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ABSTRACT

The objective of this research was to examine the North American residential preference surfaces of the six traditional regions of Canada. Each regional surface demonstrated a decided spatial regularity in preferences. This regularity was distorted somewhat by local biases and the location of the sample tested relative to the rest of the surface. There was a general tendency to rate the local area high and for preference to decline with increasing distance from the local area. In addition, each surface indicated a strong preference for the west coast here called an 'Eden' effect. A ridge of high desirability generally joined the home and 'Eden' areas and was generally associated with the Canada corridor. Preference declined rapidly to the north and south from this high east - west ridge of residential desirability. The regional views were also combined to provide a Canadian model of residential desirability. Based upon the general characteristics observed in these surfaces, an 'Ideal' model of residential desirability which could be applicable to any surface was hypothesized.

THE CANADIAN REGIONAL NORTH AMERICAN
RESIDENTIAL PREFERENCE SURFACES

By

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B.A. Waterloo Lutheran University, 1973

THESIS

Submitted in partial fulfillment of the requirements
for the Master of Arts degree

1974

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CHAPTER I

INTRODUCTION AND JUSTIFICATION

In his now famous presidential address to the Association of American Geographers, Wright (1947) made a plea for geographic recognition of the geography of the mind. Wright (1947, 12) felt that 'subjective conceptions' based on individual human desires, notions and prejudices must be recognized in scientific geography.

It wasn't until many years after Wright's initial comments that geographers began to consider the geography of the mind. The earliest lead was provided by Lowenthal (1961) who concluded that people in different circumstances have different attitudes about specific locations.

As natives of places we acquire and assimilate information differently than we do as travellers, and personal observation, whether sustained or casual, yields impressions different in quality and impact from those we build out of lectures, books, pictures, or wholly imaginary visions. (Lowenthal, 1961, 260, note 93)

Clearly man's perception of space is shaped by the selective flow of information to which he is subject. Thus man's location in the total information field becomes an increasingly important consideration. As Gould indicates,

Many writers across a range of disciplines and concerns, have commented upon the way in which viewpoints are moulded by the available information. As Herbert Simon notes in a critique of some common clichés (Simon, 1965): Does a man live for months or years in a particular position, exposed to some streams of communication, shielded from others, without the most profound effects upon what he knows, believes, attends to, hopes, wishes, emphasizes, fears and proposes? (Gould, 1973, 217)

Although the flow of information to any individual is unique, he will share many common experiences with those around him. Each individual's political, social, cultural and economic values blend with these selective information flows to create an overall image about the space around him. This image is always particular to him but it also can share parts in common with many. (Gould, 1973a, 184) At the world level, these images are associated with national stereotypes, ethnocentrism, xenophobia, national attitudes and national character. (Saarinen, 1974, 257) Research by Saarinen (1973) has indicated that the most noticeable characteristic among perceived world views is the distinct ethnocentric focus of the views. This reflects what Kirk (1952) has called 'the action of a highly selective cultural filter of values'. Although Kirk's discussion was limited to a large scale cultural filter, it has been assumed that information which is received passes through filters associated with varying scales of geographic consciousness. (Saarinen, 1969) As a result, each individual's perception of the space around him can be associated with neighbourhood, urban, regional and national scales of consciousness. There is an ethnocentric focus at each level such that each level has a different basis for environmental response.

It is this geography of the mind, initially introduced by Wright (1947), now under the label of perception, that this research is concerned with. More specifically, this research is concerned with the question of how people

at a regional level of consciousness perceive and evaluate the geographic space around them in terms of residential desirability.

While many studies concerning man's perception of the world have been conducted, few of them are more than peripherally related to residential desirability. In the review of the literature, the author attempts to provide the background to the development of the perception movement in geography and establish the place of residential preference studies within this field.

Most notable in the field of residential desirability is the pioneering work conducted by Gould (1966a). In this study, Gould had students from different state universities assign rank order listings of their residential preferences for the states in the United States. Based upon the assumption of a national level of orientation in residential desirability, Gould used principle component analysis to construct isoline maps reflecting the relative desirability of various areas in the United States. The conclusions derived from this study indicated that there was a remarkable similarity in the patterns of desirability expressed by the samples. Dissimilarities which appeared to be based upon a distinctive ethnocentric regional focus also occurred. Among the trends established was the tendency to prefer the familiar places close to home, and to consistently view certain select areas as highly desirable. For the purposes of this study, these areas have been termed

'Eden' areas. In all cases, these select areas were related to traditional receptor areas of interstate migration and recreation movement. (Saarinen, 1974, 266) While the existence of a shared surface demonstrated a limited degree of ethnocentric nationalism, the occurrence of an ethnocentric regional focus was so consistent that it raised the question of the relationship between distance and perception. (Gould, 1973a, 219) Gould felt that the decay of information and the ability to discriminate with distance was so marked that the surface could be decomposed into the two residential preference surfaces: a national surface shared by a region or county and a strongly peaked local effect centred on the region of testing. (Gould, 1973a, 219)

Subsequent studies by Gould were concerned with establishing and examining spatial preferences in Britain (Gould and White, 1968), Tanzania (Gould, 1970), the Western region of Nigeria (Gould and Ola, 1970) and Sweden (Gould, 1973b). Although the focus of these studies had shifted to concentrate on information flows, each study tended to confirm the initial pattern. Follow up studies were conducted by many of Gould's pupils and many other authors interested in residential desirability. These studies included work by Aangeenbrug (1968) and Goodey (1968, 1969) in the United States; Cole, Falconer, Brandwood, Simmonds, and Young (1968) in Great Britain; Ola (1968) in Nigeria; and Johnston (1971) in New Zealand. (Gould, 1973a, 218) Subsequent study by Goodey (1969) in North Dakota offered

some variation on the neighbourhood effect. In contrast to Gould's study, the local area was not represented by a preferential peak, however, familiar areas in terms of emigrant destinations did reflect high preferences.

Some subsequent and parallel research has been directed towards environmental preferences and migration. In a recent paper by Svart (1974), the question of the effect of natural environmental preferences was discussed in this context. In reference to work by Ullman (1954), it was noted that environmental conditions associated with mild climates, mountains, coastal location and nearness to large bodies of water were perceived as amenities which strongly influenced residential desirability. These amenities, in turn, affected the areas of strong inter-regional migration. In reference to preferences, Ullman appropriately described the neighbourhood effect alluded to by Gould (1966).

People have their violent preferences and prejudices, starting in a majority of cases with the conviction that where one was born and lives is the best place in the world, no matter how forsaken a hole it may appear to an outsider. (Ullman, 1954, 122)

Thus, Ullman (1954) and Svart (1974) combine to provide a natural environmental foundation for Gould's patterns of preferred residential location. In reference to the Canadian population, Ullman (1954, 124) predicted that the Vancouver area would be the continuing focus of residential desirability in North America. This area was predicted as the most desirable area because it was the region

in Canada which had the aforementioned amenities of the natural environment. Studies by Brown (1973), at a national level of testing, have supported this prediction in terms of the Canadian patterns of preferred locations.

Regional preference studies conducted in other countries can be interpreted as expressions, in part, of natural environmental preferences. In Great Britain, the study by Gould and White (1968) might be explained on either economic or environmental grounds. (Svart, 1974, 3-4) Similarly, regional preference studies in New Zealand show this same tendency towards favourable coastal and climatic locations (Johnston, 1971).

The present study is designed to follow up the initial work by Gould (1966a) and Gould and White (1968) in terms of the basic structure of residential preference surfaces. Based upon the structure of the regional surfaces, a model of residential desirability will be hypothesized. In terms of methodological design, two significant variations are offered in the present study.

The first variation is associated with the assumed scale of widespread agreement in residential preference surfaces. Gould (1966a) worked on the assumption that individuals within a fairly uniform group at a specific location would share common elements of residential desirability. (Gould and White, 1968, 162) Thus, he assumed large scale agreement as part of a national orientation in his use of principle component analysis. In contrast, the present

study is based on the assumption that large scale agreement in national preference surfaces extends only to a regional level of consciousness. The resultant national surface at any larger scale of testing becomes increasingly more distorted by local biases and the effect of perceptual distance.

The second variation is based upon a more idealistic approach to preference evaluations. Although economics play a significant role in everyday life, employment opportunities have been held constant for the purpose of this study. The object was to establish preference evaluations based upon the perceived attributes of the area rather than on their deterministic economic structures. It is realized that economic opportunities play a dominant role in determining residential relocation, however, by discarding this economic limitation, the population is free to evaluate residential preferences based upon freedom of choice. Thus the removal of this consideration will allow other considerations to emerge in the preferential surface.

Up to this point in time, little work has been done on Canadian regional residential preferences. Based upon the well founded thesis of an ethnocentric regionalism in Canada (Merrill, 1970, 559), residential preference will be examined on the Canadian regional level.

Using the results from 474 respondents to a cross Canada survey carried out in 1972, an attempt will be made to present and explain the views of the six traditional

regions of Canada.* (for questionnaire see Appendix I)

When employing the 'mental map' preference patterns, two interacting yet distinct elements of the surface have been recognized. As Gould noted (in Brookfield, 1969,60), these two surfaces, the 'general surface' and 'perceptual distance surface' of space preferences, are superimposed one upon the other. While Gould has indicated a desire to separate these two surfaces in order to analyse and depict the general preference surface as a national surface, this study intends to focus on the regional preference surfaces. This regional surface, being affected by perceptual distance, makes the two surfaces inseparable in establishing and analysing regional preference patterns. Therefore, specific characteristics will be looked for in depicting and examining the regional views.

It is hypothesized that the respondents of each region of Canada will express a regional level of orientation in residential preferences. This hypothesis is based upon the selective information flows associated with the particular region. Based upon this orientation, it is hypothesized that each regional surface will demonstrate the neighbourhood focus alluded to in previous studies (Gould, 1966a, 1966b; Gould and White, 1968; Brown, 1973) and so appropriately described by Ullman (1954, 122). This effect involves the

*These include the Maritimes, Quebec, Ontario, the Prairies, British Columbia and the North (see Putnam and Putnam, 1970).

perception of the immediate area by grouped respondents as being the most desirable in terms of residential preferences. This may be attributed to familiarity as previous studies have shown that familiarity is generally associated with higher desirability. (Saarinen, 1974, 266)

Perception like any other process acting over distance is expected to experience a distance decay effect. As both information flows and familiarity decrease with increasing distance from the region of testing so too would preference be expected to decrease. Therefore it is hypothesized that distance from the region of testing is the factor which will generally determine residential desirability. Thus the effect of distance on preference is seen to be associated with the role determined by Gould's (1966a) second component. In this dimension, it was observed that with the exception of 'Eden' areas, preference was related to distance away from the perception point.

It is also hypothesized that each regional view will demonstrate a limited amount of agreement, which is independent of the distance component, in terms of a North American surface of residential desirability. In particular, the tendency toward a consistent rating of high desirability for one area will be looked for. This is associated with the 'Eden' effect noted in the traditionally favourable areas of migration and recreation in previous work by Gould (1966a), Gould and White (1968) and Johnston (1971). Thus the Vancouver-Victoria area, long a receptor area of inter-

provincial migration and recreation movement, will be expected to be the focus of this 'Eden' effect. Similarly, areas of unfavourableness would be expected to be shared by each regional sample. However, the regional orientation will result in differing emphases of these shared patterns of residential desirability.

Thus the regional patterns of residential desirability will be compared and contrasted based upon the occurrence or the lack of occurrence of these features. In an effort to account for differing patterns of residential desirability, the locational considerations of each regional sample will be examined. Differing emphasis on locational considerations, particularly attributes of the natural environment such as climate and scenery, might prove to be the key in accounting for the differing patterns of residential desirability. Initial studies in the field would indicate that a basic model of residential desirability does exist. (Gould and White, 1968) Thus based upon the regularities observed in the regional surfaces, a model of residential desirability will be developed.

CHAPTER II

REVIEW OF THE LITERATURE:

PERCEPTION IN GEOGRAPHY

AND

THE PLACE OF RESIDENTIAL DESIRABILITY

While studies in residential desirability have been commonly associated with the geographic perception movement, their relationship to the particular research themes of the different schools of thought within the field has never been clearly established. Thus this chapter will briefly trace the historical antecedents and resulting research perspectives that the perception movement in geography has assumed in North America. Studies concerned with residential desirability will then be examined in terms of their theoretical and methodological affinity to the major schools of thought within the perception movement.

Historical Antecedents and Resulting Research
Perspectives of the Perception Movement

In the author's opinion, the historical antecedents and current research traditions of geographic perception in North America, can be classified into four main schools. Two of these schools can be considered essentially geographic in origin. The other two can be traced to the introduction of methodology and the adaptation of perspectives from other social sciences. To date, these schools have failed to develop a unified body of theory and methodology within the confines of geography. (Saarinen, 1969, 3) This may be due to their limited comprehension of the intervening variables between man and his image of the environment, or it might be attributed to the multidisciplinary roots of the geographic perception movement.

The author perceives these four distinct schools of thought to be: Geosophy, Psychogeography, Hazard Studies and Cultural Ecology.

These classifications are based on the roots and essential characteristics of the particular studies which have been carried out in the past and which are presently underway. Their origins are found within independent social sciences which were pursuing somewhat parallel streams of perception research. Under the label of environmental perception they have moved closer together to exist within

the confines of a geographic behavioral paradigm. These studies, although separated by a much smaller gap in both perspective and methodology still maintain distinct yet parallel courses. (figure 1)

The School of Geosophy

Wright's Terrae Incognitae, laid the foundation for Geosophy which is the only 'true' school of geographic perception. It is considered such because it has developed from a pure geographical base in regard to both methodology and orientation.

According to Wright,

Geosophy . . . is the study of geographical knowledge from any or all points of view. To geography, what historiography is to history, it deals with the nature and expression of geographical knowledge both past and present - with what Whittlesey has called, 'man's sense of (terrestrial) space'. Taking into account the whole peripheral realm, it covers the geographical ideas, both true and false, of all manner of people - not only geographers, but farmers and fishermen, business executives and poets, novelists and painters, Bedouins and Hottentots - and for this reason it necessarily has to do in large degree with subjective conceptions. (Wright, 1947, 12)

This research interest covers a wide scope in which the central theme of study is the geographic perceptions of man's past and present environment.

Studies labelled Geosophy, although the actual term is not widely accepted (Brookfield, 1969, 56) were not unknown before the term was coined in 1946. They had existed independently in the field of Historical Geography.

