1972

# The spatial variation of voting behaviour in the 1968 federal election in Toronto as it relates to the spatial distribution of selected socio-economic parameters.

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# THE SPATIAL VARIATION OF VOTING BEHAVIOUR IN THE 1968 FEDERAL ELECTION IN TORONTO AS IT RELATES TO THE SPATIAL DISTRIBUTION OF SELECTED SOCIO-ECONOMIC PARAMETERS

by

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A Thesis
Submitted to the Faculty of Graduate Studies through the
Department of Geography in Partial Fulfillment
of the Requirements for the Degree of
Master of Arts at the
University of Windsor

Windsor, Ontario
1972

ACKNOWLEDGEMENTS

Firstly I would like to thank my major advisor, Dr. Placido LaValle, of the Geography Department, for his patience and unending efforts on my behalf. His advice and suggestions were always timely and invaluable. I would also like to thank Dr. Ransome, of the Geography Department, and Mr. Price, of the Political Science Department, for their assistance and the interest they have taken in my thesis.

Often it is difficult to obtain the required information to undertake behavioural studies. This study proved to be no exception. At one point work was stalled when Toronto riding maps showing the polling divisions could not be obtained. It was Dr. Mark MacGuigan M.P. (Windsor-Walkerville) who overcame this barrier. To him I express my sincere thanks.

And to my wife, for her unending moral support and constant typing and re-typing, I express a special thank-you.

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# CHAPTER I

## 1.0 NATURE OF THE STUDY

### 1.1 Introduction

To comprehend the political processes that operate in Canada, it is necessary to start with the voter and attempt to account for the factors that predispose him to vote as he does. However this is a gargantuan task for "virtually everything about people affects their political behaviour in some way."[1] The political participant is often unable to divorce himself from his emotions, his environment, his fears, and his prejudices. He is influenced by his religious affiliation and biases, his ethnic background, as well as the predominant values in his regional culture. The voter's level of education and social and economic status, combined with the concept he has of his position in the community as a whole, have bearing upon his electoral behaviour.

The act of voting, far from being a simple process, is the culmination of many interacting determinants, that are often hidden from both the voter and the observer. Political geographers attempt to explain the spatial aspects of voting by producing studies linking spatial patterns of electoral

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[1]Peter Regenstreif, The Diefenbaker Interlude, Parties and Voting in Canada (Toronto, 1965), p. 1.

behaviour to the socio-economic structure of the area under study. This has been made possible because of the development of sophisticated statistical techniques, which have freed the inquirer from the limitation formerly imposed upon him by purely descriptive approaches. With new tools the political geographer is now able to construct a precise voting behaviour model. In this investigation an attempt will be made to assess the spatial aspects of voting behaviour in Toronto through the employment of modern techniques of multivariate analysis.

## 1.2 On Voting Behaviour

Studies concerned with electoral geography have presented increasingly complex themes. Early work in political geography attempted to explain voting behaviour in terms of one or two variables. In the first major French work Andre Siegfried[2] accounted for the right and left wing vote in the Ardeche region of France, by introducing religion and soil fertility as explanatory variables.[3] Another early study by

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[2]J. R. V. Prescott, "The Function and Methods of Electoral Geography", Annals of the Association of American Geographers, XLIX (September, 1959), 296.

[3]Only brief reference will be made, in this chapter, to studies concerned with voting behaviour. For a more complete presentation of these works refer to Chapter II. Nature of Electoral Geography. In this chapter sources of information, methodology, and conclusions will be presented. The purpose of citing these references in the present chapter is to ascertain basic themes only.

E. Krebheil[4] found that the British vote from 1885 to 1910 was closely associated with occupational status.

Two somewhat more contemporary studies are Dean's 1949 study[5] of the Newfoundlandreferendum, and a study done by Kish,[6] analysing the results of the 1946 plebiscite held in Italy that decided her future form of government. The former focuses on occupation and religion; while the latter was concerned with occupation, physiography, and historical factors.

Classic studies by Alford[7] and Campbell et al[8] have explored the totality of factors that motivate the American voter. Investigating a multiplicity of factors to divine the reasons for a particular voting bias, has become the accepted approach, but this has only been feasible with the development of modern techniques. The use of statistics and the search for a

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[4]J. R. V. Prescott, op. cit., p. 296.

[5]Veva Kathern Dean, "Geographical Aspects of the Newfoundland Referendum", Annals of the Association of American Geographers, XXXIX (March, 1949), 70.

[6]George Kish, "Some Aspects of the Regional Political Geography of Italy", Annals of the Association of American Geographers, XLIII (June, 1953), 178.

[7]Robert A. Alford, Party and Society (Chicago: Rand McNally and Co., 1963).

[8]Angus Campbell, et al., The American Voter: An Abridgement (New York: John Wiley & Sons, Inc., 1964).

comprehensive model is evident in work done by Roberts and Rumage[9] and K. R. Cox.[10] The latter investigated the effect London's suburbia has on voting behaviour, while Roberts and Rumage were concerned about the spatial variations in the urban left-wing vote in England and Wales in 1951.

The trend towards complexity does not mean, however, that there is no room for creative one variable investigations. A fine example of this is Pierce Lewis' single variable study of Flint, Michigan.[11] Using cartographic techniques, Lewis investigated the impact that the Negro inmigration has had upon the electoral geography of that city. However, this last study notwithstanding, voting behaviour studies reflect a strong trend towards more and more complex methods and themes.

Canadian voting behaviour studies manifest this tendency towards increased complexity. Earlier studies, like that of Meisel's,[12] tended to concentrate upon a single explanatory variable, and in Canada by far the most important electoral

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[9]Michael C. Roberts and Kennard W. Rumage, "The Spatial Variations in Urban Left-Wing Voting in England and Wales in 1951", Annals of the Association of American Geographers, LV (March, 1965)

[10]Kevin R. Cox, "Suburbia and Voting Behaviour in the London Metropolitan Area", Annals of the Association of American Geographers, LVIII (March, 1968).

[11]Pierce F. Lewis, "Impact of Negro Migration on the Electoral Geography of Flint, Michigan, 1932-1962: A Cartographic Analysis", Annals of the Association of American Geographers, LV (March, 1965).

[12]John Meisel, "Religious Affiliation and Electoral Behaviour: A Case Study", Voting in Canada, ed. by John C. Courtney (Scarborough, 1967).

determinant seems to be religious affiliation. As recently as the middle sixties Anderson[13] found that this was still the major determinant of voting behaviour in Hamilton, Ontario, and by extension most of Canada. Increasingly, what was tacitly acknowledged, the fact that voting behaviour is multi-faceted, has found expression in other voting behaviour studies.

Meisel[14] and Regenstreif[15] have added the regional variable; Jewett,[16] Wilson,[17] and Gagne and Regenstreif[18] have hesitatingly suggested that class voting is emerging in Canada.

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[13]Grace M. Anderson, "Voting Behaviour and the Ethnic Variable: A Study of a Federal Election in Hamilton, Ontario", The Canadian Journal of Economics and Political Science, XXXII (February, 1966)

[14]John Meisel, The Canadian General Election of 1957 (Toronto: University of Toronto Press, 1962).

[15]Peter Regenstreif, op. cit.

[16]Pauline Jewett, "Voting in the 1960 Federal By-Elections at Peterborough and Niagara Falls: Who Voted New Party and Why?", Voting in Canada, ed. by John C. Courtney, (Scarborough, 1967).

[17]John Wilson, "Politics and Social Class in Canada: The Case of Waterloo South", Canadian Journal of Political Science, I (September, 1968).

[18]Wallace Gagne and Peter Regenstreif, "Some Aspects of New Democratic Party Urban Support in 1965", The Canadian Journal of Economics and Political Science, XXXIII (November, 1967).

Anderson,[19] Simmons,[20] and Bain and LaValle[21] have asserted that traditional variables such as religion and ethnic affiliation are still the strongest determinants of voting behaviour in Canada. Thus, in the field of electoral behaviour there exists a dichotomy of the emerging class electoral determinants and the traditionally dominant religious and ethnic affiliation electoral determinants.

## 1.3 The Problem

With few exceptions, electoral behaviour research in Canada has lacked precision, and has focused on small cities, single ridings, non-metropolitan areas, or has produced highly generalized descriptions of the whole country. Unfortunately, very little research has been directed towards the analysis of the intraurban spatial nature of voting behaviour in a major Canadian metropolitan centre. Thus, there is a need for a spatial multivariate analysis of the interrelationships between the voting behaviour and socio-economic parameters in Metropolitan Canada. This thesis will attempt in part to fill that

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[19] G. Anderson, op. cit.

[20] James W. Simmons, "Voting Behaviour and Socio-Economic Characteristics", The Canadian Journal of Economics and Political Science, XXXIII (August, 1967)

[21] Robert Bain and Placido LaValle, "Regional Aspects of Eastern Canadian Non-Metropolitan Voting Behaviour in the 1965 Federal Election", Proceedings of the Canadian Association of Geographers, (Winnipeg: University of Manitoba, 1970).

need. It will analyse the socio-economic factors which had a bearing on voting in the City of Toronto and its Inner Suburbs[22] in the 1968 Federal Election. (See Fig. 1)

## 1.4 Area Under Study

Toronto is the heart of Canada's most populous province and in some respects may be said to reflect the political character of the nation. At the turn of the century Toronto was described by a British traveller as:

> . . . a brisk city . . . (though) liberally endowed with millionaires, not lacking its due share of destitution, misery, and slums. It is no mushroom city of the West, it has its history; but at the same time it has grown immensely of recent years. It is situated on the shores of a lovely lake; but you never see that because the railways have occupied the entire lakefront. . . . Higher up are the business quarters. . . . Beyond that the residental part, with quiet streets, and shady verandas. . . .[23]

Even today this description of Toronto accurately portrays its structure and environment.

But change has come in other spheres; for example Toronto is no longer a "veritable garrison of the Empire. . ."[24]

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[22]The Inner Suburbs of the City of Toronto as delineated by R. A. Murdie are York, East York, Leaside, Forest Hill, New Toronto, Swansea, Mimico, Weston, and Long Beach. According to the Canadian Census Bulletin CT-15, the combined population of these former boroughs,in 1961, was 977,507. Robert A. Murdie, Factoral Ecology of Metropolitan Toronto, 1951 - 1961: An Essay on the Social Geography of the City, (Chicago: The University of Chicago, Department of Geography, 1969), p. 40.

[23]R. C. Brown and M. E. Prang, ed., "An English Visitor's Impression of Montreal and Toronto in 1913", Confederation to 1949, III, (Scarborough: Prentice-Hall of Canada, Ltd., 1966) pp. 126-127.

[24]J. M. S. Careless, Brown of the Globe, (Toronto: MacMillan Canada Ltd., 1959), p. 26.

## METROPOLITAN TORONTO

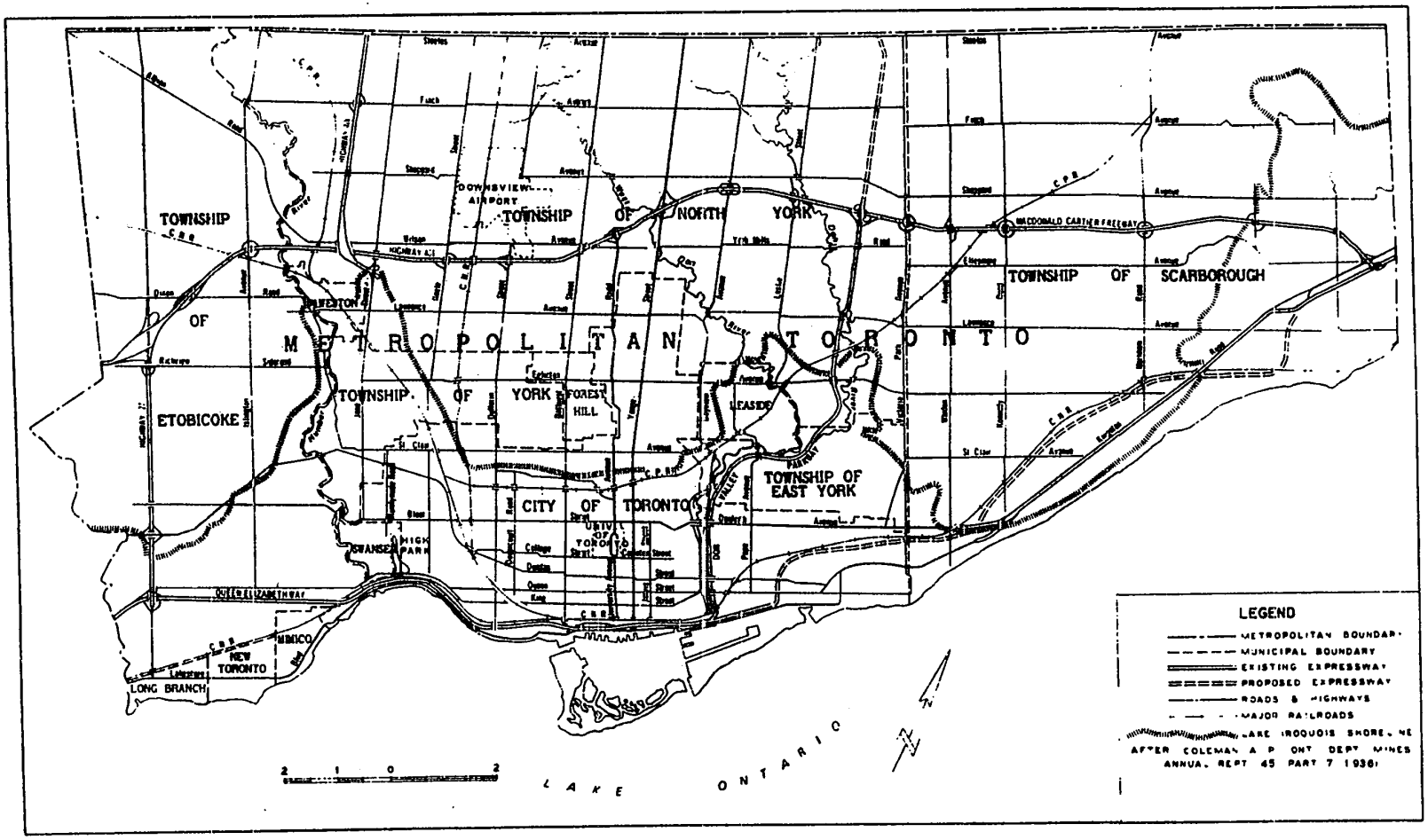


Figure 1

In 1961 Anglo-Saxons just barely composed a majority of the city's population.

> The largest non-British elements are the Italian, German, French (largely French-Canadian), Polish, and Ukrainian groups, which are concentrated almost entirely in the city proper, especially in its nineteenth-century parts, where the ethnic composition of some districts has changed tremendously. It is estimated that between 1951 and 1960 the Italian group in one district increased from 2.7 to 40 per cent of the population; in another, the German element increased from 2.3 to 18 per cent during the same period. . .[25]

Central city-inner suburban socio-economic differences by 1961 had become quite pronounced. Like most large North American cities, the City of Toronto experienced a decline in population from 1951 to 1961; while the inner suburbs registered a 23.3 per cent increase.[26] The proportion of old people in the inner suburbs decreased; while the increase of younger persons in both areas was the same.

The City of Toronto and its inner suburbs exhibit a wide degree of spatial variation in ethnic and religious groups. In the City of Toronto and inner suburbs the proportion of people of British origin declined to 51.8 per cent and 60.0 per cent respectively. The inner suburb of York Township and the West End of the City have become the nucleus for the substantial Italian community.

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[25]Donald Kerr and Jacob Spelt, The Changing Face of Toronto - A Study in Urban Geography, (Ottawa: Queen's Printer, Geographical Branch, Mines and Technical Surveys, 1965), pp.114-115.

[26]Robert A. Murdie, Factorial Ecology of Metropolitan Toronto 1951 - 1961, (Chicago: University of Chicago, Department of Geography, 1969), p. 54.

To the southwest, east of High Park is a "large proportion of post-war Polish and other Eastern European immigrants".[27] Forest Hill is an area where Jewish people have increased from about a third of the population in the early fifties[28] to a majority in 1961. The eastern portion of the Iroquois Plain, which contains the eastern part of the City of Toronto and the inner suburbs of Leaside and the Township of East York, has "retained its British identity with at least 75 per cent of its population being of British descent. The only important infiltration into this area was that of the Ukrainians, French-Canadians and Italians"[29] who came into the area from the core of the city.

Two low income corridors run east and west along Lake Ontario while a third poverty area stretches towards the northwest. Between the three low income sectors, two sectors of relatively high economic status can be identified.[30] One is anchored in the city centre around the University of Toronto and extends north along Bathurst Street, Yonge Street, and Bayview Avenue. Forest Hill and Rosedale are in this corridor.

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[27] Ibid., p. 102.

[28] John R. Seeley, R. Alexander Sim, Elizabeth W. Loosley, Crestwood Heights, A Study of the Culture of Suburban Life, (Toronto: University of Toronto Press, 1956), p. 18.

[29] Donald Kerr and Jacob Spelt, op. cit., p.119.

[30] Robert A. Murdie, op. cit., p. 81.

The other high income sector starts in Swansea and follows the Humber River and its tributaries into the outer suburb of Etobicoke Township.

The low income wedges follow the early rail routes and major industrial concentrations that originate at the waterfront and curve northwest. Another sector borders the railway and the Queen Elizabeth Way and the third follows Queen and Dundas Streets and Kingston Road east into the outer suburb of Scarborough Township.

Toronto is an exciting and colourful city. Its growth and continuous rebirth overshadow any decline that may be manifest in certain areas of the city. In its socio-economic composition, Toronto's population reflects the character of urban Canada. With Toronto as a bellweather, one can grasp the Canadian identity. Culturally and economically, as well as politically, Toronto mirrors much of the nation, especially that part of it that is known as English-Canada. To understand Canada's political institutions, it is necessary to first perceive the motivating forces at play within the voting citizen. This understanding is best facilitated by examining a microcosm of the nation. Since Toronto in many respects is just such an indicator, an examination of its voting behaviour would lead one to grasp the nature of electoral activity in most of the country.

## 1.5 Electoral Toronto in Retrospect

Traditionally, Toronto has tended to support the Progressive Conservative Party. However the King and St.Laurent eras tended to create a fairly even proportionment of Toronto's seats between the Liberals and the Conservatives. In 1953, the year of the last St.Laurent election victory, Toronto returned eight Liberals, eight Conservatives, and one C.C.F. Members of Parliament to Ottawa.[31] David Lewis, a Jewish labour lawyer, won York South for the C.C.F. The riding has a substantial Jewish community. Middle class ridings tended to divide their support fairly evenly between the Liberals and the Conservatives; while poor ethnic areas were more strongly Liberal and Anglo-Saxon working class areas tended Conservative. In the Diefenbaker sweep of Toronto in 1957, only one riding did not elect the Progressive Conservative candidate. This was rectified. In 1958 all opposition party candidates fell before the Conservative scythe.

Four years later the Progressive Conservatives' overwhelming victory was succeeded by a humiliating Liberal rout. The Liberals in 1962 captured 12 of Toronto's seats, to 3 for the Conservatives, and 2 for the New Democratic Party.

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[31] Information about the Federal Election Results from 1953 to 1965 inclusive is taken from an unpublished honours B.A. thesis done by Robert Bain, The Changing Voting Pattern in the Non-Metropolitan Areas of Eastern Canada from 1953 - 1965 (Windsor: Department of Geography, University of Windsor, 1969). Electoral Returns for the 1968 Federal Election come from The Windsor Star, Windsor, Ontario, Wednesday June 26, 1968.

Since the 1963 election the Progressive Conservative Party has not won a single Toronto constituency. The N.D.P. have never captured more than four seats and seem to be confined to the eastern Toronto British working class ridings and the heavily Jewish riding of York South. Both the Conservatives and N.D.P. seem to command a loyal solidified vote but are unable to dislodge the Liberals from the position of near universal acceptability. However examining constituency representation in an attempt to ascertain the nature and extent of individual party support is a nebulous and almost meaningless exercise. Only the most obvious patterns can be obtained from this type of analysis.

## 1.6 Summary

The Federal Election Results in Toronto over the last decades have been inadequately investigated. The general descriptions that have been done are far from being adequate. Regenstreif's statements about Toronto's voting record before the 1962 federal election being somewhat Tory and after 1963 the area becoming Liberal with some support for the Conservatives and N.D.P. [32] are as sophisticated as anyone's analysis has been of Toronto's voting behaviour. Cryptic references, that have been made to Toronto after the 1965 and 1968 federal

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[32] Peter Regenstreif, op. cit., p. 158.

elections, reaffirm that "the once Tory Toronto remains Tory-less Toronto".[33]

Such analyses yield no more insights into the nature of voting behaviour in Toronto, than a careful reading of the newspapers at election time. As the number of electoral behaviour studies increase, the lack of such studies for Toronto becomes ever more glaring. It is the aim of this paper to provide a detailed socio-economic analysis of Toronto's electoral behaviour. By using multivariate techniques it is hoped that this study will be able to isolate the fundamental spatial factors that account for the urban electoral structure of Toronto.

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[33] J. Murray Beck, Pendulum of Power Canada's Federal Elections, (Scarborough: Prentice-Hall of Canada, Ltd., 1968), p. 390.

# CHAPTER II

## 2.0 NATURE OF ELECTORAL GEOGRAPHY

### 2.1 Introduction

The impetus for the development of electoral geography has been the realization that it is impossible to understand any 'democratic' country's political process if the role of the voter is not recognized and understood. Even if in a peripheral sense the politician's point of reference must be the voter. Under normal circumstances, failure to abide by this principle results in loss of office. In more extreme situations it can mean the collapse of a particular form of government. Even though the voter's role is often imperceptible, he is still the cornerstone of the political process.

Once having said that the voter is the key to understanding the political process, it must be quickly added that virtually everything about people affects their political behaviour in some way. This has made it difficult to build accurate models of electoral behaviour. But perhaps it was this challenge as well as the fascinating nature of the inquiry that have drawn so many to study the voter and the factors that motivate him.

## 2.2 Structure of Electoral Geography

Since the classic studies by Seigfried and Krebheil, many works in political geography have focused on voting behaviour. Some of these studies are methodological sign posts that indicate the most profitable means to be employed in the spatial analysis of voting.

> The earliest electoral study was by E. Krebheil who examined the significance of geographic influences in the analysis of British Parliamentary elections between 1885 and 1910. . . . The paper was concerned largely with the correlation between election returns and occupation statistics. This led to the general conclusion that the industrial and poor farming areas returned Liberal representatives, while the fertile agricultural areas returned Conservatives.[1]

The first electoral study produced by the French geographers was by Andre Siegfried and dealt with the elections in the Ardeche region of France.[2] Using election results, census data, and an empirical investigation of the region, Siegfried found that the right-wing votes were correlated with fertile, lowland Protestant, and left-wing tended to dominate the less fertile, higher relief Roman Catholic areas.

The origin of political behaviour analysis in the United States can be traced back to a series of maps published by John K. Wright in 1932. These revealed and elaborated upon the dichotomy between the Republican North and the Democratic South.[3]

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[1] J. R. V. Prescott, op. cit., p. 296.

[2] Ibid.

[3] Ibid.

The first comprehensive analysis of the American voter was released by Campbell, Converse, Miller and Stokes in 1960.[4] Their definitive work made use of opinion polls, surveys, empirical knowledge and basic statistical techniques to develop a complex but comprehensive view of the American electorate. Another milestone was Robert R. Alford 's comparative study of class-based voting.[5] Grounding his work in opinion polls, he categorized the English-speaking countries along a class-voting continuum. Canada scored lowest, while Britain was the highest; Australia and the United States occupied a middle position.

Pierce F. Lewis[6] used detailed overlays to investigate the impact of Negro inmigration between 1932 and 1962 on the electoral geography of Flint, Michigan. By using this cartographic approach, Lewis clearly showed the growth of Negro neighbourhoods, the shift in Negro loyalties from strongly Republican in 1932 to strongly Democratic by 1950 and the different rates of change in various parts of the city.

Roberts and Rumage[7] study of the urban left-wing vote in England and Wales in 1951 was quite different in that it employed a much more sophisticated statistical analysis. A series of regression models were used to identify the relationship between the Labour vote and a set of socio-economic

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[4]Angus Campbell, et al., op. cit.

[5]Robert R. Alford, op. cit.

[6]Pierce F. Lewis, op. cit.

[7]Michael C. Roberts and Kennard W. Rumage, op. cit.

variables taken from the 1951 census. The variables were grouped in a series of prediction models and "once these basic models were established, it was possible to erect a model containing the combination of the most crucial variables".[8] Maps of residuals were constructed to show graphically the spatial variation of the error factor associated with their model. They also gave rise to new hypotheses.

> "Many of the previous qualitative generalizations concerning voting behaviour, in England and Wales were substantiated and expanded by the results of this study. Factors such as education, social class, occupation, and housing are key elements in explaining the distribution of the Left-wing vote. More precisely, we may conclude that the Labour vote:
> (1) Was positively associated with the voters in industrialized towns lying on or near the coalfields, with workers in mining and manufacture, and with those classified as occupying the lower echelons of the social class hierarchy.
> (2) Was negatively associated with the upper and middle strata of the social class hierarchy, with those who have attained higher levels of education, and with female voters."[9]

Kevin R. Cox also deals with the British milieu for the General Elections of 1950 and 1951.[10] However, his focus is different, being concerned with the juxtaposition of a politically right-wing suburb to a left-wing central city. His field of inquiry is Metropolitan London, and his sources of data are the electoral returns and the census. To arrive at a systematic analysis of the dependent variables, factor analysis and

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[8] Ibid., p. 170.

[9] Ibid., p. 178.

[10] Kevin R. Cox, op. cit.

computation of coefficients of correlation were undertaken.[11] Cox then proceeds to set up a number of causal models. Although these models are not reality itself, they do tend to produce empirical generalizations of great weight.[12] Such dictums conclude that suburbia definitely has a right-wing orientation due to social class and age structure, but cannot definitively conclude that the rise in right-wing support is evidence for either the transplantation or conversion theories.[13]

Brunn, Hoffman, and Romsa focus on spatial aspects of the 1968 open housing referendum in Flint, Michigan.[14] Using the simple regression analysis techniques, the authors found that the Negro population voted solidly in favour of open housing while whites tended to vote equally against the proposition. Transitional areas tended to vote in favour of open housing while areas located on the fringe of the city voted strongly against.

The techniques employed in voting behaviour analysis have become increasingly sophisticated and statistical since

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[11] Ibid., pp. 117-20. [12] Ibid., pp. 120-21.

[13] The transplantation theory states that suburbia tends to be conservative because that is the type of people who tend to leave the city. The conversion theory maintains that migrants from the city, regardless of prior political predisposition tend to become conservative politically. For those who were already conservative, this is merely a reinforcement; for those who were not, a conversion process comes into play.

[14] Stanley D. Brunn, Wayne L. Hoffman, and Gerald A. Romsa, "Some Spatial Considerations of the Flint Open Housing Referendum", Proceedings, Association of American Geographers, I (1969).

John K. Wright published his maps.[15] And although mapping is still an important illustrative technique, it has been buttressed by statistical tools in an attempt to derive models upon which more conclusions about the spatial variation of voting can be based.

## 2.3 Non-Geographic Advances in Electoral Analysis

Voting behaviour research has been a topic that has received considerable attention from sociologists and political scientists. Indeed the works of R. R. Alford[16] and Campbell et al[17] which have been discussed previously, and the findings of Meisel,[18] Jewett,[19] Regenstreif,[20] and Anderson,[21] which will be fully dealt with in the following section, must be accredited to political science.

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[15] J. R. V. Prescott, op. cit., p. 296.

[16] Robert R. Alford, op. cit.

[17] Angus Campbell, et al., op. cit.

[18] John Meisel, "Religious Affiliation and Electoral Behaviour: A Case Study", Voting in Canada, ed. by John C. Courtney and John Meisel, The Canadian General Election of 1957 (Toronto: University of Toronto Press, 1962).

[19] Pauline Jewett, "Voting in the 1960 Federal By-Elections at Peterborough and Niagara Falls: Who Voted New Party and Why?", Voting in Canada, ed. by John C. Courtney (Scarborough, 1967).

[20] Peter Regenstreif, The Diefenbaker Interlude (Don Mills: Longmans Canada Ltd., 1965), and Wallace Gagne and Peter Regentreif, "Some Aspects of New Democratic Party Urban Support in 1965", The Canadian Journal of Economics and Political Science, XXXIII (November, 1967)

[21] G. Anderson, op. cit.

It is apparent that there is a great deal of cross-pollination in the sphere of electoral behaviour among the three disciplines of political science, sociology, and political geography. The latter's dependence upon political science has already been mentioned. Sociologists have investigated such topics as the social structure of suburbia,[22] its relation to the political process,[23] the voluntary association of urbanites,[24] and the ecology of metropolises.[25] Their results have been of interest to political geographers.

Canadian sociologists have normally depended upon survey technique to gather their data--a method not widely employed by geographers. However, this does not mean that sociologists using this method have not produced work of interest to geographers. One such study in particular, Crestwood Heights,[26]

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[22] F. M. Wist, "The Political Sociology of American Suburbia: A Reinterpretation", Journal of Politics, XXVII (1965), pp. 647-66.

[23] S. Greer, "The Social Structure and Political Process of Suburbia", American Sociological Review, XXV (August, 1960), pp. 514-26).

[24] M. Komarovsky, "The Voluntary Associations of Urban Dwellers", American Sociological Review, XI, (1946), pp. 468-98.

[25] W. S. Robinson, "Ecological Correlations and the Behavior of Individuals", Americal Sociological Review, XV (June, 1950), pp. 351-57.

[26] J. R. Seeley, R. A. Sim, and E. W. Loosley, Crestwood Heights: A Study of the Culture of Suburban Life, (Toronto: University of Toronto Press, 1956).

is a fascinating in-depth look at the upper middle class suburb of Forest Hill in Toronto. The study focuses on the Gentile-Jew dichotomy. An even more useful study was done by John Porter of the social divisions and distribution of power in this nation.[27] Porter depended heavily upon census data for his information, thus, having a common ground with geographers.

One of the few authoritative studies done by sociologists in the field of voting behaviour is The People's Choice by Lazarsfeld and Berelson.[28] In their book they investigate the whole myriad of socio-economic and group variables that influence the voter in the United States. Sociology, by analysing different groups in the community, has helped to expand the geographer's view of the socio-economic structure of that community. This increased comprehension of community dynamics better equips the political geographer to rationalize voting behaviour.

With the 'quantitative revolution' of the fifties and sixties, statistical methods have been increasingly employed in voting behaviour studies. It is only in this way that man is able to view the great mass of data and give it meaning. Geographers at first cautiously observed and now enthusiastically

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[27]John Porter, The Vertical Mosaic: An Analysis of Social Class and Power in Canada, (Toronto: University of Toronto Press, 1965).

[28]R. F. Lazarsfeld, B. Berelson, and H. Gaudet, The People's Choice, How The Voter Makes Up His Mind In A Presidental Campaign, 3rd ed. (New York: Columbia University Press, 1968).

embraced statistical methods as an invaluable aid. To be made aware of the wide-spread use of statistics in geography, one need only browse through any contemporary professional journal.

The initial application of statistical analysis to the field of geography was undertaken by those outside the discipline.

> For example, M. G. Kendall (a statistician) showed in 1939 how principal components analysis could be used to develop a multivariate index that would portray the geographical distribution of crop productivity in England, and M. J. Hagood (a sociologist and statistician) used multiple-factor analysis in 1943 to define multivariable uniform regions. . . contiguity or spatial autocorrelation was examined by P. A. P. Moran (a statistician) in the nominal case in 1940. . . [29]

Thus, a historical resume of statistics and geography would proceed concluding with the observation that most geographers are familiar with and use statistics, even if it is often in a peripheral sense.

