than 35 hours per week) ☐ 1
- No, I did not have a job ☐ 2
- No, my children are not yet of school age ☐ 3

27. How many brothers do you have? (Count step and half-brothers and those no longer living.)

- 0 ☐ 0
- 1 ☐ 1
- 2 ☐ 2
- 3 ☐ 3
- 4 ☐ 4
- 5 ☐ 5
- 6 ☐ 6
- 7 or more ☐ 7

28. How many of your brothers are older than you? (Count step and half-brothers and those no longer living.)

- 0 ☐ 0
- 1 ☐ 1
- 2 ☐ 2
- 3 ☐ 3
- 4 ☐ 4
- 5 ☐ 5
- 6 ☐ 6
- 7 or more ☐ 7

29. How many sisters do you have? (Count step and half-sisters and those no longer living.)

- 0 ☐ 0
- 1 ☐ 1
- 2 ☐ 2
- 3 ☐ 3
- 4 ☐ 4
- 5 ☐ 5
- 6 ☐ 6
- 7 or more ☐ 7

30. How many of your sisters are older than you? (Count step and half-sisters and those no longer living.)

- 0 ☐ 0
- 1 ☐ 1
- 2 ☐ 2
- 3 ☐ 3
- 4 ☐ 4
- 5 ☐ 5
- 6 ☐ 6
- 7 or more ☐ 7

31. When you were 16 years old where were you living? (Check one only.)

In the same city, town, village or municipality as you are now? ☐ 0

In a different city, town, village or municipality of population. (check according to the size when you were 16, not present size)

- 100,000 or more? ☐ 1
- 20,000 to 99,999? ☐ 2
- 5,000 to 19,999? ☐ 3
- 1,000 to 4,999? ☐ 4
- Less than 1,000 (in a farm)? ☐ 5
- Not on a farm? ☐ 6

32. Where was that?

- Newfoundland ☐ 00
- Prince Edward Island ☐ 01
- Nova Scotia ☐ 02
- New Brunswick ☐ 03
- Quebec ☐ 04
- Ontario ☐ 05
- Manitoba ☐ 06
- Saskatchewan ☐ 07
- Alberta ☐ 08
- British Columbia ☐ 09
- Yukon or North West Terr. ☐ 10
- Outside of Canada ☐ 11

33. Since you became 16 years of age, how many times have you moved (changed your place of permanent residence) from one city, town, village or municipality to another? (Count moves inside and outside of Canada.)

Never moved ☐ 0

Go to question 35

- One time ☐ 1
- Two times ☐ 2
- Three times ☐ 3
- Four times ☐ 4
- Five times ☐ 5
- Six to ten times ☐ 6
- Eleven to twenty times ☐ 7
- Twenty-one or more times ☐ 8

34. Since you became 16 years of age, how many times have you moved (changed your place of permanent residence) in Canada (present boundaries) from one province to another? (Count moves involving the Yukon or North West Territories as inter-provincial moves.)

- None ☐ 0
- One time ☐ 1
- Two times ☐ 2
- Three times ☐ 3
- Four times ☐ 4
- Five times ☐ 5
- Six to ten times ☐ 6
- Eleven to twenty times ☐ 7
- Twenty-one or more times ☐ 8

35. Where were your parents born? (Check one for each parent.)

	Father	Mother
Atlantic Provinces (Nfld., N.S., N.B., P.E.I.)	☐ 0	☐ 0
Quebec	☐ 1	☐ 1
Ontario	☐ 2	☐ 2
Prairie Provinces (Man., Sask., Alta., N.W.T.)	☐ 3	☐ 3
British Columbia (and Yukon)	☐ 4	☐ 4
United Kingdom	☐ 5	☐ 5
Western Europe (France, Germany, Neth., Italy, Scandinavia, etc.)	☐ 6	☐ 6
Eastern Europe (Poland, Ukraine, etc.)	☐ 7	☐ 7
Other	☐ 8	☐ 8
Don't know	☐ 9	☐ 9

36. Did your father immigrate to Canada? (If yes, indicate the period in which he immigrated.)

- No ☐ 0
- Yes: Before 1911 ☐ 1
- 1911-1920 ☐ 2
- 1921-1930 ☐ 3
- 1931-1940 ☐ 4
- 1941-1950 ☐ 5
- 1951-1960 ☐ 6
- 1961-1970 ☐ 7
- 1971-1975 ☐ 8
- Don't know ☐ 9

37. (a) When you were 16 years old were you living with both your parents?

Yes ☐ 0 → Go to question 38

No ☐ 1 → Go to question 37 (b)

(b) Who was the head of your family when you were 16 years of age? If you had left home by that age, indicate the person who was head of your family at the time you left. (Check one only)

Father ☐ 0

Mother ☐ 1

Other male ☐ 2

Other female ☐ 3

38. Now we would like to find out what kind of work your father did when you were about 16 years old. If your father was not the head of your household at that time answer for the person checked in question 37 (b). (If you do not know the answer to a particular question indicate this rather than leave it unanswered.)

(i) What kind of work was he doing? (Give a full description, e.g. selling shoes, motor vehicle repairing, metal machining, clerical work, secretarial work)

(ii) What were his most important activities or duties? (e.g. fitting shoes, auto body work, operating lathe, posting invoices, taking dictation and typing)

(iii) In what kind of business, industry or service was this job? (e.g. retail shoe store, auto body repair shop, machine parts mfg., medical clinic)

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(iv) If he owned a farm to do this work, how many people did he usually employ?

Did not own a farm ☐ 0

None ☐ 1

1-10 ☐ 2

11-20 ☐ 3

21-74 ☐ 4

75 or more ☐ 5

Don't know ☐ 6

(v) In this job was he working:

(a) For others for wages, salary or commission? ☐ 0

(b) In his own business, farm, or professional practice that is:

(i) incorporated? ☐ 1

(ii) unincorporated? ☐ 2

(c) Don't know ☐ 3

39. What was your parents' highest level of education? (If your parents were not educated in Canada check the category which best describes their educational attainment.) (Check one only for each parent.)

	Father	Mother
No formal schooling	☐ 00	☐ 00

Elementary school

Some ☐ 01 ☐ 01

Completed ☐ 02 ☐ 02

High school

Academic

Some ☐ 03 ☐ 03

Completed ☐ 04 ☐ 04

Vocational or technical

Some ☐ 05 ☐ 05

Completed ☐ 06 ☐ 06

After high school but not university

Business or trades training (e.g. secretarial school, hairdressing school, barbering school, trade school, etc.)