ENVIORNMENTAL PERCEPTION: HISTORICAL ANTECEDENTS & RESULTING RESEARCH PERSPECTIVES

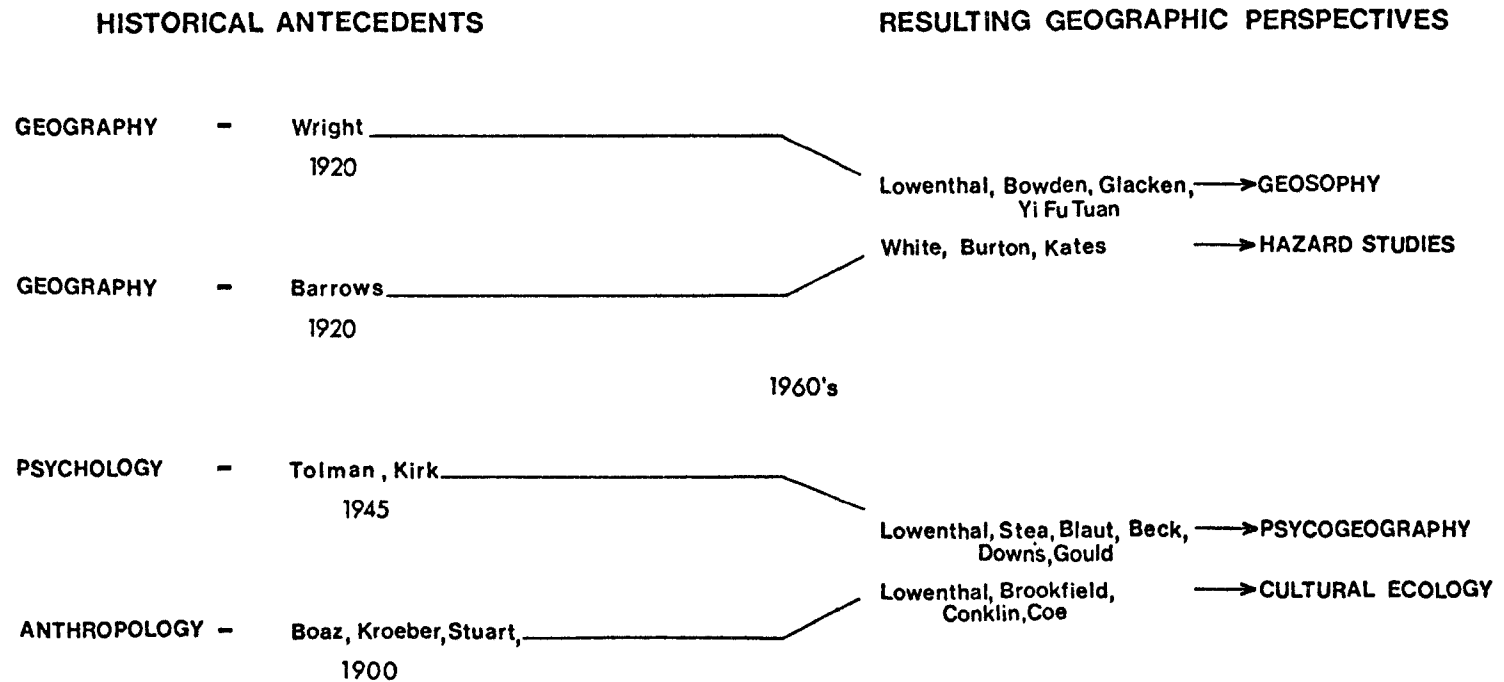


FIGURE 1

Historical Geography did not pose the problem of perception specifically as a study of man's images and how these images affected his environmental behavior. Yet as historical geographers, they were forced to recognize man's errors and misguided beliefs based on their perception. Thus many North American historical geographers began to note the significance of culture in man's creation of landscapes. The most noted examples of this realization comes from the Berkeley School, from authors such as Carl Sauer. (Sauer, 1969) Though it was not until authors like Brown (1943, 1948) and eventually a number of second generation authors like Bowden (1969b) and Heathcote (1963), who specifically took their inspiration from Wright, that Geosophy began to take form as a geographic sub-discipline.

Much of the thinking of this initial period in studies of the subjective element were brought together in Lowenthal's major paper (1961) on personal and universal perception of the world. Lowenthal, one of the most important self-proclaimed disciples of Wright, can be credited more than any other recent geographer for aiding in the introduction of Geosophy and Perception. The writings and subsequent support of a group of Wright's followers including Bowden, Heathcote and Glacken, enabled Wright's ideas to take route.

Recent studies in Geosophy include a wide range of topics. Some examples are:

1. studies concerning man's changing image of specific environments. (M. J. Bowden, J. L. Allen, G.M. Lewis, R. L. Heathcote and others)
2. works dealing with attitudes of various cultural groups towards nature and how these views have affected man's use of nature. (Yi-Fu Tuan)
3. works on the manner in which language structures our classification and organization of the environment. (D. Lowenthal and Yi-Fu Tuan, and Conklin)
4. works on specific landscape aesthetics. (D. Lowenthal and H. C. Prince)
5. studies of the geographic evaluation of environmental quality, as a function of sociological variables. (J. Sonnenfeld)
6. studies of the history of geographic thought. (C. J. Glacken)
7. studies related to images of urban environment. (K. Lynch and De Jong)
8. studies concerned with how man's image affects the exploratory process. (J. K. Wright and J. L. Allen)

This list could be extended to include a number of other topics within Geosophy; these works are only offered as an indication of the diversity and scope of this field. It is the largest and most expansive sub-field of geographic perception.

The School of Psychogeography

At the time that Wright was presenting his ideas in Terra Incognitae, psychologists began to question the importance of the physical environment as perceived by man. This search, by psychologists and geographers alike, for an interdisciplinary answer to the problems of man, laid the

fertile ground for a combination of theories and techniques under a behavioral paradigm. According to L. J. Wood,

With a mixture of ideas from these and other types of study, together with an awareness of the adaptability of various psychological theories and techniques, has evolved the approach within geography that explicitly considers the individual's view of his environment. (Wood, 1970, 130)

The major orientation of this field centres on man's cognitive structuring of the environment. This concerns itself with how man mentally structures and understand the real world. Since perception acts as a filter between man and his environment, it is concerned with values, attitudes and direct sensory experience by individual personalities in varying environmental circumstances. Since sensory abilities, personalities and environmental conditions are all unique, cognitive responses represent variable and subjective images of the world. Environmental behavior is studied as a function of this image and perception as the link between man and the environment. (Downs, 1970, 70)

Other concerns underlying this thematic focus concentrate on the effect of personality and attitudes as they relate to the environment. This is a reciprocal relationship in which the environment affects the formation of personalities and attitudes and the personalities and attitudes affect the environment in particular responses.

Geographers such as Kirk and Lowenthal were instrumental in elaborating on Wright's pleas and adapting the psychological interests to fit a geographic framework.

Kirk (1952) developed the link between psychology and geography as early as 1952. He believed that the major division in geography should be between the Phenomenal Environment and the Behavioral Environment. He recognized that the behavioral environment was an internal environment; and that this environment was the product of cultural conditioning. This was the first statement in geography to make this distinction and frame it in terms of Gestalt psychology. (Brookfield, 1969, 57)

Lowenthal contributed to the development of this school by writing an introduction to his article, Geography, Experience and Imagination, which exemplified the psychological literature as related to perception. This is still regarded by many geographers as the real bridge between the older and modern approaches to perception in geography. (Mercer and Powell, 1972, 40) Substantive elaboration by the aforementioned writers, and contributions from psychologists such as Tolman, Stea and Beck, has enabled this field to take shape within the confines of the geographic perception movement.

Examples of studies in this school can be drawn from works on spatial and environmental cognition from several authors at Clark University, the past home of psychogeography. These include McCleary, Blaut, Stea, Beck and Wood. Peter Gould has done some interesting work within this field, providing an example of the diversity of studies in Psychogeography. These works include application

of game-theoretic models for the analysis of geographic patterns and movements (1963); the modelling of these spatial patterns and decisions as learning processes (1965a); and modelling on a heuristic basis, the aspects of the decision making process in transportation developments as space searching processes (1965c, 1966c).

The School of Hazard Perception

The third field of geographic perception, Hazard Perception, can be considered the 'Chicago School'. Under the impetus of G. F. White, a large body of literature emerged dealing with the perception of environmental hazards and the adjustment to these by man. The lead for such studies can be said to have been provided by Barrows (1923). However, like Wright his comments were untimely.

Thus at the same time that Lowenthal was acting on Wright's pleas for a geography of the mind in geosophy and psychogeography, White was following Barrows lead by pioneering work in regard to environmental perception of natural hazards. (White, 1961) According to Wood, White proposed,

A distinction between a theoretical range of choices open to any resource user and a more limited range of practical choices. The latter partly resulting from the lack of awareness by the resource user of all the possible influences on all the possible courses of action. (Wood, 1970, 132-3)

Therefore Hazard Perception has both a true geographic origin and true geographic innovator. The research perspectives are decidedly geographic in nature, but this

school makes use of psychological methods and tools made available under the behavioral paradigm. These studies initially included perception and the process of adaptation to floods, coastal storms, earthquakes, drought and snow hazard. They have recently been expanded to include tsunami, frost, coastal erosion, and water pollution hazards. (Kates, 1970a, 12) According to Kates these varied studies,

. . . employ all or part of a research paradigm which sought to 1) assess the extent of human occupancy in hazard zones; 2) identify the full range of possible human adjustment to the hazard; 3) study how man perceive and estimate the occurrence of the hazard; 4) describe the process of adoption of damage reducing adjustments in their social context; and 5) estimate the optimal set of adjustments in terms of anticipated social consequence. (Kates, 1970a, 2)

and, according to Brookfield,

Empirically the real starting point seems to be the work of White, Burton, Kates and their collaborators on the hazards of flood damage in North America, which specifically introduced the question of human adjustment to floods and perception of the flood hazard as an element in this adjustment (White, 1961). (Brookfield, 1969, 59-60)

R. Kates (1962) developed the theme of adjustment in a noted work on flood-plain management. With Burton's assistance (1964) this theme was expanded to include a comparison of seashore and flood-plain adjustments. Saarinen (1966) further developed the notion of adjustment in his inquiry into perception of drought hazard on the Great Plains. Many works related to these themes have been pursued. However, the above individuals have provided the initial works in this field. They are today considered the major authori-

ties in the field of Hazard Perception. Their work has encompassed all major areas pertaining to Hazard Perception; thus providing the research paradigms for subsequent study.

The School of Cultural Ecology

The fourth and final school of geographic perception can be called the school of Cultural Ecology. This is the newest and least developed school of geographic perception. This school of thought is closely linked with anthropological and sociological research perspectives concerning the relationship of man to his environment. Thus most of the studies in this school are still concerned with ecosystems in which certain cultures live. These interests include livelihood, social structure, rites and customs. Although perception as an explicit research theme is quite new, it has always been implicitly present in anthropological and sociological studies.

Studies on culture and landscape by Sauer (1941, 1949) and numerous other authors at the Berkeley school, have helped establish the recent link between the interests of anthropology and geography. But more often the work has been done by anthropologists who have applied a geographic perspective. Perhaps the most interesting example of studies in Cultural Ecology can be seen in ethno-science.

The cultural ecology movement in anthropology, within which ethno-science is embedded, is perhaps of particular interest, for links between anthropology and geography have been forged through it, to mutual profit. Ethno-

science is essentially the folk-taxonomy of environment as perceived by the users of that environment, interpreted in important measure by means of tools of linguistics. (Brookfield, 1969, 58)

According to Brookfield,

Perhaps it was the emphasis on holism that delayed the introduction of environmental perception into work in the complex and integrated societies, for the holistic approach is essentially tied to small regions and regional treatment is seen as increasingly unsatisfactory for the handling of modern complexity . . . Certainly recent discussion of environment, real or perceived, among North American geographers has been highly selective. (Brookfield, 1969, 59)

We might well conclude that this school of thought may attribute existence in geography to a number of promoters outside geography. However, the major promotion in geography came from the Berkeley school under Sauer with indirect influences from authors like Lowenthal. Building upon work by Boaz, Kroeber, Stewart and others from within anthropology, authors like Conklin and Coe have joined with geographers like Sauer and later Lowenthal to establish the link between the two sciences. (Brookfield, 1969, 59) Once the link was established geographers have begun to expand these studies to more culturally sophisticated and less selective groups. Geographers conducting work that can be closely associated with both cultural ecology and geosophy, include Lowenthal and Prince and Yi-Fu Tuan.

Place Perception and Residential Desirability

Although studies in residential desirability represent a distinct approach to the study of perception and perceived environments, (Brookfield, 1969, 60), they are peripherally related to each of the four major schools of thought in geographic perception. According to Downs, these studies have been,

...based on the concept of perception. And the basic question is, given a set of spatially differentiated objects, how do people assess these on a scale of preference with relation to some specified behavioural objective? (Downs, 1970, 81)

It is the isolation of residential desirability, as a behavioural objective, which separates it from other studies within the field of perception.

The methodological design and research perspectives of studies in residential desirability relate most closely to the school of Psychogeography. Like Psychogeography, studies of residential desirability are concerned with Gestalt impressions; thus the entire environmental image is involved. However, these studies differ in that residential desirability makes no attempt to assess the subject's total cognitive maps. (Downs, 1970, 81) Instead, residential desirability is,

...an amalgam of the perception of such elements as climate, scenery, urbanism, economic, health, political regionalism and so on. (Brookfield, 1969, 69)

Rather than being a measure of the whole environmental image, place perception studies are used to infer the underlying structure and causes of the spatial variations of residential preferences. (Downs, 1970, 81)

The initial work in this field was conducted by Gould (1966a) who attempted to measure the ways people perceived and evaluated the geographic space around them in terms of residential desirability. In Gould's opinion, these perceptions or 'mental maps' are critical in the formation of decisions which restructure the human landscape. These decisions would include where to settle, where to locate industry, what to grow and would vary with the experience, knowledge and aspirations of each individual. (Gould, in English and Mayfield, 1972, 217)

Distinctions made by place perception studies effectively meet the criticisms of psychogeographers like Hart and Moore (1971, 7-4) who have criticised Gould's use of the term 'mental maps'. They feel that this terminology creates a misleading connection between preference and spatial cognition since such research deals with subjective or evaluative responses to environments and only in some cases to maps and other external representations. Since the 'mental maps' or external representations are constructed post hoc by the experimenter, they feel they do not necessarily imply any parallel representation by the subject.

It may be true that the 'mental map' does not exist wholly within the subject, but, in the author's opinion,

residential preference can be efficiently and effectively depicted in this manner. From this post hoc construction of the surface, an analytic tool for comparison of cumulative preference surfaces is made readily available. Thus place perception studies represent a distinct contribution to the geographic perception movement. Yet these studies must be recognized as an important and undeniable part of the study of man/environment relationships.

According to Gould,

This article has played a modest catalytic role in the analysis of geographic perception of residential desirability. Some studies have replicated the original study at roughly the same, national scale in the United States (Aangeenbrug, 1968; Goodey, 1968a), the United Kingdom (White, 1967a; Cole, Falconer, Brandwood, Simmonds, and Young, 1968), and Nigeria (Ola, 1968). (Gould, 1973a, 218)

Rudimentary attempts have also been made to model the perception surfaces by White (1967a, 1967b); Bassett (1967); Gould (1967b); Gould and White (1968); and Downs (1967).

Methodologically all of these studies are similar, employing factor analytic models on sets of rank ordering of objects. Gould (1966a) has expressed these 'mental maps' cartographically, using principle component analysis in an attempt to isolate 'random noise' to create a general preference surface. From these studies, researchers are attempting to indirectly derive the answers to the spatial variation of space preferences for residential purposes.

CHAPTER III

METHODOLOGY

Place preference research, concerned with the evaluation of residential desirability, is a new field which has recently gained academic recognition by geographers. The impetus for this acceptance has been provided by Gould (1966a, 1966b) who not only introduced the concept of residential desirability but also contributed a new methodological approach. The present study utilizes data which was collected for use in previous analysis. (Brown, 1973)

Thus this study makes use of an existing data base which offers a variation in methodological approach from previous research by Gould (1966a,1966b). Here the author follows a framework similar to Gould's in which residential preferences were determined; however, some important qualifications of the data base used must be pointed out. These qualifications are concerned with the decision process and the means of expressing residential preferences.

In an attempt to eliminate much of the criticism of individual interpretation of the meaning of residential preferences (Downs, 1970, 95), an important qualification was made in the data base in reference to the expression of residential desirability. Gould failed to recognize this important stipulation in ignoring the criticisms of G. Ewing who noted that,

...preference between places or things is only

discernable if all alternatives or opportunities are available in each location. (Ewing, 1969, 3)

In the case where a particular location did not offer the opportunity for employment and thereby the basic necessities of life, no freedom of choice existed for such an area. If the employment opportunities were not available, the respondents residential preferences would reflect this lack of opportunity. Thus, the study eliminated the consideration of job opportunities in order to make the resulting preferences a more meaningful and comparable expression of residential desirability.

Thus, in order that the decision process have meaning it was indicated that in all cases the decision for residential desirability was to be independent of employment opportunity. Therefore, each subject was to assume that he could do whatever he wanted anywhere on the map to support himself. This consideration has been ignored by Gould and as a result has cast doubts upon his respondents' expressions of comparative residential desirabilities.

The data base did not make use of the rank order listings used by Gould. Instead a grid map of North America consisting of ninety-one cells was utilized; thus the number of cells was far too extensive to expect respondents to order their locational preferences. Agreeing with Downs (1970, 95), the author feels that Gould's study asked the respondents to order far too many places such that rank orderings had little meaning with the exception of extremes of like or dislike.