## 2.4 How Canada Votes

Initial voting behaviour studies in Canada used less complex methods of analysis than are presently employed. The classic study was done by John Meisel in the early fifties.[30] Using interviews, census data, and electoral results, this

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[29] Brian J. L. Berry and Duane F. Marble, Spatial Analysis A Reader in Statistical Geography (Englewood Cliffs, N.J.: Prentice-Hall, Inc.), p. 2.

[30] John Meisel, "Religious Affiliation and Electoral Behaviour: A Case Study", Voting in Canada, ed. by John C. Courtney.

study investigated the religious variable in Kingston. While Protestant denominations supported the Conservatives in greater numbers than did the population as a whole, eighty-three per cent of the Roman Catholics supported the Liberal Party.

John Meisel also wrote a book concerned with the 1957 Federal Election.[31] In a descriptive fashion, Meisel investigated such topics as the election prelude, the issues, the candidates, the leaders, and the outcome and concludes that it was a slight shift in the number of votes cast for the parties that led to a Progressive Conservative victory.

Pauline Jewett concentrated on the 1960 federal by-elections in Peterborough and Niagara Falls. Miss Jewett mailed questionnaires to a sample of the electorate in each riding. Those returned form the basis of her tabulations. Class lines separated the Conservative voter from the N.D.P. while the Liberal tended to be more inclusive. And in the case of Peterborough, where the N.D.P. won, the New Party presented a non-doctrinal face.[32]

In his descriptive analysis of politics in New Brunswick, Hugh G. Thorburn[33] maintains that the parochial attitudes of the electorate and their representatives insures that the

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[31]John Meisel, The Canadian General Election of 1957 (Toronto: University of Toronto Press, 1962).

[32]Pauline Jewett, op. cit.

[33]Hugh G. Thorburn, Politics in New Brunswick (Toronto: University of Toronto Press, 1962).

party system in that province will continue to be the bulwark of the status quo. This situation is further intensified as provincial governments attempt to please both the electorate and the multinational corporations which control the provinces' economy. In Ottawa, Members of Parliament value being on the government side and the ensuing patronage above all else.

A very informative and important collection of papers dealing with the 1962 federal election was edited by John Meisel in the early sixties.[34] The book contains several contributions which deal with voting behaviour.

Using the mailed-survey questionnaire technique, George Perlin found that St.John's West Riding in Newfoundland presented a mirror image of voting behaviour traits generally valid for the rest of Canada. For example, the Conservatives tend to have low incomes and are Roman Catholic in religion, while the Liberals attracted support from the Protestant upper and upper-middle classes.

This collection of papers also includes an article by Denis Smith which deals with the 1962 campaign in the Toronto constituency of Eglinton. Regrettably the author focused on particulars, almost to the complete exclusion of generalizations. Much time was spent discussing the personal characteristics of Donald Fleming and Mitchell Sharp, who confronted one another in the riding but no attempt was made to construct a voting

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[34]John Meisel, ed., Papers on the 1962 Election (Toronto: University of Toronto Press, 1968).

behaviour model.[35] Smith alluded to the changing class structure of Eglinton and the attending problem for the Conservatives. Over the years, since Fleming first won the riding in 1945, its southern portion had become increasing lower and lower-middle class in composition and consequently less likely to vote Conservative. But such references are made only in passing and did not form hypotheses which were subjected to rigorous analysis.

Another paper in this collection, by Walter D. Young, demonstrated that in British Columbia the New Democratic Party is an urban working-class party.[36]

On a national level, Robert R. Alford[37] declares that there is no stable social bases for Canadian political parties. The class variable is almost non-existent, while even the religious and ethnic and regional factors are not particularly strong determinants of voting behaviour. Alford concludes with an observation that. . . . "political parties in Canada may approximate more closely than those in other countries to the classic description of parties as men temporarily associated

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[35]Denis Smith, "The Campaign in Eglinton", in Papers on the 1962 Election, ed. by John Meisel.

[36]Walter D. Young, "The N.D.P.: British Columbia's Labour Party", in Papers on the 1962 Election, ed. by John Meisel.

[37]Robert R. Alford, "The Social Bases of Political Cleavage in 1962", in Papers on the 1962 Election, ed. by John Meisel.

because of the necessities of the strategy of power."[38] Alford's source of data was a survey conducted by the Canadian Institute of Public Opinion.

Using the interview technique as his source of data, S. Peter Regenstreif contributed a paper to the collection under discussion which dealt with group perception and voting. He found, among other things, that the Conservatives were strongest in the rural areas, and that the Liberal and N.D.P. vote was positively correlated with the size of the community. The Prairies and the Maritimes felt it prudent to remain with the government. The traditional religious vote tended to conform to past trends. This was less true of Quebec, where the presence of the Social Credit Party weakened the Liberal strength among Roman Catholics.

In another article in the same collection Mildred A. Schwartz is concerned with political behaviour and ethnic origin. Based on material obtained on a foreign-born resident survey conducted in three federal ridings in Metropolitan Toronto prior to the 1962 general election, Schwartz puts foreward several hypotheses which remain to be tested. The various hypotheses fall into three categories:

(1) Participation is encouraged by exposure to a politicizing environment.

(2) Participation is encouraged where there is an immediate connection between politics and individual or group

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[38] Ibid.

interests.

(3) When Parties and their candidates actively seek to recruit supporters and to differentiate among themselves, there will be an encouragement of participation.[39]

In general Schwartz found that the foreign born ethnic vote tended to be against the governing Conservatives rather than for the Liberals or the N.D.P., not because of the Conservatives' immigration policy but due to the existing employment situation at the time of the survey.

Smith's study, notwithstanding, the only detailed investigation of an election in Toronto is another study of the Eglinton Riding in 1962 by Brian Land.[40] His study sparked interest in a contemporary political event but is becoming increasingly dated since it did not undertake any statistical analysis or draw any axiomatic conclusions about voting behaviour.

One of the outstanding historical studies of Canadian Federal voting behaviour is Peter Regenstreif's book, The Diefenbaker Interlude.[41] Evaluating interview and Canadian Institute Public Opinion Poll material for the five Diefenbaker

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[39]Mildred A. Schwartz, "Political Behaviour and Ethnic Origin", in Papers on the 1962 Election, ed. by John Meisel (Toronto: University of Toronto Press, 1968), pp. 253-71.

[40]Brian Land, Eglinton, The Election Study of a Federal Constituency (Toronto: Peter Martin Associates, 1965), p. 232.

[41]Peter Regenstreif, The Diefenbaker Interlude (Don Mills: Longmans Canada Ltd., 1965)

elections, Regenstreif concludes that there is a "relative absence of stable national group support underlying public commitments to the country's political parties."[42] This conclusion is the same as Alford's. Regenstreif cites traditional political cleavages like the ethnic-religious support of the French-Canadian Catholics for the Liberals and the Anglo-Saxon Protestant Canadians for the Conservatives. The N.D.P., with its urban working-class support, is purported to have a chance at becoming a major party. The rural-urban split of the Conservatives and Liberals is also alluded to by Regenstreif, as is the importance of having the support of particularly the Ottawa civil service and in general the Canadian "elite". Diefenbaker's meteoric fall from power is seen to have emanated from the loss of support of the above two influential groups.

In a study done by Grace Anderson of the federal election in Hamilton,[43] the religious variable was of overwhelming importance in determining voting behaviour. As has been the case generally across Canada, Catholics voted Liberal. This tendency was stronger the higher the rate of church attendance. Anglicans expressed a preference for the Conservatives. The voting preference of other Protestant denominations is as follows: "fifty per cent of the high attenders expressed a preference for the Conservative Party whereas among the low

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[42] Ibid., p. 169.

[43] G. Anderson, op. cit.

attenders the preference was as follows: twenty-one per cent Conservative and Social Credit, twenty-five per cent Liberal, twenty-five per cent N.D.P. and C.C.F.".[44]

Wallace Gagne and Peter Regenstreif collaborated in a 1965 study which attempted to ascertain N.D.P. support in Toronto, Hamilton, Sault Ste.Marie, and Vancouver.[45] The techniques used to gather information was the interview. Many conclusions of the study were in keeping with previous findings. For instance, it was found that "there is a greater propensity among Roman Catholics, Jews, and United Church-goers to vote Liberal, while Anglicans and Presbyterians are more likely to vote Conservative. Those who do not profess a religion tend to vote N.D.P."[46] Examination of the class variable indicates that the Liberal Party is attractive to the middle-class, as is the Conservative Party to a somewhat lesser extent. The N.D.P. attracts strong working-class support.

The class variable is overshadowed by the religious one except in the case of United Church members, among whom there is a significant difference between those in the working-class and the middle-class. Those from the middle-class tend to vote along religious lines e.g. Liberal or Conservative. The latter

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[44] Ibid., p. 33.

[45] Wallace Gagne and Peter Regenstreif, "Some Aspects of New Democratic Party Urban Support in 1965", The Canadian Journal of Economics and Political Science, XXXIII (November, 1967).

[46] Ibid., p. 530.

is the case with regular church goers. On the other hand the working class United Church adherents tend to vote N.D.P.

Supporters of the N.D.P. identified more strongly with it than did supporters of the other parties with their respective parties. The source of the N.D.P.'s growing support were urban workers who had formerly voted for Liberal Party candidates.

Another study which has attempted to find the interrelationship between socio-economic characteristics and electoral behaviour in Canada was done by Simmons.[47] Using the multiple regression technique he found in the riding of Middlesex East, that the N.D.P. was weak in rural areas, older sections of the city and the higher social class sections. The N.D.P. strength was among the foreign-born and Roman Catholics. The Conservatives were strong in rural areas and polls in which a large percentage of the population was elderly. Catholics, suburbanites, and foreign-born citizens were unlikely to vote Conservative.

On the other hand the Liberal vote was not well explained by socio-economic factors, since Liberal strength seemed to be evenly distributed among socio-economic variables.

John Wilson, subsequent to the 1964 by-elections in Waterloo South, found that the N.D.P. success was attributable

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[47]James W. Simmons, "Voting Behaviour and Socio-Economic Characteristics", Canadian Journal of Economics and Political Science, XXXIII (August, 1967).

mainly to class voting.[48] Information for the study was gathered by interview. While the evidence gathered indicated that class could become the principal influence upon Canada's electoral behaviour, however, it remains true that the largest proportion of the populace votes along religious and ethnic lines. Wilson further concluded that it was the workers who tended to vote on class lines, while the middle-class people aligned themselves along religious and ethnic divisions.

One of the first attempts to study the areal differentiation of rural voting behaviour patterns on a national scale was put forward by Bain and LaValle, who were interested in the regional nature of voting behaviour.[49] Subjecting socio-economic census data and 1965 federal election returns for fifty-seven non-metropolitan ridings in Eastern Canada to principal components and multiple discriminant analysis, Bain and LaValle found constituencies in this area fall into one of four electoral regions. Here an electoral region is an area internally homogeneous with respect to the factors influencing voting behaviour. Region-1 was predominately rural, Anglo-Saxon, and Protestant with a high percentage of the families earning less than $3,000 per year and a high proportion of the population over 50 years of age. This region was centred in the Maritimes and Southern Ontario and gives overwhelming

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[48] John Wilson, "Politics and Social Class in Canada: The Case of Waterloo South", Canadian Journal of Political Science, I (September, 1968).

[49] R. Bain and P. LaValle, op. cit.

support to the Progressive Conservative Party.

The French-Canadian half of New Brunswick and the frontier ridings of Northern Ontario formed a second region, which possessed a relatively prosperous primary resource economy and a slight majority of Anglo-Saxons vis-à-vis French-Canadians. The area supported the Liberal Party and fairly evenly divided its opposition votes between the New Democratic and Progressive Conservative Parties.

Region 3 and 4 were located in Quebec. Both tended to be Liberal. In Region 3 they were threatened by the Progressive Conservatives and in Region 4 by the Creditistes. Region 3 possessed a modest Anglo-Saxon Protestant core and a high percentage of the population earning less than $3,000 per year. Region 4, in east-central Quebec, is overwhelmingly rural French-Canadian and Roman Catholic, and the voting behaviour pattern is dominated by the Liberals with the major opposition coming from the Creditistes.

This discussion of Canadian voting behaviour studies leads to several important conclusions pertaining to sources of data, methods of analysis, and the actual behaviour of the Canadian voter. The Canadian Census, electoral returns, Canadian Institute of Public Opinion polls, empirical observations and voting survey questionnaires administered verbally and by mail have been the sources of data for voting behaviour studies. It would seem that the first three sources are most widely used. Political geographers have tended to make a copious use of the

first two. Data from the Canadian Census and electoral returns are collected for spatial units and consequently reflect spatial patterns. This spatial characteristic of the data is of primary importance to the geographer. In addition, the data are the most reliable data available.

Conversely, political scientists tend to use the interview technique to collect data. Gagne and Regenstreif[50] in their study of the N.D.P. support in Toronto, Hamilton, Sault Ste.Marie, and Vancouver used this technique; as did Anderson[51] in her ethnic-religious study of Hamilton, and Jewett[52] in her study of N.D.P. support in the ridings of Peterborough and Niagara Falls. Some political scientists, like Meisel,[53] use this technique as well as drawing a great deal of data from the Canadian Census and the electoral returns. However, such use of multiple data sources is uncommon.

The decision to use one source, as opposed to another, seems very much influenced by one's discipline background. To make a definitive statement, elevating one source above others would amount to academic chauvinism. But on the heels of such relativism it must be quickly added that most excellent

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[50] Gagne and Regenstreif, op. cit.

[51] G. Anderson, op. cit.

[52] P. Jewett, op. cit.

[53] John Meisel, "Religious Affiliation and Electoral Behaviour: A Case Study", Voting in Canada, ed. by John C. Courtney.

sources of data for electoral studies in Canada are the Canadian Census and electoral returns. They provide cheap, reliable, universally accessible data. This is in sharp contrast to the rigor that must be suffered collecting data through voting surveys. If the survey is administered through the mail the number of responses is usually very low, and if by interviewing, the cost and time expended are prohibitive. The foregoing comments explain why the sources of data for this study were the Canadian Census and Federal Election returns. The 1961 Census provided socio-economic information; while the Federal returns supplied the total number of votes received by each party.

A quick survey of the references cited in this section also reveals a trend in the methodology used in analysing Canadian voting behaviour. Succinctly stated, this trend is from the simple to the more complex. Work in the 1950's and early sixties employed simple methods of analysis like the percentage frequency table[54] which depended upon a great deal of empirical interpretation.

More sophisticated statistical methods of analysis are now being employed, in an attempt to evaluate interrelationships in a more definitive manner. Examples of the new methodology are to be found in the work of Simmons[55] and Bain and

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[54]This is the favourite method of analysis of the Canadian Institute of Public Opinion and consequently was used heavily by authors such as S. Peter Regenstreif, who depended heavily on this institution for their raw material.

[55]Simmons, op. cit.

LaValle.[56] The former used the multiple regression techniques to analyse voting behaviour in the Middlesex East Federal Riding in the 1965 Federal Election. Investigating socio-economic regionalization as an explanation of voting behaviour in Eastern Non-Metropolitan Canada for the same election, Bain and LaValle used to advantage principal components analysis, multiple discriminant analysis and probability computations. Similarly, in order to make precise statements about the nature of the electorate in Toronto and account for their voting habits, rigorous statistical analysis has been utilized. The bulwarks of such analysis has been principal components, multiple discriminant, and multiple regression techniques.

From the review of literature certain basic hypotheses emerge. Some like regional bias and the rural-urban dichotomy cannot be applied to the area under study. Drawing upon the literature it would seem that urban electoral behaviour can best be understood in terms of class, ethnic, and religious variables. Class on a national level does not yet seem to be a significant determinant of voting behaviour. However, this is not true in the urban environment. Here working class people, especially members of the more liberal Protestant denominations vote on a class basis and consequently support the New Democratic Party. The middle-class does not seem to vote along class lines and tends to vote along ethnic and religious lines.

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[56] R. Bain and P. LaValle, op. cit.

The ethnic and religious variables explain the greatest proportion of Canada's voting habits. Anglo-Saxons tend to vote Conservative. This is especially so if they are members of the Anglican or Presbyterian Churches. If they are members of the United Church, they are a little more likely to vote Liberal than Conservative. French-Canadians, especially outside of Quebec, show overwhelming support for the Liberal Party. The margin of support in Quebec is not as startling because third parties, e.g. the Creditiste tend to siphon off what would be normally Liberal votes. Roman Catholics also have a great affinity for the Liberal Party.

The great diversity that is Canada has created a national voting behaviour that in manifestation and motivation is a collage of pluralism. But as Canada develops political maturity it is felt that class voting, a more sophisticated political alignment than Canada has traditionally experienced, will gain ascendency throughout the nation. The nucleus of this transformation will be the cities.

## 2.5 Hypothetical Factors Controlling Voting Behaviour in Toronto

If class voting is to become more widespread throughout Canada, as Wilson[57] suggests, it should have reached a high level of maturity in Toronto.

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[57]John Wilson, op. cit.

Unfortunately the studies that might have given insights into Toronto's voting behaviour have not been done. General works by Beck,[58] Engelmann and Schwartz,[59] and Meisel[60] and others treat specific urban areas, even those as important as Toronto, only fleetingly. Of the three studies by Smith,[61] Land,[62] and Gagne and Regenstreif,[63] that have been grounded in Toronto, only the last attempted to formulate precise theorems. However, the size of their Toronto sample (401 people) was a limiting factor and blurred their conclusions about the city.

If, on one hand, the lack of voting behaviour dealing with Toronto is to be bemoaned, it can also serve as an incentive. The unexplored vistas of Toronto await the creative mind. All that needs to be done is to formulate and test

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[58] J. Murray Beck, Pendulum of Power: Canada's Federal Elections (Scarborough: Prentice-Hall of Canada, Ltd., 1968)

[59] F. C. Engelmann and M. A. Schwartz, Political Parties and the Canadian Social Structure (Scarborough, Ontario: Prentice-Hall of Canada Ltd., 1967)

[60] This includes Meisel's own book on the 1957 General Election, The Canadian General Election of 1957, and the one he edited, Papers on the 1962 Election. Although the latter book contains many in depth articles concerned with specific questions and geographical areas, it contains only one rather traditional and nebulous contribution about Toronto, and even this deals with only one riding.

[61] Denis Smith, op. cit.

[62] Brian Land, op. cit.

[63] W. Gagne and S. Peter Regenstreif, op. cit.

hypotheses which will account for Toronto's voting behaviour. By doing just that, this thesis, it is hoped, will be a modest but important contribution to Canadian voting behaviour analysis.

Based on what is known about voting behaviour in other parts of Canada and from what is known about the spatial variation of socio-economic variables in Toronto, it is reasonable to combine both avenues of knowledge and forth the following hypotheses that may explain Toronto's electoral behaviour:

(1) Ethnic areas of the City of Toronto, like the West End and York with their high proportion of Italians, will probably support the Liberal Party, as will Forest Hill and the southwest, east of High Park. This hypothesis springs from the widely held belief that the ethnic vote (cast by those who do not make-up the founding races) is generally and in some cases overwhelmingly Liberal. Simmons,[64] in his Middlesex Riding study, found this to be true. Schwartz[65] in an exploratory manner found the same was true of some of the ethnic areas of Toronto.

(2) According to studies by Gagne and Regenstreif,[66] Wilson,[67] and Bain and LaValle[68] the British population centred in the eastern portion of the city proper and its inner suburbs could be expected to divide their support between the N.D.P. and the Progressive Conservatives. Wilson[69] found that the working class British (Protestants) would vote on class lines and thus support the N.D.P. Conversely British descendants, who belong to the middle class tend to vote along religious lines.

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[64]Simmons, op. cit.

[65]Schwartz, op. cit.

[66]Gagne and Regenstreif, op. cit.

[67]Wilson, op. cit.

[68]Bain and LaValle, op. cit.

[69]Wilson, op. cit.

(3) Drawing upon Meisel's Kingston study[70] and supportive work done by Anderson[71] and Wilson,[72] one might hypothesize that voting behaviour in Toronto can be accounted for in part by religious affiliation. For instance Roman Catholics would be expected to vote Liberal, while Protestant adherents can be depended upon to divide their support between the N.D.P. and the Conservative Party. United Church affiliates will support the N.D.P. to a greater extent than will the more conservative Anglican and Presbyterian members.[73] The latter dividing their support between the Liberal and Progressive Conservative Parties.

(4) Based on the findings of Regenstreif,[74] Gagne and Regenstreif,[75] and Wilson,[76] it would be safe to assume that working class people would show a greater proclivity for the N.D.P. than their high income contemporaries. The two high income corridors would divide their support between the Conservatives and the Liberals, showing a slight favouritism towards the latter.[77]

## 2.6 Summary

The hypothesized relationships between voting behaviour and socio-economic parameters should be reflected in the internal regional structure of the city. If one were to construct a multivariate socio-economic regionalization of the city, the spatial structure of this regionalization should be similar

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[70] John Meisel, "Religious Affiliation and Electoral Behaviour: A Case Study", Voting in Canada, ed. by John C. Courtney.

[71] Anderson, op. cit.

[72] Wilson, op. cit.

[73] Wilson, op. cit.

[74] Peter Regenstreif, The Diefenbaker Interlude (Don Mills: Longmans Canada Ltd., 1965).

[75] Gagne and Regenstreif, op. cit.

[76] Wilson, op. cit.

[77] Peter Regenstreif, The Diefenbaker Interlude (Don Mills: Longmans Canada Ltd., 1965), p. 159.

in nature to the spatial structure of the city's electoral behaviour. Once these broad regional patterns are delineated a multivariate model may be constructed to evaluate the degree of areal association between each of the voting behaviour parameters and a linear combination of socio-economic variance. This second step will provide the basis for a series of predictor models which could account for voting behaviour gradients across the city.

# CHAPTER III

## 3.0 THEORETICAL CONSIDERATION

### 3.1 Approaches to Hypotheses Evaluation

Since the spatial variation of Toronto's electoral behaviour has been hypothesized to be a multivariate function of the city's spatial socio-economic structure, Toronto's intraurban voting behaviour patterns should be spatially similar to the socio-economic regional structure of the city. If voting behaviour patterns are in fact areally associated with the regional socio-economic structure of the city then one would expect to find a high degree of spatial auto-correlation[1] between voting behaviour patterns and socio-economic parameters, within each of Toronto's socio-economic regional units. If one is to construct a model accounting for the single variate aspect of the voting behaviour patterns in terms of a linear combination of socio-economic predictor

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[1]Spatial autocorrelation results from the fact that observations of a single variate may be influenced by or may not be independent of observations made on that variate from adjacent spatial sampling units. One assumption of correlation analysis is that observation made on a single variate be independent of other observations on that variate both in time and space. Thus spatial autocorrelation is an indicator of contiguity or neighbourhood effects on measurements of variables which should be differentiated from other influences of other variables.

variants, one must circumvent this regional autocorrelation effect by designing a stratified random sample of the electoral structure of the city. This requires the following: (1) a precise socio-economic multivariate regionalization of the city; (2) an evaluation of the socio-economic regionalization as a reflection of voting behaviour patterns; (3) the modification of the socio-economic regionalization in terms of voting behaviour parameters designed to produce a portrait of the regional spatial nature of voting behaviour in Toronto; (4) the construction of a stratified random sample of electoral units designed to filter out autocorrelation effects based on the regional analysis described in the preceeding step; (5) based on this random sample a multivariate regression model could be derived which would assess the degree of areal association[2] between any of the voting behaviour parameters and a linear combination of socio-economic predicator variates. This approach to the evaluation of the hypothesized relationships between the voting behaviour parameters and socio-economic traits of the city should provide the following insights: (1) it should display the overall intraurban areal differentiation[3] of voting behaviour structures in terms of a socio-economic

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[2]Areal association is the degree of spatial covariation between two or more variants.

[3]Areal differentiation is the process of dividing space into mutually exclusive areal units which exhibit a high degree of internal homogeneity with respect to a given set of criteria. Areal differentiation is the process of classifying space into regional units and serves as the basis for an analysis of interregional differences with respect to a given set of criteria.

regionalization of the city which would suggest that on a broad scale voting behaviour is a function of the socio-economic structure of the city; (2) utilizing the socio-economic regionalization as a basis for the derivation of a regionally stratified random sample of electoral units the degree of areal association between each of the voting behaviour traits and a multivariate combination of socio-economic predictor variables may be obtained.

## 3.2 Indices of Electoral Behaviour

Electoral behaviour in this study will be assessed on the basis of partisan vote and voter turnout, a crude index of voter interest. Although it is often ignored the latter variable is even more important than the inclination to vote for a certain party. In order for the partisan decision to have any meaning it must be accompanied by the act of voting. If a given set of socio-economic variables tend to favourably predispose a segment of the populace towards a given party, as well as induce a poor voter turnout among this group, this will be very significant for the party in question. In an attempt to better understand the forces that produce the apathetic non-voter, this thesis will relate the non-voter to a given set of socio-economic variables.

These same variables will be used in an analysis of party vote. In Toronto only the Liberal, Progressive Conservative, and New Democratic Parties receive significant support.

It is for this reason that regional parties, whose areas of support are in other parts of the country, have not been dealt with in this paper.[4]

Dependent variable data for this study was obtained from the Chief Electorial Officer of Canada.[5] The unit of inquiry was the individual polling station. However, since polling stations are more numerous than the socio-economic data unit, the former were collapsed to produce one unit that could serve as a base for both dependent and independent variable data.

### 3.3 Socio-Economic Variables

The dependent variables of Liberal, Progressive Conservative, and New Democratic Party vote, as well as voter turnout are analysed in relation to twenty-four independent socio-economic variables. The 1961 Census of Canada supplied the needed socio-economic information.[6] The smallest unit area for which these variables were collected is the census tract. The corresponding unit area for voting results is the polling station. However, as previously mentioned, these units are not the same in area. This meant that a boundary common to both sets of data was necessary. Fortunately polling

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[4]This is particularly true of the Social Credit -- Creditiste Party.

[5]Chief Electoral Officer, Report of the Chief Electoral Officer, Twenty-Eighth General Election 1968, (Ottawa: Queen's Printer, 1969).

[6]Dominion Bureau of Statistics, "Population and Housing Characteristics by Census Tracts", 1961 Census of Canada, Catalogue: 95, 530, (Ottawa: Queen's Printer).

stations were easily collapsed to conform to census tracts. The number of polling stations required to equal an area commensurate with that of a census tract averaged from 20 to 25. Once the polling station boundaries were collapsed the new magna-polling station boundary almost invariably equalled that of the census tract. There were very few exceptions to this rule. For the distribution of census tracts and census-electoral tracts see Figure 2.

In this study the independent variables fall into three basic categories: ethnic origin, religious affiliation, and class affiliation. Class affiliation can be analysed in terms of upper income (wealthy), middle income (working class), and low income (poor). Upper income areas are those that have high factor loadings for the following variables: per cent with one or more years of university, per cent of the labour force in managerial, professional, and technical occupations, and per cent of the male labour force earning $10,000 or more. Middle income areas are those with high factor loadings for per cent of the population with one or more years of elementary school, per cent of the labour force employed in transportation, communication, primary, crafts, production process activities, and per cent of the labour force earning $4,000 or less a year. Low income areas have high eigenvectors for per cent of households with exclusive use of a flush toilet (a poverty index), per cent of the labour force looking for work, and per cent of the labour force earning $4,000 or less. The

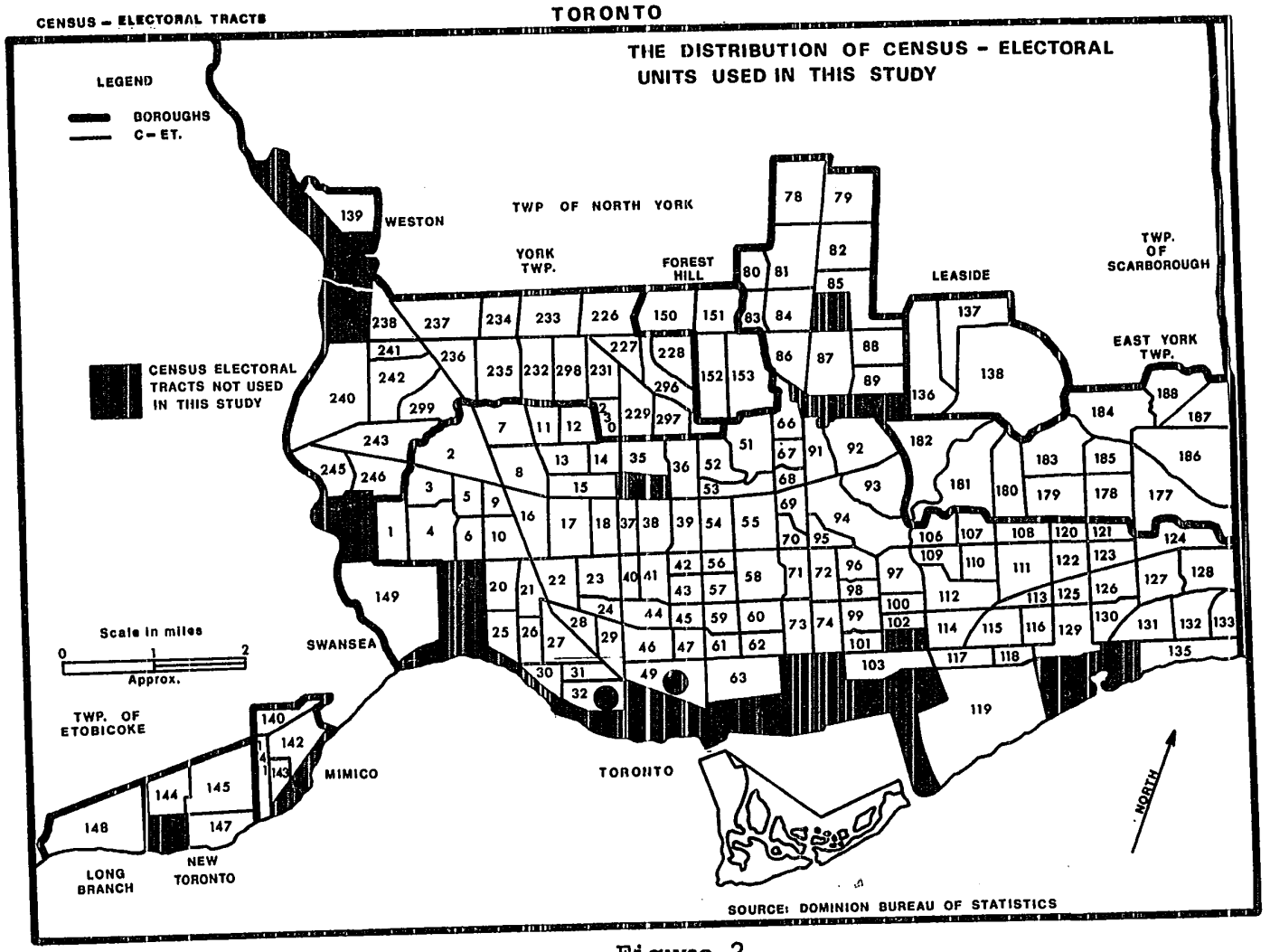
CENSUS – ELECTORAL TRACTS
TORONTO
THE DISTRIBUTION OF CENSUS – ELECTORAL UNITS USED IN THIS STUDY
LEGEND
BOROUGHS
C – ET.
CENSUS ELECTORAL TRACTS NOT USED IN THIS STUDY
Scale in miles
0 1 2
Approx.
WESTON
TWP OF NORTH YORK
YORK TWP.
FOREST HILL
LEASIDE
TWP. OF SCARBOROUGH
EAST YORK TWP.
SWANSEA
TWP. OF ETOBICOKE
MIMICO
TORONTO
LONG BRANCH
NEW TORONTO
NORTH
SOURCE: DOMINION BUREAU OF STATISTICS

Figure 2

influence of ethnic variables on voting was measured by calculating the percentage of the population in each unit area that was British, French (mostly French-Canadian), German-Dutch-Scandinavian, Italian, and Polish-Russian-Ukrainian. Religious variables were per cent Anglican-Presbyterian, Greek Orthodox-Ukrainian Catholic, Jewish, Roman Catholic, and United Church. The influence of socio-economic class affiliation on voting behaviour was judged by the following educational and family status variables: per cent of the population with an educational level of one or more years of elementary school; per cent with three to five years of high school; per cent with one or more years of university; per cent of persons per family compared to the average; and per cent of households with the exclusive use of flush toilets. The lack of flush toilets serves as a strong poverty index.