Some ☐ 07 ☐ 07

Completed ☐ 08 ☐ 08

Nursing school or Teacher's college

Some ☐ 09 ☐ 09

Completed ☐ 10 ☐ 10

Junior college, College classique, Technical Institute

Some ☐ 11 ☐ 11

Completed ☐ 12 ☐ 12

University

Some ☐ 13 ☐ 13

Completed:

Certificate or diploma ☐ 14 ☐ 14

Bachelor's degree ☐ 15 ☐ 15

Master's degree ☐ 16 ☐ 16

Doctorate ☐ 17 ☐ 17

Professional degree (e.g. M.D., L.L.B., C.A., etc.) ☐ 18 ☐ 18

40. Did your mother work at a full-time job (for pay or profit) at any time during your primary and secondary schooling?

No ☐ 0

Go to question 42

Yes, she worked less than a year ☐ 1

Yes, she worked for 1-5 years ☐ 2

Yes, she worked for 6-10 years ☐ 3

Yes, she worked for more than 10 years ☐ 4

Don't know ☐ 5

41. During your primary and secondary education what type of job (for pay or profit) did your mother mainly have? (Check one only)

Professional, managerial, technical (e.g. teacher, nurse, dietitian, department manager, radiologist) ☐ 0

Secretarial or clerical (e.g. stenographer, telephone operator) ☐ 1

Sales (e.g. saleslady, model) ☐ 2

Service (e.g. waitress, hairdresser, baby sitter, nurses aide) ☐ 3

Skilled or semi-skilled industrial worker ☐ 4

Working on her own account out of her home (e.g. dressmaker, cleaning lady) ☐ 5

Farming ☐ 6

42. To what ethnic or cultural group did you or your ancestor (on the male side) belong on coming to this continent? (Check one only)

- English ☐ 00
- French ☐ 01
- German ☐ 02
- Irish ☐ 03
- Italian ☐ 04
- Jewish ☐ 05
- Native Indian or Eskimo ☐ 06
- Netherlands ☐ 07
- Norwegian ☐ 08
- Polish ☐ 09
- Russian ☐ 10
- Scottish ☐ 11
- Ukrainian ☐ 12
- Other ☐ 13
- Don't know ☐ 14

43. To which ethnic or cultural group do you feel that you now belong? (Check one only)

- American ☐ 00
- Canadian ☐ 01
- Danish ☐ 02
- English ☐ 03
- French ☐ 04
- German ☐ 05
- Hungarian ☐ 06
- Irish ☐ 07
- Italian ☐ 08
- Jewish ☐ 09
- Native Indian or Eskimo ☐ 10
- Netherlands ☐ 11
- Norwegian ☐ 12
- Polish ☐ 13
- Russian ☐ 14
- Scottish ☐ 15
- Swedish ☐ 16
- Ukrainian ☐ 17
- Welsh ☐ 18
- Other ☐ 19

44. What is your religion?

- Anglican ☐ 0
- United Church of Canada ☐ 1
- Presbyterian ☐ 2
- Lutheran ☐ 3
- Dutch Reform ☐ 3
- Roman Catholic ☐ 4
- Ukrainian Catholic ☐ 5
- Greek Orthodox ☐ 5
- Jewish ☐ 6
- Baptist ☐ 7
- 7th Day Adventist ☐ 7
- Methodist ☐ 7
- Other Protestant ☐ 7
- Other ☐ 8
- No religion ☐ 9

45. What is the language which you first learned to speak?

- English ☐ 0
- French ☐ 1
- German ☐ 2
- Italian ☐ 3
- Ukrainian ☐ 4
- Indian or Eskimo ☐ 5
- Netherlands ☐ 6
- Polish ☐ 7
- Other ☐ 8

46. What is the language in which you feel most comfortable in talking?

- English ☐ 0
- French ☐ 1
- German ☐ 2
- Italian ☐ 3
- Ukrainian ☐ 4
- Indian or Eskimo ☐ 5
- Netherlands ☐ 6
- Polish ☐ 7
- Other ☐ 8

47. Can you speak English or French well enough to carry on a conversation?

- English only ☐ 0
- French only ☐ 1
- English and French ☐ 2
- Neither English nor French ☐ 3

48. In how many weeks did you have a job (for pay or profit) during 1972?

- None ☐ 0
- 1-13 weeks ☐ 1
- 14-26 weeks ☐ 2
- 27-39 weeks ☐ 3
- 40-48 weeks ☐ 4
- 49-52 weeks ☐ 5

Go to question 51

49. How many hours per week did you usually work during 1972?

- 35 hours or more ☐ 0
- 20-34 hours ☐ 1
- Less than 20 hours ☐ 2

50. What was your income (before taxes) from employment during 1972? (Include wages, salaries, tips, commissions, etc. or if you have your own farm, business or professional practice give your net income after deducting business expenses but before taxes.) (Check one only)

- No income ☐ 00
- Less than \$2,000 ☐ 01
- \$ 2,000 - 2,999 ☐ 02
- \$ 3,000 - 3,999 ☐ 03
- \$ 4,000 - 4,999 ☐ 04
- \$ 5,000 - 5,999 ☐ 05
- \$ 6,000 - 6,999 ☐ 06
- \$ 7,000 - 7,999 ☐ 07
- \$ 8,000 - 8,999 ☐ 08
- \$ 9,000 - 9,999 ☐ 09
- \$10,000 - 10,999 ☐ 10
- \$11,000 - 11,999 ☐ 11
- \$12,000 - 12,999 ☐ 12
- \$13,000 - 13,999 ☐ 13
- \$14,000 - 14,999 ☐ 14
- \$15,000 - 15,999 ☐ 15
- \$16,000 - 16,999 ☐ 16
- \$17,000 - 17,999 ☐ 17
- \$20,000 and over ☐ 18
- Net loss ☐ 19

51. During 1972, what was your total personal income (before taxes) from all sources (include interest, dividends, rents received, pensions, youth allowances, welfare, etc)? If you own a farm or are self-employed, state the amount after the deduction of business expenses.

No income	☐	00
Less than \$2,000	☐	01
\$ 2,000 - 2,999	☐	02
\$ 3,000 - 3,999	☐	03
\$ 4,000 - 4,999	☐	04
\$ 5,000 - 5,999	☐	05
\$ 6,000 - 6,999	☐	06
\$ 7,000 - 7,999	☐	07
\$ 8,000 - 8,999	☐	08
\$ 9,000 - 9,999	☐	09
\$10,000 - 10,999	☐	10
\$11,000 - 11,999	☐	11
\$12,000 - 12,999	☐	12
\$13,000 - 13,999	☐	13
\$14,000 - 14,999	☐	14
\$15,000 - 15,999	☐	15
\$16,000 - 16,999	☐	16
\$17,000 - 19,999	☐	17
\$20,000 and over	☐	18
Net loss	☐	19

THANK YOU FOR YOUR ASSISTANCE

Comments:

Appendix II

Appendix II

Weighting and Standard Errors

It should be clear to the reader, from Chapter III, that our sample is by no means a simple random sample. Indeed, it is a very complex mixture of stratification and clusters. However, the edifice of statistical inference is built on simple random samples. Indeed, virtually all of the traditional statistical procedures rest upon an assumption of simple random sampling. Hence, the departure of our sample from this assumption presents a problem.