The present study is based on a Likert scale which was used in the data base. This scale ranged from extreme dislike through neutrality to extreme like, thereby enabling a researcher, to quantitatively analyse the desirability of a region. The scale was designed to allow equal expression of likes and dislikes. Thus, the scale entailed a five point system in which: a score of 1 represented the least favourable vote, a score of 2 represented an unfavourable vote, a score of 3 represented a neutral opinion, a score of 4 represented a favourable response while a score of 5 represented the most favourable vote possible. This method allowed the respondents to comparatively order places according to their perceived intensity of desirability. In this way, respondents were more capable of making meaningful distinctions in their choice of places.

The data base for the present study consists of a cross Canada survey which was conducted from coast to coast in Canada during the summer and fall of 1972. (Brown, 1973) Costs necessitated that sampling be done by packets of questionnaires. A total of 1600 questionnaires were distributed at 80 locations across Canada in packets which ranged from 10 to 30 in size. Questionnaire packets were mailed to a worldwide number of private citizens who were either personal or business acquaintances of the researcher; they were also mailed to a wide number of co-operative individuals who were acquainted with the nature of the study. Each person involved in the distribution and collection of the questionnaire was

responsible for obtaining a sample in his own area. Packets were also mailed to a number of hotels, insurance agency managers, teachers and universities across the country. These groups were asked to conduct a sample of the people available in each location. Packets were also distributed by direct contact at selected stops across the country by aid of four separate groups travelling over this time period to the Atlantic and Pacific coasts. (For further information about the distribution and collection of the sample see Appendix I)

Sampling was based upon the 1971 Canadian census such that each regional sample was weighted in accordance to the census figures. All returns were used such that each region of Canada was represented by a testable block of respondents. The response rate (33%) was not uncommon for a sample conducted by mail*. As the sample obtained was more areally and socio-economically representative of the regions sampled than Gould's captive sample of students, the author feels that the data base allows more reliable inference to be drawn about the regional patterns of residential desirability.

The most severe methodological differences between Gould's study and the present study are based upon the underlying assumptions about preference surfaces. Gould's use of principle component analysis was designed to remove the random preferences of individual respondents to create

*See Labovitz, S. and Hagedorn, R. Introduction to Social Research. New York. McGraw-Hill Inc., 1971. 52.

what he termed a 'general surface'. This 'general surface' was the surface of residential desirability shared by the whole group. According to Saarinen (1969, 23-24), this methodological treatment assumed a widespread general agreement within a culture of residential desirability although distorted somewhat by local loyalties. Both the regional information fields, giving rise to perception surfaces on the Canadian national scale, are far too varied and the distance over which they interact are far too extensive to produce anything more than a large scale regional level of agreement in a national surface of residential desirability.

Since the present study is concerned with regional surfaces of residential desirability, the distinction and subsequent separation which Gould (1973a, 194) has attempted to make between a 'general' and 'perceptual distance' surface is not made. Distance and regional solidarity are the key factors which determine the regional patterns of residential desirability in Canada. Thus the separation which Gould has implied would be undesirable.

The present study is therefore concerned with regional views of residential desirability. Perceptual distance is seen as an important underlying component of such regional views. Shared local patterns of preference combine with the surface of preferential distance to create a surface of residential preference that will have a series of networks of preference with nodes representing important points and links forming routes. (Downs, 1970, 75-80) Thus sub-areas

of Canada will be examined on the basis of their views of residential desirability. Specific emphasis will be placed on the comparison, the contrast and the role of distance in each of the regional views.

Unlike Gould, the present study does not make use of principle component analysis to eliminate the random noise of individually deviant preferences. A better comparative tool is found in trend surface analysis which is similar to multiple regression analysis in that it can be used to determine areal trends in residential preference patterns.*

Trend surface analysis entails separating the,

...smooth, broader regional patterns of variation from the non-systematic, local and chance variations (krumbein, 1956); and then to ascribe mechanisms or causes to the different components. (Chorley and Haggett, 1965, 47)

Thus, the trend surface depicts a smooth regular distribution of effects which can be accounted for as regional trends. The residuals provide measurements of the purely local effects which can be accounted for as regional trends. The residuals provide measurements of the purely local explanations.

Trend surfaces can thus be considered as response surfaces (Box, 1954; Krumbein, 1956) from which aspects of origin, dynamics or process can be inferred, wherein variations in form may be thought of as responses to corresponding areal variations in the

*For a summary of the use of trend surface analysis see Chorley, R.J. and Haggett, P. "Trend Surface Mapping in Geographical Research", Transactions of the Institute of British Geographers. 37, 47-67. 1965.

strength and balance of the controlling factors.
(Chorley and Haggett, 1965, 48)

In a dynamic spatial process such as preference evaluation, the use of trend surface analysis, combining space and preference may allow us to obtain some insight into the mental images that men hold about particular spaces. This analysis will allow us to graphically depict the areal continuity in the surface of residential desirability by removing the localized and random preferences from the general surface of residential desirability. The continuous surface depicted by trend surface analysis will be a surface that is a smoothed flow of preferences. This continuous surface represents a combination of the distance surface and the shared areal trends in residential preference. The residuals from this surface represent local preferences, local in the sense that they represent particular point locations (cells) that have deviated in preference from the trends in their particular area of North America.

The localized preferences represent a valuable measure of the importance of a preference for a particular cell. If a cell shows a large residual measure from the predicted surface, the particular cell in question is perceived as considerably more desirable than its neighbours while large negative residuals indicate cells which are seen as considerably less desirable than their surrounding regions.

In summary, some important distinctions have been

made between the methodological approach of Gould and the present study. The data base is believed to be more representative than the restricted sample used by Gould. The use of a Likert scale and the equalization of job opportunities in the data base is believed to allow a more meaningful expression of residential preferences for the areas tested. The assumption of widespread agreement in preferences has been limited to a regional level of sampling. Thus Gould's distinction between a 'general and perceptual distance' surface is not made. The present study uses trend surface analysis in an attempt to eliminate the 'random noise' both on an areal and individual basis. This study is more concerned with areal trends in residential desirability and the local residuals of residential preference. The use of this tool and the methodological variations offered in this study can hopefully allow for more insight into the nature and characteristics of the Canadian regional surfaces of residential preference.

CHAPTER IV

THE

CANADIAN REGIONAL

RESIDENTIAL PREFERENCE

SURFACES

Diversity in the geographic milieu of a nation is believed to promote regional variations in space perception. Since man's experience, values and aspirations are a product of the field of information to which he is subjected, regional diversity would appear to play a significant role in determining what the residents of each region see as desirable. Thus the varying nature of man's geographic milieu in Canada can be of great significance in understanding these patterns.

The underlying basis for regional differences in Canada appears to be threefold. (Putnam and Putnam, 1970, 41) First they are a product of the period of settlement in Canada. Each period was associated with separate waves of immigrants who added a unique cultural flavour to the developing regional geographies of Canada. Secondly, changes in technology and economic opportunity, as time went by, have probably had as much to do with creating regional differences, as have any other reasons. Thirdly, the contrasts in the physical milieu which the settlers encountered have contributed to the regional diversity now evident in Canada.

The 'mental map' provides a useful measure of the regional preference surfaces and enables us to compare and contrast them as a function of regional identity. In each regional surface both the general and distance decay surfaces of space preferences, noted by Gould (1966a), are expected to be present. Because of the vast distances involved in

Canada both the regional identities and the effect of perceptual distance are expected to be well developed in each regional preference surface. However, perceptual distance is hypothesized as the feature that will dominate the surface.

Each surface is expected to demonstrate the neighbourhood effect noted in previous research. (Gould, 1966a, 1966b; Gould and White, 1968; and Brown, 1973) Preference is expected to generally decline with increasing distance from the local area as a function of decreasing familiarity. (Saarinen, 1974, 266) Each regional view is also expected to demonstrate a general pattern of space preferences independent of the distance component in which highly favourable and unfavourable areas are expected to emerge. Particular emphasis will be placed upon areas receiving a highly favourable vote. These areas represent 'Eden' domes or peaks. The focus of this effect is expected to generally occur over the Vancouver-Victoria area. The intensities of these surface features would be expected to vary from region to region as a function of a regional level of orientation in preference evaluations.

To eliminate the 'noise' or individual data bias from these general surface trends, the information will be examined by trend surface analysis. This will give us a picture of the shared trends in space preferences as seen from each region of Canada. The gradient of the surface, the degree of the home or neighbourhood effect, the

existence and intensity of an 'Eden' effect and deviations (residuals) from the established surface, will be explained as a function of the factors characteristic to each region. These factors include the physical milieu, communication, transportation and economic networks, cultural and historical networks of interchange and the effect of political boundaries. In an attempt to clarify the patterns, the considerations for residential desirability listed by each regional sample will also be considered.

The Maritimes

According to Putnam and Putnam (1970, 42-43), the historical background, physical structure and economic base of the Maritimes has been quite unique in Canada. The history of European settlement in this area dates further back than in any other part of Canada; thus, the region has had a greater chance to develop a regional identity.

The physical milieu is such that the interiors only provide logs and furs and severely limited agriculture. There is coal mining in Nova Scotia and iron mining in Newfoundland; however, these are small and lack importance. Due to these conditions, the forests and the seas became the chief factors in the Maritime economy.

The population has, out of the necessity of the poor natural resource base, tended to face the sea for its livelihood. Years of shipbuilding, seafaring, fishing and trans-shipment of goods were the early means of livelihood for these provinces. The shipbuilding industry played a vital role in the economic stability of the region until marine technology advanced from wood to steel. With the natural base for steel lacking in the Maritimes, the shipbuilding industry was lost to the ports of the upper St. Lawrence. Similarly, the Maritime ports declined in importance with the loss of their role as the Canadian trans-shipment port. Thus, the Maritimes became a Canadian backwater and their economic growth was retarded and fell behind

the rest of Canada. Combining a peripheral location, infertility of the soil for agriculture, lack of a ready market for fish, non-competitive quality and mineability of Nova Scotian coal and the variable role of her timber resources, the Maritimes became Canada's most underdeveloped region. (Wier, 1970, 149) This economic inequality with the rest of Canada has been the major factor in the region's major export, people.

The long history of the region has caused this Maritime identity to become deeply engrained in the population. The general lack of economic opportunity within the region has seemingly resulted in the lowest average annual income of any part of Canada. The lack of ability on the part of the region to provide a life of quality for the population has caused it to become the Maritime Appalachia of Canada. The more highly educated persons in these provinces can and do find more attractive employment opportunities elsewhere in Canada, particularly in Ontario and Quebec.

According to the regional traits, one would therefore expect the population of the Maritimes to be the most outward-looking of the Canadian regions in their residential preference patterns. Even holding employment opportunity constant on the surface, a strong residual effect of this economic inequality is likely to show on their surface of residential desirability. However, in comparison with the

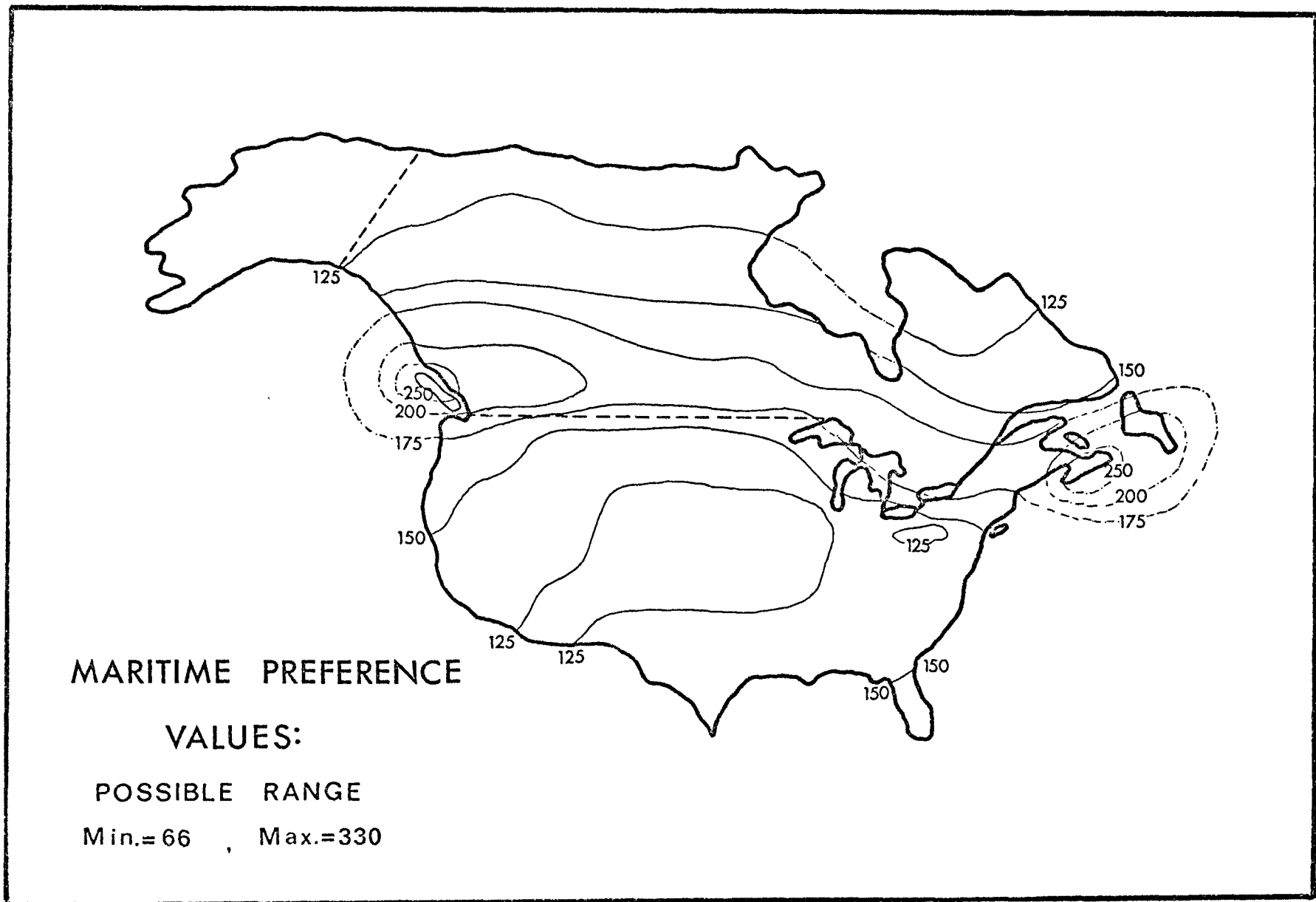
the rest of Canada, the lack of regional economic equality*, the restrictive conditions of topography and the overly moist and foggy climate of the home area would promote the adoption of a unique set of values and aspirations about the suitability of places for residential relocation.

In reference to Ullman's comment (1954, 122), the author would still expect the Atlantic provinces to demonstrate the neighbourhood effect for their own particular region. However, it is hypothesized that the gradient of the preference surface would be smoother with increasing distance from the neighbourhood dome. This may be attributed to the restrictive nature of the Maritime region whereby the populace would find the conditions of climate, topography and the quality of life in the rest of North America more appealing than their distance away might normally predict.

The Raw Data

The views expressed by the 66 Maritime respondents indicate a neighbourhood effect for the Atlantic provinces. (Figure 2) However, the Maritimes perceive their home region as considerably more desirable than was originally hypothesized. This is indicated by the strong dome of

*It must be remembered that this represents the quality of life or standard of living in an area, not the ability to obtain employment in one's chosen field.



MARITIME PREFERENCE

VALUES:

POSSIBLE RANGE

Min.= 66 , Max.=330

FIGURE 2

residential desirability which is centred over the province of Nova Scotia. The neighbourhood effect appears quite selective, being limited exclusively to the Maritime region. This dome represents the dominant feature of the eastern half of the preference surface. Apparently the attributes of the home region are perceived as considerably more desirable than the majority of the surface, given the equalization of employment opportunity on the surface.