Occupational and income variables used in this study, which reflect class affiliation are: per cent of the labour force looking for work; per cent self-employed; per cent engaged in managerial, professional, and technical positions; per cent of the labour force employed in sales, service, recreation, and clerical jobs; per cent of the labour force employed in transport,communication, primary, crafts, production process, and related industries; per cent of the labour force earning less than $4,000 per year; and per cent of the male labour force earning more than $10,000 per year. Other variables are: percentage of the population fifty-five years of age and older

which is an indication of an elderly population, and per cent of the population that immigrated to Canada between 1946 and 1961 which is a measure of the proportion of New Canadians in the area. As was indicated in the review of the literature, designation of the independent variables as either ethnic-religious or class brings to mind that this dichotomy seems to be at the core of understanding Canada's electoral behaviour.

## 3.4 Data Modification Procedure

Before parametric statistical tests can be applied to the data, it must be determined whether or not the sample data fit a normal curve. An assumption that it does is inherent in the statistical techniques that are to be employed in this paper.[7]

To give a preliminary indication of which variables (both independent and dependent) are normally distributed histograms were constructed.[8] From the histograms the distribution curve of the data can be easily constructed. In each case the observed distribution is then compared to the distribution that would be obtained if the data were normally distributed.

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[7]S. Gregory, Statistical Methods and the Geographer, (2nd ed.; Don Mills, Ontario: Longmans Canada Ltd., 1968), pp. 45-49.

[8]These were done by the computer using Programme BMD07D, "Description of Strata with Histograms", in W. J. Dixon, ed., BMD Biomedical Computer Programs, (Los Angeles: University of California Press, 1970).

Rather than construct actual curves, use is made of a process, based on the principle that "the normal curve is a bell shaped curve centred on the mean and spread out according to the pattern of probability expectation. . . , which can be made into a straight line by suitable adjustment of the scale" using a fractile histogram.[9] This theoretical cumulative normal distribution of the population can then be compared to the actual cumulative distribution. If there is sufficient similarity between the two distributions the actual is said to be normal.

This general theory is the basis for the Kolmogorov-Smirnov one-sample test.[10] Application of the test starts with the null hypothesis that there is no significant difference between the observed and theoretical population frequency distribution curves. Both curves are plotted on fractile paper and the point at which they show the greatest divergence is determined. If this difference is more than is likely by chance the null hypothesis will be rejected and the set of observed data under consideration will be held to be not normally distributed.

Application of the Kolmogorov-Smirnov test indicated that eleven of the twenty-eight variables used in this study were not normally distributed. For a list of these variables see Table 1. To allow for analysis of the non-normally

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[9] J. P. Cole and C. A. M. King, Quantitative Geography, Techniques and Theories in Geography, (London: John Wiley & Sons Ltd., 1968), p. 107.

[10] For a complete Theoretical discussion of the Kolmogorov-Smirnov test refer to Sidney Siegel, Nonparametric Statistics for the Behavioural Sciences (New York: McGraw-Hill Book Co., Inc., 1956), pp. 47-48.

TABLE 1

NORMALITY OF SOCIO-ECONOMIC AND VOTING VARIABLES*

| Variable | Divergence of the Distribution or Maximum Deviation (D) | Level of Significance for D at .01 | Null Hypothesis Accepted or Rejected | Method Used to Transform Data |
|---|---|---|---|---|
| 1. % 55 years and older | .13 | .14 | Accepted | |
| 2. % immigrated to Canada between 1946 and 1961 | .08 | | Accepted | |
| 3. % British | .08 | | Accepted | |
| 4. % French-Canadian | .15 | | Rejected | Square Root |
| 5. % German-Dutch-Scandinavian | .10 | | Accepted | |
| 6. % Italian | .30 | | Rejected | Logarithm |
| 7. % Polish-Russian-Ukrainian | .25 | | Rejected | Square Root |
| 8. % Anglican-Presbyterian | .08 | | Accepted | |
| 9. % Greek Orthodox and Ukrainian | .12 | | Accepted | |
| 10. % Jewish | .24 | | Rejected | Square Root |
| 11. % Roman Catholic | .41 | | Rejected | Logarithm |

TABLE 1 ---Continued

| Variable | Divergence of the Distribution or Maximum Deviation (D) | Level of Significance for D at .01 | Null Hypothesis Accepted or Rejected | Method Used to Transform Data |
|---|---|---|---|---|
| 12. % United Church | .13 | | Accepted | |
| 13. % 1 or more years elementary school | .21 | | Rejected | Square Root |
| 14. % 3 - 5 years of high school | .09 | | Accepted | |
| 15. % 1 or more years of university | .08 | | Accepted | |
| 16. % persons per family compared to the average | .10 | | Accepted | |
| 17. % of households with exclusive use of flush toilet | .28 | | Rejected | Square Root |
| 18. % of the labour force looking for work | .10 | | Accepted | |
| 19. % of the labour force self-employed | .10 | | Accepted | |
| 20. % of the labour force managerial, professional, and technical | .11 | | Accepted | |

TABLE 1 ---Continued

| Variable | Divergence of the Distribution or Maximum Deviation (D) | Level of Significance for D at .01 | Null Hypothesis Accepted or Rejected | Method Used to Transform Data |
|---|---|---|---|---|
| 21. % of the labour force, clerical, sales, service, and recreation | .09 | | Accepted | |
| 22. % of the labour force in transport, communication, primary, crafts, production process, etc. | .25 | | Rejected | Square Root |
| 23. % of the labour force earning $4,000 | .24 | | Rejected | Square Root |
| 24. % of the male labour force earning $10,000 or more | .45 | | Rejected | Square Root |
| 25. % Liberal Vote | .13 | | Accepted | |
| 26. % Progressive Conservative Vote | .10 | | Accepted | |
| 27. % New Democratic Party Vote | .13 | | Accepted | |
| 28. % of the Electorate that voted | .29 | | Rejected | Logarithm |

* All variables used in this study were tested for normality.

distributed data it must be transformed, that is, "changed mathematically into a form that more closely approximates the normal curve."[11] This was accomplished by either transforming the data into logarithms or into square roots depending on the characteristics of individual distributions. (See Table 1)

## 3.5 Factoral Ecology

Since it was hypothesized that voting behaviour patterns are reflected by the intraurban regional socio-economic structure of the city, it is necessary to ascertain the regional socio-economic structure of the city based on an objective assessment of various socio-economic variables. This may be accomplished by subjecting measurements of the socio-economic traits for each electoral unit to a principal components analysis.

The use of principal components analysis in discovering the regional structures of areal units has been summarized concisely by King. The principal components analysis reduces the large number of diverse socio-economic variables to a small number of composite variables that serve as the criteria for an objective socio-economic regionalization.[12] The principal components analysis:

> . . . essentially involves an orthogonal transformation of a set of variables ($X_1$, $X_2$, ..., $X_m$) into a new set ($Y_1$, $Y_2$, ..., $Y_m$) . . . the transformation results in ($Y_1$,$Y_2$,...,$Y_m$)

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[11] S. Gregory, op. cit., p. 50.

[12] Leslie J. King, Statistical Analysis in Geography, (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1969), p. 165.

> being uncorrelated one with another, notwithstanding the fact that the original variables ($X_1$, $X_2$, ..., $X_m$) may have been quite highly intercorrelated . . . there are as many components derived as there are variables, and the original total variance associated with ($X_1$, $X_2$, ..., $X_m$) is preserved exactly in the total variance of the components ($Y_1$, $Y_2$, ..., $Y_m$). The solution, moreover, is such that $Y_1$ accounts for the highest proportion of this total variance, $Y_2$ for the second largest share, and so on.[13]

Interpretation of the principal components is facilitated by eigenvalues and eigenvectors.

> The eigenvalues and corresponding eigenvectors of C are found, solving the system $(C-\lambda 1)\ b = 0$
> Let $\lambda_j$ be the $j^{th}$ eigenvalue and
> $B = (b_{kj})$ the matrix whose columns are the corresponding eigenvectors.[14]

Based on the components analysis, a number of socio-economic regions were derived for Toronto and its Inner Suburbs. Although based on the components, the socio-economic regions did not simply echo components boundaries. Interpretation of the components was necessary. To accomplish this the component eigenvectors and the spatial variation of the components were scrutinized. Maps showing the spatial variation of the components were arrived at by mapping the component scores for each census electoral tract.

The computational procedure for determining rank order of each standardized case ordered by size of each component is

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[13] Ibid., p. 166.

[14] These computations are performed by BMD01M, "Principal Components Analysis", in W. J. Dixon, op. cit. pp. 152-53.

as follows:

Rank order of each standardized case.

For m = 1, 2, ..., p + q (eigenvectors)

$$R_{mc_1} = \underset{i}{Max}\left[\sum_{k=1}^{p+q}(w_{ik})(b_{km})\right],\ i=1,2,\ldots,n$$

$$R_{mc_2} = \underset{i'}{Max}\left[\sum_{k=1}^{p+q}(w_{ik})(b_{km})\right],\ i'=n-1 \text{ remaining } i\text{-values}$$

$$R_{mc_n} = \underset{i}{Min}\left[\sum_{k=1}^{p+q}(w_{ik})(b_{km})\right],\ i=1,2,\ldots,n$$

where $c_\ell$ = the case index (number) having $\ell^{th}$ rank.[15]

The actual nature of the components and of the eight socio-economic regions will be discussed in Chapter IV. Once the socio-economic regions have been derived and mapped, the next problem is to ascertain whether or not they do in fact reflect voting behaviour trends.

## 3.6 Multiple Discriminant Analysis

In order to assess the socio-economic regionalization based on the principal components analysis with respect to voting behaviour patterns the following steps are required: (1) the assessment of the socio-economic regionalization without resort to voting behaviour trends in order to maximize the internal homogeneity with each of the delineated regions;

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[15]These computations are performed by BMD01M, "Principal Components Analysis", in W. J. Dixon, op. cit., pp. 152-53.

(2) through an examination of the coefficient of the linear discriminant functions, an attempt should be made to isolate the most important variables leading to the socio-economic areal differentiation of Toronto;

(3) an examination of the individual differences between every possible pair of regions would provide a basis for the combination of regional units into single entities where the bi-regional differences are found to be insignificant;

(4) individual cases which were misclassified in the original analysis may be reclassified based on the results of the discriminant analysis;

(5) the improved socio-economic regionalization of electoral units may be then evaluated as an indicator of voting behaviour trends by taking the regional alignment of electoral units derived in the preceding section and subjecting it to another discriminant analysis using only voting behaviour traits as discriminant variables;

(6) the stability of group differences may be assessed through an examination of an F-test table describing the probable difference of any pair of regional grouping based on voting behaviour structures;

(7) individual electoral units deviation or misclassification may be rectified through an application of the computations of the probability of belonging to each group where the group exhibiting the highest probability of membership will serve as the final regional assignment of the electoral unit;

(8) an overall assessment of the socio-economic regionalization as a means of reflecting spatial trends in voting behaviour may be obtained by examining the percentage of unreclassified units in the second discriminant analysis of the overall strength of the socio-economic regionalization as a means of determining voting behaviour patterns will be indicated in the total $D^2$ statistic found in the discriminant analysis.

To assess the socio-economic regionalization of Toronto data describing such characteristics of each census-electoral tract was grouped according to the socio-economic region associated with each riding, and this grouping was then subjected to a multiple discriminant analysis. "In a multiple discriminant analysis, one tests the null hypothesis that the mean values for each variable are the same in all of the groups, indicating that the groups are not significantly different from each other."[16]

At each step of the procedure the variables are divided into two disjoint sets; those included in the discriminant functions and those not included. Assume for simplicity that the first r are included.

$$\text{Let } W = \begin{bmatrix} W_{11} & W_{12} \\ W_{21} & W_{22} \end{bmatrix} \text{ and } T = \begin{bmatrix} T_{11} & T_{12} \\ T_{21} & T_{22} \end{bmatrix}$$

where $W_{11}$ and $T_{11}$ are $r \times r$.

[16] Robert Bain and Placido LaValle, op. cit., p. 16.

$$\text{Let } A = \begin{bmatrix} W_{11}^{-1} & W_{11}^{-1} W_{12} \\ W_{21} W_{11}^{-1} & W_{22} - W_{21} W_{11}^{-1} W_{12} \end{bmatrix} = \{a_{ij}\}$$

$$\text{and } B = \begin{bmatrix} T_{11}^{-1} & T_{11}^{-1} T_{12} \\ T_{21} T_{11}^{-1} & T_{22} - T_{21} T_{11}^{-1} T_{12} \end{bmatrix} = \{b_{ij}\}$$

The following statistics are computed:

a) Coefficients and constants terms of the discriminant functions

$$c_{ki} = (n-g) \sum_{j=1}^{r} \bar{x}_{kj} a_{ij} \qquad \begin{matrix} i = 1, 2, \ldots, r \\ k = 1, 2, \ldots, g \end{matrix}$$

$$c_{ko} = \frac{1}{2} \sum_{i=1}^{r} c_{ki} \bar{x}_{ki} \qquad k = 1, 2, \ldots, g$$

b) The square of the Mahalanobi's distance between each pair of groups

$$D_{ml} = \sum_{i=1}^{r} (c_{mi} - c_{li})(\bar{x}_{mi} - \bar{x}_{li}) \quad m, l = 1, \ldots, g$$

c) The F values for testing differences between each pair of groups

$$F_{ml} = \frac{(n-g-r+1) n_m n_l}{r(n-g)(n_m + n_l)} D_{ml} \quad m, l = 1, \ldots, g$$

with r and n - q - r + 1 degrees of freedom

d) F values for each variable
(1) If variable has been entered

$$F_j = \frac{a_{jj} - b_{jj}}{b_{jj}} \quad \frac{n-r-g+1}{g-1}$$

with degrees of freedom g - 1 and n - r - g + 1

(2) If variable j has been entered

$$F_j = \frac{b_{jj} - a_{jj}}{a_{jj}} \cdot \frac{n - r - g}{g - 1}$$

with degrees of freedom g - 1 and n - g - r

Under the usual normality assumptions these are the likelihood ratio tests of the equality over all groups of the conditional distribution of variable j given the (remaining) entered variables.

e) U statistic to test equality of group means

$$U = \text{Det}(W_{11}) / \text{Det}(T_{11})$$

with degrees of freedom (r, g - 1, n - g)

f) Approximate F statistic to test equality of group means

$$F = \frac{1 - U^{1/s}}{U^{1/s}} \cdot \frac{ms + 1 - rq/2}{rq}$$

where $s = \sqrt{\frac{r^2q^2 - 4}{r^2 + q^2 - 5}}$, if $r^2 + q^2 \neq 5$

$s = 1$, if $r^2 + q^2 = 5$

$$m = n - \frac{r + q + 3}{2}$$

$$q = g - 1$$

its degrees of freedom are rq and ms + 1 - rq/ 2. If either r or q is 1 or 2, the approximation is exact.[17]

---

[17] These computations are done by Programme BMD07M, "Stepwise Discriminant Analysis", in W. J. Dixon, op. cit. pp. 214g - 214j.

## 3.7 Stratified Proportional Regional Random Sample

Once regional trends in voting behaviour and socio-economic traits have been evaluated, an attempt will be made to assess the degree of areal association between each of the voting behaviour variables and the various socio-economic variables across the entire city.

The best means of explaining the nonregional spatial variation of voting behaviour is to use a multiple regression model. Prerequisite to such an exercise is to employ an effective sampling procedure to eliminate spatial autocorrelation effects.

To overcome this problem of "autocorrelation" a stratified proportional regional random sample of the census-electoral tracts was drawn. The sample was proportionally based on the socio-economic regionalization of the area under study, subject to the restriction that no two ridings be taken from the same group if they were contiguous. In this fashion a sample of 35 out of 173 tracts was drawn. See Table 2 for a list of the tracts that made up the sample.

In order to account for the spatial variation of each individual voting behaviour trait in terms of a linear combination of socio-economic variables a multiple regression analysis will be employed. Electoral units selected by the random sampling procedure will be subjected to four multiple regression analyses, in an attempt to account for the four

TABLE 2

TRACTS THAT FORM THE STRATIFIED PROPORTIONAL REGIONAL RANDOM SAMPLE

| Region | Census-Electoral Tract |
|---|---|
| 1. Wealthy, mixed-ethnic | 138 |
| | 65 |
| | 149 |
| | 68 |
| | 85 |
| 2. British, Protestant, working or lower middle class | 243 |
| | 238 |
| | 187 |
| | 147 |
| | 122 |
| | 148 |
| | 108 |
| 3. Italian | 297 |
| | 54 |
| | 142 |
| | 145 |
| | 2 |
| | 40 |
| | 56 |
| 4. German-Dutch-Scandinavian | 237 |
| | 132 |
| 5. Mixed-ethnic | 140 |
| | 35 |
| | 27 |
| | 45 |
| | 17 |
| 6. French-Canadian, poor | 101 |
| | 62 |
| 7. High Income, non-ethnic, (Jewish) | 136 |
| | 92 |
| | 81 |
| 8. High Income, (British) | 84 |
| | 78 |
| | 186 |
| | 139 |

voting variables: Liberal, Progressive Conservative, New Democratic Party support, as well as voter turnout. To undertake the required computations the following theoretical considerations were necessary:

At each step in the stepwise regression procedure the variables $x_1, \ldots, x_p$ are divided into two disjoint sets:

$x_{i_1}, \ldots, x_{i_q}$ : The independent variables in the regression equation.

$x_{j_1}, \ldots, x_{j_r}$ : The remaining variables including the dependent variable $y = x_d$

For purposes of exposition, assume that $x_{i_1}, \ldots, x_{i_q}$ are the first q variables $x_1, \ldots, x_q$. The regression equation at a typical step then has the form

$$y = \alpha + \beta_1 x_1 + \ldots \beta_q x_q + \epsilon$$

Let

$$A = \begin{bmatrix} A_{11} & A_{12} \\ A_{21} & A_{22} \end{bmatrix} \text{ where } A_{11} \text{ is } q \times q$$

be a partition of the matrix A from Step 1; let

$$B = \begin{bmatrix} A_{11}^{-1} & A_{11}^{-1} A_{12} \\ A_{21} A_{11}^{-1} & A_{22} - A_{21} A_{11}^{-1} A_{12} \end{bmatrix}$$

let m = n - 1 if a zero regression intercept is not requested; and let m = n if it is requested. For each step in the stepwise procedure the following are computed and printed:

The residual degrees of freedom, sum of squares and mean square.

$$df = m - q, \quad SS = b_{dd}, \quad MS = SS / df$$

The regression degrees of freedom, sum of squares, mean square, and F value.

$$rdf = q \qquad RSS = a_{dd}^{-b}\, dd$$

$$RMS = RSS/rdf \qquad F = RMS/MS$$

The standard error of estimate and multiple correlation coefficient.

$$S = \sqrt{MS} \qquad R = \sqrt{RSS/a_{dd}}$$

For each independent variable $x_i$ in the regression equation, the following are computed and printed.

The regression coefficient, its standard error, and F value.

$$\beta_i = b_{id}, \quad S_i = b_{ii}^{1/2} S, \quad F_i = (\beta_i / S_i)^2$$

If a zero regression intercept is not requested, the intercept is computed.

$$\alpha = \sum_{i=1}^{q} \beta_i \bar{x}_i$$

For each independent variable $x_i$ <u>not</u> in the regression equation, the following are computed and printed:

The tolerance level, partial correlation, coefficient, and F value.

$$T_i = b_{ii}/a_{ii}, \quad R_i = \frac{b_{id}}{\sqrt{b_{ii}\, b_{dd}}}, \quad F_i = \frac{b_{id}^2 (m - q - 1)}{b_{ii}\, b_{dd} - b_{id}^2}$$

[18]

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[18] The mechanical work was performed by Programme BMD02R, "Stepwise Regression", in W. J. Dixon, <u>op. cit.</u>, pp. 233-57.

Based on the hypothesized relationships put forward in Chapter II, as modified by the regional analysis described earlier, the multiple regression studies will seek to provide a means of accounting for the spatial variation of each the electoral variable in terms of a small number of socio-economic predictor variables.

## 3.8 Summary

In this investigation an attempt will be made to assess regional trends in voting behaviour as they may reflect the socio-economic spatial structure of the city through the combined use of principal components analysis and multiple discriminant analysis. Once the regional trends are isolated a stratified random sample will be selected so that a multiple regression model may be utilized to explain the degree of areal association between each of the voting behaviour traits and various linear combinations of socio-economic variables. This combination of approaches should provide a portrait of the intraurban regional voting behaviour structure of Toronto, as well as a description of the factors promoting the spatial variation of individual voting behaviour traits.

# CHAPTER IV

## 4.0 ANALYTICAL FINDINGS

### 4.1 Voting Areas

An attempt was made to accomplish the following goals with respect to the 1968 voting areas: (1) to delineate a set of multifactor uniform regions depicting the socio-economic spatial structure of the city; (2) to examine the regional pattern of voting behaviour trends relative to this urban socio-economic spatial structure; (3) to derive a stratified random sample of census-electoral tracts composed of non-contiguous units which would serve as the basis for a series of regression models relating socio-economic traits to voting behaviour patterns.

The voting behaviour patterns for the city were mapped using census-electoral tracts as the basic unit. (See Figures 3 to 7.) Support for the Liberal Party is strongest in core areas of the city and Forest Hill; while the Tories' strength is concentrated in the north of Toronto and in Leaside. New Democratic Party support focuses on three nuclei: New Toronto, York, and the Lakeshore area of East York.

The number of votes accorded the three parties is unequal. The Liberal Party captured 47.9 per cent of the votes,

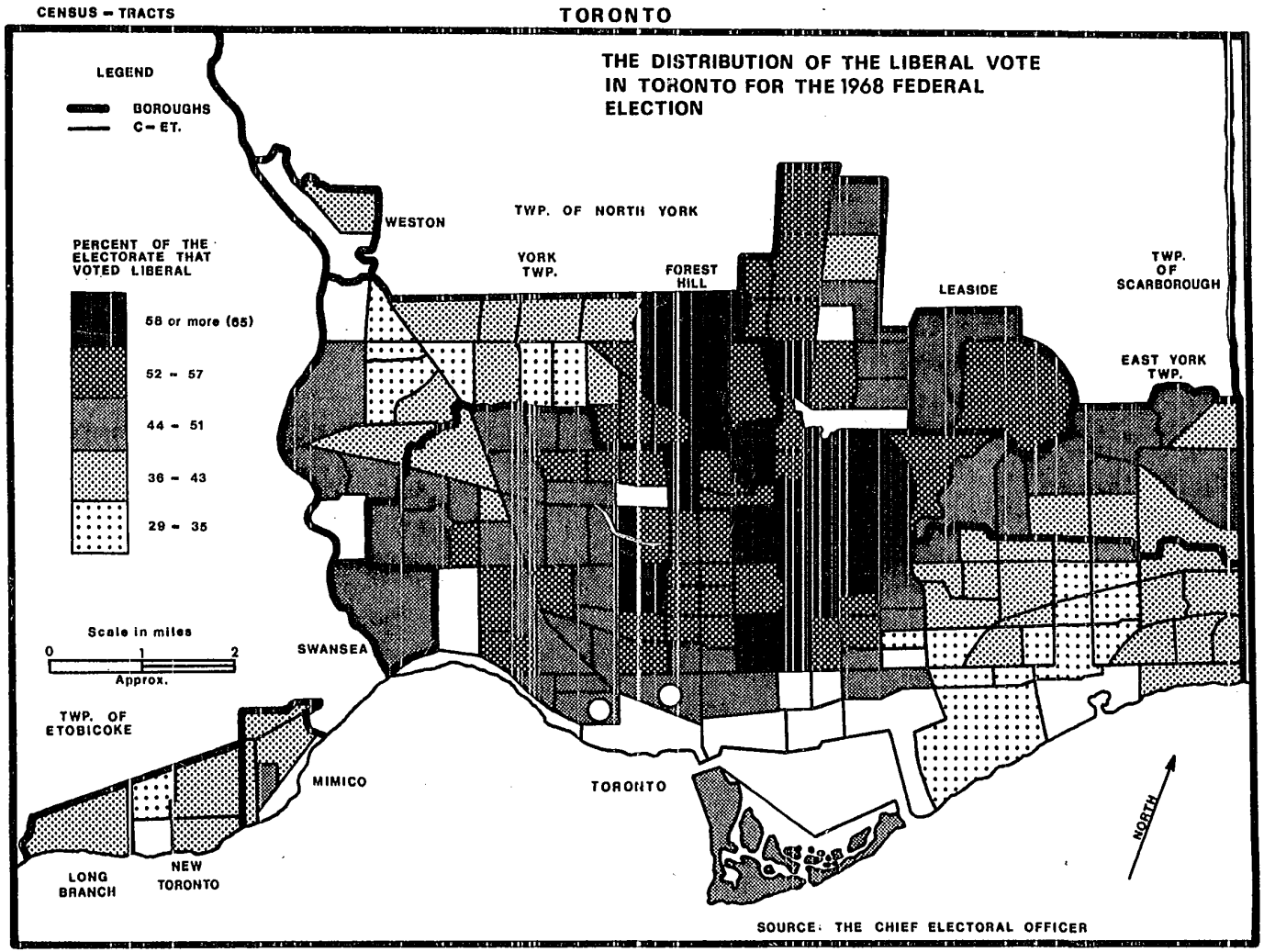
CENSUS – TRACTS
TORONTO
THE DISTRIBUTION OF THE LIBERAL VOTE IN TORONTO FOR THE 1968 FEDERAL ELECTION
LEGEND
BOROUGHS
C – ET.
PERCENT OF THE ELECTORATE THAT VOTED LIBERAL
58 or more (65)
52 – 57
44 – 51
36 – 43
29 – 35
Scale in miles
0 1 2
Approx.
WESTON
TWP. OF NORTH YORK
YORK TWP.
FOREST HILL
LEASIDE
TWP. OF SCARBOROUGH
EAST YORK TWP.
SWANSEA
TWP. OF ETOBICOKE
MIMICO
TORONTO
LONG BRANCH
NEW TORONTO
NORTH
SOURCE: THE CHIEF ELECTORAL OFFICER

Figure 3

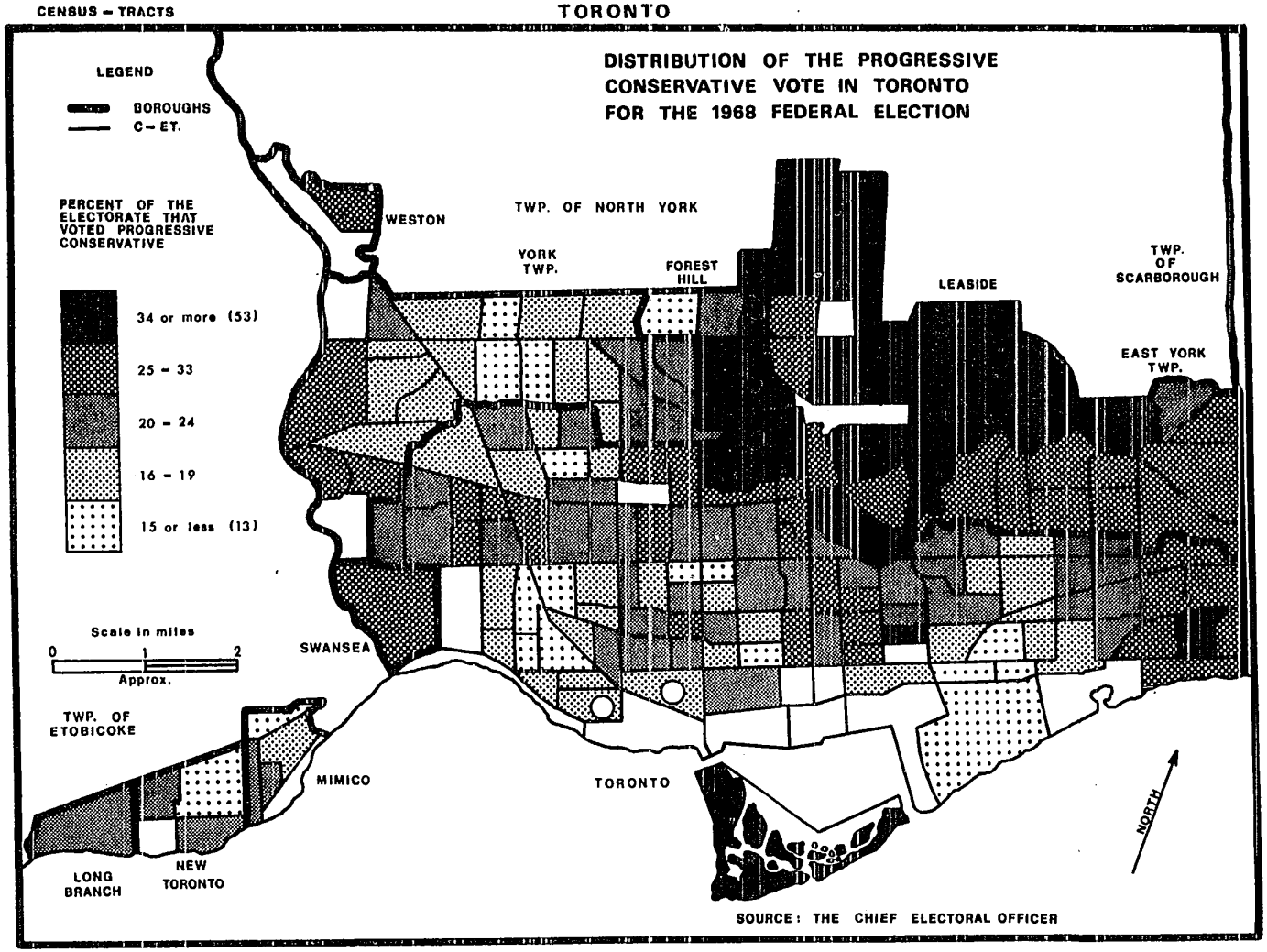
CENSUS – TRACTS
TORONTO
DISTRIBUTION OF THE PROGRESSIVE CONSERVATIVE VOTE IN TORONTO FOR THE 1968 FEDERAL ELECTION
LEGEND
BOROUGHS
C – ET.
PERCENT OF THE ELECTORATE THAT VOTED PROGRESSIVE CONSERVATIVE
34 or more (53)
25 – 33
20 – 24
16 – 19
15 or less (13)
Scale in miles
0 1 2
Approx.
WESTON
TWP. OF NORTH YORK
YORK TWP.
FOREST HILL
LEASIDE
TWP. OF SCARBOROUGH
EAST YORK TWP.
SWANSEA
TWP. OF ETOBICOKE
MIMICO
TORONTO
LONG BRANCH
NEW TORONTO
NORTH
SOURCE: THE CHIEF ELECTORAL OFFICER