In addition the weights provided for us by Statistics Canada to compensate for the stratifications in the design are designed to weight up to population estimates. This poses a further problem in that standard errors are direct functions of N . With the relationship being: $\sqrt{\frac{1}{N-1}}$ as a rough approximation. Clearly then using the weighted N as the basis for the calculation of standard errors would result in absurdly small values. Using the raw N would be appropriate for univariate measures, but would not work for multi-variate measures as the proportional allocation of cases to sub-categories would be incorrect. However, this problem can be solved. The solution is as follows:

- 1) The portion of the sample to be analysed is run to provide two values:

NW = the weighted number of cases in the sample

N = the number of actual persons in the sample

- 2) We then find the "inflation factor" $IF = \frac{NW}{N}$
- 3) The actual weight assigned to each case AW is then divided by the inflation factor to produce the working weight: $WW = AW/IF$
- 4) WW is then the weight which is employed in analysis.

Using this value (WW) the weighted number of cases is equivalent to the sample size and subdivisions will have case numbers which are close to the actual number of cases which would have occurred in a simple random sample. Thus, the estimate of standard errors will be correct from this aspect.

However, while this solves one problem it still leaves another. Both stratification and clustering affect the efficiency of a sample. That is they affect the relationship between N and the standard error. Stratification on the whole makes samples more efficient (i.e. "real" standard error is over estimated) (Kish, 1967:Ch.3). Clustering has the opposite effect of reducing the efficiency of a sample (i.e. "real" standard error is under estimated) (Kish, 1967:Ch.5). Further, the efficiency can vary from variable to variable depending on the degree to which the clustering or stratification affects that variable.

If we define S^1 as the standard error of some measure which would arise given a specific sample size and if we define S as the standard error observed in a specific sample then we can define the efficiency of the sample as E_s when: $E_s = S^1 / S$ (See also Kish, 1967: 257-63). If E_s is equal to one then the sample is as efficient as a simple random sample. If it is greater than 1 the sample is less efficient and if it is less than one the sample is more efficient. Regressions employing the technique of Balanced Repeated Replication (Kish and Frankel, 1970) carried out on the sample analyzed in this study by Statistics Canada, and employing the variables in the status attainment model suggest an average E_s of 1.09. This indicates that the sample is less efficient than a simple random sample for these variables on this subsample of the overall sample.

Two solutions offer themselves. One would be to employ BRR techniques throughout the analysis. The other would be to compensate for the standard errors by raising the decision level to a higher point in making tests.

The latter was chosen for two reasons. First, BRR is a cumbersome and very expensive technique to employ in analysis especially when early indications suggest only a very marginal gain in accuracy. Secondly, as the sample

is in the large to very large category in any case, the level for testing must be raised if we are not to be constantly failing to reject trivial null-hypotheses. Accordingly all significance tests are carried out at the .01 level as opposed to the more conventional .05 level.

Appendix III

DESIGN OF THE 1973 CANADIAN NATIONAL MOBILITY STUDY ON
OCCUPATIONAL AND EDUCATIONAL CHANGE IN A GENERATION*

by

Monica Boyd and Hugh A. McRoberts
Carleton University
Ottawa, Canada

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DESIGN OF THE 1973 CANADIAN NATIONAL MOBILITY STUDY ON
OCCUPATIONAL AND EDUCATIONAL CHANGE IN A GENERATION

I. Introduction

Students of social stratification generally distinguish between two types of social inequalities: inequality of condition and inequality of opportunity. Inequality of condition refers to descriptions and explanations of the differential distribution of social and material resources. Inequality of opportunity refers to the extent to which individuals do not have equal opportunities for social advancement, or the extent to which class membership in one generation is associated with class membership in the subsequent generation.

In Canada, an intensive investigation into inequality of opportunity is now underway. This study, which is entitled "Occupational and Educational Change in a Generation: Canada," represents the interests and collaborative efforts of six people, centered at two Canadian universities. Listed in noninvidious alphabetical order, the members of this research team are Monica Boyd, Hugh McRoberts and John Porter (located at Carleton University, Ottawa, Ontario) and John Goyder, Frank Jones and Peter Pineo (centralized at McMaster University, Hamilton, Ontario). The study, which hereafter is neumonically labelled CARMAC, was facilitated by a Canada Council research grant and by the assistance of Statistics Canada, which

arranged to distribute an eight page questionnaire as a supplement to their July, 1973 Labour Force Survey. Data obtained from this questionnaire will be used to study occupational and educational inheritance between generations in Canada and the process of occupational attainment of individuals.

II. Background to the CARMAC Study

The focus of the CARMAC investigation on occupational and educational inheritance between generations is in keeping with the current sociological approach to social stratification. Although the stratification system of a society may be analyzed in terms of the distribution of scarce and desired goods, this approach is essentially static. Referring to one point in time, this inequality of condition approach does not indicate how structures of inequality change over time.

In recent years, attention has shifted away from the functional theory of stratification (Davis and Moore, 1945). The current emphasis is upon change of position or mobility. As reconceptualized by Duncan (1968) (also see Wrong, 1970; Buckley, 1958):

"The degree of stratification - or the degree of rigidity in the stratification system ... - refers to the extent to which the level of status attainment depends upon the level of social origin. If there is much intergeneration transmission of status, a society is highly stratified; if there is little, the degree of stratification is low. To reiterate, a society need not be highly stratified merely by virtue of the existence in it of much inequality of social rank. Rank may be highly differentiated, but if there is roughly equal access to unequally ranked positions, the society is not highly stratified, within the meaning of the term as it is used here" (Duncan, 1968:696).

Duncan suggests that the social mobility approach to stratification is one which assesses the amount of inter-generational status inheritance by locating both generations in the structure of inequality. Thus, social mobility speaks to both the major questions in stratification - inequality of condition and inequality of opportunity, although primarily to the latter.

The genre of empirical studies, of which this study is a part, had its beginnings in the early 1950s with the investigation of social mobility in Great Britain, carried out under the direction of David V. Glass. This study provided a detailed description of class and stratification in Great Britain. It also involved the development of indices of association and related statistics which methodologically advanced the study of social mobility.

The Glass study was the first of several large national investigations which were subsequently conducted in the United States (Blau and Duncan, 1967), Australia (Broom, Jones and Zubrzycki, 1968), and Italy (Lopreato, 1966). Aside from the study of elites, the area of social mobility has received only limited attention from Canadian sociologists. Findings on social mobility have been reported by McRoberts (1971) who used data from a small national survey conducted by Pineo and Porter (1967). The remainder of the Canadian studies are not national in scope (i.e., deJocas and Rocher, 1957; Richmond, 1967) and hence limited in the generalizability of the results.

Canadian sociologists have long been aware that Canada is one of the few western nations which does not possess any reliable national data on the important issues of occupational mobility and the process of occupational attainment. In response to this void, Professors Frank Jones,

Peter Pineo (McMaster University), and John Porter (Carleton University) in 1967 investigated the possibility of undertaking such a national study. Although the efforts of Professors Jones and Pineo resulted in several pilot studies known as the Four Cities Study, a national investigation into occupational mobility became a reality only in 1972. During the summer of 1972, John Porter and Peter Pineo hosted a conference at Carleton University which provided a forum for the discussion of a national mobility study among the invited representatives of Statistics Canada, Canada Council and other federal government departments. Professors Robert Hauser, David Featherman (University of Wisconsin, Madison, Wisconsin) and Donald Treiman (Columbia University) also were present as consultants. Following the assurances of Statistics Canada that it would serve as the data collection agency, a grant proposal was submitted to Canada Council and subsequently funded.