West of the neighbourhood dome, the preference surface focuses on the Canada corridor with preference declining to the north and south of the corridor. Preference appears to decline more rapidly towards the south demonstrating a decided drop at the Canadian-American border. Preference declines into two sinkholes, one in the central United States and a stronger one in Alaska. The shift of the isolines to parallel the border is again noted in Alaska.

The second and only other prominent dome of residential desirability in North America is located over British Columbia. The apparent attraction of the west coast is such that it competes in magnitude with the dome of high residential desirability over the Maritimes. Although not as strong as the Maritime neighbourhood dome, this west coast 'Eden' dome is far more extensive. Its influence extends east into Alberta and Saskatchewan along the Canada corridor and south to include Washington, Oregon and California. The effect of the border is less apparent in this dome.

The Trend Surface

Trend surface analysis of the Maritime residential preference patterns is based upon a cubic trend surface that explains 62% of the variation in the surface. (Figure 3 and Figure 4) This level of analysis has been used rather than other levels as it contains a relatively high degree of explanation of the surface. It also provides a quick and easy interpretation of the surface with regard to continental trends in residential preference. This surface illustrates the main preferential trends (continuous signal) for North America with the random variation (discontinuous noise) in responses removed.

While trend surface analysis is designed to deal with continuous data, an attribute like preference can often be very localized. Landmarks such as cities (Vancouver, Toronto, Regina, etc.) and topographic phenomenon (Rockies, the Canadian Shield, the Great Lakes or the Ocean) often provide the focus of preference evaluations. Therefore, the nature of perception, and thus preference, might tend to be very localized with regard to particular locations. Thus, the residual measure provides us with the measure of the deviation of a particular area from the characteristics or trends of the surrounding areas.

The most prominent surface trend is associated with the neighbourhood dome of residential desirability noted on the raw data surface. The preferential high point of the

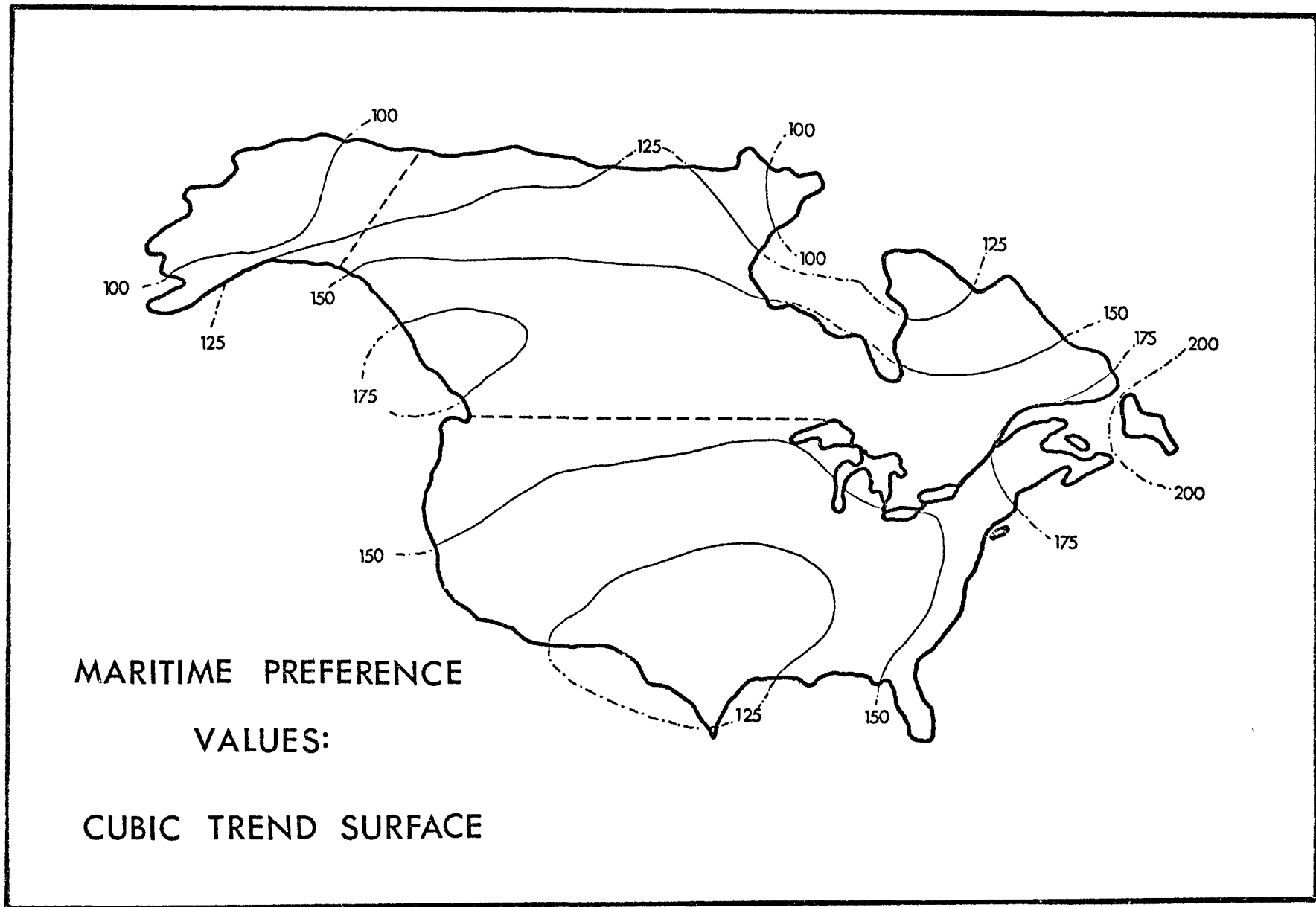


FIGURE 3

The Maritime Preference Cubic Trend Surface

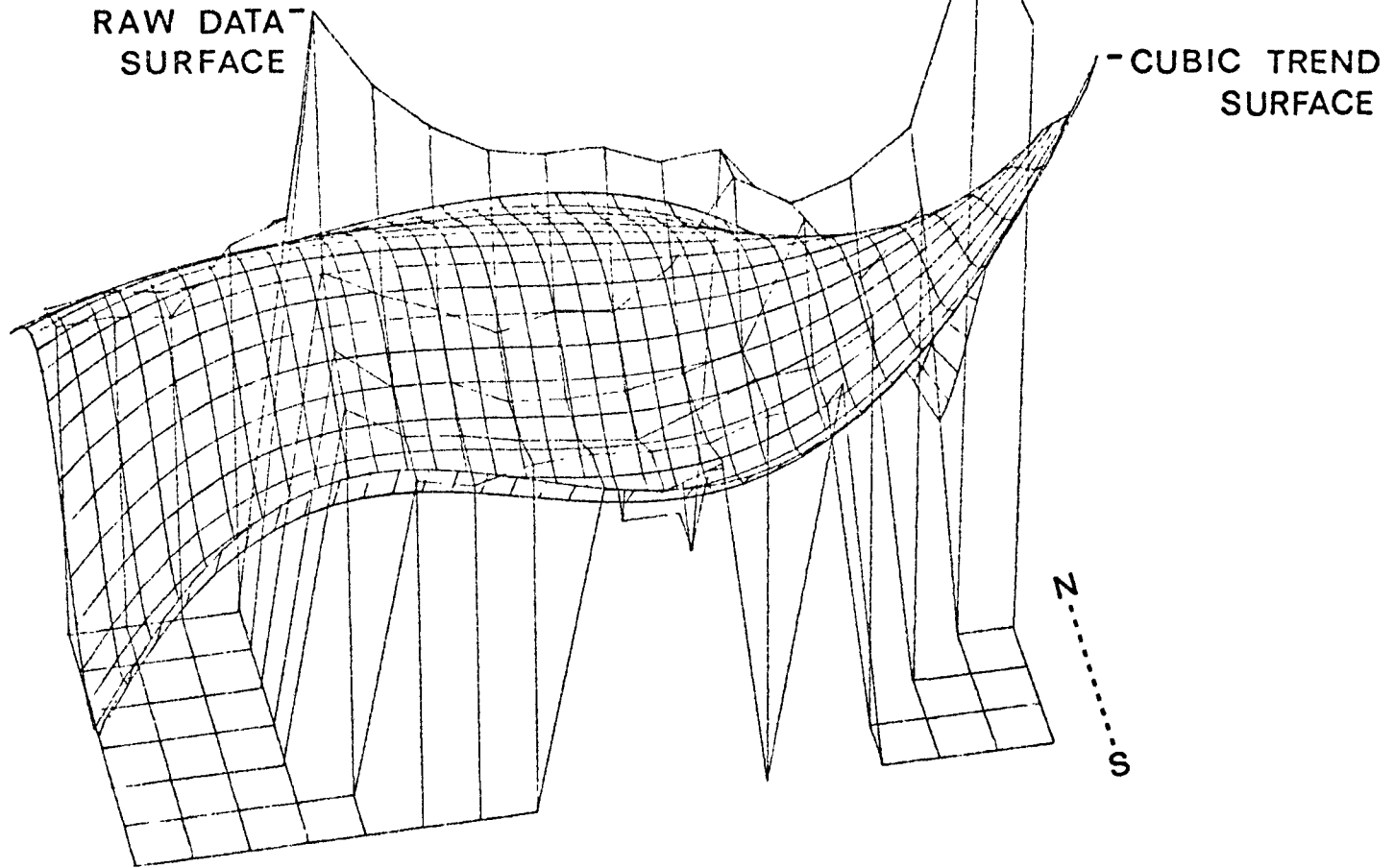


FIGURE 4

trend surface is associated with Newfoundland on the eastern extremity of the trend surface. Preference declines in all directions from the focus of the neighbourhood effect. The preferential decline is fairly uniform in all directions and is evident for a distance of approximately 1000 miles along all axes. Thus the neighbourhood effect would appear to represent a strong regional trend on the continuous surface.

To the south, along a south-west axis in the United States, a rather uniform gradient is maintained with preference decreasing uniformly as distance increases from the Maritime high. Similarly to the north along the north-west axis, preference decreases with distance. This slope is somewhat more gradual than the south-west axis but it still manages to reach a preferential low point on the surface. This low point is in Alaska which is the most distant location from the Maritime dome of high residential desirability. Preferential decline is weakest along the western axis. Preference declines regularly for the first 1000 miles along this axis. At the 1000 mile mark along the western axis another regional trend becomes apparent. As distance increases from the Maritimes along the east-west axis the effect of the 'Eden' dome, centred on British Columbia, weakens and eventually eliminates the neighbourhood distance decay effect.

The second prominent regional trend is associated with the 'Eden' dome. Preference focuses on British Columbia and falls off with increasing distance from the province.

Preference declines most rapidly towards the United States in the south. Along a northern axis preference remains fairly constant until the Yukon and Northwest Territories are reached, then preference begins to decline rapidly towards the northern continental periphery. Towards the east the dome extends along the Canada corridor such that preference falls off very gradually. British Columbia represents an 'Eden' focus of residential desirability. Thus, after the home area, preference is perceived to be most desirable in the Canadian west; as one proceeds further west, preference increases.

The third surface trend is associated with a Canadian corridor focus. Between the effect of the two domes of residential desirability there is a ridge of residential desirability running east-west along the Canada corridor. The low on this ridge is centred over north-west Ontario and preference increases east and west along the corridor towards the Canadian Maritime regions. Preference for the remainder of the continent appears to be based upon distance from the Canada corridor; preference declines with increasing distance north and south of the corridor.

Crossing the Canadian-United States border in the south a rapid decline in preference is observed; then, preference declines slowly into a sinkhole over the south central United States. Preference begins to increase again towards the Gulf Coast states on the southern extremity of the perception surface. The combined effect of the three trends causes the United States surface to appear like a

saucer, with preference decreasing from the continental periphery.

Towards the north, preference decreases with increasing distance from the Canada corridor. The focus of the Canada corridor ridge is in the northern portions of the prairie provinces and the actual corridor. This northern shift of the ridge undoubtedly reflects the effect of the rapidly declining preference towards the United States noted on the raw data surface. Once the focus of the ridge is passed, preference declines rapidly towards the Canadian north. Preference decreases even more rapidly towards Alaska. The one hundred point isoline of the trend surface reflects the effect of the Canada-Alaska border by orienting itself with the border.

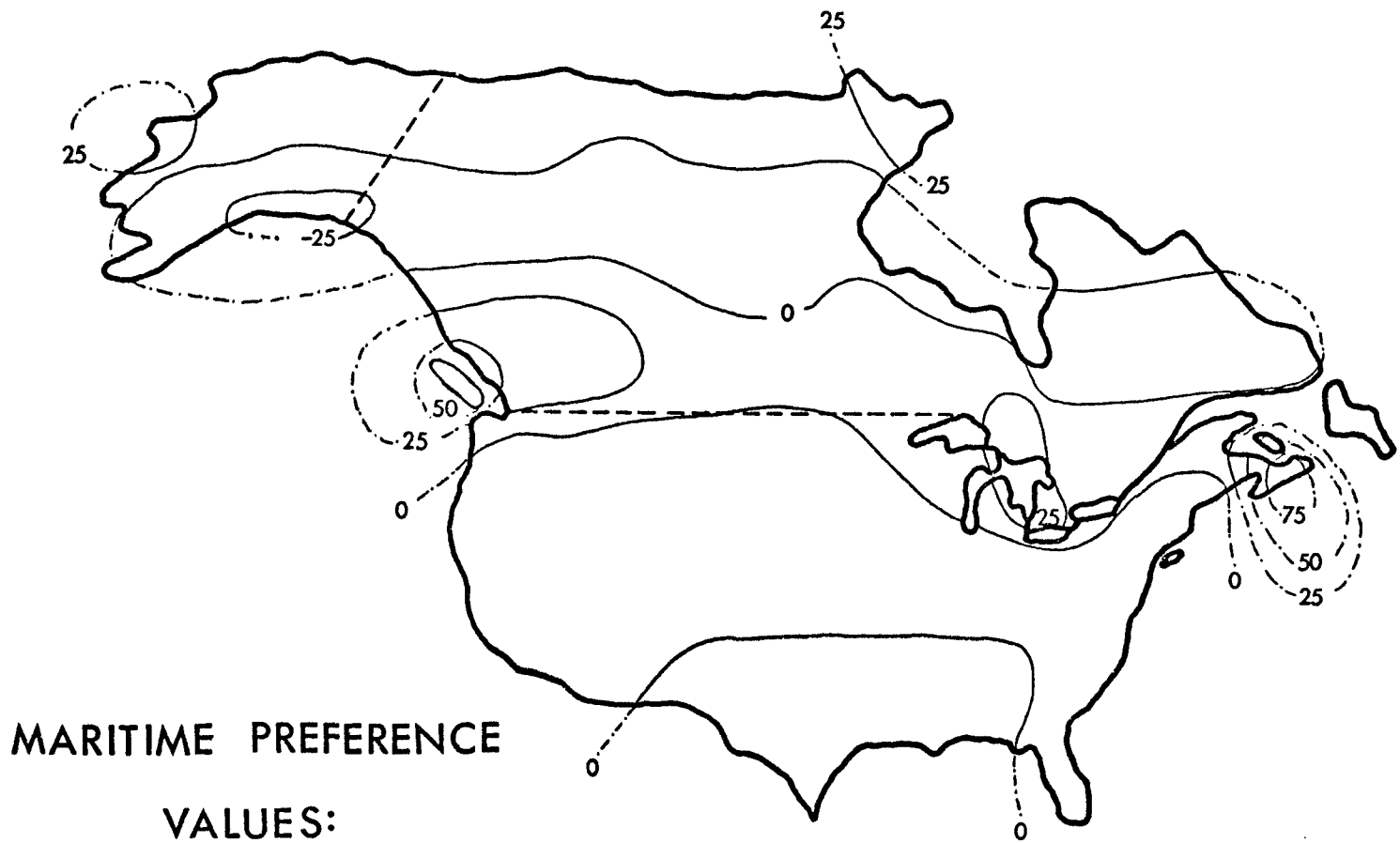
The trend surface analysis seems to indicate the presence of three distinct trends in the surface; 1) a neighbourhood trend associated with the Maritimes that dominates the eastern portion of the continent, 2) an 'Eden' trend that dominates preference along the western portion of the Canada corridor and 3) a Canada corridor trend that is represented by an east-west ridge between the two domes and which provides a focus for a north-south trend of decreasing preference from the populated portions of Canada. These trends combine to create a perception surface in which preference takes on a decided east-west trend in the populated portions of Canada; a perceptual basin effect is experienced in the United States and a strong gradient of preference is

experienced in the northern portions of the perception surface.