Figure 4

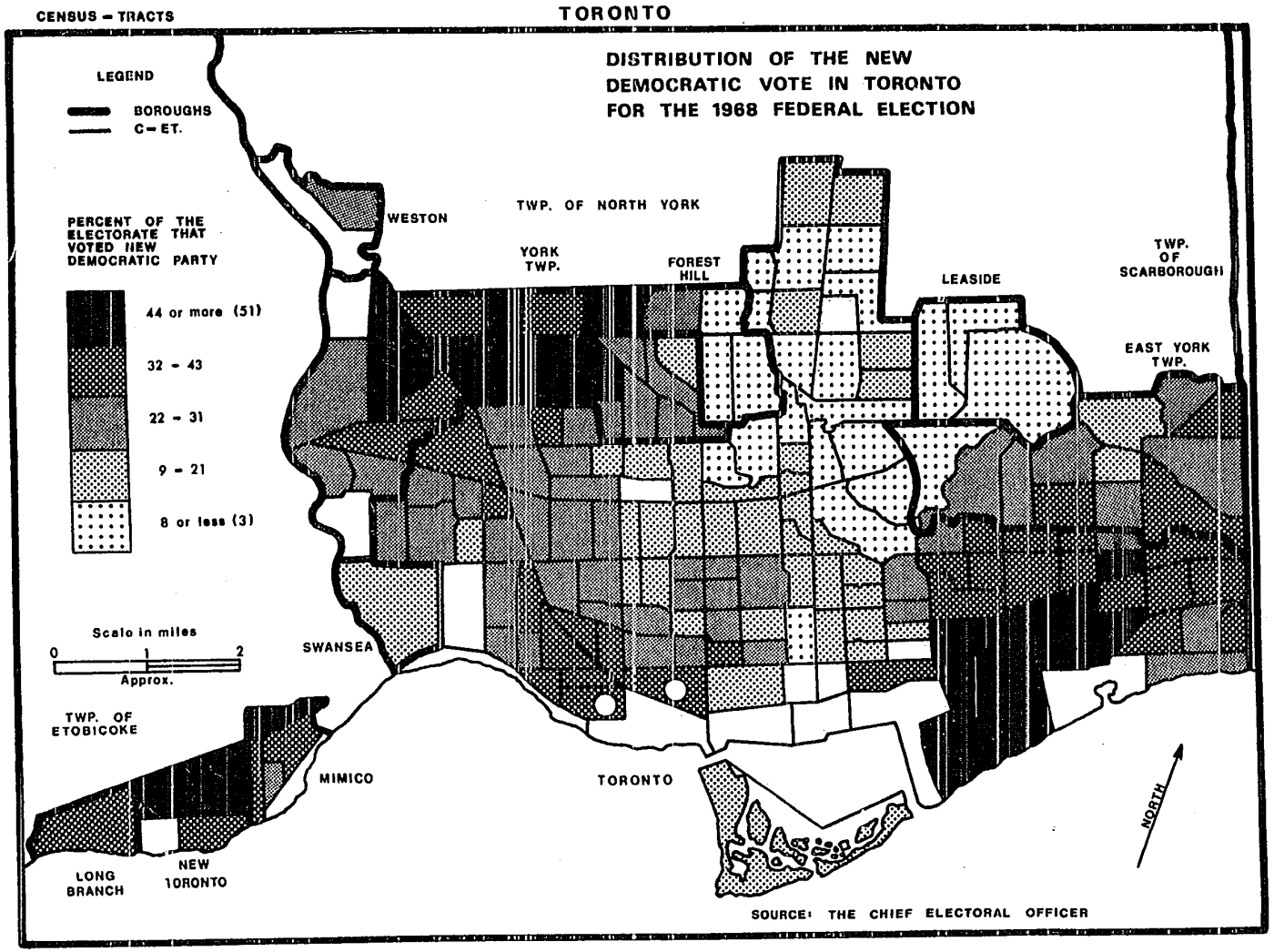
CENSUS – TRACTS
TORONTO
DISTRIBUTION OF THE NEW DEMOCRATIC VOTE IN TORONTO FOR THE 1968 FEDERAL ELECTION
LEGEND
BOROUGHS
C – ET.
PERCENT OF THE ELECTORATE THAT VOTED NEW DEMOCRATIC PARTY
44 or more (51)
32 – 43
22 – 31
9 – 21
8 or less (3)
Scale in miles
0 1 2
Approx.
WESTON
TWP. OF NORTH YORK
YORK TWP.
FOREST HILL
LEASIDE
TWP. OF SCARBOROUGH
EAST YORK TWP.
SWANSEA
TWP. OF ETOBICOKE
MIMICO
TORONTO
LONG BRANCH
NEW TORONTO
NORTH
SOURCE: THE CHIEF ELECTORAL OFFICER

Figure 5

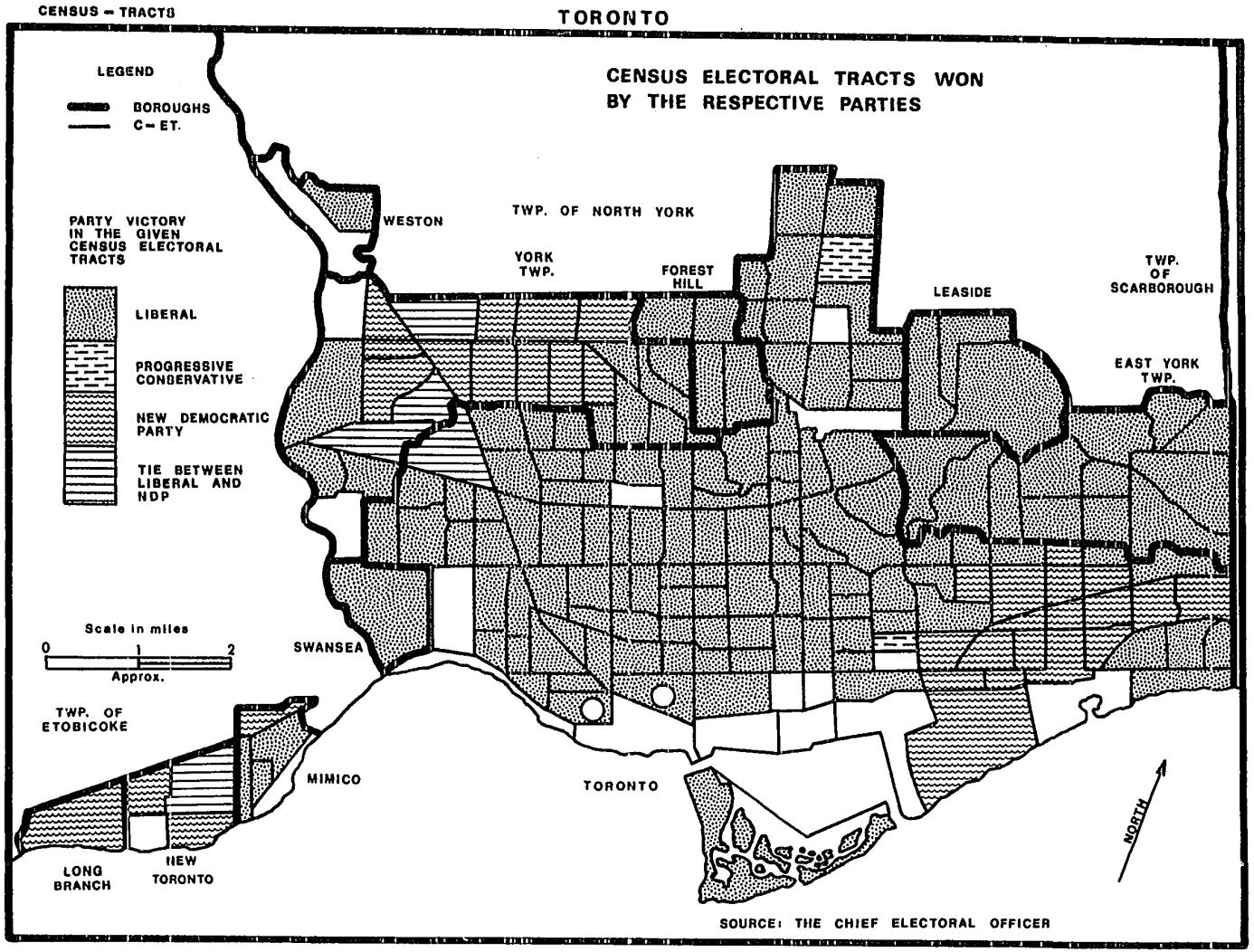
CENSUS – TRACTS
TORONTO
LEGEND
BOROUGHS
C – ET.
CENSUS ELECTORAL TRACTS WON
BY THE RESPECTIVE PARTIES
PARTY VICTORY
IN THE GIVEN
CENSUS ELECTORAL
TRACTS
LIBERAL
PROGRESSIVE
CONSERVATIVE
NEW DEMOCRATIC
PARTY
TIE BETWEEN
LIBERAL AND
NDP
Scale in miles
0 1 2
Approx.
WESTON
TWP. OF NORTH YORK
YORK
TWP.
FOREST
HILL
LEASIDE
TWP.
OF
SCARBOROUGH
EAST YORK
TWP.
SWANSEA
TWP. OF
ETOBICOKE
MIMICO
TORONTO
NORTH
LONG
BRANCH
NEW
TORONTO
SOURCE: THE CHIEF ELECTORAL OFFICER

Figure 6

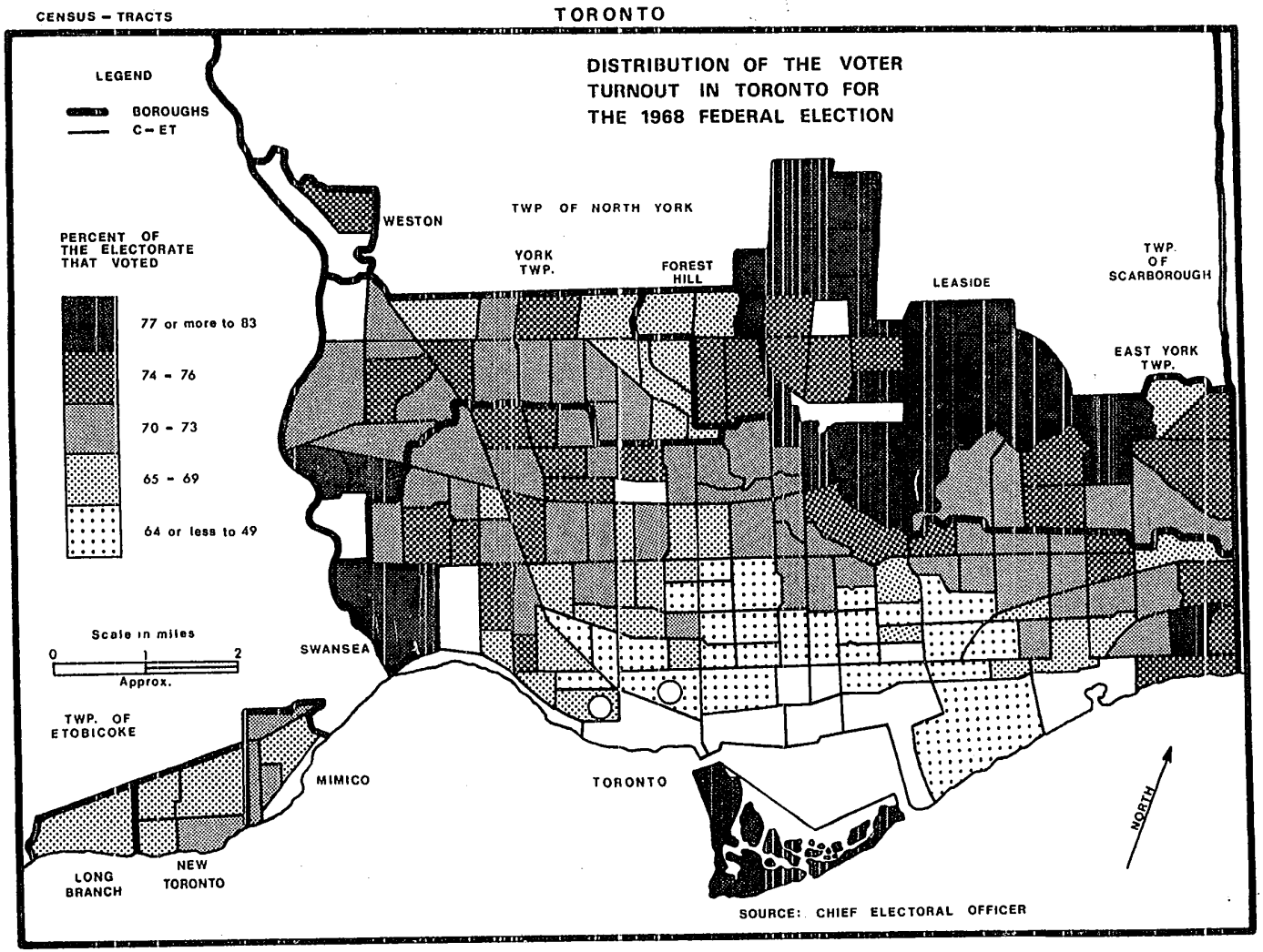
CENSUS – TRACTS
TORONTO
DISTRIBUTION OF THE VOTER TURNOUT IN TORONTO FOR THE 1968 FEDERAL ELECTION
LEGEND
BOROUGHS
C – ET
PERCENT OF THE ELECTORATE THAT VOTED
77 or more to 83
74 - 76
70 - 73
65 - 69
64 or less to 49
Scale in miles
0 1 2
Approx.
WESTON
TWP OF NORTH YORK
YORK TWP.
FOREST HILL
LEASIDE
TWP. OF SCARBOROUGH
EAST YORK TWP.
SWANSEA
TWP. OF ETOBICOKE
MIMICO
TORONTO
LONG BRANCH
NEW TORONTO
NORTH
SOURCE: CHIEF ELECTORAL OFFICER

Figure 7

while the remainder was divided between the N.D.P. and the Conservatives, each netting 26.4 and 24.2 per cent respectively. A tabulation of Census-Electoral Tract victories gives the Liberals an overwhelming majority, the N.D.P. a respectable showing, and the Progressive Conservatives a dismal defeat. (See Figure 6.) This is because the N.D.P. vote is more concentrated than that of the Conservatives. In a parliamentary system such as ours proportional strength is dissipated in an all or nothing game. He who holds the highest percentage of the vote takes all. Since the areas of Conservative and Liberal strength are almost the same and since the latter invariably polls more votes, the Liberals carry the census-electoral divisions and the ridings. On the other hand the N.D.P. vote is concentrated in the remaining areas. In this fashion the N.D.P. can manage to transform their vote into parliamentary seats. But even the N.D.P. parliamentary support does not reflect their total proportional vote.

Voting turnout seems to be greatest in the high income British areas of Toronto. High voter turnout (the highest being 83 per cent) seems to be associated with Liberal and Conservative areas, while the apathetic voter (the poorest voter turnout being 49 per cent of the electorate) seems to be associated with areas of N.D.P. support. (See Figures 3 to 7.)

Support for the Progressive Conservative Party is closely associated with the high income corridor that extends northward from the core of the city. However, the party's proportion of

the vote, even in this area of strength, hovers around 30 to 34 per cent and selfom reaches fifty per cent. Since the Liberals poll more votes in this same corridor, the Progressive Conservatives cannot elect any MP's. The Tories' areas of weakness are approximately the same as the Liberals. (See Fig. 4.)

The N.D.P., unlike the Conservatives, draw their support from areas in which the Liberals are weak. The working class areas of East York, York, Mimico, New Toronto, and Long Beach are key boroughs for the N.D.P. Once outside these boroughs N.D.P. strength quickly diminishes, until in the high income corridor its vote averages 8 to 10 per cent and often falls to 4 or 5 per cent. (See Fig. 5.)

Voter turnout also seems to be associated positively with the high income corridor. Although decreasing in intensity out from the city core, the low income corridor sectored along the CNR tracks seems to be positively correlated with poor voter turnout. (See Fig. 7.)

Spatial variations in the dependent variables seem to reflect socio-economic variables, especially those of a class and an ethnic nature.[1] The maps point in this direction. But to draw more precise conclusions, one must resort to the findings that resulted from the statistical techniques outlined in the previous chapter.

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[1]For a delineation of class boundaries see previous chapter.

## 4.2 Socio-Economic Regionalization

Prior to the analysis of the spatial relationship that may exist between Toronto's electoral behaviour and the socio-economic characteristics of the city, an attempt was made to evaluate the socio-economic spatial structure of the city through the areal differentiation of the city into multifactor uniform regions depicting the spatial variation of Toronto's social characteristics. This was accomplished through a principal components analysis of twenty-four socio-economic traits based on census-tract data.

The principal components analysis indicates that the socio-economic structure of Toronto can be accounted for by a possible eight socio-economic components which were used to construct the socio-economic regions.

In evaluating the components "a convenient rule of thumb seems to be to evaluate all components with eigenvalues equal to or greater than one, alternately to evaluate each one which accounts for 'a sufficiently high proportion', say at least three per cent, of the total variance."[2] Component variables with eigenvectors equal to or greater than .24 should be considered significant.[3]

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[2]Leslie J. King, op. cit., p. 174.

[3]Ibid., pp. 174-177.

The principal electoral components with eigenvalues greater than one were:

1. Wealthy, professional-managerial-technical, and well-educated areas;
2. British, working class (some Italian) areas;
3. Mixed-ethnic, self-employed, high income areas (with some French-Canadian tendencies);
4. Middle class Italian communities;
5. More recently immigrated (between 1946 and 1961), poorer Italian communities;
6. French-Canadian, poor areas;
7. German-Dutch-Scandinavian (some Slavic) areas; and
8. German-Dutch-Scandinavian, with strong French-Canadian influence, areas dominated by self-employed, well-educated, and wealthy individuals.

See Table 3.) Together these eight components explain 86 per cent of the socio-economic variance in Toronto.

The largest amount of socio-economic variance (34.0 per cent) is accounted for by component one. It has significantly high factor loadings (.24 or greater) for per cent population with 3 to 5 years of high school, per cent population with 1 or more years of university, per cent working force employed in managerial - professional-technical jobs, and per cent males earning more than $10,000. This component also contains a substantial factor loading for the variable per cent British. By mapping component scores the core of this high income area

TABLE 3

PRINCIPAL COMPONENTS ANALYSIS OF THE SOCIO-ECONOMIC CHARACTERISTICS OF TORONTO AND ITS INNER SUBURBS

| Component | Eigenvalue | Proportion of Variance Explained by Component |
|---|---|---|
| 1. Wealthy, professional-managerial-technical, and well-educated areas | 10.94 | 34.0% |
| 2. British, working class (some Italian) areas | 6.20 | 20.0% |
| 3. Mixed-ethnic, self-employed, high income areas (with some French-Canadian tendencies) | 2.30 | 7.0% |
| 4. Middle-class Italian communities | 1.93 | 6.0% |
| 5. More recently immigrated (between 1946 and 1961) poorer Italian communities | 1.93 | 6.0% |
| 6. French-Canadian, poor, areas | 1.62 | 5.0% |
| 7. German-Dutch-Scandinavian (some Slavic) areas | 1.61 | 5.0% |
| 8. German-Dutch-Scandinavian, with strong French-Canadian influence, areas dominated by self-employed, well-educated, and wealthy individuals | 1.00 | 3.0% |
| | TOTAL | 86.0% |

Source: Author

TABLE 3 ---Continued

Eigenvectors

| Component | 1.Wealthy, professional-managerial-technical, and well-educated areas | 2.British, working class (some Italian) areas | 3.Mixed-ethnic, self-employed, high income areas (with some French-Canadian tendencies) | 4.Middle-class Italian communities | 5.More recently immigrated (between 1946-1961) poorer Italian communities | 6.French-Canadian, poor, areas | 7.German-Dutch-Scandinavian (some Slavic) areas | 8.German-Dutch-Scandinavian, with strong French-Canadian influence, areas dominated by self-employed, well-educated, and wealthy individuals |
|---|---|---|---|---|---|---|---|---|
| Variable | | | | | | | | |
| 1. % 55 years and older | 0.210 | -0.040 | -0.036 | -0.298 | -0.233 | 0.167 | -0.169 | -0.471 |
| 2. % immigrated to Canada between 1946 and 1961 | -0.205 | -0.207 | -0.192 | 0.092 | 0.206 | -0.263 | 0.268 | -0.137 |
| 3. % British | 0.193 | 0.315 | 0.088 | 0.079 | 0.011 | 0.024 | -0.022 | 0.001 |
| 4. % French-Canadian | -0.057 | -0.078 | 0.141 | -0.451 | -0.485 | 0.366 | -0.362 | 0.324 |
| 5. % German-Dutch-Scandinavian | 0.036 | -0.180 | -0.303 | -0.159 | -0.009 | -0.339 | 0.350 | 0.416 |
| 6. % Italian | -0.242 | -0.176 | 0.086 | 0.299 | 0.221 | -0.034 | 0.036 | -0.229 |
| 7. % Polish-Russian-Ukrainian | -0.099 | -0.347 | -0.080 | -0.185 | -0.157 | -0.136 | 0.138 | 0.165 |
| 8. % Anglican-Presbyterian | 0.173 | 0.237 | 0.013 | 0.099 | 0.084 | -0.018 | 0.018 | 0.058 |

TABLE 3 ---Continued

| Component | 1.Wealthy, professional-managerial-technical, and well-educated areas | 2.British, working class (some Italian) areas | 3.Mixed-ethnic, self-employed, high income areas (with some French-Canadian tendencies) | 4.Middle-class Italian communities | 5.More recently immigrated (between 1946-1961) poorer Italian communities | 6.French-Canadian, poor, areas | 7.German-Dutch-Scandinavian (some Slavic) areas | 8.German-Dutch-Scandinavian, with strong French-Canadian influence, areas dominated by self-employed, well-educated, and wealthy individuals |
|---|---|---|---|---|---|---|---|---|
| Variable | | | | | | | | |
| 9. % Greek Orthodox and Ukrainian | -0.124 | 0.026 | 0.076 | -0.286 | -0.339 | -0.017 | 0.027 | -0.209 |
| 10. % Jewish | 0.016 | -0.448 | -0.065 | -0.024 | 0.035 | 0.049 | -0.053 | 0.087 |
| 11. % Roman Catholic | -0.265 | -0.034 | -0.020 | 0.069 | 0.071 | -0.052 | 0.055 | -0.024 |
| 12. % United Church | 0.216 | 0.365 | 0.239 | 0.015 | -0.136 | 0.192 | -0.189 | -0.134 |
| 13. % 1 or more years of elementary school | -0.254 | 0.203 | 0.094 | -0.072 | -0.003 | 0.076 | -0.083 | -0.166 |
| 14. % 3 - 5 years of high school | 0.279 | -0.127 | -0.280 | -0.072 | 0.112 | -0.218 | 0.214 | -0.057 |
| 15. % 1 or more years of university | 0.261 | -0.167 | 0.056 | -0.053 | -0.097 | 0.100 | -0.098 | 0.131 |
| 16. % persons per family compared to the average | -0.203 | -0.022 | 0.492 | 0.103 | -0.224 | 0.355 | -0.354 | 0.393 |

TABLE 3 ---Continued

| Component | 1.Wealthy, professional-managerial-technical, and well-educated areas | 2.British, working class (some Italian) areas | 3.Mixed-ethnic, self-employed, high income areas (with some French-Canadian tendencies) | 4.Middle-class Italian communities | 5.More recently immigrated (between 1946-1961) poorer Italian communities | 6.French-Canadian, poor, areas | 7.German-Dutch-Scandinavian (some Slavic) areas | 8.German-Dutch-Scandinavian, with strong French-Canadian influence, areas dominated by self-employed, well-educated, and wealthy individuals |
|---|---|---|---|---|---|---|---|---|
| Variable | | | | | | | | |
| 17. % of households with exclusive use of flush toilet | 0.079 | 0.108 | -0.075 | 0.415 | 0.397 | -0.331 | 0.331 | 0.020 |
| 18. % of the labour force looking for work | -0.175 | -0.072 | 0.112 | -0.305 | -0.328 | 0.294 | -0.292 | 0.040 |
| 19. % of the labour force self-employed | 0.117 | -0.310 | 0.352 | -0.025 | -0.259 | 0.343 | -0.337 | 0.251 |
| 20. % of the labour force, managerial, professional, and technical | 0.281 | -0.169 | 0.054 | -0.018 | -0.046 | 0.062 | -0.063 | 0.015 |
| 21. % of the labour force, clerical, sales, service, and recreation | 0.202 | 0.019 | -0.413 | -0.320 | -0.015 | -0.198 | 0.197 | -0.234 |

TABLE 3 ---Continued

| Component | 1.Wealthy, professional-managerial-technical, and well-educated areas | 2.British, working class (some Italian) areas | 3.Mixed-ethnic, self-employed, high income areas (with some French-Canadian tendencies) | 4.Middle-class Italian communities | 5.More recently immigrated (between 1946-1961) poorer Italian communities | 6.French-Canadian, poor, areas | 7.German-Dutch-Scandinavian (some Slavic) areas | 8.German-Dutch-Scandinavian, with strong French-Canadian influence, areas dominated by self-employed, well-educated, and wealthy individuals |
|---|---|---|---|---|---|---|---|---|
| Variable | | | | | | | | |
| 22. % of the labour force in transport, communication, primary, crafts, production process, etc. | -0.299 | 0.152 | 0.040 | 0.187 | 0.133 | -0.125 | 0.128 | 0.049 |
| 23. % of the labour force earning $4000 | -0.244 | 0.135 | -0.255 | -0.139 | 0.033 | -0.044 | 0.040 | -0.045 |
| 24. % of the male labour force earning $10,000 or more | 0.273 | -0.078 | 0.219 | 0.003 | -0.146 | 0.165 | -0.160 | 0.055 |

emerges as the high income corridor first alluded to in Chapter I. This wealthy, professional-managerial-technical, and well-educated component is strongest in Forest Hill, Leaside, and the Rosedale and Bayview areas of the city proper. (See Figure 8.)

High values for the British working class component are centred in East York with secondary nuclei in York and the eastern lakeshore boroughs. (See Figure 9.) Variables contributing significantly to component two are: per cent British, per cent population belonging to either the United Church, the Presbyterian and the Anglican Churches, and per cent with 3 to 5 years of high school. In these areas, one also finds a large number of transport, communication, primary, crafts, and production process workers and a high proportion of people earning under $4,000 per year. This component accounts for 20.0 per cent of the variance.

The next most important component (explaining 7.0 per cent of the variance) is the ethnically mixed, self-employed, high income area. Variables with significant factor loadings are: per cent population that is self-employed and percentage of the male labour force earning over $10,000 per year. This component though not well defined possesses two nuclei: the stronger anchored in the Rosedale area of the high income corridor and a second weaker one along Queen Street, straddling the southern portion of the Central Business District. (See Figure 10.)

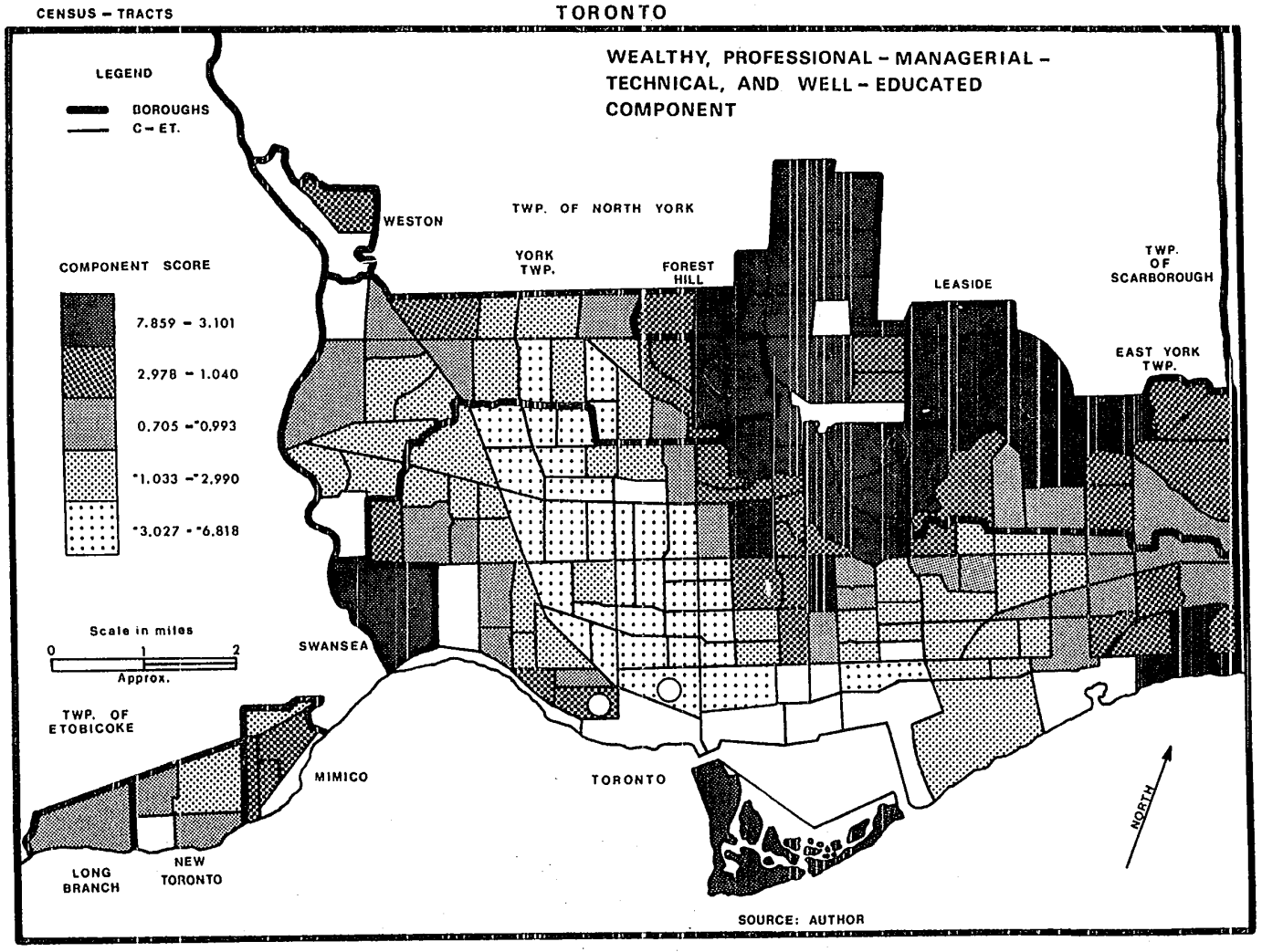
CENSUS – TRACTS
TORONTO
WEALTHY, PROFESSIONAL – MANAGERIAL – TECHNICAL, AND WELL – EDUCATED COMPONENT
LEGEND
BOROUGHS
C – ET.
COMPONENT SCORE
7.859 – 3.101
2.978 – 1.040
0.705 – "0.993
"1.033 – "2.990
"3.027 – "6.818
Scale in miles
0 1 2
Approx.
WESTON
TWP. OF NORTH YORK
YORK TWP.
FOREST HILL
LEASIDE
TWP. OF SCARBOROUGH
EAST YORK TWP.
SWANSEA
TWP. OF ETOBICOKE
MIMICO
TORONTO
LONG BRANCH
NEW TORONTO
NORTH
SOURCE: AUTHOR