III. Focus of the CARMAC Study

Following the orientation of previous Canadian and American stratification research, the CARMAC study conceptualizes mobility as a process of occupational attainment. As shown by Blau and Duncan's (1967) research, the model of occupational attainment investigates the relationships between background factors (parental education, parental occupation and the structure of the family of orientation) respondents' education, first occupational and current occupational attainment. Frequently, other variables such as race, nationality, rural-urban background, current residence and migration experience are included in this model.

In the approach and in the type of data collected, the CARMAC study is compatible to the 1962 and 1973 studies of occupational attainment

in the United States. It also is comparable to an increasing number of investigations being conducted in Great Britain, Ireland, Germany, Hungary, Finland, West Germany, Japan and Australia (see Featherman, 1974). However, the CARMAC investigation into the process of occupational attainment in Canada is not an exact replication of the benchmark studies conducted in the United States (Blau and Duncan, 1967; Featherman and Hauser, 1972). As discussed in subsequent sections, alterations in question wording and questionnaire design create differences between the Canadian and American studies. Furthermore, the CARMAC study pays greater attention to the influence of international migration, ethnicity, bilingualism on the process of occupational attainment. Finally, while the majority of mobility studies have investigated the occupational attainment of males only, the inclusion of females in the CARMAC sample permits an analysis of female occupational attainment.

IV. Data Collection

A. Working with Statistics Canada

Although data collection by a "private" research agency was initially considered, a cursory consideration of costs versus benefits resulted in the decision to have Statistics Canada gather the data. In making this choice, we were aware that there would be certain constraints (to be discussed below) and that some compromises would have to be made between what would be ideal and what Statistics Canada would be prepared to do. However, Statistics Canada has functioned as a "second partner" in both the design of the questionnaire and the collection of the data. The project has benefited substantially from their involvement, and the extensive contributions of R.C. Corbeil and Ray T. Ryan of Statistics

Canada should be acknowledged.

Statistics Canada agreed that they would administer the instrument as a supplement to their Monthly Labour Force Survey, collect the data, code them, edit them, and ultimately release a clean data set of individual records and a set of household and family records. Two factors constrained this undertaking: the nature of the Labour Force Survey, and the nature of the Statistics Act (1970-71-72) of Canada, under which the data were gathered.

In Canada the primary purpose of the Labour Force Survey is to establish monthly, quarterly, and annual estimates of employment and unemployment. These estimates have both a policy value and a political value. Because of the political debate surrounding unemployment, considerable care must be taken to ensure that nothing interferes with the continuing accuracy of the rates. In particular, Statistics Canada is very concerned with respondent dropout. Respondents are in the survey for six months. If they refuse to participate at any point in that period, they are lost for the remainder of the time their panel is in the survey.

This concern about respondent dropout produced constraints concerning the date when the data was to be collected and the length of the CARMAC questionnaire. In order to reduce respondent fatigue Statistics Canada has made a policy decision to run only four major supplements per year, one every three months. With the exception of July 1973, all the other major supplement dates were pre-looked until 1975. We were thus faced with a choice between conducting our survey in July 1973 or waiting until 1975. Because the comparative value of

the survey would be significantly reduced by waiting for two years, the 1973 date was selected. However, there were problems associated with the July 1973 date.

First, there was less than one year to fund the project, design the instrument, and get into the field. This very tight time schedule prohibited a pre-test on the instrument. While a pre-test would have been desirable, much of the background information which we wished to gather had been previously gathered by Statistics Canada in various surveys. As a result, we were able to "lift" many pre-tested items from their work. The McMaster team had also done some development work based on a grant for the earlier attempt to do such a study. Further, the questionnaire design benefitted from the work conducted by Blau and Duncan (1967) and others on social status attainment in the United States. Nonetheless, there is no substitute for a good pre-test, and we are now proposing to negotiate with Statistics Canada for a re-interview of a sub-sample of our respondents.

The second problem with the choice of the 1973 date was that the survey was conducted in the last week of July, which is in the prime vacation period. Due to a significant proportion of the sample not being at home, there was a lower response-rate to the CARMAC questionnaire than would have been the case in other months* (See Appendix I).

The administration of the instrument to each panel in its last month in the survey was considered as an alternative to doing the survey at one point in time. However, this option was rejected in view of the

* For the regular Labour Force Survey, a large number of non-responses, because of vacations, can be eliminated by matching with the corresponding June survey responses. Records that cannot be matched are treated as non-response. Obviously, such a procedure is not applicable to the CARMAC questionnaire and hence it suffers the full non-response load.

cost, the problems of establishing a common reference period, and the problems of loss of respondents who either had moved or had refused to participate in earlier Labour Force Surveys.

In addition to the July 1973 date, the relationship between the length of the instrument and respondent fatigue placed a further constraint on the design of the CARMAC study. After considerable discussion with Statistics Canada's field and methods staff, it was decided that the questionnaire must not exceed 75 questions and must not cover more than eight legal size pages. Such a constraint meant that some areas considered important received less attention than we would have liked.

A final constraint arose out of the Statistics Act itself. The Act prohibits the release of any information in such a way that individuals can be identified. Given the detail of the CARMAC questionnaire, very few crosstabulations would be necessary in order to make the identification of individuals possible. What this will mean to the project is that some of the categories with small numbers of respondents in them will be collapsed in the version of the data which the CARMAC project will receive. (For additional discussion of the confidentiality issue, see Fellegi, 1972.) This may not be a serious constraint as we will be involved with Statistics Canada in the decisions about such collapsing.

B. The Sample Design

The target population from which the Labour Force Survey sample is drawn is the civilian non-institutional population of Canada excluding the Northwest Territories and the Yukon, who are 14 years of age and over. The sample is a multi-stage stratified probability sample of this population. The basic unit of the sample is the household, and

approximately 35,000 households are sampled each month. The participating households are divided into six panels, with each remaining in the sample for a period of six consecutive months. Thus, each month a new panel rotates into the sample and the panel in its sixth month rotates out.

The Labour Force Survey sample is drawn in two parts: Self-Representing Units and Non-Self-Representing Units. Each will be briefly described below. (Additional information on the sample design can be found in the publication Methodology: Canadian Labour Force Survey, D.B.S. 71-504: 1966.)

Non-self-representing Units

These are units which lie outside census metropolitan areas and smaller cities over 15,000 population. In these areas it is impractical to draw a wholly representative sample due to the time and cost factors involved in having an interviewer cover areas. Thus, a four stage sampling design is employed. At the first stage, the area is divided into strata and then into primary sampling units (P.S.U.). These are then sampled, and those P.S.U.'s selected "represent" other units which were not (hence, the term "non-self-representing"). The second stage is to divide the selected P.S.U.'s into segments which are composed of one or more Census Enumeration Areas. These are then sampled, and those segments chosen are broken down into clusters of four to five households. The final stage is the selection of households within clusters.