In summary, trend surface analysis tends to support the basic hypothesis in which the Maritime trend surface exhibits the common characteristics of both the general and distance decay preferential surfaces. A neighbourhood effect is exemplified by the dominant regional trend being located over the Maritime provinces; and the general preferential surface decreases with increasing distance away from a high value in the Maritimes to a low value in Alaska. At great distances from the Maritimes the distance decay effect is often hidden by other surface trends which appear to dominate different portions of the surface. The 'Eden' dome is represented by a regional trend over the Canadian west and a north-south trend associated with the Canada corridor dominates the central portions of the continent. If the neighbourhood and 'Eden' effect are eliminated it would appear that a north-south trend of declining preference from the Canada corridor would dominate the surface. This would reflect a decided Canadianism in the surface.

Trend Surface Residuals

The irregularities in the surface - that is both the residuals from the predicted surface and the deviation of the surface from the ideal distance decay surface - can be used to clarify the nature of the Maritimer's residential preference surface. The surface residuals (Figure 5) demonstrate a rather complex pattern of deviations from



MARITIME PREFERENCE
VALUES:
RESIDUALS

FIGURE 5

the predicted surface. Only the larger magnitudes of deviation from the predicted surface of this pattern will provide the necessary direction required to interpret the characteristics of the Maritimer's attitudes towards North America in terms of residential preference.

The largest positive residuals on the North American preference surface are found in south-western British Columbia and Nova Scotia respectively. Another area which has a strong positive residual is found along the Canadian corridor in the Canadian prairies. These residuals indicate an over-emphasis of preference for particular cells in comparison to the general surface trends. These areas are comparable to the areas of high population density within Canada, the areas of higher productivity agriculturally and industrially and generally those areas with a more hospitable natural environment. The fact that only Canadian areas have substantial positive residuals for local areas, indicates a strong Canadianism in the Maritimer's patterns of residential desirability. Those areas rated high in positive residuals, British Columbia and Nova Scotia, indicate conditions required for residential desirability. The marine climate, a Canadian maritime population and a coastal topography appear as essential elements of the Maritimer's residential requirements. The prosperous heart of Ontario is associated with positive residuals on a more limited scale. These residuals indicate another localized response to residential desirability; thus indicating a somewhat more favourable

evaluation of the conditions in existence in Ontario as compared to its surrounding area. Ontario's pull is considerably weaker in degree than one would expect of the Canadian industrial and manufacturing heartland. This is undoubtedly due to the elimination of the necessity of finding a job.

Strong negative residuals are found in southern Alaska, central North West Territories, Labrador, northern Quebec and central United States. These residuals indicate an underrating of these areas in residential preference in relation to those values predicted by the trend surface. Thus, these areas show a strong localized preference evaluation in contrast to the continuous surface trends. The physical attributes of these northern locations appear to be strongly opposed to those considered essential by the Maritime population. Understandably the cold and barren conditions of the north have caused these particular areas to be rated below what the surface would predict. The American mid-west seems equally unfavourable.

The neighbourhood effect and a strong distance decay of residential preference is again emphasized by the residuals. This would tend to indicate that the attitude of the respondents in the Maritimes is far stronger toward their home environment than it is toward surrounding areas. This is in opposition to the general trend indicated by the national surface. Apparently the residents of Maritime Canada would prefer to remain within the Maritime region if

the choice was theirs to make. Given the economic conditions which would provide adequate employment and job variety within the Maritimes, most of the population would remain in this area. The net out-migration from Atlantic Canada would thus appear to be a result of economic conditions. On the other hand, southern British Columbia and southern Alberta are perceived as highly desirable areas. They were rated far above the general trends of the residential surface in western North America. These positive local residuals seem to be in response to the desirable attributes (population, climate and environment) exemplified by this area. Undoubtedly, the positive attitude assigned to these areas indicate that they are far more desirable than the national trend surface would predict.

The Canadian corridor is perceived as more desirable than the trend surface would predict. An interesting point to note is that in Canada, all areas of major population concentration are overrated (these are areas which are economically prosperous) while the majority of the United States is rated lower than the trend surface would predict. The low favourability of the States could be attributed to the overly strong Canadianism demonstrated on the surface. The lower ratings of residential preference in the United States can be compared to the attitude toward the unpopulated northern areas of Canada.

Maritime Canada tends to see two rather distinct patterns of residential desirability which can be labelled

favourable and unfavourable. The populated regions of Canada are perceived as more desirable for residential purposes when compared to the rest of North America, while the Maritimes are still seen as considerably more desirable than any area in Canada with the exception of southern British Columbia. These encompass the favourable patterns of residential preference while the unfavourable patterns of preference are located in the whole of the United States and the northern regions of Canada.

The Locational Considerations

An examination of the main factors which the Maritime people considered when evaluating specific locations in terms of residential desirability are listed in Table 1. These bring out some of the above-mentioned arguments.* Twenty-six per cent of the Maritime sample perceived factors concerned with the people, their nature and their proximity as an important consideration; 20% perceived climate as an important factor; 18% considered factors concerned with the state of the environment as important; 13% perceived factors concerned with the economics of the areas as an important consideration; 12% considered factors concerned

*When asked to indicate the main points they found themselves considering in evaluating preferred residential location, many reasons were given. However, distinctions were not always made. Therefore many reasons which were related, ie. population density and isolation, were grouped accordingly.

TABLE 1

Locational Considerations
of the
Maritimes

CONSIDERATION CLUSTERS	% CHOICE				TOTAL
	1st	2nd	3rd	4th	
Climate	30	17	2	11	20
Population Density	10	7	15	5	
Isolation	3	5	7	-	
Nature of People	5	8	7	5	
Language or Culture	-	3	3	5	
Way of Life	3	5	2	6	
TOTAL	21	18	34	21	26
Economics	1.5	5	10	16	
Opportunity	-	3	5	5	
Standard of Living	1.5	5	7	5	
TOTAL	3	13	22	26	13
Nationality	7	5	2.5	6	
Political Climate	3	3	5	10	
Criminal and Racial Climate	1.5	-	2.5	10	
TOTAL	11.5	8	10	26	12
Scenery	10	8	12	11	
Recreation Facilities	1.5	3.5	5	-	
Nearness to Ocean	5	5	-	-	
Degree of Pollution	1.5	3.5	3	-	
TOTAL	18	20	20	11	18
Nearness to Family & Friends	1.5	7	4	5	
Geographic Location	5	3	4	-	
Hearsay	-	3	-	-	
Familiarity	-	-	2	-	
TOTAL	6.5	13	12	5	11
GRAND TOTAL	100	100	100	100	100

with politics, and racial and criminal climate as important, while 11% perceived other factors as important.

The most important consideration then, in evaluating an area's residential desirability are population, climate and the physical environment. It should be noted that the lack of response in the economic considerations (13%) could be attributed to the limiting qualification of the questionnaire whereby rating preference was independent of job opportunity. With these results, how are the considerations of the Maritimes reflected in their patterns of residential desirability?

The home area is perceived as the most highly desirable area; thus it would be expected to exemplify the region's considerations of residential desirability. Applying these considerations to the 'Eden' dome, some further insight into the patterns of residential desirability might be gained. In reference to the primary considerations of population, climate and natural environment, the Maritimes are perceived as the epitome of desirability, followed closely by British Columbia and western Canada. In terms of the continuous surface the attributes would appear to fall off drastically north and south of the Canada corridor and with increasing distance from the neighbourhood and 'Eden' domes. Thus it would seem plausible that the population densities, native language, culture and way of life of the Canadian population in the Canada corridor is highly favoured. The most desirable characteristics of the population would

appear to be associated with the Canadian Maritime populations. This would appear to be reflected as a continuous trend in Canada along the Canada corridor with the residuals reinforcing the belief in the favourability of the Maritime population. In the United States, these conditions of population would appear to be lacking but the perceptual basin effect on the continuous surface would appear to reflect a differentiation in the considerations. The coastal areas of the United States are perceived as more desirable, possibly reflecting a maritime consideration in not only population but in terms of climate and the natural environment as well.

Similarly, the considerations of climate and topography would appear to be reflected in both the continuous and residual surfaces (keeping in mind Ullman's reservation when considering how well the local area might reflect climatic and topographic considerations); we can hypothesize some connection between the considerations and the residential preference patterns. In both the residual and continuous surfaces the considerations of climate and topography are strongly reflected in the high preference rating for British Columbia and western Canada. These conditions would appear to be perceived as declining with increasing distance north. In the United States, the more favourable areas are associated with the national peripheries reflecting a differentiation in areas of the United States. While the United States patterns appear to reflect these locational considerations

they also appear to reflect another over-riding consideration, possibly one of a barrier effect associated with the Canadian-United States border.

The areas that would appear to least meet the locational considerations are associated with the surface sinkholes of residential desirability over Alaska and the central United States. The conditions of climate, topography and population associated with Alaska and the Canadian north are apparently far from those perceived as desirable in a location. This should be attributed for the most part, to the climatic conditions apparent in this part of the continent. The lower rating for Alaska would appear to reflect the border effect and the corresponding differences in population characteristics between Canada and the United States.

Similarly the sinkhole in the central United States would appear to indicate that the major residential considerations are lacking in this area. This would appear to be associated in part with its American location, but it is primarily a result of its distance from the ocean and its lack of environmental attributes in terms of relief, etc.

Summary

This analysis has presented a preference pattern which may or may not be particular to this region of Canada. A strong neighbourhood focus of residential desirability has been demonstrated as part of the continuous and residual surfaces. Preference appears to decline with increasing

distance from this area. The distance decay effect appears offset by other regional preference trends associated with an 'Eden' focus and a Canada corridor focus of residential desirability. Preference is observed to decline with increasing distance from these areas such that the surface appears to reflect a series of overlapping distance decay effects. If analysis of the preferential surfaces of the other Canadian regions provide dissimilar patterns, the basis of explanation of the patterns will be seen in the unique regional characteristics. These characteristics should include characteristics of the region, locational considerations of the population, perceived attributes of the rest of North America and the distance of the locations from the particular region.

British Columbia

British Columbia is one of the truly unique geographic regions in Canada. The Canadian Cordillera, as Robinson and Hardwick (1970, 438) call it, is a land of physical and human contrasts. It is the topographic relief which is the basis of the unique regional character in British Columbia. Nowhere else in Canada are the mountains, fiords, coastal islands, valleys and canyons duplicated. Such a unique and rugged environment has had a marked effect on settlement patterns, development and connectivity of the Province of British Columbia. Effectively isolated from the remainder of the country by distance and topography, British Columbia has developed a geographic personality which reflects the enormous variations occurring in the resource base. (Putnam & Putnam, 1970, 307) Thus, the perception of the residents of British Columbia would be expected to reflect this unique geographic personality.

British Columbia, like the Maritimes, relies on fishing, forestry and mining, relegating agriculture and manufacturing to less important positions (Putnam & Putnam, 1970, 307), although the number of workers in the primary industries is small compared to the number of people employed in the wide range of urban centres. (Robinson & Hardwick, 1970, 438) Even though it is the fastest growing province in Canada, more than 75% of the people still reside within ninety miles of Vancouver, the heartland of

European settlement of one hundred years ago. (Putnam & Putnam, 1970, 438) Settlement in the interior of the province is scarce and only in response to expanding markets for the rich variety of the resources of the interior.

British Columbia has been cut off from the rest of Canada by the formidable barrier of the Rocky Mountains; thus settlement was primarily by way of the sea. Therefore, this region was not subject to the effect of the westward movement of the Canadian frontier which stopped at the eastern slope of the Rockies. Until recently, the peripheral location of this region to the major continental centres of population and commerce has caused it to be passed over by the rest of Canada. Only recently has Canada begun to recognize and develop the potential of this region.

The psychological and economic effect of isolation, which resulted from the limitations of the physical milieu and geographic location, have tended to affect the geographic orientation and the outlook of the people of British Columbia. The population has historically related much more closely to the countries of the Pacific. (Robinson and Hardwick, 1970, 470-71) Having more in common with their coastal counterparts in California, Washington and Oregon, this area has developed strong connections with the west coast of the United States. Although the population differs little in ethnic origin from the rest of Canada, the geographic orientation of the population differs significantly from other regions of Canada. The historical neglect of the

region by eastern manufacturers and the federal government has promoted the region to face its greatest asset, the Pacific Ocean, and its prosperous trade routes with Asia, the United States and Europe. Only since 1945 have the federal government and the people of Canada recognized the potential of this region. According to Robinson and Hardwick (1970, 471), the influx of Canadians since the end of World War II has undoubtedly been due to a Canadian recognition of the favourable climate, scenic landscape of the Fraser Valley and the aggressive pioneer enthusiasm of the people of the region. Wier (1970, 174) agrees with this interpretation, indicating that the net increase by inter-provincial migration experienced by this region is attributable in part to the climate and other amenities of life as well as a bouyant post war economy.

Because of this unique regional background in both physical milieu and economic orientation, we might expect the people of British Columbia to exhibit a much different pattern of residential desirability than was exhibited by the Maritime provinces. British Columbia, being a region of economic prosperity, second only to Ontario, with an urban population in an ideal marine west coast climate and backed by unparalleled scenery, should be expected to influence the population towards a much more selective pattern of residential preference. Thus the neighbourhood effect would be hypothesized to be extremely strong for British Columbia. Preference would be expected to fall off

very quickly with increasing distance, with the exception of the southward axis along the American west coast. Because of the similarity of conditions of topography and climate and due to the long historical identification that British Columbia has shared with this area, it might be expected to be included within the neighbourhood dome for British Columbia. The American plains and the Northern Arctic will undoubtedly be perceived as highly undesirable as they lack any of the attributes of topography and climate that are so well developed in British Columbia. Similarly, if physical and economic factors play an important role in residential desirability, it is doubtful the British Columbian view will exhibit a high degree of favourability towards their east coast counterpart. The locational considerations of the residents of British Columbia might give more insight and clarification to the underlying reasons for preference evaluation and thus the patterns that are exhibited.