Figure 8

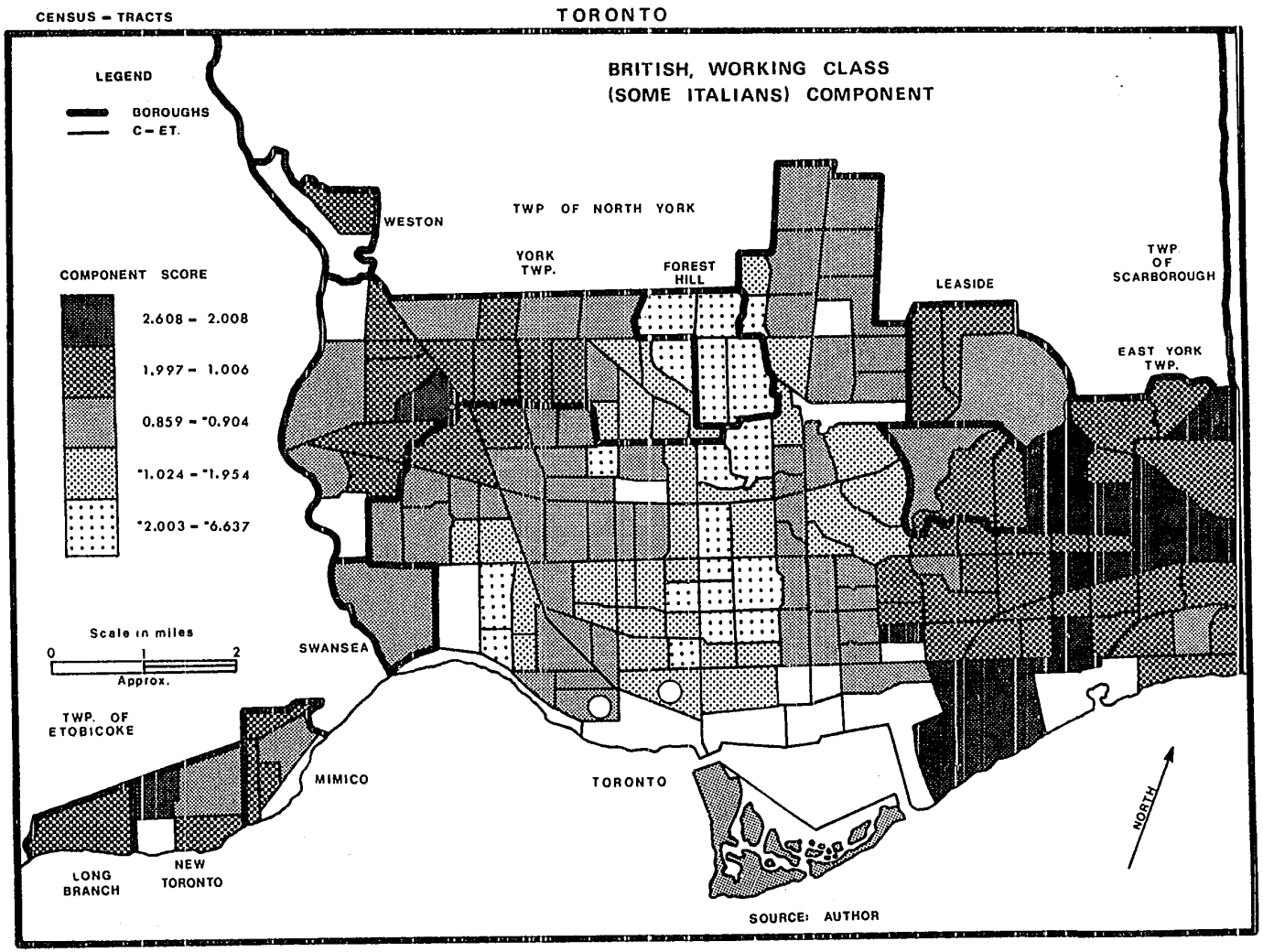
CENSUS – TRACTS
TORONTO
BRITISH, WORKING CLASS
(SOME ITALIANS) COMPONENT
LEGEND
BOROUGHS
C – ET.
COMPONENT SCORE
2.608 – 2.008
1.997 – 1.006
0.859 – °0.904
°1.024 – °1.954
°2.003 – °6.637
Scale in miles
0 1 2
Approx.
WESTON
TWP OF NORTH YORK
YORK TWP.
FOREST HILL
LEASIDE
TWP OF SCARBOROUGH
EAST YORK TWP.
SWANSEA
TWP. OF ETOBICOKE
MIMICO
TORONTO
LONG BRANCH
NEW TORONTO
NORTH
SOURCE: AUTHOR

Figure 9

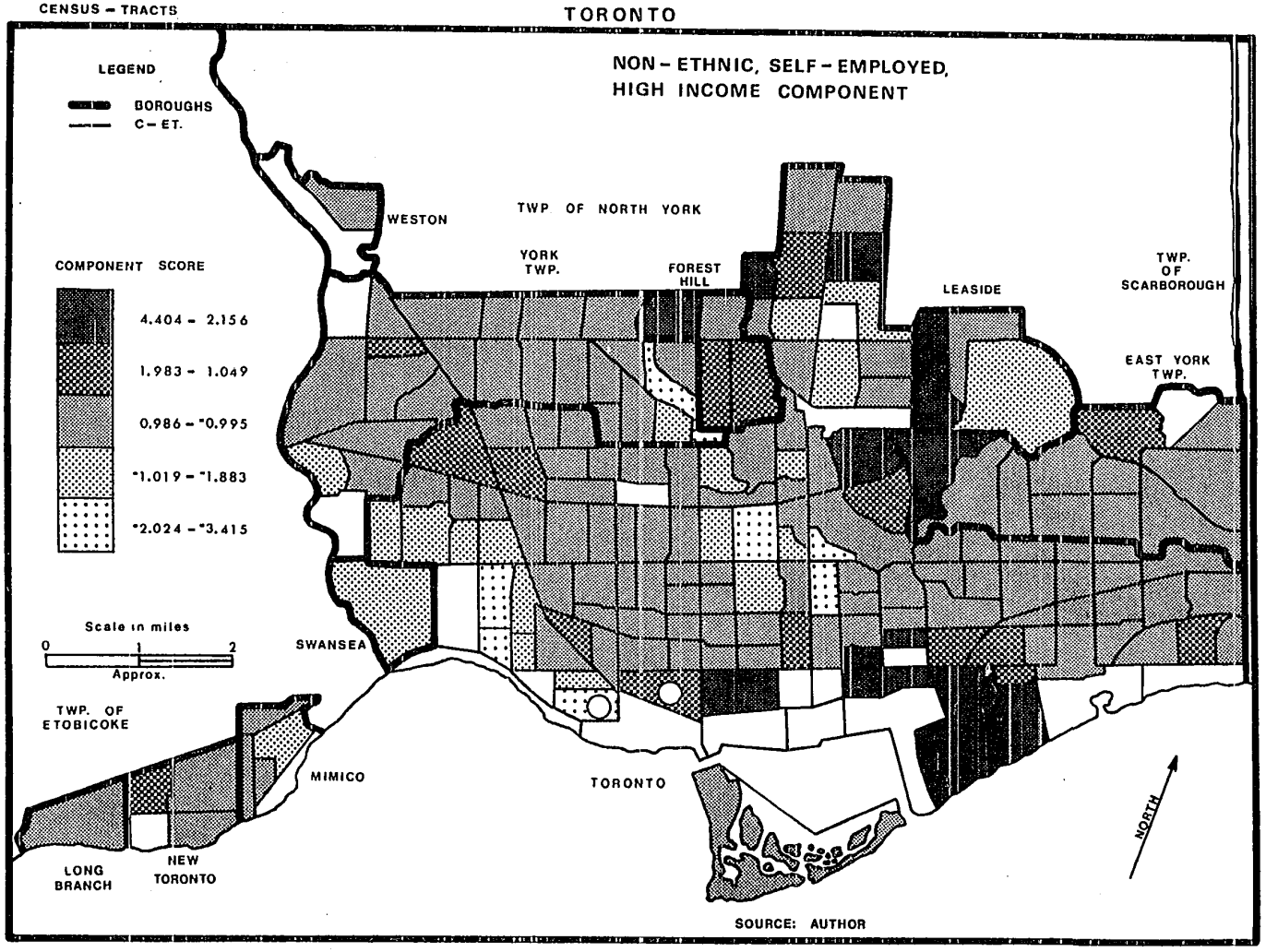
CENSUS – TRACTS
TORONTO
LEGEND
BOROUGHS
C – ET.
NON – ETHNIC, SELF – EMPLOYED,
HIGH INCOME COMPONENT
WESTON
TWP OF NORTH YORK
YORK TWP.
FOREST HILL
LEASIDE
TWP. OF SCARBOROUGH
EAST YORK TWP.
COMPONENT SCORE
4.404 – 2.156
1.983 – 1.049
0.986 – "0.995
"1.019 – "1.883
"2.024 – "3.415
Scale in miles
0 1 2
Approx.
SWANSEA
TWP. OF ETOBICOKE
MIMICO
TORONTO
NORTH
LONG BRANCH
NEW TORONTO
SOURCE: AUTHOR

Figure 10

The Italian community is reflected in components four and five, each account for 6.0 per cent of the variance. High values for both components are centred in the Borough of York, suggesting that they represent different aspects of the same region. (See Figures 11 and 12.)

The fourth component embodies high factor loadings for per cent Italians, and per cent households with the exclusive use of flush toilets, an indicator of non-slum conditions. The factor loading for per cent employed in transportation, communication, primary, crafts, production process, and related industries, and moderate incomes were also significant, indicating that this is not a poor Italian area.

Component five differed in that income tended to be lower and a larger proportion of the population was made up of recent immigrants. This is indicated by the factor loading associated with the per cent that immigrated to Canada between 1946 and 1961. The eigenvector for this variable was .09 for component four, whereas it was .21 for component five. This is a low income area of recent Italian immigrants. High scores for this component were centred in the Borough of York.

High values for the French-Canadian, poor, component six, are centred south of College Street trending more east than west of the Central Business District. The per cent French-Canadian, relative family-size, the relative lack of flush toilet, per cent looking for work, and per cent self-employed variables all have high factor loadings indicating that this is

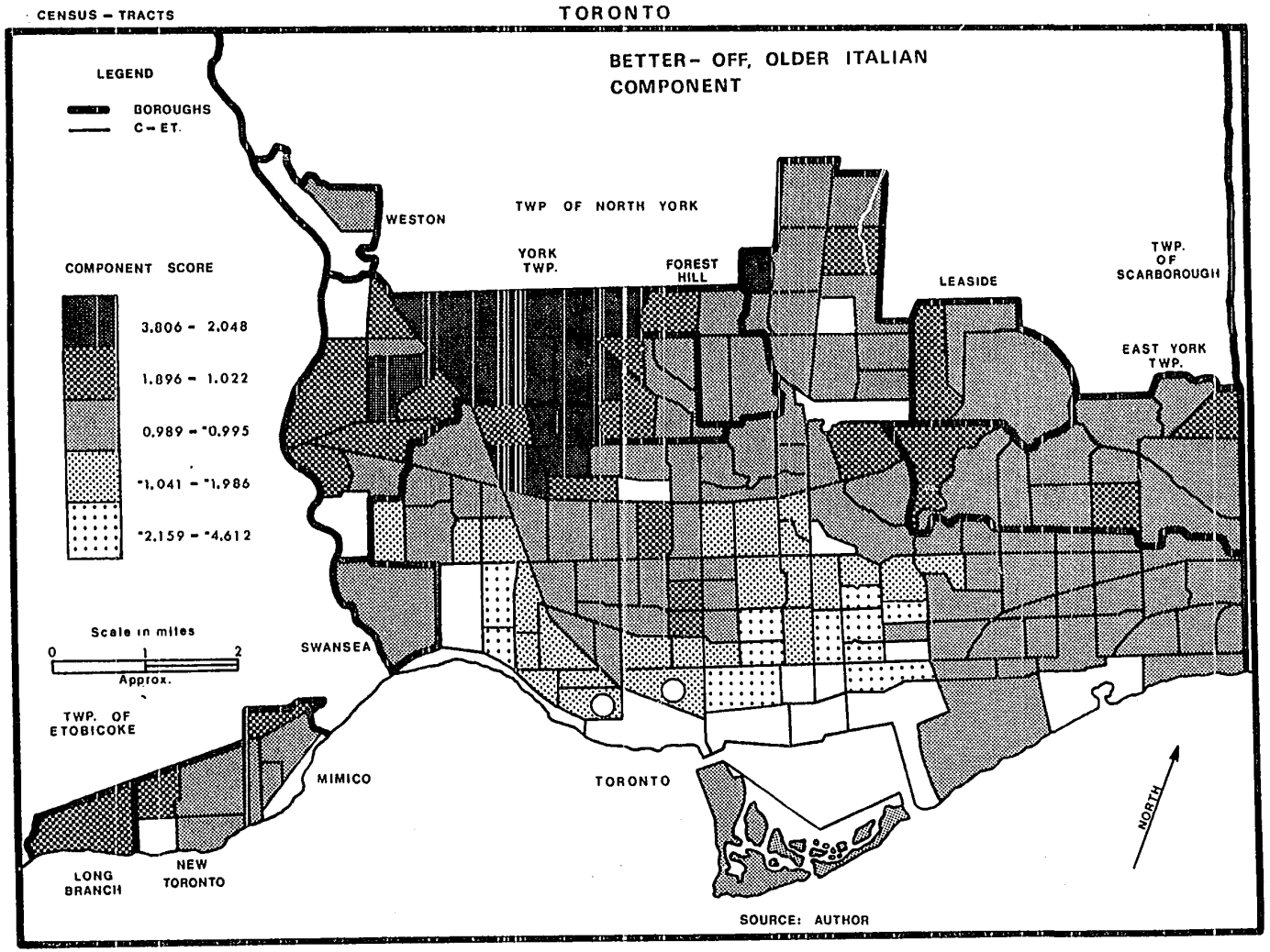
CENSUS – TRACTS
TORONTO
BETTER- OFF, OLDER ITALIAN COMPONENT
LEGEND
BOROUGHS
C – ET.
COMPONENT SCORE
3.806 – 2.048
1.896 – 1.022
0.989 – *0.995
*1.041 – *1.986
*2.159 – *4.612
Scale in miles
0 1 2
Approx.
WESTON
TWP OF NORTH YORK
YORK TWP.
FOREST HILL
LEASIDE
TWP. OF SCARBOROUGH
EAST YORK TWP.
SWANSEA
TWP. OF ETOBICOKE
MIMICO
TORONTO
LONG BRANCH
NEW TORONTO
NORTH
SOURCE: AUTHOR

Figure 11

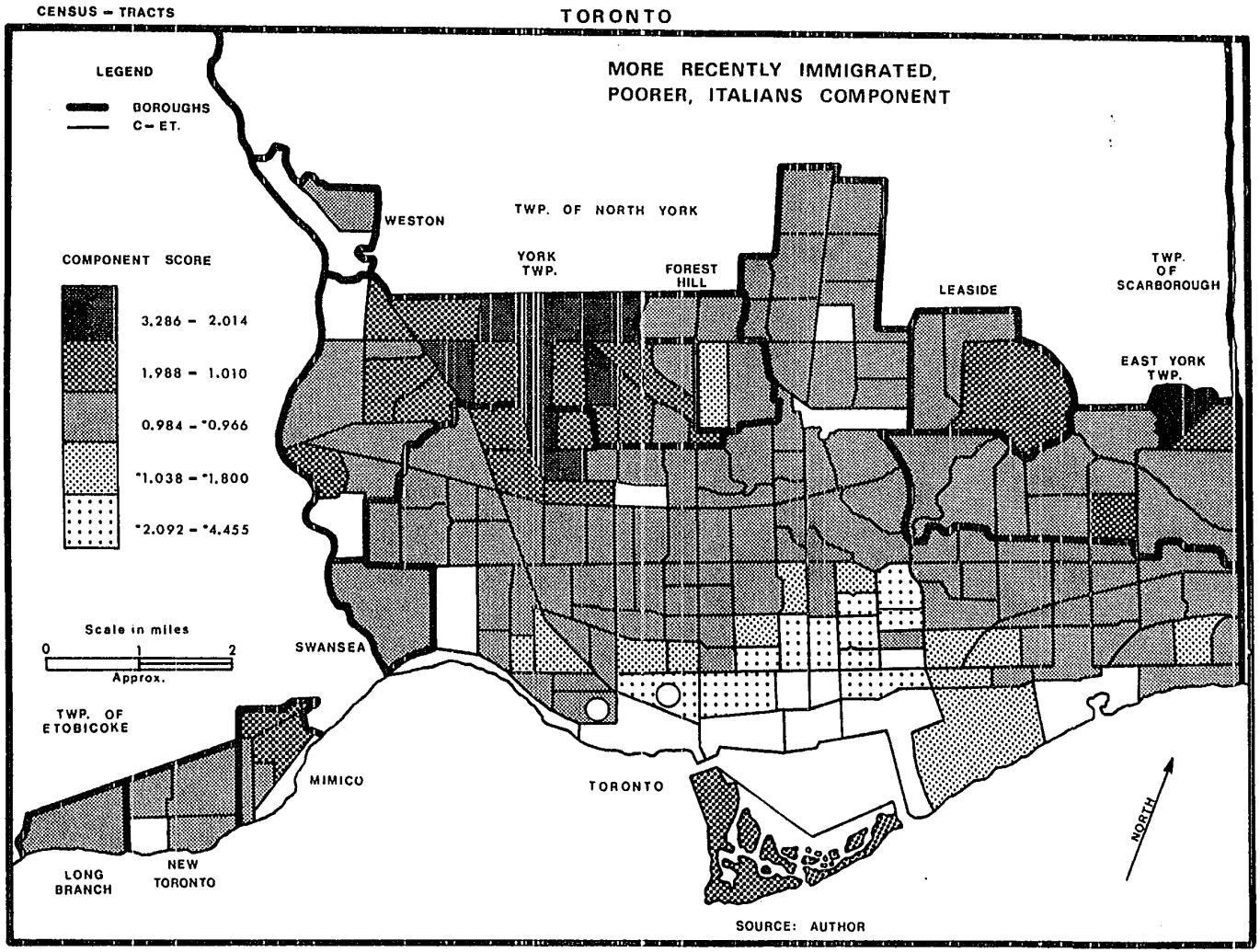
CENSUS – TRACTS
TORONTO
LEGEND
BOROUGHS
C – ET.
MORE RECENTLY IMMIGRATED,
POORER, ITALIANS COMPONENT
COMPONENT SCORE
3.286 – 2.014
1.988 – 1.010
0.984 – *0.966
*1.038 – *1.800
*2.092 – *4.455
Scale in miles
0 1 2
Approx.
WESTON
TWP. OF NORTH YORK
YORK TWP.
FOREST HILL
LEASIDE
TWP. OF SCARBOROUGH
EAST YORK TWP.
SWANSEA
TWP. OF ETOBICOKE
MIMICO
TORONTO
LONG BRANCH
NEW TORONTO
NORTH
SOURCE: AUTHOR

Figure 12

a relatively poor French-Canadian district. This component accounts for 5.0 per cent of the socio-economic variance. (See Figure 13.)

Another 5.0 per cent of the variance is accounted for by the German-Dutch-Scandinavian component. The main concentration of high values for this component is in the west of the city north and east of High Park (census tract # 19). Strong factor loadings in this component are: per cent German-Dutch-Scandinavian, per cent immigrated to Canada between 1946 and 1961, and per cent with 3 to 5 years of high school. The Slavic variable (Polish, Russian, Ukrainian) is also significant indicating that this is an area dominated by Germanic and Slavic groups. (See Figure 14.)

Component eight, although it only accounts for 3.0 per cent of the socio-economic variance, is worth considering since its eigenvalue is 1.00 . This component has high factor loadings, for per cent French-Canadian, per cent German-Dutch-Scandinavian, per cent well-educated, and per cent self-employed. High values for this component are found in census-electoral tracts in York, Forest Hill, Rosedale, and straddling the Central Business District. Although components seven and eight are statistically significant, it must be remembered that they are reaching the cut-off point. For this reason these components portray a less cohesive pattern when mapped than the other components. (See Figure 15.)

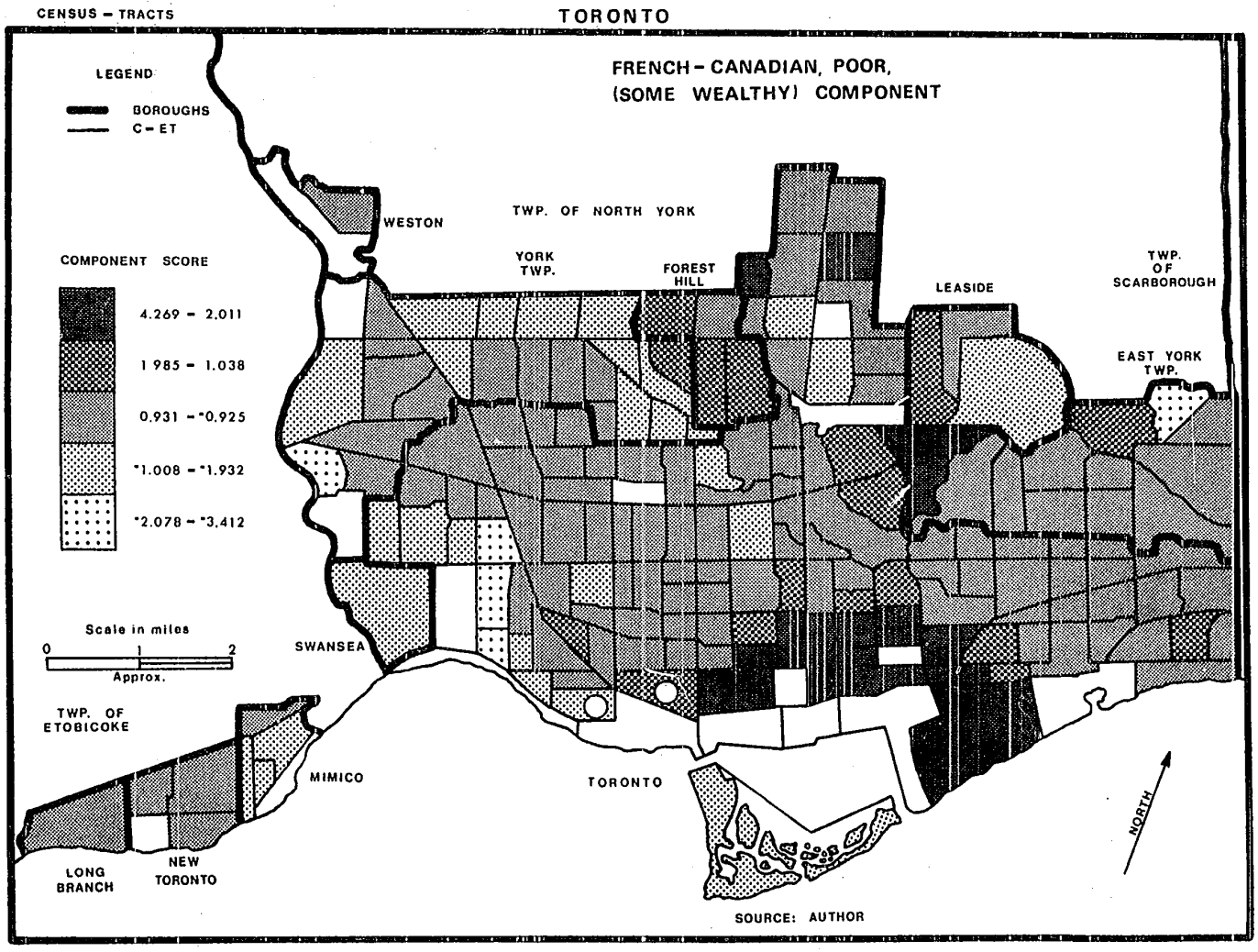
CENSUS – TRACTS
TORONTO
FRENCH – CANADIAN, POOR,
(SOME WEALTHY) COMPONENT
LEGEND
BOROUGHS
C – ET
COMPONENT SCORE
4.269 – 2.011
1 985 – 1.038
0.931 – *0.925
*1.008 – *1.932
*2.078 – *3.412
Scale in miles
0 1 2
Approx.
WESTON
TWP. OF NORTH YORK
YORK TWP.
FOREST HILL
LEASIDE
TWP. OF SCARBOROUGH
EAST YORK TWP.
SWANSEA
TWP. OF ETOBICOKE
MIMICO
TORONTO
LONG BRANCH
NEW TORONTO
NORTH
SOURCE: AUTHOR

Figure 13

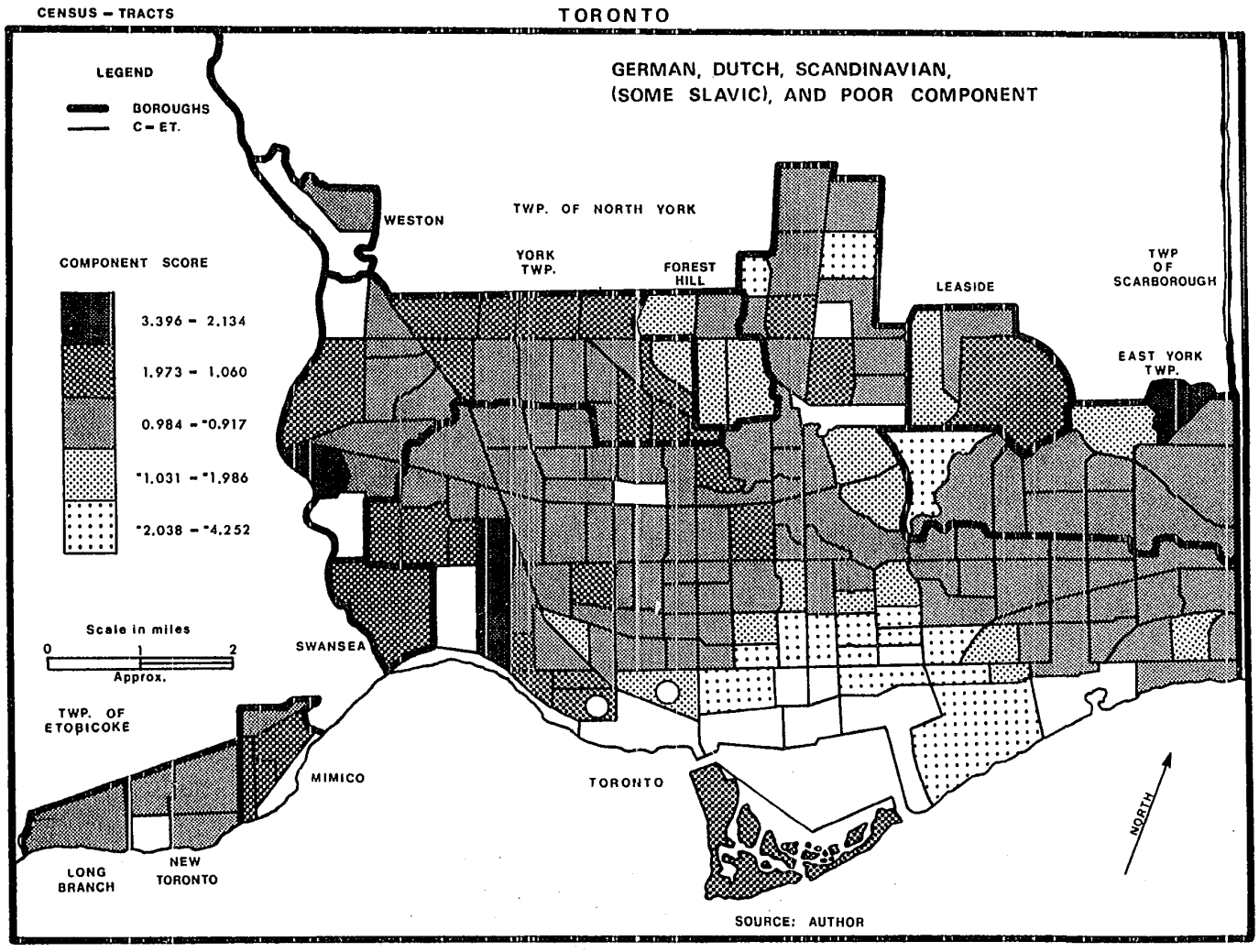
CENSUS – TRACTS
TORONTO
LEGEND
BOROUGHS
C – ET.
GERMAN, DUTCH, SCANDINAVIAN,
(SOME SLAVIC), AND POOR COMPONENT
COMPONENT SCORE
3.396 – 2.134
1.973 – 1.060
0.984 – °0.917
°1.031 – °1.986
°2.038 – °4.252
Scale in miles
0 1 2
Approx.
WESTON
TWP. OF NORTH YORK
YORK TWP.
FOREST HILL
LEASIDE
TWP OF SCARBOROUGH
EAST YORK TWP.
SWANSEA
TWP. OF ETOBICOKE
MIMICO
TORONTO
LONG BRANCH
NEW TORONTO
NORTH
SOURCE: AUTHOR

Figure 14

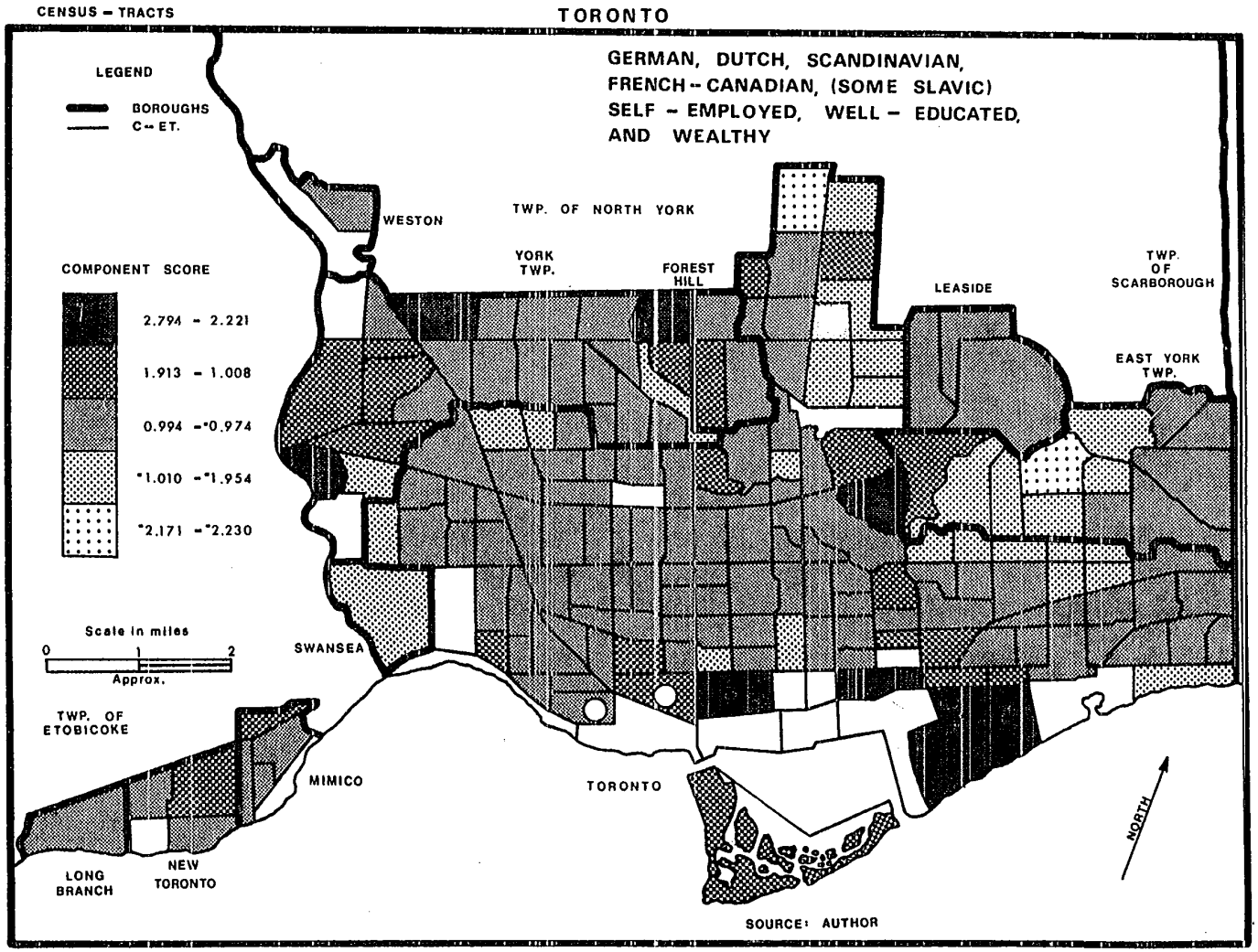
CENSUS – TRACTS
TORONTO
LEGEND
BOROUGHS
C – ET.
GERMAN, DUTCH, SCANDINAVIAN,
FRENCH – CANADIAN, (SOME SLAVIC)
SELF – EMPLOYED, WELL – EDUCATED,
AND WEALTHY
WESTON
TWP. OF NORTH YORK
YORK TWP.
FOREST HILL
LEASIDE
TWP. OF SCARBOROUGH
EAST YORK TWP.
COMPONENT SCORE
2.794 – 2.221
1.913 – 1.008
0.994 – 0.974
1.010 – 1.954
2.171 – 2.230
Scale in miles
0 1 2
Approx.
SWANSEA
TWP. OF ETOBICOKE
MIMICO
TORONTO
NORTH
LONG BRANCH
NEW TORONTO
SOURCE: AUTHOR

Figure 15

The eight components could not be simply accepted as the socio-economic regionalization of Toronto. A synthesis of the components was necessary. Careful interpretation of the components and component maps and further interpretation in light of the multiple discriminant analysis yielded eight socio-economic regions.