Self-representing Units

The self-representing unit is an urban area with a population of 15,000 persons or more, or an area which is of unique or special interest. The boundaries of these areas are the same as those used for the

metropolitan areas in the Census. In the larger cities (units), the city is broken down into sub-units, of 15,000 - 30,000 persons. The sub-units are then broken down into segments which in turn are sampled independently within each sub-unit. Households are then selected from each chosen segment. Presently, 1961 Census boundaries are used but are being corrected to 1971 Census boundaries upon re-design based on the 1971 Census.

The basic design of the Labour Force Survey is such that the data are self-weighting by province. However, due to the very large differences in population size among the provinces, each province is sampled at a different sampling ratio. In order to make inferences to the country as a whole, it is necessary to weigh each case by the inverse of the provincial sampling ratio.

Statistics Canada also uses three other weights in order to arrive at an overall weight for the cases in the sample. The second weight is a "balancing for non-response" weight. It is calculated using "balancing units" which are urban or rural portions of primary sampling units or sub-units (compact areas of about 15,000) within self-representing units. The third and fourth weights are the "Urban-Rural factor" and the "Age-Sex factor". The computation of these latter weights is complex and will not be gone into here. Basically, sample proportions are compared with census population estimates in order to create a correction factor for "population slippage", which refers to changes in the population which occurred since the basic design of the sample was established. The final weight which is placed on each record is the product of the four weights.

As indicated above, the Labour Force Survey sampling procedures determined the target population and the sample for the CARMAC study.

However, because the instrument was not relevant to persons under 18 years of age and to full time students, they were dropped from our sample. Consultation with Statistics Canada assured us that deletion could be made without biasing the sample or the weights.

C. Field Procedure

Given the decision to conduct the survey at a single point in time, the instrument was dropped off at the time of the July, 1973 Labour Force Survey interview and picked up later in the week by the enumerator. This procedure was particularly useful in determining the eligibility of persons in the Labour Force Survey for the CARMAC survey. The enumerator was instructed to note on a control form whether or not each member of the household was eligible for the CARMAC survey (over 18 and not a full time student). CARMAC respondents were then given a questionnaire and asked the time at which the enumerator would call-back to collect the completed instrument. Up to three call-backs were made in some cases. There were two exceptions to these procedures of sample selection and call-backs. First, in remote areas where consideration of time and distance made call-backs impossible, a stamped return envelope was left with the respondent. Secondly, where a family was not at home, copies of the instrument and stamped return envelopes were left for every member of the household. It should be noted that the CARMAC and Labour Force Survey samples differ in that in the latter one member of the household acts as a proxy for all members. In the CARMAC survey, each eligible individual in the household was asked to complete his/her own instrument.

A covering letter by the Chief Statistician of Canada, Dr. Sylvia Ostry, both requested the co-operation of respondents and gave them strong assurances of confidentiality for their responses. This was

particularly important in view of the large amount of data which the CARMAC questionnaire required.

V. Questionnaire Design

Not unlike its American counterpart, the Canadian mobility survey includes a variety of questions on the processes of occupational attainment. However, the Canadian experience of continued immigration and its traditions of bi- and multi-culturalism necessitated the inclusion of additional questions on immigration background, linguistic ability and ethnicity of the respondents. The inclusion of women in the survey sample also led to the reworking of some standard status attainment questions and to the addition of others. The length of the final questionnaire was determined by considerations of respondent fatigue, cost factors, and a concern expressed on the part of Statistics Canada that a questionnaire of any greater length would lower responses to subsequent Labour Force Surveys.

Approximately one half of the questions appearing in the CARMAC questionnaire are either identical or similar in wording or intent to those appearing in the 1973 Featherman and Hauser study of occupational attainment in the United States. Appendix II provides a detailed summary of the differences and similarities in the questions posed by the two studies. In both studies respondents were asked about their background (parental birthplace, number of brothers and sisters, the ordinal position of the respondent, where the respondent was living at age 16 and the occupation of the head of the household at that time, and the level of parental education), and their own social educational and occupational characteristics (marital status and age at first marriage, educational

attainment, nature of first full time job and when it was begun, length of time in armed forces, job in 1962-1963, and present job).

A. First Job

The similarity of these questions will permit cross-national comparisons of occupational attainment models. However, analysts should be aware that differences in question wording and in the flow of the Featherman and Hauser and the CARMAC questionnaires may introduce some differences in the models. In particular, both questionnaires ask respondents about their levels of education completed, and proceed to ask about the first full time job. The Featherman and Hauser study asks about the first full time civilian job after requesting respondents to indicate the month and year in which they completed the highest grade of school. In contrast, the CARMAC study did not request the date of school completion but rather the number of years spent in school altogether. The latter question was asked because of significant inter-provincial differences both in the age of starting school (ranging from age four to seven) and in the length of secondary schooling (ranging three to five years).

Although the CARMAC question on first full time job (the civilian nature was not specified) referred back to the question on highest level of schooling completed, it was preceded by three intervening questions on number of years spent in school, date of military experience and whether or not the respondents had received additional training in apprenticeships, company training services, and/or in the Canadian Armed Forces. For reasons of flow design and the omission of the question concerning date of school completion, we may find that responses to the first full time job also include jobs that were held prior to the

completion of schooling. This tendency was observed in the 1962 OCG study (Duncan, Featherman and Duncan, 1972), and was presumably corrected by the Featherman and Hauser study (Featherman and Hauser, 1972). Furthermore, the CARMAC question on first job includes military jobs which were excluded by the wording of the analogous Featherman and Hauser question, and the two questions are not strictly comparable. Canada has no draft hence the military is a career in Canada.

Reflecting its status as the first major study of its kind in a society which is characterized by large scale immigration and by a large Francophone population, the CARMAC questionnaire did not collect the detailed information found in the 1973 Featherman and Hauser study on respondents' family income at age 16, sibling characteristics, and educational and military experience. Instead the CARMAC study was enriched by a variety of questions concerning the immigration status of the respondent, and his or her parents, linguistic ability and preference, ethnicity and religion. In addition, parental education was asked (as it was in the Featherman and Hauser survey), and two questions were raised about the work experience of the mother during the respondent's primary and secondary schooling. Answers to these latter questions will indicate the influence of mothers on female and male status attainment. A variety of studies have suggested the importance of role models for female socialization, and others have suggested that having a mother who works in a white collar occupation significantly improves the aspirations, and perhaps the opportunities, of working class youths (Kohn, 1969).

B. Religion

A question on respondents' religion was included in the CARMAC survey for several reasons. First, beginning with Weber, religion and

work orientation are hypothesized to be related. Unpublished research by John Porter and Bernard R. Blishen suggest that religion actually does not play a very great role in the formation of educational and occupational aspirations. However, in a country where 46 per cent of the 1971 population is Roman Catholic, the possibility of religion influencing status attainment cannot be ignored. Furthermore, religion is highly associated with ethnicity. In 1971, 94 and 93 per cent of the French, and Italian ethnic populations respectively were Roman Catholic, and 93 per cent of those persons describing themselves of Jewish ethnic origin, also were Jewish in religion. Thus, any investigation into the differing opportunity structure for various ethnic groups must also take into account the possible influence of religion. Because of the reluctance of the United States Census Bureau to ask questions on religion, social scientists in the United States have been unable to fully assess the impact of religion on educational and occupational attainment. While our question is admittedly crude (what is your religion?), the tabulation of this characteristic will enrich both the study of the stratification process and other secondary analyses of the data.