The Raw Data

The views expressed by the 77 respondents from British Columbia indicates the existence of a strongly peaked neighbourhood effect centred on south-west British Columbia (Figure 6). This area is perceived as the most favourable and in fact the only highly favourable area of residential desirability in North America. Their home area is perceived as more desirable than the Maritimes

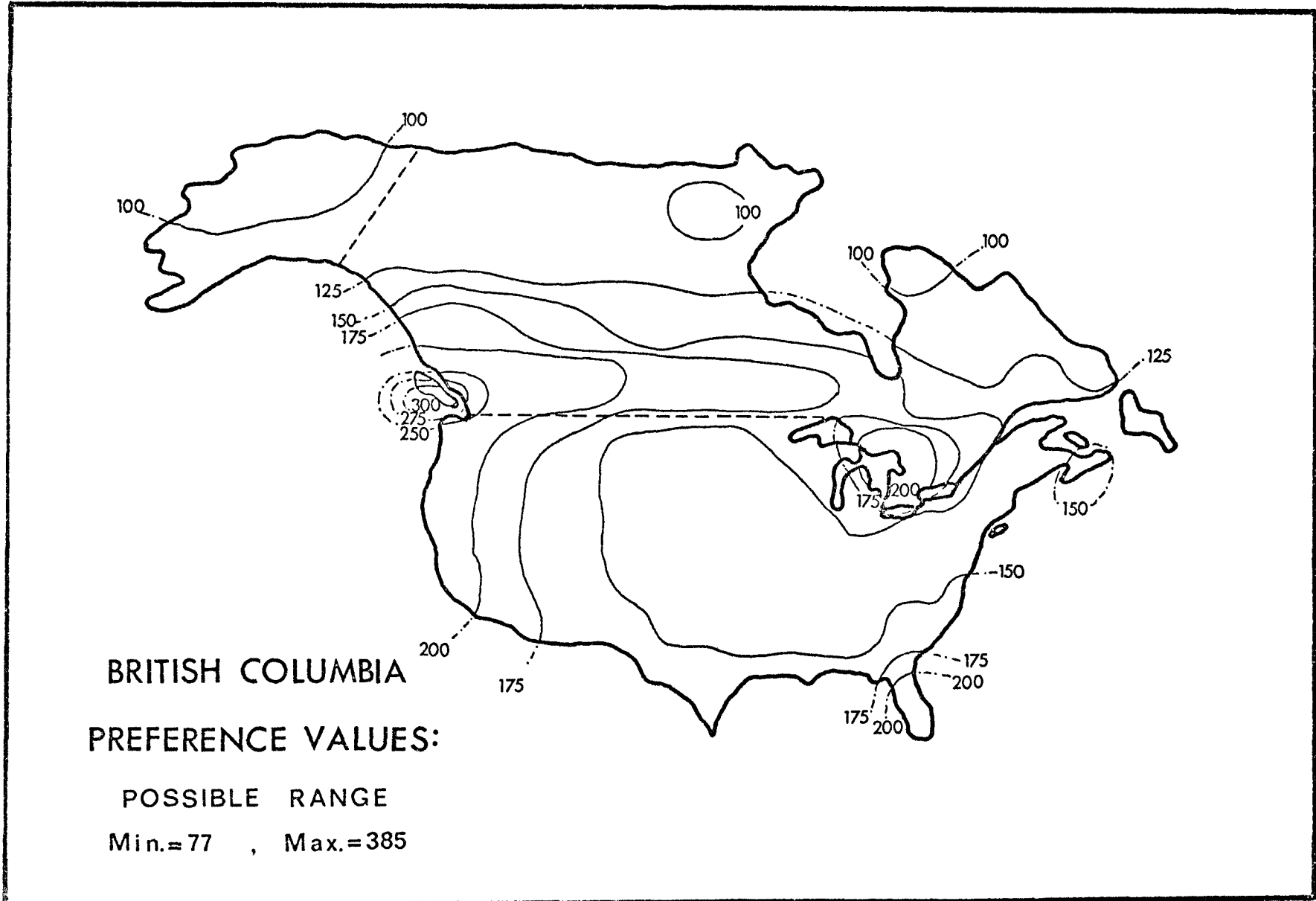


FIGURE 6

perceived any part of the Maritimes. In fact, only 6 of 77 respondents did not assign this area the maximum preference score of 5 and only 2 of these gave it a score of less than 4. Only one respondent of the 77 saw the area as an undesirable area to live in. The virtually unpopulated portions of British Columbia, where less than twenty per cent of the population lives, received considerably lower preference scores.

Southwestern British Columbia, the home of about eighty per cent of the population, is therefore seen as considerably more desirable than any other part of North America. The conditions of climate, landscape and the aggressive pioneer enthusiasm of the people, which have attracted many Canadians since 1945, would appear to be the very factors that hold the interest of the population once they are living in the province. (Robinson and Hardwick, 1970, 471)

Southwest British Columbia is the highest point in the only prominent dome of residential desirability on the preferential surface. This dome extends eastward to include the province of Alberta, northward to a very short distance to include northern British Columbia and southward to include the west coast and rocky mountain states of the United States. The area encompassed by this dome of residential desirability is significant as it includes only areas of similar rocky mountain relief or coastal location.

Two very minor domes of residential desirability are located over southern Ontario and Florida. These domes are considerably smaller in scale and represent individual spot locations of residential desirability. Trend surface analysis will undoubtedly eliminate these areas as part of the continuous surface trend and indicate them as strong positive residual measures of localized preferences. Ontario is most likely favoured as the economic heartland of Canada with conditions of reasonable climate bordering on the Great Lakes. Florida is undoubtedly favoured for its well known climatic and Maritime attributes. These domes are misleading in the sense that they only represent areas of residential desirability in relation to the surrounding highly unfavourable areas of residential desirability. It is interesting to note that preference experiences, as in the Maritime view, a decided drop when crossing the Canadian-United States border. The exception in the case of British Columbia is the American west coast with which British Columbia still maintains strong ties.

Most of the continent is perceived as being residentially unfavourable with sinkholes of residential desirability being reached in the far north centred on northern-central Alaska and northern Labrador and the central United States. Although most of the continent is perceived as residentially undesirable, these locations represent the epitome of low desirability.

The residents of British Columbia are extremely particular in their patterns of residential desirability, more so than the Maritimers. Their vote of residential favourability as a population was limited to southwest British Columbia. Very little of the continent approaches their perceived conditions for residential desirability.

The Trend Surface

Trend surface analysis of the British Columbian preference surface is based on a cubic trend surface that explains 57.2% of the variation in the surface (Figure 7 and Figure 8). Again it is felt that the cubic trend surface contains a relatively high degree of explanation of the surface while providing an easily interpretable surface in terms of continental trends in residential preference.

The surface appears to indicate the existence of three distinct regional trends. The first trend is associated with the neighbourhood dome of residential desirability. Trend surface analysis indicates that the largest portion of the strong preference evaluation for southwest British Columbia is a localized preference and not part of a continuous trend. Thus in terms of the continuous surface, the entire west coast is encompassed by a neighbourhood effect. As one moves outwards from the neighbourhood dome, a trend surface of declining residential preference, similar to the Maritime surface, is exhibited. The preferential trend surface gradient is smoothest along the east-west axis

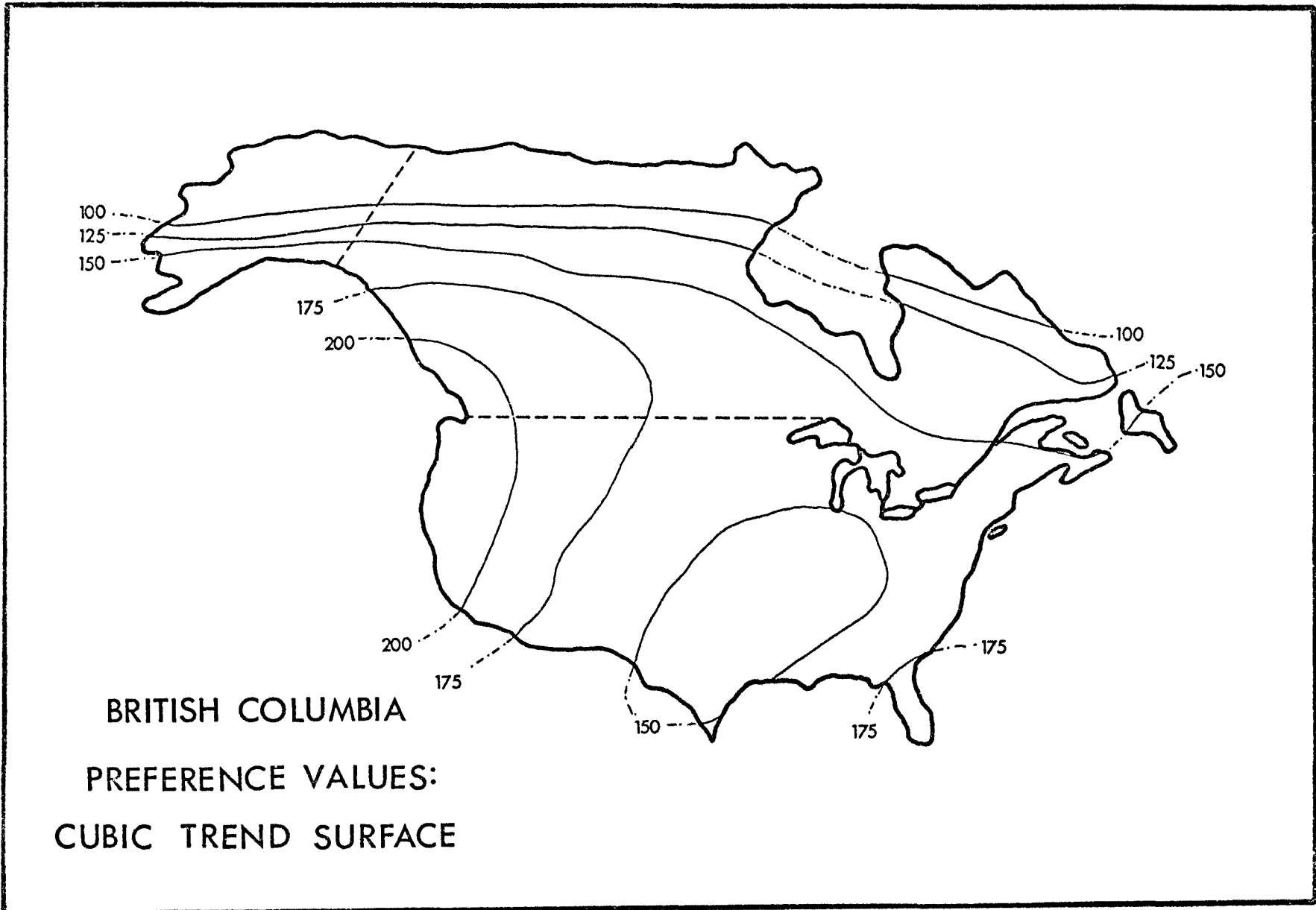


FIGURE 7

The British Columbia Preference Cubic Trend Surface

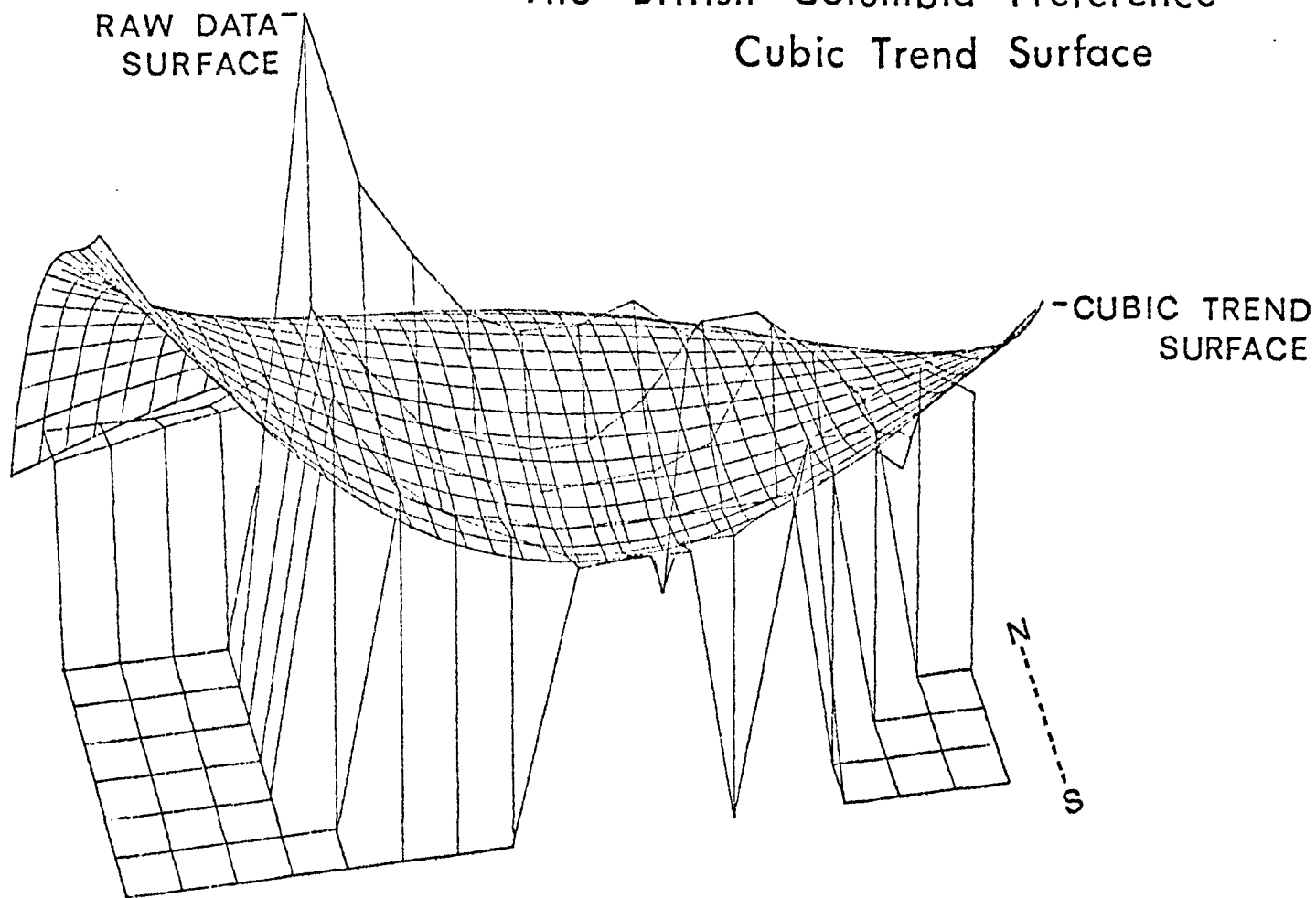


FIGURE 8

in the United States. A considerably steeper gradient is experienced to the north of Vancouver. The distance decay effect holds true along the eastern axis to Saskatchewan in Canada and a line drawn through Montana, Wyoming, Utah and Arizona in the United States. This represents a radius of approximately 800 miles from Vancouver to the east and south. At this point the surface is dominated by two separate trends.

The second trend is associated with a uniform surface of residential desirability for central and eastern United States and southern Canada along the Canada corridor. This surface is shaped like a shallow saucer over the central United States. Apparently, the residential preference for Ontario does represent a localized preference on the surface. The preference for Florida represented part of the continuous surface of slightly increasing preference at the lip of the bowl along the east coast of the United States.

The third surface trend is associated with northern Canada. North from the Canada corridor, the isolines take on an eastwest trend. The distance north of the populated Canada corridor determines the drop in residential desirability of the particular area in question.

Trend surface analysis has tended to support the basic hypothesis that like the Maritime provinces the trend surface of British Columbian residential preference exhibits both a general and distance decay preference surface. The distance decay surface for British Columbia seems to have only a range of about 800 miles from south-west British

Columbia. The distance decay effect is less along an east-west axis in Canada and stronger along an east-west axis in the United States. This is similar to the situation that was observed in the Maritimes. The range and orientation of the distance decay surfaces are remarkably similar in the two regions.

The general surface indicates similar characteristics to those observed in the Maritime surface. The neighbourhood effect is exemplified by a dome of residential desirability in the trend surface, located over the west coast of North America. Interestingly enough, this dome is not limited to the west coast of Canada, but includes all of the west coast. Much of the extremely strong preference evaluation for southwest British Columbia would appear to be the result of a very strong localized preference, thus it should appear as a strong residual measure. Only that part of the preference for British Columbia, which is due to the general west coast neighbourhood effect is indicated by trend surface.