Component one suggested the existence of a Wealthy, Mixed-ethnic Region, centred on the corner of Bloor and Yonge Streets and extending north with bilobal endings north of Mount Pleasant Cemetery and in Leaside. (See Figure 16.) Factor loadings exhibited by the constituent variables in component one that were felt to be significant were: .29 for per cent with 3 to 5 years of high school, .28 for per cent of the labour force found in managerial, professional, and technical positions, and .27 for per cent of the male labour force earning $10,000 or more per year. Other eigenvectors associated with component one considered in formulating this region were: .26 for per cent with one or more years of university, and per cent Anglican-Presbyterian and United Church in religious affiliation and per cent of the labour force employed in clerical, sales, service, and recreation positions. Twenty-four of the 173 census-electoral tracts are in this region. (See Table 4.)

The largest region in terms of census-electoral tracts (forty) possesses a British, Protestant, Working or Lower Middle Class Character. This region, centred in the Borough

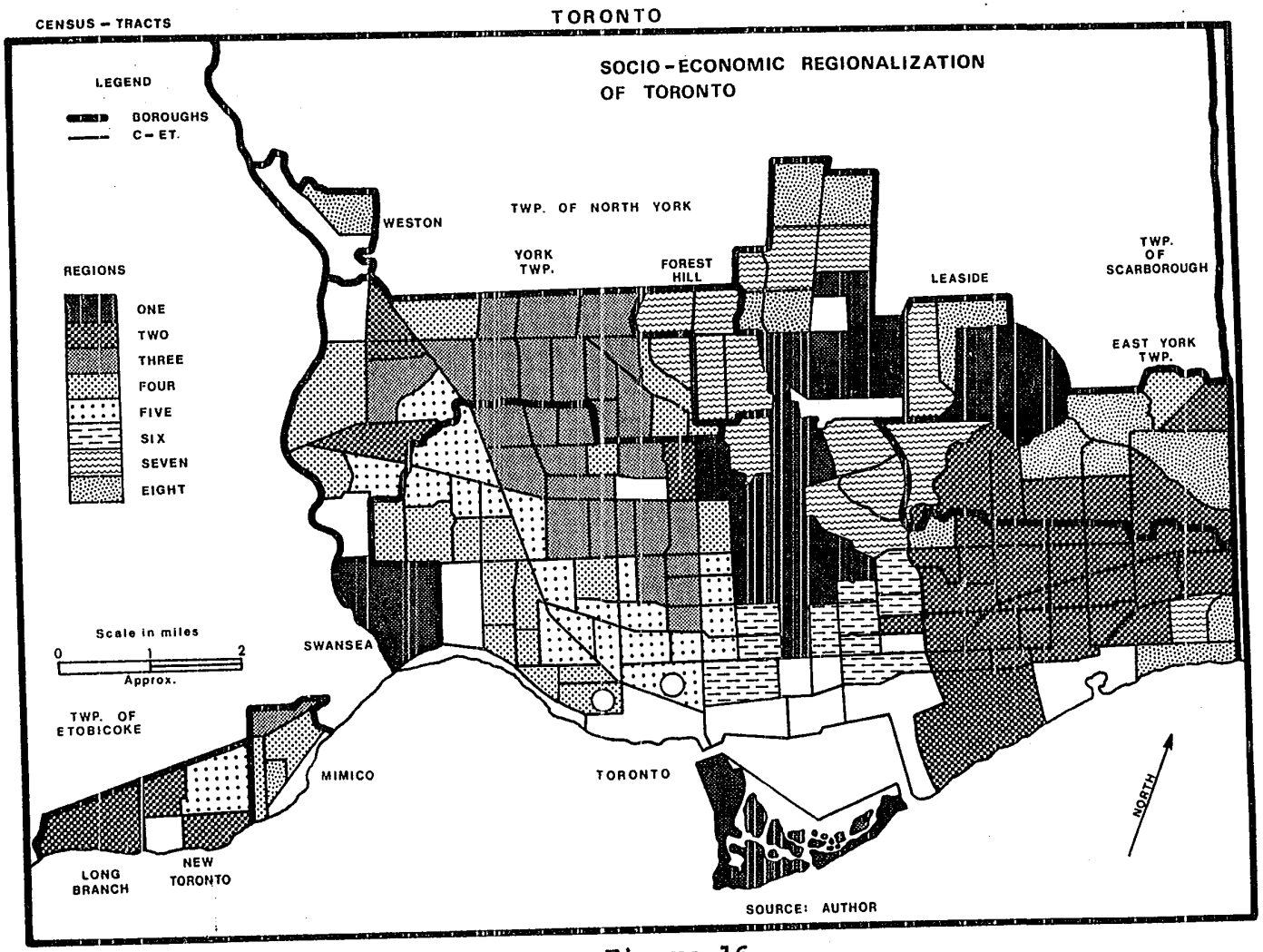
CENSUS – TRACTS
TORONTO
SOCIO-ECONOMIC REGIONALIZATION
OF TORONTO
LEGEND
BOROUGHS
C – ET.
REGIONS
ONE
TWO
THREE
FOUR
FIVE
SIX
SEVEN
EIGHT
Scale in miles
0 1 2
Approx.
WESTON
TWP. OF NORTH YORK
YORK TWP.
FOREST HILL
LEASIDE
TWP. OF SCARBOROUGH
EAST YORK TWP.
SWANSEA
TWP. OF ETOBICOKE
MIMICO
TORONTO
LONG BRANCH
NEW TORONTO
NORTH
SOURCE: AUTHOR

Figure 16

TABLE 4

NUMBER OF CENSUS-ELECTORAL TRACTS IN EACH SOCIO-ECONOMIC REGION

| Region | 1.Wealthy, mixed-ethnic | 2.British, Protestant, working or lower middle class | 3.Italian | 4.German-Dutch-Scandinavian | 5.Mixed-ethnic | 6.French-Canadian, poor | 7.High Income non-ethnic, (Jewish) | 8.High Income (British) |
|---|---|---|---|---|---|---|---|---|
| Number of Cases | 24 | 40 | 29 | 22 | 22 | 10 | 14 | 13 |
| Source Components | 1 | 2 | 4 - 5 | 7 - 8 | 4-5-7-8 | 6 | 3-1-6 | 1 - 2 |

of East York, is a strong reflection of component two derived from the principal components analysis. Evidence of this region's character is shown by a high proportion of residents in this area that are of British descent (eigenvector: .32), United Church (eigenvector: .37), Anglican-Presbyterian (eigenvector: .24), and hold down blue-collar jobs.

Two components (four and five) were combined to form Region 3. This Italian Region includes 29 census-electoral divisions and is anchored in York and west Toronto from Bathurst Street to within a few blocks west of Dufferin Street. This region accounts for 12 per cent of the socio-economic variance. Component factor loadings that were particularly germane in the interpolation of this region were those associated with per cent Italian and per cent of the labour force in blue-collar jobs.

Region 4 is basically German-Dutch-Scandinavian, with some Slavic strength and is centred east and north of High Park. Components seven and eight suggested the existence of this region. An examination of the factor loadings for the component variable constituents indicate that this region possesses a dual personality. Against the common ethnic backdrop of German-Dutch-Scandinavian, some Slavic strength, one can perceive two sets of economic status variables. One set indicates a lower to lower-middle class, recently immigrated to Canada, high school educated, and blue-collar subregion. The converse is true of the second subregion, which possesses a higher

level of education, higher income, and a greater proportion of people self-employed (eigenvector: .25). This dichotomy is reflected in the characteristics of components seven and eight respectively. Twenty-two census-electoral tracts fall into this region.

Mixed-ethnic and poor are the basic characteristics associated with the 22 census-electoral tracts that compose Region 5. It is in the west end of Toronto between the Italian and German regions. Consequently it is this position that gives Region 5 its "shatter zone" character. No one single ethnic group dominates the life of the region. The immigrants to the regions are newcomers to Canada and therefore they are not well established economically.

Region 6 refers to a poor French-Canadian area. The existence of this region was suggested by component six, which had a factor loading of .35 for per cent French (French-Canadian) and high factor loading, in general, for all the low economic status variables. For example, the eigenvector for the slum variable, per cent of the households with the exclusive use of a flush toilet was -.33 . Per cent of the labour force looking for work factor loading was .29 . Ten census-electoral tracts located at the south end of the Central Business District form this region.

The higher income census-electoral tracts of component six were not included in Region 6. Rather, they along with component three and some features of component one suggest the existence of Region 7. This region is characterized by a high

percentage of self-employed persons and a high percentage of Jewish people. The latter variable finds its strongest expression in the inner suburb of Forest Hill. The composite components of this region do not possess any strong ethnic factor loadings. However, component three, the main indicator of the region, has a factor loading of .35 and .22 for per cent of the labour force self-employed and for per cent of the male labour force earning $10,000 or more respectively. This region is composed of fourteen census-electoral tracts that form two centres in the north-central part of Toronto.

An ill-defined eighth region is composed of tracts in north-central Toronto, Leaside, and the northern part of East York. The main traits of this region's thirteen census-electoral tracts, are their high income and their 'Waspishness'. High scores in components one and two are heavily responsible for the existence of this region. In many respects this region is a residual of the former economic ascendency enjoyed by Anglo-Saxon Protestants in Toronto. Although the high income components, derived from the principal components analysis, generally did not possess high factor loadings for the ethnic variables, component one did have a factor loading of .19 for per cent British. Considering the number of census-electoral tracts in it and the amount of socio-economic variance (34.0 per cent) explained by component one, it is safe to assume that the per cent British would be an important variable in the regionalization of high income areas. This assumption underlaid hypothesis of a High Income British Region.

The final confirmation of this socio-economic regionalization was obtained when the data was subjected to the multiple discriminant analysis. This analysis revealed that the eight socio-economic regions were significantly different in terms of sixteen variables. The $F_{01}$ of the sixteenth variable was 2.12 . Thus the null hypothesis is rejected and the conclusion drawn that on the basis of sixteen socio-economic variables the regionalization is valid. Such a conclusion is evidenced by an examination of Table 5.

Only in the instances of Regions 1 and 8, and 2 and 8 does F at .01 level of significance even remotely becomes critical. F is 5.60 and 8.01 respectively, while $F_{01}$ is 2.12 . Thus, the null hypothesis could be rejected at the .01 level of significance, clearly indicating that Toronto and its Inner Suburbs can be divided into eight socio-economic regions.

The soundness of the eight region socio-economic classification is reiterated by the observation that only 6 out of 173 or slightly under four per cent of the census-electoral tracts were misclassified. (See Table 7.)

In analysing the socio-economic differentiation of Toronto and its immediate environ it should be noted that the professional-managerial-technical variable accounted for the greatest amount of variance in the regionalization process. (See Table 8.)

The second most important discriminating variable was per cent Italian; followed by per cent who attained three to five years of high school and per cent of households enjoying

TABLE 5

F MATRIX SHOWING THAT ALL SOCIO-ECONOMIC REGIONS ARE SIGNIFICANTLY DIFFERENT FROM EACH OTHER

| Region | Region 1. Wealthy, mixed-ethnic | 2. British, Protestant, working or lower middle class | 3. Italian | 4. German-Dutch-Scandinavian | 5. Mixed-ethnic | 6. French-Canadian, poor | 7. High Income, non-ethnic, (Jewish) |
|---|---|---|---|---|---|---|---|
| 2. British, Protestant working or lower middle class | 20.155 | | | | | | |
| 3. Italian | 44.445 | 25.027 | | | | | |
| 4. German-Dutch-Scandinavian | 17.352 | 15.129 | 26.025 | | | | |
| 5. Mixed-ethnic | 33.129 | 16.301 | 16.943 | 13.278 | | | |
| 6. French-Canadian, poor | 25.983 | 25.191 | 43.209 | 30.673 | 23.271 | | |
| 7. High Income, non-ethnic, (Jewish) | 32.453 | 48.665 | 62.788 | 46.153 | 53.311 | 39.651 | |
| 8. High Income, (British) | 5.595 | 8.014 | 25.545 | 11.982 | 23.246 | 23.021 | 20.662 |

$F_{01} = 2.12$

TABLE 6

LINEAR DISCRIMINANT FUNCTION FOR THE EIGHT SOCIO-ECONOMIC REGIONS

| Function | 1.Wealthy, mixed-ethnic | 2.British, Protestant, working or lower middle class | 3.Italian | 4.German-Dutch-Scandinavian | 5.Mixed-ethnic | 6.French-Canadian, poor | 7.High Income, non-ethnic, (Jewish) | 8.High Income (British) |
|---|---|---|---|---|---|---|---|---|
| Variable | | | | | | | | |
| 3. % British | 5.805 | 5.042 | 4.946 | 4.757 | 4.891 | 4.601 | 5.352 | 5.142 |
| 4. % French-Canadian | -11.135 | -12.072 | -12.818 | -12.580 | -12.919 | -8.56[illegible] | -12.227 | -11.931 |
| 5. % German-Dutch-Scandinavian | 4.205 | 4.000 | 4.105 | 5.103 | 3.327 | 3.415 | 4.555 | 4.600 |
| 6. % Italian | -0.531 | -0.558 | -0.170 | -0.983 | -1.144 | -0.573 | -0.694 | -0.440 |
| 10. % Jewish | 5.065 | 5.584 | 5.622 | 5.576 | 5.605 | 5.051 | 6.141 | 5.711 |
| 11. % Roman Catholic | 5.919 | 6.188 | 6.558 | 6.650 | 6.679 | 5.264 | 6.443 | 6.324 |
| 12. % United Church | 5.640 | 5.711 | 5.290 | 5.719 | 4.955 | 4.998 | 5.930 | 6.416 |
| 14. % 3-5 years of high school | 6.310 | 5.925 | 5.969 | 6.791 | 6.034 | 5.650 | 5.837 | 6.221 |
| 15. % 1 or more years of university | -4.135 | -4.629 | -4.778 | -4.855 | -4.632 | -4.413 | -5.730 | -4.939 |
| 17. % of households with exclusive use of flush toilet | 2.509 | 2.496 | 2.629 | 2.512 | 2.397 | 1.923 | 2.523 | 2.549 |
| 18. % of the labour force looking for work | -1.943 | -2.008 | -1.645 | -1.845 | -0.791 | 0.065 | -0.513 | -2.061 |

TABLE 6 ---Continued

| Variable | Function 1.Wealthy, mixed-ethnic | 2.British, Protestant, working or lower middle class | 3.Italian | 4.German-Dutch-Scandinavian | 5.Mixed-ethnic | 6.French-Canadian, poor | 7.High Income, non-ethnic, (Jewish) | 8.High Income (British) |
|---|---|---|---|---|---|---|---|---|
| 19. % of the labour force self-employed | 5.969 | 5.454 | 4.713 | 5.157 | 4.505 | 5.492 | 6.784 | 6.170 |
| 20. % of the labour force, managerial, professional, and technical | 8.782 | 8.733 | 9.137 | 8.946 | 8.981 | 7.879 | 9.286 | 8.611 |
| 22. % of the labour force, transport, communication, primary,crafts, production process, etc. | 5.425 | 5.734 | 6.120 | 6.197 | 6.328 | 5.325 | 5.440 | 5.372 |
| 23. % of the labour force earning $4,000 | 11.374 | 11.541 | 11.384 | 11.501 | 11.262 | 10.446 | 11.421 | 11.294 |
| 24. % of the male labour force earning $10,000 or more | -0.028 | 0.790 | 1.088 | 1.085 | 1.564 | 1.265 | 2.860 | 0.398 |

TABLE 7

NUMBER OF CASES CLASSIFIED INTO EACH SOCIO-ECONOMIC REGION

| Region | 1.Wealthy, mixed-ethnic | 2.British, Protestant, working or lower middle class | 3.Italian | 4.German-Dutch-Scandinavian | 5.Mixed-ethnic | 6.French-Canadian, poor | 7.High Income, non-ethnic, (Jewish) | 8.High Income, (British) |
|---|---|---|---|---|---|---|---|---|
| 1. Wealthy, mixed-ethnic | 21 | 0 | 0 | 0 | 0 | 0 | 1 | 2 |
| 2. British, Protestant, working or lower middle class | 1 | 39 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3. Italian | 0 | 1 | 28 | 0 | 0 | 0 | 0 | 0 |
| 4. German-Dutch-Scandinavian | 0 | 0 | 0 | 22 | 0 | 0 | 0 | 0 |
| 5. Mixed-ethnic | 0 | 0 | 0 | 0 | 22 | 0 | 0 | 0 |
| 6. French-Canadian, poor | 0 | 0 | 0 | 0 | 0 | 10 | 0 | 0 |
| 7. High Income, non-ethnic, (Jewish) | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 0 |
| 8. High Income, (British) | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 12 |

TABLE 8

SUMMARY TABLE

| Step Number | Variable Entered | Variable Removed | F Value to Enter or Remove | Number of Variables Included |
|---|---|---|---|---|
| 1 | 20 | % of the labour force, managerial, professional, and technical | 106.705 | 1 |
| 2 | 6 | % Italian | 60.649 | 2 |
| 3 | 14 | % 3 - 5 years of high school | 23.277 | 3 |
| 4 | 17 | % of households with exclusive use of flush toilet | 20.580 | 4 |
| 5 | 11 | % Roman Catholic | 15.421 | 5 |
| 6 | 4 | % French-Canadian | 14.711 | 6 |
| 7 | 22 | % of the labour force, transport, communication, primary, crafts, production process, etc. | 11.379 | 7 |
| 8 | 19 | % of the labour force self-employed | 6.697 | 8 |
| 9 | 24 | % of the male labour force earning $10,000 or more | 10.654 | 9 |
| 10 | 12 | % United Church | 8.669 | 10 |
| 11 | 5 | % German-Dutch-Scandinavian | 6.225 | 11 |
| 12 | 10 | % Jewish | 5.274 | 12 |
| 13 | 18 | % of the labour force looking for work | 4.753 | 13 |
| 14 | 23 | % of the labour force earning $4,000 per year | 4.468 | 14 |
| 15 | 3 | % British | 4.319 | 15 |
| 16 | 15 | % 1 or more years of university | 3.322 | 16 |

the exclusive use of a flush toilet. Per cent Roman Catholic was the fifth most important discriminative variable. Neither class, nor religious, nor ethnic variables alone can be used to account for the socio-economic neighbourhoods found in Toronto. All three interplay to produce the city's socio-economic structure.

The characteristics of each region will be only briefly presented, since these socio-economic divisions are not co-equal with significantly different voting behaviour groupings. It is the latter regions that are of more concern in this paper. Therefore the pertinent characteristics of the eight socio-economic regions of Toronto are not presented in any great details; rather they are resumed in chart-form. (See Table 9.) All the socio-economic properties of the regional groups are presented in Table 10.

The spatial variation vis-à-vis the socio-economic regions seems to be clearly associated with ethnic background and income or economic class. Throughout the City of Toronto and its Inner Suburbs, there are a series of ethnic neighbourhoods, the poorest three being Italian, Mixed-ethnic, and French-Canadian. On the basis of income the British are divided into working class and high income. In the three high income regions the per cent British ranges from 64 to 74. Their representation in the high income regions exceeds that of their numbers in the city and suburbs as a whole. All other ethnic groups, except Italians, have representation in the high income areas, that is commensurate with city-wide averages.

TABLE 9

CHIEF CHARACTERISTICS OF THE SOCIO-ECONOMIC REGIONS OF TORONTO AND ITS INNER SUBURBS

| Region | Location | Significant Properties | Comments |
|---|---|---|---|
| 1. Wealthy, mixed-ethnic | Centred on Bloor and Yonge Streets, with two lobes in north Toronto. See Figure 16. | 26% of the people are 55 years of age or over. 65% are of British descent. 32% have 3-5 years of high school. 49% and 31% of the labour force is clerical and professional-managerial-and technical respectively. 4.5% of the male labour force earns over $10,000 per year. | This elderly indicator is the highest of all the regions. Despite its British majority this region is essentially non-ethnic in character. The largest ethnic grouping in all regions is British. 55% of those in the area under study are of British descent. The level of high school education is the highest of the regions and the income variable is one of the highest. |
| 2. British, Protestant, Working or Lower Middle Class | Mainly concentrated in the east end of Toronto and East York. | 65% are Anglo-Saxon. 32% and 23% of the population are affiliated with the Anglican-Presbyterian and United Church respectively. 34%, the greatest number, have only 1 or more years of elementary schooling. Families are 7% larger than the city average. 43% and 39% are involved in clerical and transportation-communication-processing work. 65% of those working earn less than $4,000 per year. | Although this area is basically British other ethnic groups are represented. For example, 7% are Italian, and 6% are German. Educational level, job type, and income all indicate that this area is basically lower middle or working class. |

TABLE 9 ---Continued

| Region | Location | Significant Properties | Comments |
|---|---|---|---|
| 3. Italian | This community is found in West Toronto and York. | 42% of the people have immigrated to Canada between 1946 and 1961. Italians, with 35%, almost outnumber the English, who hold a decreasing 38%. Of course the majority of people are Roman Catholic. 42% have only 1 or more years of elementary schooling. 35% and 44% are employed in clerical-sales, and transportation-communication-primary-crafts-production processing respectively. 69% of the labour force earn less than $4,000 per year. | This area has the greatest proportion of New-Canadians. Most of them being Italian. Both the levels of schooling and income approach city lows. |
| 4. German-Dutch-Scandinavian | Centred basically north and east of High Park. | 10% of the people are of German, Dutch, and Scandinavian descent. Religious and educational variables are pretty normally distributed. 44% and 35% are employed in clerical-sales, and transportation-communication-processing etc. respectively. 63% of the labour force earn under $4,000 per year. This is close to the city average of 62%. | Although 52% of the population claims British descent, this region has a significant German-Dutch-Scandinavian flavour. In terms of educational level, job types, and income this region quite faithfully reflects city averages. |

TABLE 9 ---Continued

| Region | Location | Significant Properties | Comments |
|---|---|---|---|
| 5. Mixed-ethnic | West end of the City of Toronto between the Italian and German Regions. | 39% British descent.<br>17% Polish-Russian-Ukrainian.<br>13% Italian, and<br>6% German-Dutch-Scandinavian.<br>41% have completed 1 or more years of elementary school.<br>37% and 43% of the people are employed in sales-clerical, and transportation-communication-processing etc. The per cent earning less than $4,000 per year is 8% greater than the average. Again one of the highest. | This region is a mosaic of ethnic background. Education and income levels are low.<br>80% of the people are in lower status jobs. |
| 6. French-Canadian, poor | This region straddles the Central Business District below College Street. | 10% of people in this area are French-Canadians. The education level is the lowest in the city with 45% of the population having completed 1 or more years of elementary school. Family size is the largest in the city and there is the greatest number of households, 47%, that do not have the exclusive use of a flush toilet. The major source of employment is in lower echelon jobs, as was the case in Region 5. 70% of the people earn less than $4,000 per year and 9%, the city's highest, are looking for work. | In many respects this region is the city's poverty ghetto. It has the city's lowest level of education, the least number of homes with exclusive use of toilet facilities, the largest number of people out of work, and the lowest income level. |

TABLE 9 ---Continued

| Region | Location | Significant Properties | Comments |
|---|---|---|---|
| 7. High Income, Non-ethnic, (Jewish) | This region lies in Forest Hill and the Rosedale-Leaside areas. | The salient feature of this region is that 18% of the male labour force earn over $10,000 per year. The city's average is 3%. Other city highs are per cent Jewish 19% (city average is 4%); per cent 1 or more years of university 19% (city average is 6%); per cent self-employed 22% (city average is 9%); and per cent managerial-professional-technical 49% (city average is 18%). | This region is "la creme de la creme". One of its suburbs — Forest Hill — has become synonymous with success and affluence in Canada. |
| 8. High Income, (British) | This region is somewhat fragmented and scattered along the north of Toronto City and East York. | This area is not as wealthy as Region 7 and more like Region 1, except that it is quite Waspish in composition. 74% of the people are of British descent. This is the highest the British variable reaches in the eight regions. | This region is poorly defined, suggesting that British descent is less and less associated with high income. This region is a residual of former British ascendency in the city. |

TABLE 10

NATURE OF THE EIGHT SOCIO-ECONOMIC REGIONS

| Variable | Region 1. Wealthy, mixed-ethnic | 2. British, Protestant, working or lower middle class | 3. Italian | 4. German-Dutch-Scandinavian | 5. Mixed-ethnic | 6. French-Canadian, poor | 7. High Income, non-ethnic, (Jewish) | 8. High Income, (British) | Overall Means |
|---|---|---|---|---|---|---|---|---|---|
| 1. % 55 years and older | 26.042 | 19.400 | 15.069 | 18.909 | 17.091 | 21.900 | 25.571 | 25.462 | 20.333 |
| 2. % immigrated to Canada between 1946 and 1961 | 23.000 | 20.150 | 41.759 | 31.455 | 34.727 | 20.600 | 12.214 | 15.308 | 26.443 |
| 3. % British | 65.583 | 65.175 | 38.414 | 51.955 | 38.636 | 45.500 | 64.357 | 74.154 | 55.218 |
| 4. % French-Canadian | 3.625 | 4.775 | 2.345 | 3.546 | 4.227 | 10.200 | 1.857 | 2.769 | 3.914 |
| 5. % German-Dutch-Scandinavian | 7.542 | 6.150 | 4.326 | 10.364 | 5.546 | 5.800 | 5.214 | 6.692 | 6.523 |
| 6. % Italian | 1.667 | 6.725 | 34.448 | 3.818 | 12.955 | 4.000 | 1.214 | 2.385 | 10.144 |
| 7. % Polish-Russian-Ukrainian | 4.500 | 3.725 | 6.759 | 13.636 | 17.045 | 7.400 | 8.929 | 3.154 | 7.862 |
| 8. % Anglican-Presbyterian | 33.667 | 31.925 | 19.793 | 25.136 | 18.909 | 24.400 | 30.786 | 35.308 | 27.368 |
| 9. % Greek Orthodox and Ukrainian | 2.542 | 4.300 | 4.207 | 6.636 | 10.182 | 8.600 | 1.000 | 3.539 | 5.006 |
| 10. % Jewish | 2.833 | 0.575 | 5.000 | 3.273 | 3.546 | 2.800 | 21.786 | 1.923 | 4.276 |
| 11. % Roman Catholic | 20.958 | 27.125 | 50.035 | 32.273 | 44.273 | 33.400 | 12.714 | 17.385 | 31.385 |
| 12. % United Church | 23.208 | 23.425 | 12.690 | 18.136 | 11.955 | 19.000 | 26.071 | 30.539 | 19.977 |

TABLE 10 ---Continued

| Variable | Region 1.Wealthy, mixed-ethnic | 2.British, Protestant, working or lower middle class | 3.Italian | 4.German-Dutch-Scandinavian | 5.Mixed-ethnic | 6.French-Canadian, poor | 7.High Income, non-ethnic, (Jewish) | 8.High Income, (British) | Overall Means |
|---|---|---|---|---|---|---|---|---|---|
| 13. % 1 or more years elementary school | 20.750 | 33.450 | 42.241 | 28.045 | 41.136 | 44.600 | 11.714 | 22.692 | 31.540 |
| 14. % 3-5 years of high school | 32.000 | 16.275 | 12.000 | 25.000 | 11.864 | 11.300 | 31.143 | 28.077 | 20.069 |
| 15. % 1 or more years of university | 13.250 | 2.125 | 1.724 | 5.454 | 2.364 | 2.700 | 18.500 | 6.846 | 55.747 |
| 16. % persons per family compared to the average | 93.167 | 106.550 | 105.586 | 97.136 | 109.227 | 109.600 | 103.000 | 97.308 | 102.891 |
| 17. % of households with exclusive use of flush toilet | 87.375 | 88.425 | 84.793 | 84.955 | 76.045 | 52.700 | 95.000 | 92.231 | 84.431 |
| 18. % of the labour force looking for work | 2.292 | 3.175 | 4.241 | 2.955 | 5.409 | 8.900 | 1.857 | 2.000 | 3.621 |
| 19. % of the labour force self-employed | 8.583 | 5.925 | 7.690 | 6.682 | 7.500 | 9.100 | 21.571 | 7.692 | 8.454 |
| 20.% of the labour force,managerial-professional-technical | 30.583 | 10.775 | 8.655 | 15.409 | 7.818 | 10.000 | 49.357 | 25.154 | 17.500 |

TABLE 10 ---Continued

| Variable | Region 1.Wealthy, mixed-ethnic | 2.British, Protestant, working or lower middle class | 3.Italian | 4.German-Dutch-Scandinavian | 5.Mixed-ethnic | 6.French-Canadian, poor | 7.High Income, non-ethnic, (Jewish) | 8.High Income (British) | Overall Means |
|---|---|---|---|---|---|---|---|---|---|
| 21. % of the labour force, clerical, sales, service, and recreation | 48.583 | 43.000 | 34.759 | 44.273 | 36.864 | 42.200 | 39.357 | 47.231 | 41.759 |
| 22. % of the labour force in transport, communication, primary, crafts, production process, etc. | 15.542 | 38.975 | 44.172 | 35.000 | 43.091 | 32.300 | 8.357 | 23.846 | 32.649 |
| 23. % of the labour force earning $4,000 | 55.167 | 64.700 | 69.000 | 62.636 | 69.818 | 69.700 | 38.643 | 51.462 | 61.690 |
| 24. % of the male labour force earning $10,000 or more | 4.500 | 0.425 | 0.069 | 0.909 | 0.046 | 0.500 | 17.857 | 4.154 | 2.624 |

## 4.4 Voting Behaviour

### Voting Behaviour in Relation to Socio-Economic Regions

Although the eight refined regions adequately portray the socio-economic intraurban structure, they do not completely reflect the city's voting behaviour. A multiple discriminant analysis utilizing three dependent variables: per cent Liberal vote, per cent New Democratic Party vote, and per cent of the electorate that voted[4] indicated that regions 1 and 7, 3 and 4, and 4 and 5 were not significantly different. In the analysis of regional differences with a $F_{01} = 3.91$, regions 1 - 7, regions 3 - 4, and regions 4 - 5 have F's of 1.98, 1.33, and 2.77 respectively, it must be concluded that in the case of these regions the null hypothesis is accepted. (See Table 11.) This conclusion is re-enforced by examining the amount of misclassification evident in Table 12. Indeed the number of misclassification seems to bring into question the rationale behind several of the regions. For example in the case of Region 8, less than half of the census-electoral tracts are properly classified according to their voting behaviour. In some instances more Region x cases are classed as Region y, than are under their designated class. This is true of Region 7 and Region 4 cases and almost true for Region 5 as well. This

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[4] $F_{01}$ for the last of the three variables included, per cent Liberal vote, was 2.07 . Its critical value being 1.92 at the same level of significance.