C. Ethnicity

The association between religion and ethnicity has been cited above. The association between occupation and ethnicity is equally well known to Canadian social scientists (Porter, 1965; Blishen, 1970). Some ethnic groups, such as the Italians and the Portuguese, Indians and Eskimos are concentrated in the lower levels of the occupational structure relative to the British and North-West Europe origin groups. Furthermore, post-World War II immigration has reinforced the relationship between

ethnic affiliation and occupational level in Canada (Blisshen, 1970; Kalbach, 1970). The question to be answered by the CARMAC study is whether this condition is due to the relatively low entry status of many migrants, which in turn biases the educational and occupational distributions downward for some ethnic groups, or whether there is some systematic inequality of opportunity for these groups.

In accordance with the focus on differential opportunities for members of ethnic groups, the CARMAC questionnaire asks two different questions concerning the ethnic status of respondents. The first question is the standard census question which assigns ethnicity according to ethnic membership of the paternal ancestor upon coming to the North American continent. As Ryder (1955) suggests in his critique of the census questions, there may be considerable error introduced with changing national boundaries and world international relations (such as World War I and II). Also, assigning an ethnic status to a respondent may not be very meaningful in understanding the behaviour of an individual if it differs from his/her self-selected ethnic identity. As a result of these considerations, the CARMAC questionnaire also asked respondents to indicate the ethnic group to which they feel they now belong. In this second question on ethnic status, respondents may now label themselves American or Canadian in addition to other ethnic categories appearing in the census question. The use of these two questions should give a more meaningful interpretation of ethnicity as it pertains to educational and occupational attainment. Furthermore, comparison of the results of the two questions also should provide insights as to the utility of the standard census question on ethnicity.

D. Language

As part of the overall focus on the relation between ethnicity and opportunity, the CARMAC questionnaire also includes two general questions on language (what is the language which you first learned to speak and what is the language in which you feel most comfortable when talking) and three questions on the use of Canada's two official languages, English and French. The questions on bilingualism will be used in the investigations of French-English differences in occupational attainment. Previous research (Hughes, 1943, Porter, 1965, Bilingualism and Biculturalism Report, Vol. III) has shown that the occupational experiences of the French and English ethnic and language groups are very different, with the French in a consistently less advantaged position than the English. The CARMAC project plans to investigate the mechanisms underlying the differential opportunity of French and English ethnic or language groups. Questions on the use of English and/or French in conversation, on the first job, and on current job will permit the investigation of the relation between linguistic ability and occupational attainment.

E. International and Internal Migration

As was indicated earlier, the occupational status of various ethnic groups in part reflects continued immigration. Unlike the United States, post World War II immigration has had a considerable demographic and economic impact on Canadian society. Between 1945-1972, Canada admitted 3.7 million persons, half of whom were destined to the labour force. While not all immigrants to Canada stayed (estimates of emigration range from 40-60%), their impact can be gauged by noting that 15.3 per cent of Canada's 1971 population was foreign born compared to 4.7 per cent of the 1970 United States population.

In stratification research in Canada, continued immigration is hypothesized as restricting occupational opportunity for native Canadians. In his classic study on Canadian society, Porter (1965) has suggested that the continued external recruitment of highly trained manpower has limited the mobility of native born Canadians. In turn, while immigration affects opportunity of native born Canadians, the act of immigrating is not without consequence for the immigrants themselves. Research conducted by Richmond (1967) shows that many immigrants to Canada, initially experience downward career mobility. These occupational mobility experiences of immigrants are not unrelated to their decisions to stay or leave. Richmond found that immigrants who had suffered some initial loss in status relative to their status prior to immigrating were more likely to remain in Canada compared to those who had suffered no status loss at all.

As a result of these benchmark studies, the CARMAC questionnaire inquires into the birthplace of respondents, and their parents. Additional questions are asked on years or period of immigration for the respondents and their fathers. From these questions we will be able to investigate the mobility experiences of first and second generation nativity groups.

The CARMAC study includes questions not only on international migration but also on internal migration. In addition to the question of where the respondent lived when he/she was 16 years of age, we have asked two additional questions on the frequency of movement between municipalities and between Canadian provinces. These questions are exploratory in nature. Length of questionnaire constraints prevented any detailed probing of the association between geographic mobility and occupational mobility. The lack of a pretest means we have no measure

of the reliability of these questions. However, the answers to questions on birthplace, residence at age 16 and current residence (the latter being provided by the standard Labour Force Survey) will be used to assess the impact of the community of origin upon subsequent educational and occupational attainment.

F. Region

The focus on rural-urban migration and inter-provincial migration is related to yet another area of inquiry by the CARMAC study, notably inequalities of opportunity among various regions of Canada. Substantial differences exist between regions with respect to industrial agglomeration, economic expansion, unemployment and individual income. In particular, the Maritime provinces (Prince Edward Island, Nova Scotia, Newfoundland and New Brunswick) are characterized by lower rates of industrial growth, and high rates of unemployment and out-migration relative to other provinces. The phenomena of regional disparities has been examined in great detail by economists and there is an entire Federal Department (DREE) devoted to this topic. The CARMAC data will provide a sociological complement to these studies by indicating the extent of equality or inequality of opportunity among various regions, defined here as provinces or groups of provinces. Also it will be possible to crudely test the hypothesis that inter-regional migration is in the direction of the centres of economic prosperity.

G. Women

As discussed above, the CARMAC questionnaire includes a variety of questions on immigration status, linguistic ability, religion and ethnicity which are not included to the same extent in the 1973 Featherman and Hauser study. The inclusion of women in the Canadian sample also

makes for differences between the two questionnaire designs.

Initially, the CARMAC project had hoped to design a separate questionnaire for women, but was prevented from doing so by budget constraints on the coding and processing of such data. As a result, questions which were particularly germane to women were incorporated into the questionnaire, and a series of flow instructions were used to route both male and female respondents either through or around them. While budget constraints, potential respondent fatigue, and question sensitivity prevented us from asking many of the questions appropriate to a study of female status attainment, a number of questions were asked concerning the discontinuity of work experience for all women. In addition, questions were asked concerning the labour force participation of married women while children were preschoolers or later in school. Using the information received from these and other questions on background, education, and first job, we will be able to compare the status attainment of women to men. We also will be investigating whether or not differing cohorts of women have differing attainment experiences in Canadian society. This question is especially important because of the historical circumstances of the Depression and World War II, and because of the changing relationship between female labour force participation and stage in the life cycle. Through the family tapes we also will be able to assess the effect of spouse on the labour force experiences of married women.

As a result of the inclusion of women in the sample, the CARMAC study is collecting identical information on male and female respondents with respect to family background variables, education, occupation and the immigration, language, ethnic characteristics discussed earlier.