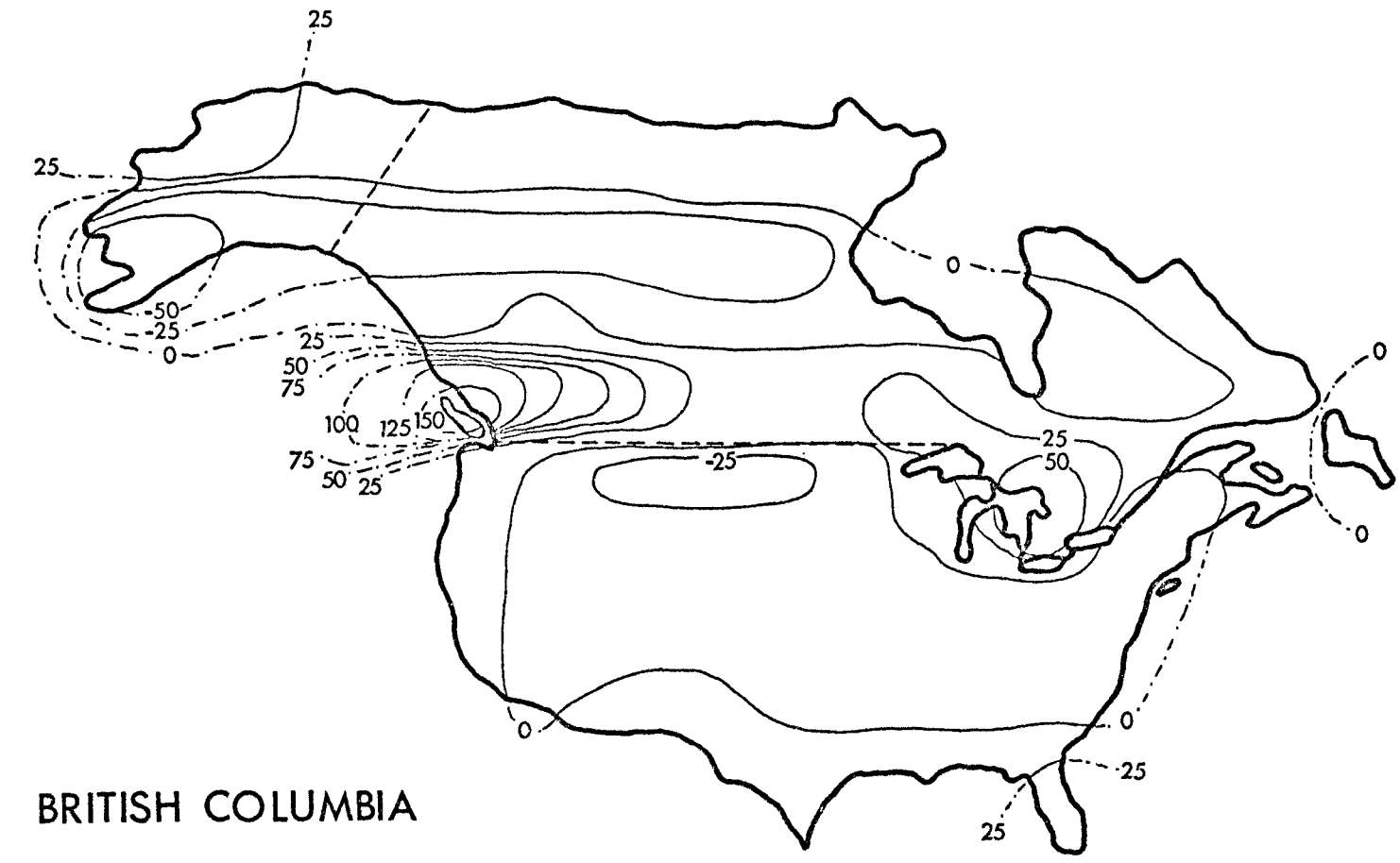
The major differences between this and the Maritime trend surface seems to lie in the fact that there is no 'Eden' dome and the surface of British Columbia does not make the same distinction in preference trends between the Canada corridor and the United States.

Trend Surface Residuals

The surface residuals from trend surface analysis demonstrate a complex pattern of deviation from the trend

surface (Figure 9). The residual measures indicate a strong distinction between Canada and the United States in terms of the prairie regions of each country. Thus, it appears that the residents of British Columbia have made a limited distinction in preference between Canada and the United States. All the central United States, with the exception of the west coast, the gulf coast and the Great Lakes periphery, is also associated with negative residuals. The Canada corridor experiences positive residuals and the Canadian north in general experiences negative residuals or weak and insignificant positive residuals.

The strongest positive residuals are noted in southwest British Columbia. These residual measures are far more prominent than any other positive residuals on the map. This indicates that the populated sections of British Columbia, including Vancouver and Victoria, represent a very strong local preference evaluation on the preferential surface. In regard to the locational considerations, this would indicate that the characteristics of this region are the epitome of suitability for residential relocation in the minds of the residents of British Columbia. Strong positive residuals for the Canadian Great Lakes periphery denote this area as a local but less significant area of residential desirability in comparison to British Columbia in terms of the general surface of residential desirability. This area seems an alternative area of residential relocation in the minds of the residents of British Columbia after the west



BRITISH COLUMBIA
PREFERENCE VALUES:
RESIDUALS

FIGURE 9

coast of North America. Florida, as well, experiences positive residuals indicating that even though it is associated with a ring of higher preference for the United States that runs along the east coast, it still represents a local area of higher residential desirability in terms of the surface trends.

The most significant negative residuals are seen in southern Alaska and the mid North West Territories. This would imply that the preferences for these areas have been far lower than the trends of the surface would predict. Referring back to Figure 6, it seems that all areas north of the northern limits of the Canadian provinces experience drastic decreases in residential desirability. The surface could not adequately express this drop in preference to a rather uniform low preference for the northern portions of North America. Thus, the British Columbia respondents indicate that these underpopulated and apparently physically unendowed areas are perceived as uniformly undesirable areas to live in.

The trend surface residuals have brought out the importance of the localized preference for British Columbia. According to the residents of British Columbia, this area is the only one which satisfies the residential requirements; thus British Columbia appears to be perceived in a distinct manner. The Canada corridor was perceived as slightly more desirable than most of the continental surface, however, the degree of this distinction was not as marked as that made by

the Maritime respondents.

Locational Considerations

When asked to indicate the major factors that they found themselves considering when evaluating specific locations, in terms of residential desirability, the respondents from British Columbia give a series of considerations quite similar to their east coast counterparts. (Table 2) Thirty per cent saw climate as an important consideration; 18% perceived factors concerned with the state of the environment as an important consideration; 18% perceived factors concerned with the people, their nature and their proximity as important; 11% perceived other factors as important, while 8% perceived factors concerned with the political, racial and criminal climates as important.

The most important considerations differ somewhat in order and importance from the considerations of the Maritime sample. While the Maritimes saw the most important considerations to be population, climate and the physical environment, the residents of British Columbia see climate, population and the environment as most important. The dominance of the climatic consideration in the British Columbian response is in contrast to the Maritime responses. In the Maritimes it was felt climatic considerations were secondary to the considerations of population. The overly selective patterns of residential desirability in the British Columbian view appears to indicate that these residents feel that a less

TABLE 2

Locational Considerations
of
British Columbia

CONSIDERATION CLUSTERS	of CHOICE				TOTAL
	1st	2nd	3rd	4th	
Climate	64	15	12	-	30
Population Density	1.7	11	12	30	
Isolation	-	2	-	-	
Nature of People	3.3	-	6	5	
Language or Culture	-	-	-	10	
Way of Life	-	6	3	5	
TOTAL	5	19	21	50	18
Economics	-	5.5	6	10	
Opportunity	5	4	6	-	
Standard of Living	3.5	11.5	3	5	
TOTAL	8.5	21	15	15	15
Nationality	5.3	2	3	5	
Political Climate	1.7	4	-	5	
Criminal and Racial Climate	-	2	6	5	
TOTAL	7	8	9	15	8
Scenery	3.4	19	14	5	
Recreation Facilities	-	4	3	-	
Nearness to Ocean	1.7	4	-	-	
Degree of Pollution	3.4	-	6	5	
TOTAL	8.5	27	23	10	18
Nearness to Family & Friends	5.3	8	6	5	
Geographic Location	1.7	2	5	-	
Hearsay	-	-	3	5	
Familiarity	-	-	6	-	
TOTAL	7	10	20	10	11
GRAND TOTAL	100	100	100	100	100

favourable climate than the one that they are accustomed to is not suitable. This consideration appears to be reflected in the higher ratings for the renowned west coast climates of North America. The Maritimers, having a poorer climate, seem to feel that climate is not of primary importance. Living in and being accustomed to a less favourable climate, they have a greater selection of climatically suitable locations to choose from than the residents of British Columbia. Their patterns of residential desirability appear to reflect this less restrictive set of residentially suitable locations.

Population and the environment are rated equally as a consideration for residential desirability by the British Columbia respondents. The same percentage of the Maritime respondents labelled the physical environment as an important consideration. However, the major difference seems to lie in the consideration of the population. While the British Columbia residents saw this factor as significant, it was not as important as it was in the Maritimes. Perhaps it is the isolation of British Columbia from the rest of Canada and trade connections with the other Pacific trading centres that has caused this to be a less important qualification. Thus, in contrast to the Maritime view, location was not necessarily viewed as more desirable. The focus of desirability was on the west coast areas which enjoyed the best in the primary locational considerations of climate, environment (mountains and coastal location) and the people.

An interesting consideration to note is the similarity in economic considerations. It would appear that there is a comparative residual consideration of economics, in both views, even with the qualification of job opportunities removed. Another interesting variation is the consideration of the political, racial and criminal climates. The British Columbia residents perceive these factors as the least important whereas the Maritimers perceive them as the second least important considerations. Perhaps British Columbia's long history of connectivity with the United States has helped effect these considerations. Thus the considerations of the British Columbian respondents appear to demonstrate some degree of unique regional emphasis. Strong climatic considerations would appear to have influenced the patterns of residential desirability. This combined with an emphasis on the natural environment restricted the patterns of desirability. If the British Columbia respondents were using their home area as a measuring stick for these considerations, few Canadians who have enjoyed a lengthy stay in their province would disagree with the selectivity of their patterns of residential preference.

The factors that the British Columbia respondents listed for residential desirability are lacking in the north. For the most part, this can undoubtedly be attributed to the severe climatic conditions prevalent in the northern continental periphery. The sinkhole in the central United States would appear to be a result of the marked differences in the

climate and topography between it and the west coast areas. The lack of a strong consideration of nationality appears to combine with the dominant considerations of climate, topography and people to cause the American west coast to be perceived as more desirable than it was in the Maritime view. The lack of a strong emphasis of residential desirability on the Canada corridor would appear to be caused by the climatic and topographic differences existing between the Canada corridor and the highly favoured west coast areas.

Summary

Preference surface analysis indicated that the surface of residential desirability is much more selective in the eyes of the residents of British Columbia. The residents of British Columbia have a more expansive neighbourhood effect in that they include much of the American west coast within the neighbourhood dome of high preference. Their localized preference evaluation of their home cell is such that it demonstrates a more favourable attitude towards their home province than the attitude of the Maritimes to their home region. Their patterns of residential desirability appear more selective but they make a weaker distinction between Canada and the United States in terms of residential preference. The residents of British Columbia do not share the attitude of the Maritimes in perceiving the opposite coastal setting as closely related in desirability to their home region.

In conjunction with the neighbourhood effect, the distance decay effect exhibits a limited range in both areas. Many areas of less favourable preferences are shared by these two regions in the far north and the central United States. The area of unfavourableness in the United States is somewhat further east than that of the Maritime provinces which focus their unfavourableness on the western great plains. This factor seems associated with the distance decay effect from the particular regions of testing.

Analysis of two unique regions has presented us with a set of comparable residential preference surfaces. The degree of the neighbourhood effect, the areas of favourableness and unfavourableness, and the attitudes towards Canada and the United States have demonstrated degrees of similarity, yet with distinct regional flavourings. The remaining regions of Canada should provide further similarities in patterns, however these will be tempered by unique regional characteristics and locational considerations.

Ontario

Even though Ontario encompasses at least two major physiographic regions, each with their own respective orientations, the region's focus is on the core area in southern Ontario. (Putnam and Putnam, 1970, 181) The sparsely settled resource oriented north, focusses on this core agricultural, manufacturing and urban heartland of the Great Lakes lowlands. According to Spelt (1970, 334), this heartland has from its earliest beginnings as a British colony, been a distinct region in the fabric of Canadian society. Over one-third of the population of Canada lives in this economic heartland of Ontario. (Putnam and Putnam, 1970, 180)

Ontario's contributions to, and role in the national economy are quite different from those of any other region in Canada. This has undoubtedly been due to its location in relation to the transportation networks of the Great Lakes and the St. Lawrence seaway. Combined with its proximity to the American manufacturing belt, the prosperity of this region to all of Canada far exceeds any other region of Canada.

This region is one of the oldest developed regions of Canada and has attracted much foreign and interprovincial immigration. According to Wier (1970, 151) it is the intense urbanization and economic viability of southern Ontario that

has attracted immigrants far in excess of any other province. This not only holds true of foreign immigration but of inter-provincial migration. Ontario, along with British Columbia, represents one of the only two provinces to experience a net increase in terms of inter-provincial migration. (Wier, 1970, 174) Wier indicates that this is undoubtedly due to its high per capita income level and its rate of industrialization which makes it much more successful at absorbing population than any other part of Canada.

Thus, the province has been subject to a series of cultural waves unequalled in any other part of Canada. It has managed to absorb and accommodate all these groups and provide them with 'a life of quality' for its inhabitants well above the Canadian average. (Merrill, 1970, 561) Thus, Ontario has been the traditional focus of growth and prosperity for the country since Confederation.

Climatically the area is quite suitable, being moderated by the Great Lakes to provide a moist and sunny climate. The moderated climate provides a comfortable variation of the continental climate of the country for both human and agricultural occupation.

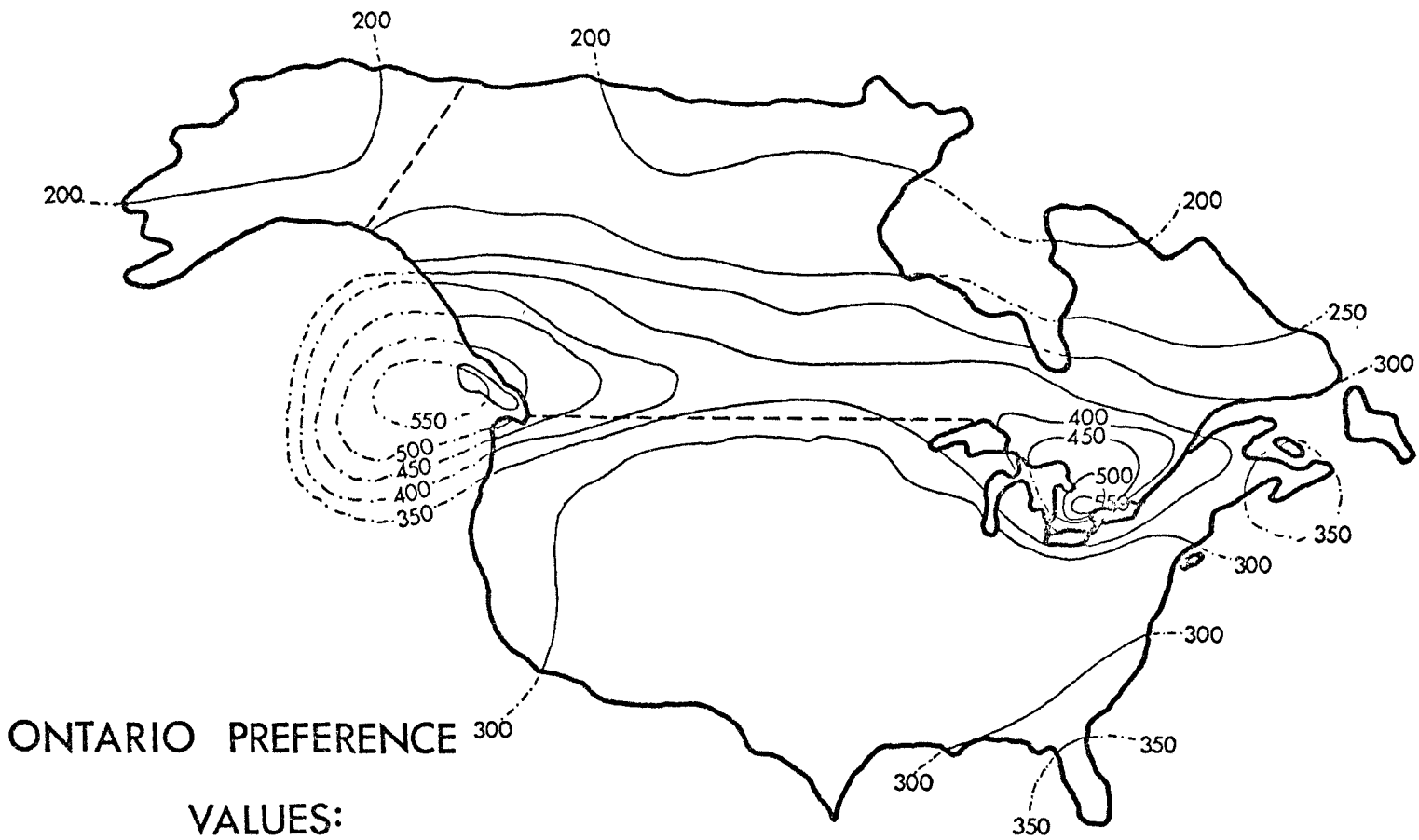
The population of Ontario would appear to be subject to a greater flow of information about Canada than most other regions of the country, because it has the seat of the national government in Ottawa. The province is also the focus of Canadian economic activity and thus it experiences a more extensive information flow about the rest of Canada in

comparison to less developed regions. This, combined with their experiences as a focus for inter-provincial migration might be expected to give the respondents in this region a better informed picture about Canadian diversity than the respondents from any other region. Similarly Ontario's strong economic ties with the United States might be expected to give the residents of Ontario a background for a more informed picture of North America.