TABLE 11

F MATRIX SHOWING THAT ALL SOCIO-ECONOMIC REGIONS ARE NOT SIGNIFICANTLY DIFFERENT IN TERMS OF VOTING BEHAVIOUR VARIABLES

| Region | 1. Wealthy, mixed-ethnic | 2. British, Protestant, working or lower middle class | 3. Italian | 4. German-Dutch-Scandinavian | 5. Mixed-ethnic | 6. French-Canadian, poor | 7. High Income, non-ethnic, (Jewish) |
|---|---|---|---|---|---|---|---|
| 2. British, Protestant, working or lower middle class | 55.405 | | | | | | |
| 3. Italian | 28.565 | 15.362 | | | | | |
| 4. German-Dutch-Scandinavian | 17.178 | 16.575 | 1.326 | | | | |
| 5. Mixed-ethnic | 22.775 | 13.870 | 5.950 | 2.766 | | | |
| 6. French-Canadian, poor | 30.158 | 38.657 | 38.390 | 28.031 | 17.441 | | |
| 7. High Income, non-ethnic, (Jewish) | 1.977 | 45.576 | 28.651 | 20.497 | 26.936 | 34.389 | |
| 8. High Income, (British) | 8.473 | 18.358 | 15.153 | 12.543 | 17.436 | 33.919 | 5.336 |

$F_{01} = 3.91$

TABLE 12

NUMBER OF CASES CLASSIFIED INTO REGION

| Region | 1. Wealthy, mixed-ethnic | 2. British, Protestant, working or lower middle class | 3. Italian | 4. German-Dutch-Scandinavian | 5. Mixed-ethnic | 6. French-Canadian, poor | 7. High Income, non-ethnic, (Jewish) | 8. High Income, (British) |
|---|---|---|---|---|---|---|---|---|
| 1. Wealthy, mixed-ethnic | 10 | 0 | 0 | 0 | 1 | 1 | 9 | 3 |
| 2. British, Protestant, working or lower middle class | 2 | 32 | 3 | 1 | 0 | 0 | 0 | 2 |
| 3. Italian | 33 | 9 | 6 | 9 | 1 | 1 | 0 | 0 |
| 4. German-Dutch-Scandinavian | 1 | 1 | 6 | 7 | 5 | 0 | 0 | 2 |
| 5. Mixed-ethnic | 1 | 3 | 2 | 4 | 8 | 3 | 0 | 1 |
| 6. French-Canadian, poor | 0 | 0 | 0 | 0 | 2 | 8 | 0 | 0 |
| 7. High Income, non-ethnic, (Jewish) | 3 | 0 | 0 | 1 | 0 | 0 | 8 | 2 |
| 8. High Income, (British) | 0 | 1 | 3 | 0 | 0 | 0 | 3 | 6 |

degree of cross classification suggested that some regions should be combined.

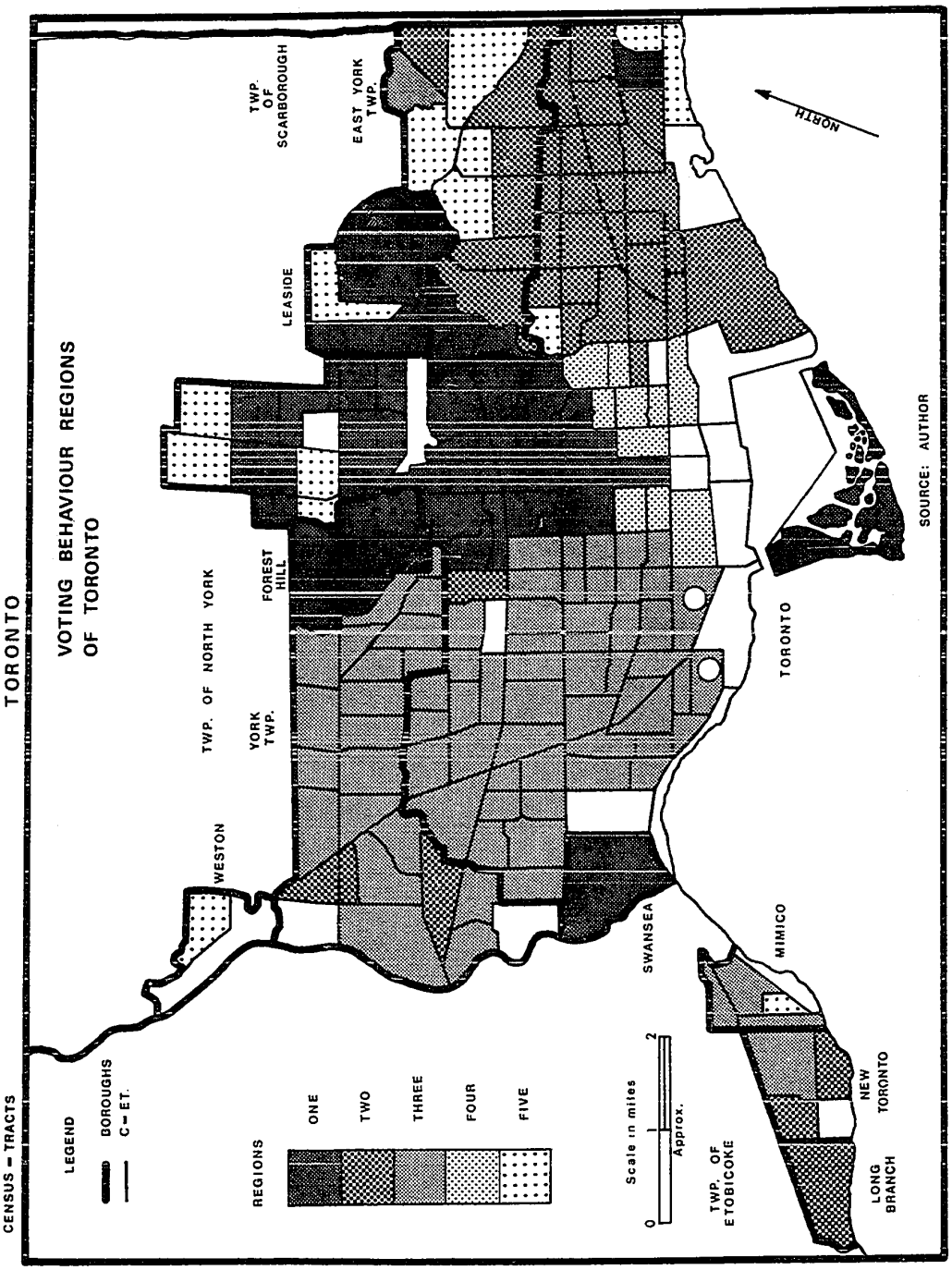
The initial Toronto voting behaviour regionalization along strict socio-economic lines having proved inadequate a reappraisal was in order. Careful examination of Tables 11 and 12 indicates that a more rational classification would collapse the eight regions into five. The new regions would be as follows:

Region 1 High Income, Mixed-Ethnic -- formerly Regions 1 and 7;
Region 2 British, Protestant, Working or Lower Middle Class -- composition unchanged;
Region 3 Mixed-Ethnic -- formerly regions 3,4,5;
Region 4 Poor, French-Canadian -- Region 6 unchanged; and
Region 5 High Income British -- Region 8 unchanged.

(See Figure 17.) Once again multiple discriminant analysis proved the validity of the hypothesized voting behaviour regionalization. The new regionalization was investigated in terms of all the voting behaviour variables save the N.D.P. vote.

All the five voting behaviour regions were significantly different. (See Table 13.) All F's are well above $F_{01}$ critical level of 3.91 . The F ratio of region one and of region five is 8.47 indicating there is still a slight affinity between these regions.

Reference to Table 13 clearly supports the stance that the voting behaviour is better explained by a five class regionalization as opposed to the eight class regionalization valid for


TORONTO
VOTING BEHAVIOUR REGIONS
OF TORONTO
LEGEND
BOROUGHS
C – ET.
REGIONS
ONE
TWO
THREE
FOUR
FIVE
CENSUS – TRACTS
Scale in miles
Approx.
0
1
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NORTH
SOURCE: AUTHOR
WESTON
TWP. OF NORTH YORK
YORK TWP.
FOREST HILL
LEASIDE
TWP. OF SCARBOROUGH
EAST YORK TWP.
TORONTO
SWANSEA
MIMICO
TWP. OF ETOBICOKE
NEW TORONTO
LONG BRANCH

Figure 17

TABLE 13

F MATRIX (DEGREES OF FREEDOM 3 167) SHOWING THAT ALL THE VOTING BEHAVIOUR REGIONS ARE SIGNIFICANTLY DIFFERENT

| Region | 1. High Income, mixed-ethnic | 3. British, Protestant, working or lower middle class | 4. Mixed-ethnic | 5. Poor, French-Canadian |
|---|---|---|---|---|
| 2. British, Protestant, working or lower middle class | 77.362 | | | |
| 3. Mixed-ethnic | 56.679 | 24.292 | | |
| 4. Poor, French-Canadian | 35.239 | 33.741 | 29.159 | |
| 5. High Income, British | 8.467 | 18.281 | 19.211 | 30.741 |

$F_{01} = 3.91$

TABLE 14

DISCRIMINANT FUNCTIONS FOR THE FIVE VOTING BEHAVIOUR REGIONS

| Variable | Function 1. High Income, mixed-ethnic | 2. British, Protestant, working or lower middle class | 3. Mixed-ethnic | 4. Poor, French-Canadian | 5. High Income, British |
|---|---|---|---|---|---|
| 25. % Liberal Vote | 1.754 | 1.296 | 1.552 | 1.594 | 1.517 |
| 26. % Progressive Conservative Vote | -0.505 | -0.813 | -0.908 | -0.543 | -0.556 |
| 27. % of the Electorate that voted | 3.990 | 3.897 | 3.982 | 3.233 | 4.080 |

TABLE 15

NUMBER OF CASES CLASSIFIED INTO EACH VOTING BEHAVIOUR REGION

| Region | 1. High Income, mixed-ethnic | 2. British, Protestant, working or lower middle class | 3. Mixed-ethnic | 4. Poor, French-Canadian | 5. High Income, British |
|---|---|---|---|---|---|
| 1. High Income, mixed-ethnic | 28 | 0 | 2 | 1 | 7 |
| 2. British, Protestant, working or lower middle class | 2 | 34 | 2 | 0 | 2 |
| 3. Mixed-ethnic | 5 | 18 | 40 | 7 | 3 |
| 4. Poor, French-Canadian | 0 | 0 | 1 | 9 | 0 |
| 5. High Income, British | 1 | 0 | 3 | 0 | 9 |

socio-economic variations. Only 30 per cent of the census-electoral tracts are now misclassified. For most phenomena a misclassification of from 10 to 20 per cent is acceptable.[5] In the case of voting behaviour the acceptable level of misclassification may be even higher.

A human response like voting behaviour is too complicated to hope to be able to categorize it completely in terms of fairly strict socio-economic variables. There is also a problem of time lag which introduces possible error. This is traceable to the fact that socio-economic data is drawn from the 1961 census while the election under study took place in 1968. Despite this limitation the five voting behaviour regions of Toronto provide many insights into that city's voting behaviour.

## Characteristics of the Electoral Regions

Region 1 exhibits a high voter turnout and tends to be dominated by the Liberal Party. (See Table 16.) Their chief threat comes from the Conservatives. The census-electoral tracts in this region form a wedge that stretches north from the core of the city. Region 1 has a high proportion of Anglo-Saxons and Jews, 65 and 10 per cent respectively. In this area there is a high level of formal education as well as a high proportion of the working class employed in high status positions, e.g., 38 per cent of the labour force is managerial-professional-technical. This region also exhibits the highest

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[5]Leslie J. King, op. cit., p. 207.

TABLE 16 NATURE OF THE FIVE VOTING REGIONS

| Variable | 1. High Income, mixed-ethnic | 2. British, Protestant, working or lower middle class | 3. Mixed-ethnic | 4. Poor, French-Canadian | 5. High Income, British | Overall Means |
|---|---|---|---|---|---|---|
| 1. % 55 years and older | 25.868 | 19.400 | 16.836 | 21.900 | 25.462 | 20.333 |
| 2. % immigrated to Canada between 1946 and 1961 | 19.026 | 20.150 | 36.534 | 20.600 | 15.308 | 26.443 |
| 3. % British | 65.132 | 65.175 | 42.562 | 45.500 | 74.154 | 55.218 |
| 4. % French-Canadian | 2.974 | 4.775 | 3.274 | 10.200 | 2.769 | 3.914 |
| 5. % German-Dutch-Scandinavian | 6.684 | 6.150 | 6.712 | 5.800 | 6.692 | 6.523 |
| 6. % Italian | 1.500 | 6.725 | 18.740 | 4.000 | 2.385 | 10.144 |
| 7. % Polish-Russian-Ukrainian | 6.132 | 3.725 | 11.932 | 7.400 | 3.154 | 7.862 |
| 8. % Anglican-Presbyterian | 32.605 | 31.924 | 21.137 | 24.400 | 35.308 | 27.368 |
| 9. % Greek Orthodox and Ukrainian | 1.974 | 4.300 | 6.740 | 8.600 | 3.539 | 5.006 |
| 10. % Jewish | 9.816 | 0.575 | 4.041 | 2.800 | 1.923 | 4.276 |
| 11. % Roman Catholic | 17.921 | 27.125 | 42.945 | 33.400 | 17.385 | 31.385 |

TABLE 16 ---Continued

| Variable | 1.High Income, mixed-ethnic | 2.British, Protestant, working or lower middle class | 3.Mixed-ethnic | 4.Poor, French-Canadian | 5.High Income, British | Overall Means |
|---|---|---|---|---|---|---|
| 12. % United Church | 24.263 | 23.425 | 14.110 | 19.000 | 30.539 | 19.977 |
| 13. % 1 or more years elementary school | 17.421 | 33.450 | 37.630 | 44.600 | 22.692 | 31.540 |
| 14. % 3 - 5 years of high school | 31.684 | 16.275 | 15.877 | 11.300 | 28.077 | 20.069 |
| 15. % 1 or more years of university | 15.184 | 2.125 | 3.041 | 2.700 | 6.846 | 5.747 |
| 16. % persons per family compared to the average | 96.790 | 106.550 | 104.137 | 109.600 | 97.308 | 102.891 |
| 17. % of households with exclusive use of flush toilet | 90.184 | 88.425 | 82.206 | 52.700 | 92.231 | 84.431 |
| 18. % of the labour force looking for work | 2.132 | 3.175 | 4.206 | 8.900 | 2.000 | 3.621 |
| 19. % of the labour force self-employed | 13.368 | 5.925 | 7.329 | 9.100 | 7.692 | 8.454 |
| 20. % of the labour force managerial, professional, and technical | 37.500 | 10.775 | 10.438 | 10.000 | 25.154 | 17.500 |

TABLE 16 ---Continued

| | 1.High Income, mixed-ethnic | 2.British, Protestant, working or lower middle class | 3.Mixed-ethnic | 4.Poor, French-Canadian | 5.High Income, British | Overall Means |
|---|---|---|---|---|---|---|
| 21. % of the labour force, clerical, sales, service, and recreation | 45.184 | 43.000 | 38.260 | 42.200 | 47.231 | 41.759 |
| 22. % of the labour force in transport, communication, primary, crafts, production process, etc. | 12.895 | 38.975 | 41.082 | 32.300 | 23.846 | 32.649 |
| 23. % of the labour force earning $4,000 | 49.079 | 64.700 | 67.329 | 69.700 | 51.462 | 61.690 |
| 24. % of the male labour force earning $10,000 or more | 9.421 | 0.425 | 0.315 | 0.500 | 4.154 | 2.624 |
| 25. % Liberal Vote | 56.342 | 38.000 | 48.466 | 53.100 | 46.077 | 47.868 |
| 26. % Progressive Conservative Vote | 32.790 | 22.100 | 19.726 | 21.900 | 32.615 | 24.213 |
| 27. % New Democratic Party Vote | 9.737 | 38.650 | 30.055 | 21.200 | 20.308 | 26.356 |
| 28. % of the Electorate that voted | 74.211 | 70.200 | 69.712 | 57.600 | 76.615 | 70.626 |

level of income among the five region, with 9.4 per cent of the male labour force earning more than $10,000 per annum. This high income area has been traditionally Conservative. However, disillusionment with Diefenbaker in the early sixties drove the residents of this region into the more conservative arms of the Liberal Party. The subsequent purging of Diefenbaker from the Conservative leadership has failed to reverse this shift in party loyalty. Each passing day of Trudeau's fiscal responsibility further cements this new bond between high income Region 1 and the Liberal Party.

Region 2 is the scene of a two-way battle between the Liberal and New Democratic Parties. The former received 38 per cent of the vote, but the latter managed to carry it with 39 per cent of the vote. The Progressive Conservatives are a poor third. This is the only region in the area under study which the Liberals lost, and along with Region 3 it helps form the N.D.P.'s area of support.

With 65 per cent of the population British, 82 per cent found in lower status jobs, and 65 per cent of the labour force earning less than $4,000 per year, this region can be considered British-Working Class. This region, located in the east of the City of Toronto and East York, is a long standing part of Toronto's socio-economic structure. Prior to the last decade this area tended to totter between the Conservatives and the Liberals. With the advent of the N.D.P. and its appeal to class, this region has increasingly supported the New Party. This trend may intensify as class cleavages in the society become more

evident and class identification increases.

The Liberal Party commands more votes in Region 3 than any other party, 49 per cent, to the N.D.P.'s 30 per cent, and the Progressive Conservatives' 20 per cent. In this Mixed-Ethnic region 37 per cent of the people have immigrated to Canada between 1946 and 1961. This is 10 per cent more than the city's average. Italians compose 19 per cent of the population, while people of Polish, Russian, and Ukrainian background account for 12 per cent. Seven per cent of the population is German-Dutch-Scandinavian. The proportion of this group is approximately the same in all regions. Like Region 2 this grouping of census-electoral tracts reflects a working class environment. For instance, 38 per cent and 41 per cent of the labour force are employed in clerical-sales, and transportation-communication-primary-crafts-production process industries respectively.

The working class nature of the ethnic neighbourhoods in part accounts for the increasing N.D.P. support. However, this has not yet overcome their traditional tendency to vote Liberal. Invariably, new Canadians immigrated to Canada under Liberal Governments and they have tended to associate good times with the Liberal Party. It remains to be seen whether the N.D.P. can completely mobilize the class tendencies inherent in this region. The west end of the City of Toronto and the Borough of York roughly delineate this region. (See Figure 17.)

East of Region 3, and centred on the lower portion of the Central Business District, is the French-Canadian Region. This area is second only to Region 1 in the amount of support accorded the Liberal Party (53 per cent of the vote). The remaining votes are evenly divided between the Conservatives and the N.D.P. In addition to having a high proportion of French-Canadians (10 per cent) this region also has the lowest level of education, the largest families, and the lowest level of income of all five electoral regions. The voter turnout is also the lowest in this region. Only 58 per cent of the electorate voted in the 1968 Federal Election. This is not difficult to understand. The people in this region have benefited very little from this society and their level of political consciousness has not crystallized into a protest vote. Indeed, an "Establishment" vestige like the Liberal Party can count this region as one of its strongest areas of support. This no doubt is so because French-Canadians, outside of Quebec, consistently vote Liberal. It is also characteristic that much of the poverty class, due to the hypnotic effect of the media, has adopted middle class values[6] and support the middle class political party--the Liberal Party.

Along the periphery of regions 1 and 2, one encounters a poorly defined High Income British Region. (See Figure 17.) Again the Liberal Party attracts more votes (46 %) than any

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[6]John Porter, The Vertical Mosaic (Toronto: University of Toronto Press, 1965), pp. 457-90.

other party. This is the only region, in addition to Region 1, in which the Progressive Conservatives make a respectable showing. They poll on the average 33 per cent of the vote. The ethnic composition is overwhelmingly British, while economically this region reflects the same character as Region 1, but with less intensity. This region has the highest voter turnout.

The Liberal Party draws support from all regions of the City of Toronto and its Inner Suburbs. However the intensity of support varies from region to region. In High Income Non-ethnic Region 1 the Liberals poll 56 per cent of the vote. This drops to 38 per cent in the British Working Class Region, the only one that the Liberals failed to carry. The traditional view of the Liberals as a department store party carrying something for everyone still seems to be valid.[7] This pluralistic non-issue approach typified by Trudeau in the 1968 Federal Election, still seems to mean votes and the ensuing political power. Will it in the future?

High income areas seem to be the last areas of significant Tory support. With thinly spread support and an image as foggy as their principles, the Progressive Conservative Party seems destined to continue making a poor showing in Toronto.

On the other hand the N.D.P. has firmly taken a stand as a class party. Its appeal to "anti-establishment"--sometimes class--elements in society ensure it of an enviable base of

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[7]Frank J. Underhill, In Search of Canadian Liberalism (Toronto: University of Toronto Press, 1960), pp. 251-53.

support. But can this base be expanded?

## Relationship Between Party Vote and Linear Combination of Socio-Economic Traits

In order to assess the overall influence of selected socio-economic traits on individual voting behaviour parameters, a series of multiple regression studies analysing the interrelationships between party vote, voter turnout and a number of socio-economic parameters were run on a stratified random sample of census tracts. The sample was designed to reduce autocorrelation effects--socio-economic neighbourhood effects--by sampling a number of tracts from each of the socio-economic regions derived earlier in this thesis. Basically, the tracts were chosen at random from each region so that contiguous tracts located in the same regional unit were excluded from the sample, which should filter out local spatial autocorrelation effects.

This examination of electoral regions and their characteristics indicated that certain socio-economic traits are strongly associated with variations in voting traits. To ascertain the strength and nature of the significant predictor variables on party support and voter turnout four regression models were evaluated. These models explained 82 per cent, 79 per cent, and 85 per cent respectively of the Liberal, Progressive Conservative, and N.D.P. vote, as well as 78 per cent in the voter turnout level.

## Model 1 : The Liberal Party Vote

The first multiple regression model reveals that there exists an inverse set of relationships between the spatial variations in Liberal vote and two variables--one assessing the variations in the distribution of people of British descent and the other describing the spatial distribution of blue-collar workers. These variables account for 44 per cent and 29 per cent respectively of the spatial variation in the Liberal vote. (See Table 17.) It can be deduced that those of non-British descent and white-collar workers favour the Liberal Party. In the area under study the British ethnic variable is strongly associated with unionized blue-collar workers who seem to vote N.D.P. Areas in which there are a great number of people with a university education would tend to support the Liberal Party, since 7 per cent of the Liberal vote is derived from the independent variable--per cent of the population with 1 or more years of university. People of Polish, Russian, and Ukrainian descent account for another 2 per cent of the Liberal vote. Thus in descending order of importance 82 per cent of the Liberal vote can be accounted for by areas in which the people are of non-British descent, (especially Polish, Russian, and Ukrainian). As well, white-collar areas, and those that have a high proportion of people with some university education, would also tend to support the Liberal Party.

TABLE 17

THE MULTIPLE REGRESSION FOR THE LIBERAL PARTY VOTE

constant a = 66.5

| Variable | b (partial regression coefficient) | F Ratio | Increase in $R^2$ |
|---|---|---|---|
| $X_{22}$ (% transport, communication, primary, craftsmen, production process, and related workers) | -0.271 * | 13.53 * | 0.291 |
| $X_3$ (% British descent) | -0.299 * | 51.83 * | 0.439 |
| $X_{15}$ (% 1 or more years of university) | 0.875 * | 10.89 * | 0.070 |
| $X_7$ (% Polish, Russian, and Ukrainian) | 0.355 * | 3.81 * | 0.023 |

Multiple R = .907 *

Multiple $R^2$ = .822 *

* = Significant at 0.01 level

Regression equation: $Y_c = 66.5 - 0.271X_{22} - 0.299X_3 + 0.875X_{15} + 0.355X_7$

Model 2 : The Progressive Conservative Party Vote

Seventy-nine per cent of the spatial variation of the Progressive Conservative Party's strength is accounted for by the spatial variations in the distribution of the following traits:

1. per cent of the labour force in managerial, professional, and technical positions;
2. per cent German-Dutch-Scandinavian; and
3. per cent of the labour force employed in transport, communication, primary, crafts, production process, and related industries (blue-collar industries). (See Table 18.)

Sixty-nine per cent of the variance in Progressive Conservative strength can be accounted for by the spatial variation in the percent managerial, professional, and technical variable. Consequently one can expect to find the majority of the party's support traceable to areas where a large proportion of the labour force occupy managerial, professional, and technical positions. The ethnic variable per cent German-Dutch-Scandinavian inversely accounts for another 7 per cent of the spatial variation in Progressive Conservative support. The last variable that has a significant bearing on Progressive Conservative strength is the blue-collar affiliation. This variable inversely explains 3 per cent of the party's vote. Thus areas that have a high proportion of their labour force in managerial, professional, and technical positions, as opposed to blue-collar jobs, can be expected to support the Progressive Conservative

TABLE 18

THE MULTIPLE REGRESSION FOR THE PROGRESSIVE CONSERVATIVE PARTY VOTE

constant a = 34.48

| Variable | b (partial regression coefficient) | F Ratio | Increase in $R^2$ |
|---|---|---|---|
| $X_{20}$ (% managerial, professional, and technical) | 0.415 * | 73.62 * | 0.691 |
| $X_5$ (% German, Dutch, and Scandinavian) | -1.278 * | 9,89 * | 0.073 |
| $X_{22}$ (% transport, communication, primary, craftsmen, production process, and related workers) | -0.246 * | 4.23 * | 0.028 |

Multiple R = .890 *

Multiple $R^2$ = .792 *

* = Significant at 0.01 level

Regression equation: $Y_c = 34.5 + 0.415X_{20} - 1.278X_5 - 0.246X_{22}$

Party. Areas that have a concentration of people of German, Dutch, and Scandinavian descent can be counted upon not to support the"Party of the Empire". Conversely areas where people of British descent are concentrated can be expected to show a preference for the Progressive Conservative Party.

Model 3 : New Democratic Party Vote

The electoral foundation of the N.D.P. is markedly blue-collar. (See Table 19.) Sixty-six per cent of the spatial variation in New Democratic Party strength can be accounted for by the per cent transport, communication, primary, crafts, production process,and related workers variable. The ethnic variable--per cent of the population that is Italian--inversely accounts for 15 per cent of the N.D.P. strength. A poverty variable--per cent of households with the exclusive use of a flush toilet--explains another 3.5 per cent of the spatial variation in N.D.P. support. There is an inverse relationship between the per cent of population with one or more years of university and the spatial variation of New Democratic Party strength. Thus one can expect the New Democratic Party to draw its support from blue-collar, non-Italian, less well-educated, and middle class areas of the city.

Model 4 : Voter Turnout

Seventy-eight per cent of the spatial variation in voter turnout is accounted for by the spatial variation of four socio-economic traits which are as follows: (1) per cent of the labour

TABLE 19

THE MULTIPLE REGRESSION FOR THE NEW DEMOCRATIC PARTY VOTE

constant a = -18.43

| Variable | b (partial regression coefficient) | F Ratio | Increase in $R^2$ |
|---|---|---|---|
| $X_{22}$ (% transport, communication, primary, craftsmen, production process, and related workers) | 0.850 * | 62.73 * | 0.655 |
| $X_6$ (% Italians) | -0.503 * | 24.48 * | 0.149 |
| $X_{17}$ (% of households with exclusive use of flush toilet) | 0.287 * | 6.80 * | 0.035 |
| $X_{15}$ (% 1 or more years of university) | -0.686 * | 3.29 * | 0.016 |

Multiple R = .925 *

Multiple $R^2$ = .856 *

* = Significant at 0.01 level

Regression equation: $Y_c = -18.43 + 0.850X_{22} - 0.503X_6 + 0.287X_{17} - 0.686X_{15}$

force that is professional, managerial, and technical; (2) per cent of the populace that is French-Canadian; (3) per cent Jewish; and (4) per cent of German, Dutch, and Scandinavian descent. Forty-eight per cent of the variance in voter turnout can be accounted for by the spatial variations in the distribution of professional, managerial, and technical personel indicating that areas with a high per cent of professional, managerial, and technical workers will tend to have a good voter turnout. About 13 per cent of the spatial variation in voter turnout is inversely correlated with the spatial variation in the distribution of French-Canadians indicating that areas dominated by French-Canadians will tend to have a low voter turnout. Another 13 per cent and 3 per cent of the spatial variation in voter turnout are inversely associated with per cent of the people Jewish and per cent German, Dutch, and Scandinavian respectively. In areas of the city dominated by either of these ethnic groups one could expect to find a lower than average voter turnout. These same areas tend to vote Liberal. It can be hypothesized that both Jews and French-Canadians do not strongly identify with this society. And when they do vote they follow a band-wagon philosophy and vote for the party in power--the Liberals. (See Table 20.)

It should be noted that per cent managerial, professional, and technical (a class variable) is positively, and per cent French-Canadian, per cent Jewish, and per cent German, Dutch, and Scandinavian (all ethnic variables) are negatively associated with voter turnout. A hypothetical explanation is that an

TABLE 20

THE MULTIPLE REGRESSION FOR VOTER TURNOUT**

constant a = 78.66

| Variable | b (partial regression coefficient) | F Ratio | Increase in $R^2$ |
|---|---|---|---|
| $X_{20}$ (% managerial, professional, and technical) | 0.187 * | 30.97 * | 0.484 |
| $X_4$ (% French-Canadian) | -1.392 * | 10.76 * | 0.130 |
| $X_{10}$ (% Jewish) | -0.478 * | 16.38 * | 0.134 |
| $X_5$ (% German, Dutch, and Scandinavian) | -0.542 * | 4.47 * | 0.033 |

Multiple R = .883 *

Multiple $R^2$ = .789 *

** voter turnout = per cent of the electorate that voted

* = Significant at 0.01 level

Regression equation: $Y_c = 78.66 + 0.187X_{20} - 1.392X_4 - 0.478X_{10} - 0.542X_5$

ideology rooted in the class structure will draw stronger devotees than one grounded in pluralistic non-issues of brokerage politics.

Both the Conservative and the New Democratic Parties are based on class divisions. Seventy-two per cent of the Progressive Conservatives' support is due to class variables. In the case of the N.D.P. the corresponding figure is 70 per cent. On the other hand only 36 per cent of the Liberal Party vote can be accounted for by class variables. If as many studies purport, Canada is becoming increasingly a "class oriented" society, and if Canadians are now more willing to see their individual destinies in terms of class aims, the fact that the Liberal Party depends heavily on the weakening ethnic affiliation does not augur well for the party. (See Table 21.)