However, the inclusion of questions on temporal discontinuities in labour force participation means that not all men or women responded to the question on occupation ten years ago. The cost of the survey permitted coding only four occupations per questionnaire. The three most important were considered to be: first job, present job, and father's occupation. As a way of maximizing the one remaining occupational code the decision was made to ask all respondents what they were doing ten years ago only if they had never experienced more than one year of absence from the labour force.

VI. Initial Processing

As indicated above, the data obtained in the CARMAC study is coded, keypunched, and edited by Statistics Canada prior to its release. The instrument is basically self-coding with the exception of the occupational questions. The coding of the occupational data is being done in two stages.

The first stage is a manual edit and coding in which each instrument is examined for unanswered questions, multiple responses, or written-in responses. Procedures have been devised in order to maximize the information retained. Contrary to standard Statistics Canada procedure, item non-responses are not being subjected to substitution, but are uniquely coded as missing data. The instruments are then sent for occupational coding.

Occupational coding is based on the four digit Canadian Classification and Dictionary Occupations (C.C.D.O.) 1971 classification which is necessary in order to convert occupational responses into revised Blishen Socio-economic Status scores for 1971. Like the Duncan SES Scores,

Blishen Socio-economic status scores are based on the regression of education and income on occupational prestige. Blishen (1958; 1967) pioneered the development of this type of scale with his work on the 1951 Census.

Putting the data into machine readable form is done by a key edit process which involves a direct verification procedure. This procedure will produce a punching error of about one per cent.

The final stage in the data preparation process is a series of computer based edits, which check for three types of errors: "wild punches" (that is punches which lie outside the valid range of a variable), dates which are out of sequence, and answers which in combination are logically inconsistent (e.g. a female respondent who reports having two brothers, of which four are older than she).

VII. Anticipated Analysis

Many of the questions which can be answered with the CARMAC data have been raised during the previous discussion of questionnaire design. Overall, the project will examine the degree to which both educational and occupational attainment have been "inherited" from the parental generation. It is possible that such variables as father's occupation and education and respondent's education will be of differing importance in the process of occupational attainment in Canada than in the United States. There has been considerable difference in educational policies in the two countries especially in regard to the provision of educational opportunities. For this reason, attention will be paid to the comparability of the Canadian and United States models of achievement.

The CARMAC study will also examine the differences between social categories with respect to the process of educational and occupational attainment. The following topics represent major areas of investigation:

- a. French-English Differences in Educational and Occupational Attainment
- b. Ethnic Origin, Religion and Educational and Occupational Attainment
- c. Immigration and Educational and Occupational Attainment
- d. Regional Differences in Educational and Occupational Attainment
- e. Rural-Urban and Provincial migration and Educational and Occupational Attainment
- f. Male female differences in Educational and Occupational Attainment

The creation of family and household tapes will enrich the above areas of investigation by providing information on parents, siblings and/or spouses of the respondents. While the initial focus of the research is upon the occupational attainment of individuals, the family and household tapes will permit detailed investigations of attainment over two and possibly three generations. However, the use of the family or household as the unit of analysis raises the problem of weighting procedures. While Statistics Canada is providing weights needed to inflate sample of individuals to population parameters, they are not providing weighting procedures for families.

The overlapping interests of the members of the CARMAC project has prompted considerable thought as to the organization of the data analysis. Although it is subject to change, the current plan is for each research team to have copies of the tapes released to us by Statistics

Canada, and identically formatted SPSS tapes. Where the analysis is undertaken will be very much determined by the problem at hand and the composition of the group investigating the problem.

The analytical methods to be employed in our data analysis is of considerable interest and importance, especially in view of the fact that methods used in stratification research may affect the substantive interpretations of the results. As readers may have surmised from the previous discussion, the initial orientation of the CARMAC project is to use matrix and regression (path analytic) analysis. However, other techniques suggested by Goodman (1972) and Hope (1972) are being studied for possible application. In this regard, the conference on the methodology of stratification (August, 1974) which is organized by Featherman will greatly benefit the CARMAC analysis, particularly in the area of comparative research.

Conclusions

In conclusion, we believe the CARMAC project to be noteworthy in several respects. First and foremost, it represents the first national investigation into the nature of stratification in Canadian society. As such, the study affords a much more detailed analysis of inequalities than permitted by past research which utilized smaller surveys or cross-sectional census data. The results of the CARMAC research will have direct policy implications in the areas of education, immigration, regional disparities, bilingualism and biculturalism, multiculturalism, and the status of women.

Secondly, the study permits comparisons of stratification in Canada to stratification in other nations. Such comparisons will indicate

whether the Canadian society is more or less open with respect to mobility. They also will answer specific questions such as the possibility of differing access to very high ranking occupations in Canada (the "elitist" pattern of which Porter (1965) speaks). Thus not only will the CARMAC enrich the knowledge of Canadian society, but it also will contribute to the general knowledge of stratification systems in a comparative context.

Finally, it should be noted that the decision on the part of Statistics Canada to assist in the undertaking of this large survey marks an important development in the co-operation between Statistics Canada and the academic community. The continued strengthening of this relationship is of vital importance to social analysts and policy makers alike. It is especially important in the area of social stratification where social scientists not only seek to determine the process of occupational attainment but also ask whether the observed inequalities of opportunity have lessened during the subsequent years.

REFERENCES

- Blau, P. and O.D. Duncan
1967 The American Occupational Structure. New York: John Wiley and Sons.
- Blishen, B.R.
1970 "Social class and opportunity in Canada." Canadian Review of Sociology and Anthropology 7:110-127.
- Blishen, Bernard R.
1969 "A socio-economic index for occupations in Canada." Canadian Review of Sociology and Anthropology 4:41-53.
- Blishen, B.R.
1958 "The construction and use of an occupational class scale." Canadian Journal of Economic and Political Science, XXIV:519-31.
- Broom, L., F.L. Jones, and J. Zubrzycki
1968 "Social Stratification in Australia," in J.A. Jackson (ed.), Sociological Studies, Vol. 1, Cambridge University Press, 212-233.
- Buckley, Walter
1958 "Social stratification and the functional theory of social differentiation." American Sociological Review 23:369-375.
- Davis, Kingsley & Moore, Wilbert E.
1945 "Some principles of stratification." American Sociological Review 10:242-249.
- deJocas, Yves and Rocher, Guy
1957 "Inter-generation occupational mobility in the Province of Quebec." The Canadian Journal of Economics and Political Science 23:57-68.
- Duncan, O.D.
1968 "Social Stratification and Mobility: Problems in the Measurement of a Trend." in E.B. Sheldon and W.E. Moore (eds.); Indicators of Social Change. New York: Russell Sage Foundation, pp. 675-719.
- Featherman, D.L.
1974 "Toward Comparable Data on Inequality and Stratification." Working paper. American Sociologist 9 (February):19-25.
- Featherman, D.L. and R.M. Hauser
1972 "Design for a Replicate Study of Social Mobility in the United States." Working paper 72-6. Center for Demography and Ecology. University of Wisconsin: Madison. Forthcoming in D. Land and S. Spilerman (eds.), Social Indicator Models. New York: Russell Sage.
- Fellegi, I.P.
1972 "On the question of statistical confidentiality." Journal of the American Statistical Association 67:7-18.
- Glass, D.V. (ed.)
1954 Social Mobility in Britain. London: Routledge, Kegan Paul.