## 4.5 Summary

The dominant party in Toronto is the Liberal Party which polled 47.9 per cent of the vote as opposed to 26.4 and 24.2 per cent for the N.D.P. and Progressive Conservatives respectively. Rosedale and Forest Hill are the Liberals' core areas of support, but the party does well in most of the city. This is excepting York and East Toronto where the N.D.P. polls a plurality. The Conservatives' last vestige of strength is in the high income corridor north of Toronto's core. But even here the Progressive Conservatives do not outpoll the Liberals. The spatial variation of support for the respective parties indicated that the N.D.P. is grounded in working class areas. The Liberals gather enough

TABLE 21

SOURCES OF INDIVIDUAL PARTY SUPPORT

| Party | Variable | Nature of the Variable | Proportion of Party Support Contributed by this Variable | Comments |
|---|---|---|---|---|
| Liberal | $X_{22}$ (% transport, communication, primary, craftsmen, production process, and related workers) | class | 29 % | 36% of the Liberals support is due to class affiliation while 46% can be explained by ethnic variables. |
| | $X_3$ (% British descent) | ethnic | 44 % | |
| | $X_{15}$ (% 1 or more years of university) | class | 7 % | |
| | $X_7$ (% Polish, Russian, and Ukrainian) | ethnic | 2 % | |
| Progressive Conservative | $X_{20}$ (% managerial, professional, and technical) | class | 69 % | 72% of the Progressive Conservatives support is class oriented while only 7% is ethnic. |
| | $X_5$ (% German, Dutch, and Scandinavian) | ethnic | 7 % | |
| | $X_{22}$ (% transport, communication, primary, craftsmen, production process, and related workers) | class | 3 % | |

TABLE 21 ---Continued

| Party | Variable | Nature of this Variable | Proportion of Party Support Contributed by this Variable | Comments |
|---|---|---|---|---|
| New Democratic Party | $X_{22}$ (% transport, communication, primary, craftsmen, production process, and related workers) | class | 66 % | 70% of the New Democratic Party support is attributed to class variables, while 15% is explained by ethnic affiliation. |
| | $X_6$ (% Italian) | ethnic | 15 % | |
| | $X_{17}$ (% of households with exclusive use of flush toilet) | class | 4 % | |
| | $X_{15}$ (% 1 or more years of university) | class | 2 % | |

support to outpoll their rivals in most parts of the city. The Progressive Conservatives seem to be appealing to the high income areas but not sufficiently to wrest them from the Liberal fold. The N.D.P. have a firm base, the Liberals' universal appeal bears fruit in greatly divergent areas, while Progressive Conservative support is dissipated because it is concentrated in areas that are dominated by the Liberal Party.

Principal components analysis suggested that socio-economically Toronto was composed of seven to eight regions. The final regionalization, confirmed by the multiple discriminant analysis, consisted of eight regions. These regions explained 86 per cent of Toronto's socio-economic variance. The greatest proportion was accounted for by three high income regions. The amount of variance, accounted for by a single region, was explained by the British, Protestant, Working or Lower Middle Class Region. Another 12 per cent of the socio-economic variance was due to the Italian Community. Three other regions: German - Dutch-Scandinavian, Mixed-Ethnic, and French-Canadian accounted for the rest of the variance.

These eight socio-economic regions only partially reflect voting behaviour regions. Details of the discriminant analysis suggested that certain high income and ethnic regions be combined. The resultant five regions, verified by a multiple discriminant analysis, were as follows: (1) a non-ethnic, high income, high voter turnout area that divided its support on a 60, 30, and 10 basis amongst the Liberals, Progressive Conservatives, and N.D.P.; (2) a strongly N.D.P. British, Protestant,

Working or Lower Middle Class region; (3) a mixed-ethnic region that favours the Liberals but shows signs of flirting with the N.D.P.; (4) an overwhelmingly Liberal somewhat apathetic French-Canadian District; and (5) a high income politically active British region that supports the Liberals more strongly than it does the Conservatives.

A series of four multiple regressions further penetrated the enigma of party preference. The N.D.P. and Progressive Conservatives are both class parties. The latter depending heavily upon the professional-managerial-technical class. The Liberal Party is more all encomposing than its opponents, drawing upon ethnic as well as class support. They have particular appeal to people of non-British descent and those holding white-collar positions.

The electoral regions of Toronto and the four voting models suggest the acceptance of certain class-voting hypotheses put forward in Chapter II. However, other traditional views such as the importance of religious affiliation as a determinant of voting behaviour must be rejected.[8] Religious affiliation did not emerge as an important predictor variable vis-à-vis political preference.

In keeping with studies conducted in other urban areas of Canada,[9] analysis of Toronto revealed that voting behaviour

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[8] Grace Anderson, op. cit. and John Meisel, "Religious Affiliation and Electoral Behaviour: A Case Study", Voting in Canada, ed. John C. Courtney. Both have illustrated the importance of religious affiliation as a voting determinant.

[9] John Wilson, op. cit. and Gagne and Regenstreif, op. cit. felt, based on their work, that class voting in some urban areas in Canada is on the increase.

is being increasingly determined by class variables. For example 70 per cent of N.D.P. support is traceable to class affiliation; in this case working class. Upper middle and upper class support is the foundation of the Conservatives in Toronto. The social class base of the Liberal Party is weak. Fully 46 per cent of the variance in Liberal support is attributable to ethnic variables.

# CHAPTER V

## 5.0 CONCLUSION

### 5.1 Introduction

This study is the first step in a much needed analysis of Toronto's voting behaviour. Dealing with the 1968 Federal Election an attempt was made to relate the intraurban socio-economic structure of Toronto and its Inner Suburbs to the voting behaviour structure.

An initial socio-economic regionalization was suggested by the principal components analysis and refined by the multiple discriminant analysis. The final socio-economic regionalization indicated that the intraurban socio-economic structure of the area under study can best be differentiated into eight regions.

However these regions did not completely correspond to the voting behaviour regions. It was necessary to combine the eight socio-economic regions into five voting behaviour regions. From these a stratified random sample was drawn and the dependent voting variables were analysed in terms of linear regression models.

## 5.2 Problems Encountered

Developing equal units for both the census and electoral data was the most difficult problem encountered in the course of this thesis.

Maps showing census tract boundaries were easily obtainable from the Dominion Bureau of Statistics. However it was almost impossible to obtain maps that showed polling divisions. Once both sets of maps were secured, it was a fairly simple, though time consuming, matter of collapsing polling divisions to form electoral districts equal in area to census tracts. Converting absolute variable data into percentages was also a lengthy process. More time was spent on pre-analysis preparation of the data than was consumed by the actual analysis and ensuing interpretation of results.

## 5.3 The Socio-Economic Geography of Toronto and its Inner Suburbs

The spatial variation of Toronto's socio-economic characteristics can be accounted for by eight socio-economic regions. Less than four per cent of the units of study did not conform to their theoretical region.

Fifty-five per cent of the people living in the study area are of British descent. This is the backdrop against which the other variables interplay to form the eight separate socio-economic regions.

The most clearly defined ethnic regions are the Italian and the British Working Class. Both regions exhibit similar traits, with the Italian Region always being slightly lower on the social class ladder.

Except for the ethnic variable the German-Dutch-Scandinavian Region conforms very closely to the city's average socio-economic conditions. Between this region and the Italian is one of the city's poorest--the Mixed-Ethnic Region. But considering all class variables, the French-Canadian Region is the poorest area in the city. The whole kaleidoscope of Canadian social class structure, vertical mobility of ethnic groups, and the position of Canada's charter races[1] is reflected in Toronto's socio-economic regionalization.

The high income areas of Toronto can be divided into three regions: High Income, Non-ethnic; High Income, (Jewish); High Income, (British). By far, the richest area of Toronto is centred on Forest Hill and Rosedale. Eighteen per cent of the male labour force earns over $10,000 per year compared to a city wide average of three per cent. This region and its two "poorer" high income regions (1 and 8) are overwhelmingly white-collar. Ethnically, the British and even moreso the Jews are over represented in these regions. This conclusion supports Porter's[2] findings for the society as a whole. Germans, Dutch, and

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[1]John Porter, op. cit., p. 60.

[2]Ibid., p. 80.

Scandinavians were represented in proportion to their city average. Polish, Russians, Ukrainians, and French-Canadians were slightly under represented. The Italians were very much under represented.

The wealthy regions of Toronto do not seem to have an ethnic base as such. This does not negate the fact that the British are over represented. However inclusion in a wealthy neighbourhood seems to be based very much on money. Skin colour, racial background, or religious beliefs of the possessor of money seems relatively unimportant compared to his wealth. Is ethnic background really unimportant in determining ones inclusion in a high income region? Or does it simply mean that by the time one is rich enough to live in Forest Hill or Rosedale one is almost assimilated into the English Canadian milieu?

## 5.4 The Voting Behaviour Regionalization

Collapsing some of the eight socio-economic regions yielded five mutually exclusive voting behaviour regions. The largest of these regions was Mixed-Ethnic and included most of the Borough of York and the eastern half of the City of Toronto. The strongest party in this region, the Liberal Party, polls 49 per cent of the vote. Another 30 per cent goes to their main opposition in this area--the New Democratic Party. (As is substantiated by regression model 3 this is due more to class composition of this region than its ethnic make-up.)

Anchored in the east end of Toronto and East York is a British Working or Lower Middle Class Region. By a slim margin the N.D.P. holds sway. Its only threat emanates from the Liberals.

The third major electoral region, the High Income, Non-Ethnic Region, using the Central Business District as its vortex, forms a wedge between the Mixed-Ethnic and British Working or Lower Middle Class Regions. The Liberal Party dominates the region. The Progressive Conservative Party remains a poor second. The other High Income Region differs in that it is more British and slightly "poorer". Again, the Liberals dominate.

The smallest area, the French-Canadian Region, is on either side of the southern arm of the Central Business District. Despite this region's great degree of poverty it does not strongly support the N.D.P. True to their tradition, the French-Canadians support overwhelmingly the Liberal Party.

In all but one region (British, Working or Lower Middle Class) the Liberal Party outpolls all others. Their greatest strength is in the Rich, Non-ethnic and French-Canadian Regions. The poorest showing is made in the British Working Class Region. They also do well in the Mixed-Ethnic and High Income British. The Liberal Party seems to be 'a party of all regions', with the possible exception of the single blue-collar region.

Toronto's second party is the New Democratic Party. Its bastion is the British, Protestant, Working or Lower Middle Class Region. Here it attracts 39 per cent of the vote. The second source of strength for the N.D.P. is the Mixed-Ethnic Region. This is because in addition to being ethnic it is also very much working class.

High income regions are the Tories' sole source of strength. However, this strength cannot be transformed into parliamentary seats because the same area is a Liberal stronghold. And the Liberals outpoll the Conservatives. The Progressive Conservatives by default have become a class party. However, the class that supports it favours another party even more.

The Liberal Party appealing to most societal groupings gains almost half of the votes cast. The remainder of the electorates' support is divided between the N.D.P. and the Progressive Conservative Party, both class parties.

Voting turnout is the highest in the high income districts. An average electoral response can be expected in the working class regions, both British and Mixed-Ethnic. The poverty region of the French-Canadians exhibits a low voter turnout, fully thirteen per cent lower than the city's average.

Although ethnic affiliation is still an important voting behaviour determinant, its ascendency has been usurped by class. The influence of religious variables has not emerged. However this does not bar such an existence. The strength of religious variables could be blurred by the ethnic ones. This suspicion was dispelled by the multiple regression models.

## 5.5 Party Vote and Linear Combination Affect

Eighty-two per cent of the Liberal Vote is explained by four predictor variables. The most important sources of support for 'les Rouges' are non-blue-collar workers and people of non-British descent. These two variables account for 73 per cent of their support. A further nine per cent is traceable to two variables: those with one or more years of university and to the Polish, Russian, and Ukrainian variable.

The Conservative Party is clearly a party of the managerial, professional, and technical class. This social grouping explains 69 per cent of its vote. Another 10 per cent is accounted for by non-blue-collar workers and those who are not of German, Dutch, or Scandinavian descent.

Blue-collar workers provide 66 per cent of the New Democratic Party's support. Another 15 per cent is due to people of non-Italian descent. Although it was noted earlier that the second area of N.D.P. strength is in the Mixed-Ethnic Region, with its high proportion of Italians (19 per cent), it must be concluded that the N.D.P. support in this region is not due to the Italian variable but to the fact that this district is working class. Three per cent and two per cent of this party's vote is explained by its attraction of the poor and its repulsion of the better educated.

Eighty-eight per cent of the voting turnout can be accounted for by four independent variables. The most important

is managerial, professional, and technical class affiliation. This is a positive predictor variable. Thirteen per cent is due to a negative response from each of the Jewish and French-Canadian variables. The final proportion of the turnout, that has been accounted for, is traceable to a negative voter turnout on the part of Germans, Dutch, and Scandinavians.

## 5.6 Implications for the Future

Canadian political scientists have traditionally maintained that the cleavages within the nation are so great that they threaten its very existence. Consequently the political parties have avoided addressing themselves to actual ethnic, religious, and class divisions, for fear of precipitating divisive elements. Both the Conservatives and Liberals in order to unite the country and get elected, have acted as brokers of ideas, selecting those that appeal to the largest number of voters. The Liberal Party has not been liberal nor the Conservative Party conservative; they have both been opportunistic.[3]

The disenfranchised in the class structure have opted for protest parties. The N.D.P., and before it the C.C.F., have been the radical parties in Canada addressing themselves to the realities of social class in Canada. The N.D.P. has based its existence on an appeal to the working class. Such

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[3]John Wilson, op. cit., p. 288.

an approach has assured it a firm base.

The question assumed by a discussion of brokerage politics versus social class politics is: Will Canada's electoral behaviour continue to rise from an undifferentiated puzzle of regional, religious, ethnic, and class variables? Or will Canada with the growth of urbanization and industrialization become increasingly a class society with class based political parties?[4] If the answer to the last question is yes, it would appear that the basis of political parties in Canada will be increasingly social class.

This already seems to have happened in Toronto and its Inner Suburbs. The N.D.P. by design and the Progressive Conservatives by default are class parties. Seventy per cent of the N.D.P. vote is accounted for by Lower Middle and Working Classes. Conversely the Upper Middle and Upper Classes are almost the Conservatives sole sources of support. Only the Liberals remain a brokerage party, with its vote associated with both class and ethnic variables. The latter being more important.

Will the future basis of political parties in Toronto be social class? Or is the Liberals victory in Toronto vindication of the philosophy that in order to achieve widespread electoral success political parties must be brokerage parties?

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[4] Ibid.

## 5.7 Suggestions for Future Study

Since this study deals with only the 1968 Federal Election, it would be profitable to perform the same type of study for prior elections in the sixties and fifties. In this way a progressive increase in class voting migh be ascertained.

Once the 1971 census is released, the study under discussion could be redone using 1971 census data in lieu of 1961 census data. This would increase the validity of the study since the 1971 census will better reflect the socio-economic characteristics of Toronto in 1968 than the 1961 census.

And with the advent of a Federal Election imminent in 1972 the same type of study could be done for the 1972 election using 1971 census data.

Further study is needed in other areas of Canada to substantiate the thesis that social class voting is emerging in Canada. This would appear to be partially true for Waterloo South[5] and Toronto and its Inner Suburbs. But is this pattern indicative of other urban centres? Special attention should be given to class voting in urban French-Canada. For indeed it must be remembered that Canada is not culturally homogeneous: and what is true for the urban centres of English-Canada may not be true for Montreal, Trois-Rivieres, and Quebec City.

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[5] Ibid.

## 5.8 Summary

This study indicates that modern statistical techniques are invaluable in analysing a great deal of data and in formulating precise models. Using the principal components analysis and multiple discriminant analysis this study determined that the socio-economic structure of Toronto and its Inner Suburbs can best be described by the following eight socio-economic regions: (1) Wealthy, Mixed-Ethnic; (2) British, Protestant, Working or Lower Middle Class; (3) Italian; (4) German-Dutch-Scandinavian; (5) Mixed-Ethnic; (6) French-Canadian, Poor; (7) High Income (Jewish); and (8) High Income (British).

However these regions do not adequately reflect voting behaviour. A reappraisal of these regions, subjecting the census-electoral tracts to another discriminant analysis using the voting behaviour traits as discriminant variables resulted in five voting behaviour regions. These regions are: (1) Wealthy (High Income), Mixed-Ethnic; (2) British, Protestant, Working or Lower Middle Class; (3) Mixed-Ethnic; (4) French-Canadian, Poor; and (5) High Income (British). All these regions save the British, Protestant, Working or Lower Middle Class Region favour the Liberal Party above all others. Liberal support is highest in the Wealthy, Mixed-Ethnic Region. In this region the Liberals polled 56 per cent of the popular vote. The French-Canadian, Poor Region had the second highest proportion of the electorate in favour of the Liberals (53 per cent of the popular vote).

Only the British, Protestant, Working or Lower Middle Class area did not accord the Liberals a plurality. In this region the N.D.P. gained 39 per cent of the vote to the Liberal Party's 38. The N.D.P. was also strong in the Mixed-Ethnic (working class) Region.

In no region did the Progressive Conservative Party poll a plurality of the votes. Its greatest support was in the Wealthy regions; however the Liberal Party was even more favoured in these regions.

The linear regression models explained 82 per cent of the Liberal vote, 81 per cent of the Progressive Conservative vote, and 85 per cent of the New Democratic Party vote. The Liberal vote is negatively associated with those of British descent and with blue-collar workers. Forty-six per cent of the Liberal Party vote is due to ethnic variables, while 36 per cent is traceable to class variables.

The Progressive Conservative Party support is overwhelmingly based on social class. Sixty-nine per cent of the support is traceable to class variables.

Similarly the New Democratic Party support is class based. Sixty-five per cent of the party's vote is associated with the transport, communication, primary, craftsmen, production process, and related workers. Additional class support is accorded the party by the poor and the less well-educated.

The Progressive Conservative and New Democratic Parties in Toronto and its Inner Suburbs are overwhelmingly class

parties. Opposing them is the Liberal Party, which still portrays a non-ideological character and thus is able to gain support from diverse socio-economic elements.

# BIBLIOGRAPHY

## BOOKS


Alford, R. R. Party and Society - The Anglo-American Democracies. Chicago: Rand McNally & Co., 1964.

Bain, R. The Changing Voting Pattern in the Non-Metropolitan Areas of Eastern Canada from 1953-1965. Unpublished honours B.A. thesis. Windsor: Department of Geography, University of Windsor, 1969.

Beck, J. M. Pendulumof Power: Canada's Federal Elections. Scarborough: Prentice-Hall of Canada, Ltd., 1968.

Berry, B. J. L., and Marble, D. F. Spatial Analysis A Reader in Statistical Geography. Englewood Cliffs, N. J.: Prentice-Hall, Inc., 1968.

Brown, R. C., and Prang, M. E., ed. Confederation to 1949. Scarborough: Prentice-Hall of Canada, Ltd., 1966.

Buchanan, W. Understanding Political Variables. New York: Charles Scribner's Sons, 1969.

Campbell, A., et al. The American Voter: An Abridgment. New York: John Wiley & Sons, Inc., 1964.

Careless, J. M. S. Brown of the Globe. Toronto: Macmillan Canada Ltd., 1959.

Cole, J. P., and King, C. A. M. ed. Quantitative Geography, Techniques and Theories in Geography. London: John Wiley & Sons Ltd., 1968.

Courtney, J. C. ed. Voting in Canada. Scarborough: Prentice-Hall of Canada, Ltd., 1967.

Crotty, W. J.; Freeman, D. M.; and Gatlin, D. S. ed. Political Parties and Political Behaviour. Boston: Allyn and Bacon, Inc., 1968.

Dawson, R. M. The Government of Canada. 4th ed. Toronto: University of Toronto Press, 1962.

Dixon, W. J.ed. BMD Biomedical Computer Programs. Los Angeles: University of California Press, 1970.

Duverger, M. Political Parties. Translated by Barbara and Robert North. New York: John Wiley & Sons, Inc., 1967.

Engelmann, F. C., and Schwartz, M. A. Political Parties and the Canadian Social Structure. Scarborough: Prentice-Hall of Canada, Ltd., 1967

Fielding, G. J., and Rumage, K. W. Computerized Instruction in Undergraduate Geography. Washington: Association of American Geographers, 1972.

Fox, P. Politics: Canada. Toronto: McGraw-Hill Co. of Canada, Ltd., 1963.

Grant, G. Lament for a Nation: The Defeat of Canadian Nationalism. Toronto: McClelland & Stewart Ltd., 1965.

Gregory, S. Statistical Methods and the Geographer. 2nd ed. Don Mills: Longmans Canada, Ltd., 1968.

Hoel, P. G. Elementary Statistics. 2nd ed. New York: John Wiley & Sons, Inc., 1967.

Jones, R. Community in Crisis: French-Canadian Nationalism in Perspective. Toronto: McClelland & Stewart, Ltd., 1967.

Kerr, D., and Spelt, J. The Changing Face of Toronto: A Study in Urban Geography. Ottawa: Queen's Printer, Geographical Branch, Mines, and Technical Surveys, 1965.

King, L. J. Statistical Analysis in Geography. Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1969.

Land, B. Eglinton, The Election Study of a Federal Constituency. Toronto: Peter Martin Associates, 1965.

Lazarsfeld, P. F., Berelson, B.; and Gaudet, H. The People's Choice, How The Voter Makes Up His Mind In A Presidental Campaign. 3rd ed. New York: Columbia University Press, 1968.

Lipset, S. M. Political Man The Social Basis of Politics. Garden City: Doubleday & Co. Inc. 1963.

Meisel, J. The Canadian General Election of 1957. Toronto: University of Toronto Press, 1962.

Meisel, J. ed. Papers on the 1962 Election. Toronto: University of Toronto Press, 1968.

Murdie, R. A. Factoral Ecology of Metropolitan Toronto, 1951-1961: An Essay on the Social Geography of the City. Chicago: The University of Chicago, Department of Geography, 1969.

Newman, P. C. Renegade in Power: The Diefenbaker Years. Toronto: McClelland & Stewart, Ltd., 1963.

Porter, J. The Vertical Mosaic. Toronto: University of Toronto Press, 1965.

Regenstreif, P. The Diefenbaker Interlude: Party and Voting in Canada. Toronto: Longmans Canada, Ltd., 1965.

Seeley, J. R.; Sim, R. A.; and Loosley, E. W. Crestwood Heights, A Study of the Culture of Suburban Life. Toronto: University of Toronto Press, 1956.

Siegel, S. Nonparametric Statistics for the Behavioural Sciences. New York: McGraw-Hill Book Co., Inc., 1956.

Thorburn, H. G. Politics in New Brunswick. Toronto: University of Toronto Press, 1961.

Thorburn, H. G. ed. Party Politics in Canada. 2nd ed. Scarborough: Prentice-Hall of Canada, Ltd., 1967.

Underhill, F. J. In Search of Canadian Liberalism. Toronto: University of Toronto Press, 1960.

Wade, M. The French-Canadian Outlook. Toronto: McClelland & Stewart, Ltd., 1965.

DATA SOURCES

Chief Electoral Officer. Report of the Chief Electoral Officer, Twenty-Eighth General Election 1968. Ottawa: Queen's Printer, 1969.

Dominion Bureau of Statistics. 1961 Census of Canada: Population and housing characteristics by census-tracts, Toronto. Catalogue: 95, 530. Ottawa: Queen's Printer.

ARTICLES

Anderson, G. M. "Voting Behaviour and the Ethnic Variable: A Study of a Federal Election in Hamilton, Ontario." Canadian Journal of Economics and Political Science, XXXII, (February, 1966), 27-37.

Bain, Robert, and LaValle, Placido. "Regional Aspects of Eastern Canadian Non-Metropolitan Voting Behaviour in the 1965 Federal Election." Proceedings of the Canadian Association of Geographers. Winnipeg: University of Manitoba, 1970, 15-22.

Burghardt, Andrew. "Regions of Political Party Support in Burgenland(Austria)." The Canadian Geographer, VII, 1963, 91-98.

Blake, Donald E. "Measurement of Regionalism in Canadian Voting Patterns." Canadian Journal of Political Science, V, (March, 1972), 55-81.

Brunn, Stanley D.; Hoffman, Wayne L.; and Romsa, Gerald A. "Some Spatial Considerations of the Flint Open Housing Referendum." Proceedings, Association of American Geographers, I, 1969, 26-32.

Brunn, Stanley D.; Hoffman, Wayne L. "The Spatial Response of Negroes and Whites Toward Open Housing: The Flint Referendum." Annals of the Association of American Geographers, LX, (March, 1970), 18-36.

Cairns, Alan C. "The Electoral System and the Party System in Canada." Canadian Journal of Political Science, I, (March, 1968), 55-80.

Courtney, John C., and Smith, David E. "Voting in a Provincial General Election and a Federal By-Election:A Constituency Study of Saskatoon City." Canadian Journal of Economics and Political Science, XXXII, (August, 1966), 338-53.

Cox, Kevin R. "Suburbia and Voting Behaviour in the London Metropolitan Area." Annals of the Association of American Geographers, LVIII, (March, 1968), 111-27.

Cunningham, Robert. "Impact of the Local Canadidate in Canadian Elections." Canadian Journal of Political Science, IV, (June, 1971), 287-90.

Curry, Leslie. "A Bivariate Spatial Regression Operator." The Canadian Geographer, XVI, (Spring, 1972), 1-14.

Davis, Morris. "Ballot Behaviour in Halifax Revisited." Canadian Journal of Economics and Political Science, XXX, (November, 1964), 538-58.

Dean, Edgar P. "How Canada Has Voted: 1867-to 1945." The Canadian Historical Review, XXX, (September, 1949), 227-48.

Dean, Veva K. "Geographical Aspects of the Newfoundland Referendum." Annals of the Association of American Geographers, XXXIX, (March, 1949), 70.

Dion, Leon. "A la recherche d'une methode d'analyse des partis et des groupes d'interet." Canadian Journal of Political Science, II, (March, 1969), 45-63.

Fox, Paul W. "Study of One Constituency in the Canadian Federal Election of 1957." Canadian Journal of Economics and Political Science, XXIV, (May, 1958), 230-40.

Gagne, Wallace, and Regenstreif, Peter. "Some Aspects of New Democratic Party Urban Support in 1965." The Canadian Journal of Economics and Political Science, XXXIII, (November, 1967), 529-50.

Greer, Scott Allen. "Social Structure and Political Process of Suburbia." American Sociological Review, XXV, (August, 1960), 514-26.

Grossman, Lawrence S. " 'Safe' Seats: The Rural-Urban Pattern in Ontario." Canadian Journal of Economics and Political Science, XXIX, (August, 1963), 367-71.

Hardgrove, Erwin C. "On Canadian and American Political Culture." Canadian Journal of Economics and Political Science, XXXIII, (February, 1967), 107-11.

Heasman, D. J. "Political Alignments in Canada." Parliamentary Affairs, XVI, (Autumn, 1963), 419-427.

Hodgins, Bruce W. "Bankruptcy of Concensus Politics in Canada." The South Atlantic Quarterly, LXV, (Summer, 1966), 325-44.

Jewett, Pauline. "Voting in the 1960 Federal By-Elections at Peterborough and Niagara Falls: Who Voted New Party and Why?" Voting in Canada. Edited by John C. Courtney. Scarborough: Prentice-Hall of Canada, Ltd., 1967, 50-70.

Jones, Emrys. "Cause and Effect in Human Geography." Annals of the Association of American Geographers, XLVI, (December, 1956), 369-77.

Kay, Barry J. "Voting Patterns in a Non-partisan Legislature: A Study of Foronto City Council." Canadian Journal of Political Science, IV, (June, 1971), 224-42.

Kish, George. "Some Aspects of the Regional Political Geography of Italy." Annals of the Association of American Geographers, XLIII, (June, 1953), 178.

Komarovsky, Mirra. "The Voluntary Associations of Urban Dwellers." American Sociological Review, XI, 1946, 686-98.

Laponce, Jean-Antoine. "Canadian Party Labels: An Essay in Sematics and Anthropology." Canadian Journal of Political Science, II, (June, 1971), 141-57.

Laponce, Jean-Antoine. "Religious Background of Canadian M.P.s." Political Studies, VI, (October, 1958), 253-58.

Lewis, Pierce F. "Impact of Negro Migration on the Electoral Geography of Flint, Michigan, 1932-1962: A Cartographic Analysis." Annals of the Association of American Geographers, LV, (March, 1965), 1-25.

McPhail, I.R. "The Vote for Mayor of Los Angeles in 1969." Annals of the Association of American Geographers, LXI, (December, 1971), 744-58.

Meisel, John. "Religious Affiliation and Electoral Behaviour: A Case Study." Voting in Canada. Edited by John C. Courtney. Scarborough: Prentice-Hall of Canada, Ltd., 1967, 144-161.

Mercer, D. "Behavioural Geography and the Sociology of Social Action." Area: Institute of British Geographers, IV, 1972, 48-52.

Mitchell, B. "A Comparison of Chi-square and Kolmogorov-Smirnov Tests." Area: Institute of British Geographers, III, 1971, 237-41.

Nolan, Richard, and Schneck, Rodney E. "Small Businessmen, Branch Managers, and their Relative Susceptibility to Right-Wing Extremism: An Empirical Test." Canadian Journal of Political Science, II, (March, 1969), 89-102.

Perlin, George, and Peppin, Patti. "Variations in Party Support in Federal and Provincial Elections: Some Hypotheses." Canadian Journal of Political Science, IV, (June, 1971), 280-86.

Prescott, J. R. V. "The Function and Methods of Electoral Geography." Annals of the Association of American Geographers, XLIX, (September, 1959), 296-304.

Rasmussen, Jorgen. "A Research Note on Canadian Party Systems." The Canadian Journal of Economics and Political Science, XXXIII, (February, 1967), 98-106.

Regenstreif, Peter. "Canadian General Election of 1958." Western Political Quarterly, XIII, (June, 1960), 349-73.

Regenstreif, Peter. "Some Aspects of National Party Support in Canada." Canadian Journal of Economics and Political Science, XXIX, (February, 1963), 59-74.

Regenstreif, Peter. "Note on the 'Alternation' of French and English Leaders in the Liberal Party of Canada." Canadian Journal of Political Science, II, (March,1969), 118-22.

Roberts, Michael, and Rumage, Kennard W. "Spatial Variations in Urban Left-Wing Voting in England and Wales in 1951." Annals of the Association of American Geographers, LV, (March, 1965), 161-78.

Robin, Martin. "The Social Basis of Party Politics in British Columbia." Queen's Quarterly, LXXII, (Winter,1965-66), 675-90.

Robinson, W. S. "Ecological Correlations and the Behavior of Individuals." American Sociological Review, XV, (June, 1950), 351-57.

Rowley, G. "The Greater London Council Elections of 1964 and 1967: A Study in Electoral Geography." Transactions of the Institute of British Geographers, No. 53, (July, 1971), 117-31.

Scarrow, Howard A. "Federal-Provincial Voting Patterns in Canada." Canadian Journal of Economics and Political Science, XXVI, (May, 1960), 289-98.

Scarrow, Howard A. "Voting Patterns and Canada's New Party." Political Science, XIV, (March, 1962), 3-15.

Scarrow, Howard A. "Distinguishing Between Political Parties - The Case of Canada." Midwest Journal of Political Science, IX, (February, 1965), 61-76.

Simmons, James W. "Voting Behaviour and Socio-Economic Characteristics: the Middlesex East Federal Election, 1965." Canadian Journal of Economics and Political Science, XXXIII, (August, 1967), 389-400.

Watson, J. W. "Geography, A Discipline in Distance." The Scottish Geographical Magazine, April, 1955, pp. 1-13.

Wilson, John M. "Politics and Social Class in Canada: The Case of Waterloo South." Canadian Journal of Political Science, I, (September, 1968), 288-309.

The Windsor Star. "Electoral Returns for the 1968 Federal Election." June 26, 1968.

Wirt, Frederick M. "The Political Sociology of American Suburbia: A Reinterpretation." Journal of Politics, XXVII, 1965, 647-66.

Wrong, Dennis Hume. "Ontario Provincial Elections, 1934-1955: A Preliminary Survey of Voting." Canadian Journal of Economics and Political Science, XXIII, (August, 1957), 395-403.

Wrong, Dennis Hume. "Canadian Politics in the Sixties." Politcal Science Quarterly, LXXVIII, (March, 1963), 1-12.

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