- Goodman, L.A.
1972 "A Modified Regression Approach to the Analysis of Dichotomous Variables." *American Sociological Review* 37:28-45.
- Hope, K.
1972 *The Analysis of Social Mobility*. Oxford: Clarendon Press.
- Hughes, E.
1943 *French Canada in Transition*. Chicago: University of Chicago Press.
- Kalbach, W.
1970 *The Impact of Immigration on Canada's Population*. Ottawa: The Queen's Printer.
- Kohn, M.L.
1969 *Class and Conformity*. Homewood, Illinois: The Dorsey Press.
- Lipset, S.M.
1963 *The First New Nation*. New York: Anchor Books.
- Lopreato, J.
1966 "Social Mobility in Italy." *American Journal of Sociology* 71:311-314.
- McRoberts, Hugh A.
1971 *Explorations in Canadian Occupational Mobility*. Unpublished. M.A. Thesis. Carleton University.
- Porter, John
1965 *The Vertical Mosaic*. Toronto: University of Toronto Press.
- Pineo, Peter C., and Porter, John
1967 "Occupational prestige in Canada." *Canadian Review of Sociology and Anthropology* 4:24-40.
- Report of the Royal Commission on Bilingualism and Biculturalism.
1969 *The Work World* (volumes IIIa and IIIb). Ottawa: Queen's Printer.
- Richmond, A.H.
1967 *Post War Immigrants in Canada*. Toronto: University of Toronto Press.
- Ryder, N.
1955 "The Interpretation of Origin Statistics." *Canadian Journal of Economics and Political Science* 21:466-479.
- Wrong, Dennis H.
1970 "The functional theory of stratification: some neglected considerations." E.O. Lauman, P.M. Siegel, and R.W. Hodge (eds.), *The Logic of Social Hierarchies*. Markham: Chicago. P.p. 132-142.

APPENDIX I

TABLE 1
COMPARISON OF JULY 1973 NON-RESPONSE WITH AVERAGES FOR 1973 AND 1974 BY REASONS FOR
NON-RESPONSE, LABOUR FORCE SURVEYS

	REASONS FOR NON-RESPONSE				
	Total	Temporarily ¹ Absent	No one ² Home	Refusal ³	Other ⁴
July 1973	15.1	9.1	3.2	1.9	.9
Average: Jan-June 1973	7.4	2.2	2.4	1.9	.9
Average: 1972 (excluding July)	8.1	2.2	2.7	1.9	1.3

SOURCE: Derived from information provided by, Statistics Canada, Labour Force Survey
Division, Unpublished (Mimeo), 1973

1. Temporarily absent. When all household members are away for the entire interview week.
2. No one home. When after a reasonable number of callbacks, there is no responsible member to interview.
3. Refusal. When a responsible member of the household definitely refuses to provide the survey information requested.
4. Other. When none of the foregoing reasons are applicable, e.g., roads impassable, enumerator not available, death, illness, language problems, etc.

4

OF/DE

4

APPENDIX II

Identical or similar questions asked by CARMAC and Featherman and Hauser surveys, 1973

Age
Birthdate
Birthplace
 respondent
 father
 mother
Number of brothers
 older
Number of sisters
 older
Size of place of residence at age 16
Living with both parents at age 16
 if not, with whom
Occupation of father (or head of household) when respondent was age 16
 type of enterprise
Educational attainment
 respondent
 father
 mother
First full time job
 type of enterprise
 date job began
Length of service in Armed Forces
Occupation held July, 1963 (CARMAC), or March, 1962 (Featherman & Hauser)
 type of enterprise
Marital Status
Age at first marriage
Nationality on father's side
Income
 wage and salary
 total
Weeks worked in previous year

Questions asked by CARMAC study but not by Featherman and Hauser

Year of immigration
 respondent
 father
Frequency of residential change since age 16
 provincial
 municipal
Perceived ethnicity
Religion
Language first learned
Language most comfortable with
Which language (French, English) used
 first job
 current job

Work experience of mother
 during primary and/or secondary schooling
 type of occupation
 Number of years in school
 Additional training (apprenticeship, company, school, etc.)
 Number of years worked full time
 Number of departures from labour force lasting
 seven months or more
 three months or more
 Year of most recent return to
 full time job
 type of job returned to
 Number of children ever born
 Number of children currently living with
 respondent
 (Asked of female respondents only)
 worked after first child was born but after last child began school
 worked after youngest child began school

Questions asked by Featherman and Hauser but not by CARMAC study

Number of brothers living to age 25
 Education of oldest brother
 Education of youngest brother
 Income of family of origin at age 16
 Did father usually work at occupation cited when respondent was age 16
 School enrollment, March 1973
 College education
 field of specialization
 Year completed highest grade of school
 Interruptions of schooling
 dates
 Level of education before entering military services
 Date left military service
 Labor Union membership
 *Number of brothers and sisters of wife
 *Wife living with parents at age 16
 *Occupation of wife's father when she was age 16
 type of job (government, self employed, etc.)
 usually worked at this
 *Education of Wife's
 mother
 father

*In actuality these questions were asked by the CARMAC study. Both males and females were asked to answer the CARMAC questionnaire with the result that wherever a conjugal unit consisting of both spouses present was included in the sample, both husband and wife answered family of origin questions.

Appendix IV

English and French
Outflow Tables

TABLE A.IV.1

ENGLISH OUTFLOW MATRIX FOR FATHER'S AND SON'S S.E.S., 25-64

, Respondent's Socio-economic Class

	<u>I</u>	<u>II</u>	<u>III</u>	<u>IV</u>	<u>V</u>	<u>VI</u>	<u>T</u>	<u>A</u>
Respondent's								
I	42.5	26.9	17.1	6.8	4.7	2.1	100.0	
II	26.7	29.5	17.7	15.1	8.1	2.9	100.0	
III	22.8	20.0	25.3	15.9	11.2	4.8	100.0	
IV	14.5	19.9	21.8	22.9	15.8	5.2	100.0	
V	10.7	16.2	16.5	21.9	26.8	8.0	100.0	
VI	8.1	11.0	13.1	20.7	21.6	25.5	100.0	
T	14.58	16.81	17.45	19.66	18.51	12.98	100.0	

N = 6507

TABLE A.IV.2

FRENCH OUTFLOW MATRIX FOR FATHER'S AND SON'S S.E.S., 25-64

Respondent's Socio-economic Class

	I	II	III	IV	V	VI	T
Respondent's							
Father's	47.3	32.1	8.8	5.4	6.5	0.0	100.0
Socio-economic	25.6	23.2	19.8	18.9	6.2	6.4	100.0
Class	20.0	17.6	21.6	17.4	16.9	6.5	100.0
	10.6	15.1	21.6	24.3	19.6	8.8	100.0
	7.7	11.8	14.7	28.2	27.0	10.63	100.0
	3.6	7.7	10.7	18.9	30.8	28.3	100.0
T	9.9	12.5	15.2	21.4	24.4	16.6	100.0

N = 2668

END

100377

FIN