The corresponding residential preference surface of the residents of Ontario should therefore reflect this better information field. Correspondingly, a researcher might expect that the view from Ontario would be more nationally oriented and thus the neighbourhood effect would be less pronounced than in other regions. However, if Ontario was perceived strictly on economic merit, it is hypothesized that it would be the area of strongest preference on the Ontario surface.

The Raw Data

The preferences of the 133 Ontario respondents indicates the expected characteristics of a neighbourhood effect for their immediate locale (Figure 10). The most important difference in this surface is the fact that the Vancouver-Victoria area of British Columbia was rated higher than the home area. Thus it appears that the neighbourhood effect will occur in most preference surfaces but it will not always represent the highest point on the surface.



ONTARIO PREFERENCE

VALUES:

POSSIBLE RANGE
 Min.= 133 , Max.= 665

FIGURE 10

Therefore, two major domes of residential desirability appear on the preference surface. A neighbourhood dome is centred over southern Ontario and an 'Eden' dome over southwest British Columbia. These two domes are joined by a ridge of high residential desirability along the Canada corridor. The preference surface is very similar to the surface as viewed from British Columbia. The Ontario surface lacks only the distinction made by the British Columbia respondents in the degree of residential desirability between the two centres. Thus, the residents of Ontario appear somewhat less critical in their residential preferences making less marked distinctions between the residential desirability of places. Thus, the more highly desirable areas include much of the west coast, the Great Lakes-St. Lawrence lowlands and portions of the Canada corridor connecting the two domes of residential desirability.

The surface experiences a uniform gradient of decreasing preference to the north and a uniform preference for most of the continental United States in the south. The only exception in the uniform preference for the United States is seen along the American west coast and in Florida. The American west coast is perceived as more residentially desirable and is included in the dome of high residential desirability centred on Vancouver and Victoria. Florida is seen as a very isolated peak of residential desirability.

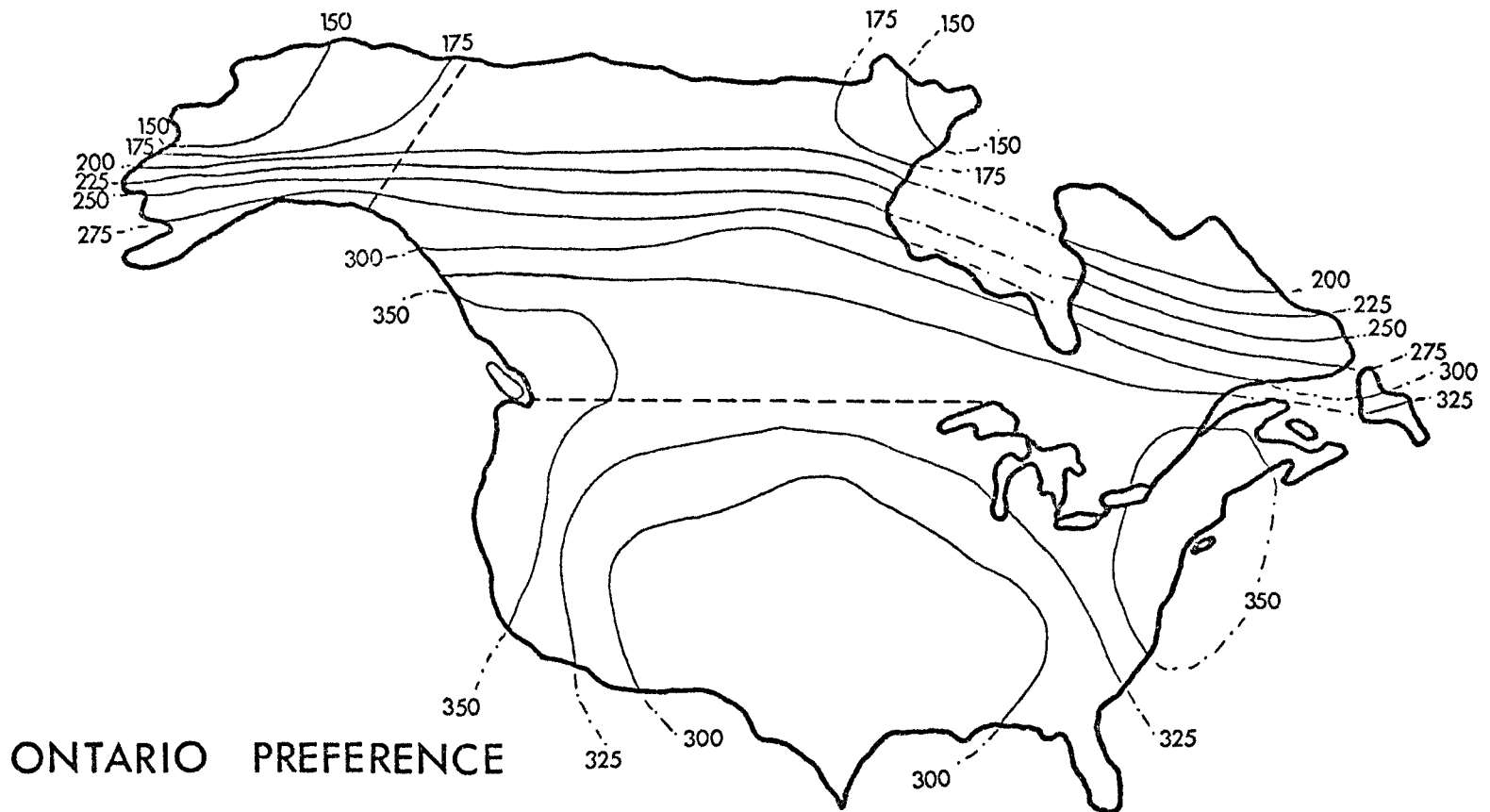
Sinkholes of residential desirability are experienced along the northern periphery of the continent and in the

central United States. Again the similarities in preference surface characteristics when compared to the British Columbian surface is striking.

The more cosmopolitan nature of Ontario appears to have influenced the degree of neighbourhood effect. While perceiving their area as considerably more desirable than most of the surface, it is surpassed slightly by the preference for the Vancouver area. Trend surface analysis and the residuals should indicate the degree of continuous or local preference that was ascribed to Ontario. It would appear that the preference would have a considerably less localized element when compared to the very localized preference that the British Columbia respondents held for their home area. Thus, this surface appears significantly less selective in terms of the number of areas that are perceived as residentially desirable. According to the Ontario respondents, distinctions are made in the United States, although a similarity in areas of desirability and undesirability are evident. Reference to the trend surface, residuals and locational consideration should clarify these evaluations by the Ontario respondents.

The Trend Surface

Trend surface analysis of the Ontario preference surface is based upon the cubic trend surface that explains 52.7% of the variation in the surface. (Figure 11 and Figure 12)



ONTARIO PREFERENCE

VALUES:

CUBIC TREND SURFACE

FIGURE 11

The Ontario Preference
Cubic Trend Surface

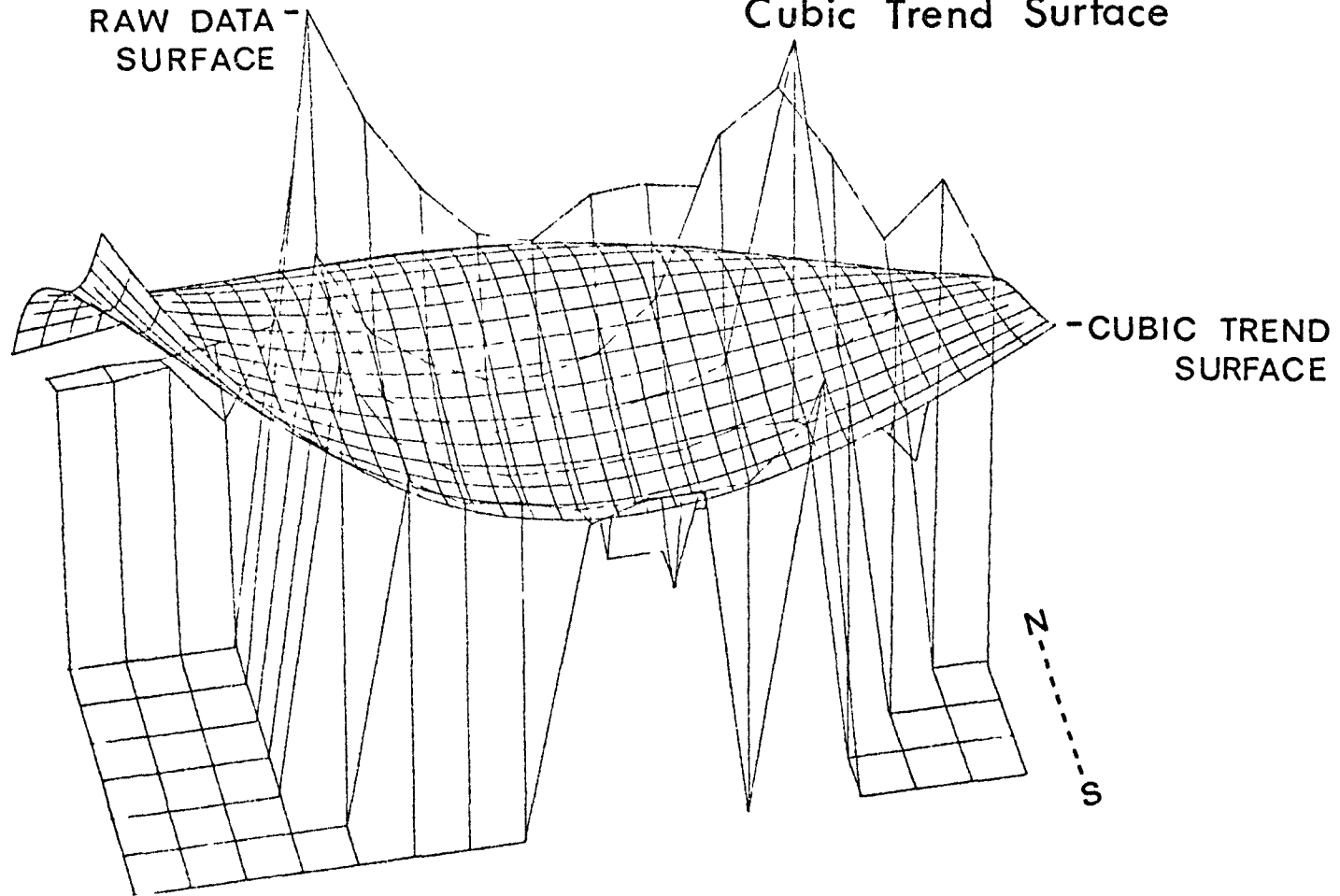


FIGURE 12

Three distinct regional trends emerge in the continuous trend surface; the pattern associated with the areas of high residential desirability in British Columbia and Ontario, the northern areas of undesirableness and the central United States.

The first trend in the surface is associated with the raw data domes of residential desirability on the west coast of North America and the Great Lakes-St. Lawrence lowlands. There is a continuous trend associated with an east-west corridor of residential desirability which runs from the 'Eden' focus over British Columbia along the Canada corridor to a focus over the New England states in the United States. The preferential low along this ridge is centred over the Lake Superior lowlands and preference increases to the west and east along the ridge. This surface trend of a preferential ridge along the Canada corridor is closely comparable to the continuous surfaces as seen from the other regions. Like the British Columbian surface, the neighbourhood dome and surface high experiences a southerly displacement. However, the difference between this and the British Columbian continuous surface is in the stronger east-west orientation of the ridge which causes preferential decay for the remainder of the surface to be oriented north-south from the Canada corridor rather than from the neighbourhood dome.

The second surface trend is seen in the United States. The continuous surface indicates that there is a saucer-like effect of residential preference in the United States, similar

to the views from the previous regions tested. Preference decreases crossing the Canada-United States border to centre on a preferential low in Texas in the south central United States. This saucer effect is more pronounced than in the British Columbian view and is similar to the view as seen from the Maritimes. Like the Maritime view isopercept lines take on an east-west trend such that residential preference decreases with increasing distance from the Canadian border. Like the Maritimers this indicates a more marked distinction in surface trends in terms of the United States.

The third trend in the continuous surface is associated with the Canadian and American north. Here, isopercept lines are oriented in a decidedly east-west manner. Thus, like the view from British Columbia and the Maritimes, preference generally decreases with increasing northern distance from the Canada corridor. The only exception is provided by the shift of the isolines to parallel the Canada-Alaska border. This would reflect a strong border effect on desirability along this border.

Trend surface analysis has failed to indicate the existence of the strong neighbourhood effect for Ontario. This would indicate that the rating of high residential preference for Ontario on the raw surface is a localized preference on the residential preference surface. The North American east coast experiences the highest preferences on the continuous surface. This preference is followed closely in magnitude by an 'Eden' focus over British Columbia.

The emphasis of the Canada corridor as a link between the domes of residential desirability noted on the raw preference surface is supported in the continuous surface. This characteristic has been common to all three regions tested with localized preferences being registered for home and other desirable areas along the Canada corridor. The treatment of the Canadian north is quite similar to that of the British Columbian residents. Distance from the Canada corridor appears to be the primary factor in determining the residential desirability. Because distance away from the Canada corridor not only determines population and development but vegetation and climate, relative location appears to be a criteria for residential desirability as seen from both these areas. This continuous surface shares similarities with the Maritime surface in that they both treat the United States in a distinctive manner when assigning residential preference. British Columbians apparently foster a more favourable attitude towards the United States in the sense that they do not generally treat it as less favourable in terms of residential desirability. Their association with the United States has not fostered the strong distinction in residential desirability in the United States that Ontario's relationship has.

Trend Surface Residuals

The surface residuals provide a measure of the localized preferences on the residential preference surface

(Figure 13). The distinction between the west coast, Great Lakes lowlands domes of preference, the Canada corridor and the remainder of the continent is reinforced by the residuals. The preferential domes and Canada corridor are all associated with positive residuals. The remainder of the continent is generally associated with negative or weak positive residuals.

Strong positive residual measures are few. These strong positive residuals are associated with southern Ontario and south-west British Columbia respectively. This would indicate that the preference expressed for these particular areas were very localized in nature. Strong positive residuals for southern Ontario extend to include much of central Ontario and the south-west extremities of the St. Lawrence lowlands. The strong positive residuals for south-west British Columbia extend eastward to include southern British Columbia and southern Alberta.

Strong negative residuals are associated with the central portions of northern North America and the north-eastern United States. Both these areas of strong negative residuals are undoubtedly in response to the limitations of trend surface analysis. The uniform low preference assigned for North America north of the provincial borders causes alternately negative and positive residuals. This is a result of the surface not being able to adjust quickly enough to the preference when it drops to a rather uniform low preference for northern North America.

ONTARIO PREFERENCE
VALUES:
RESIDUALS

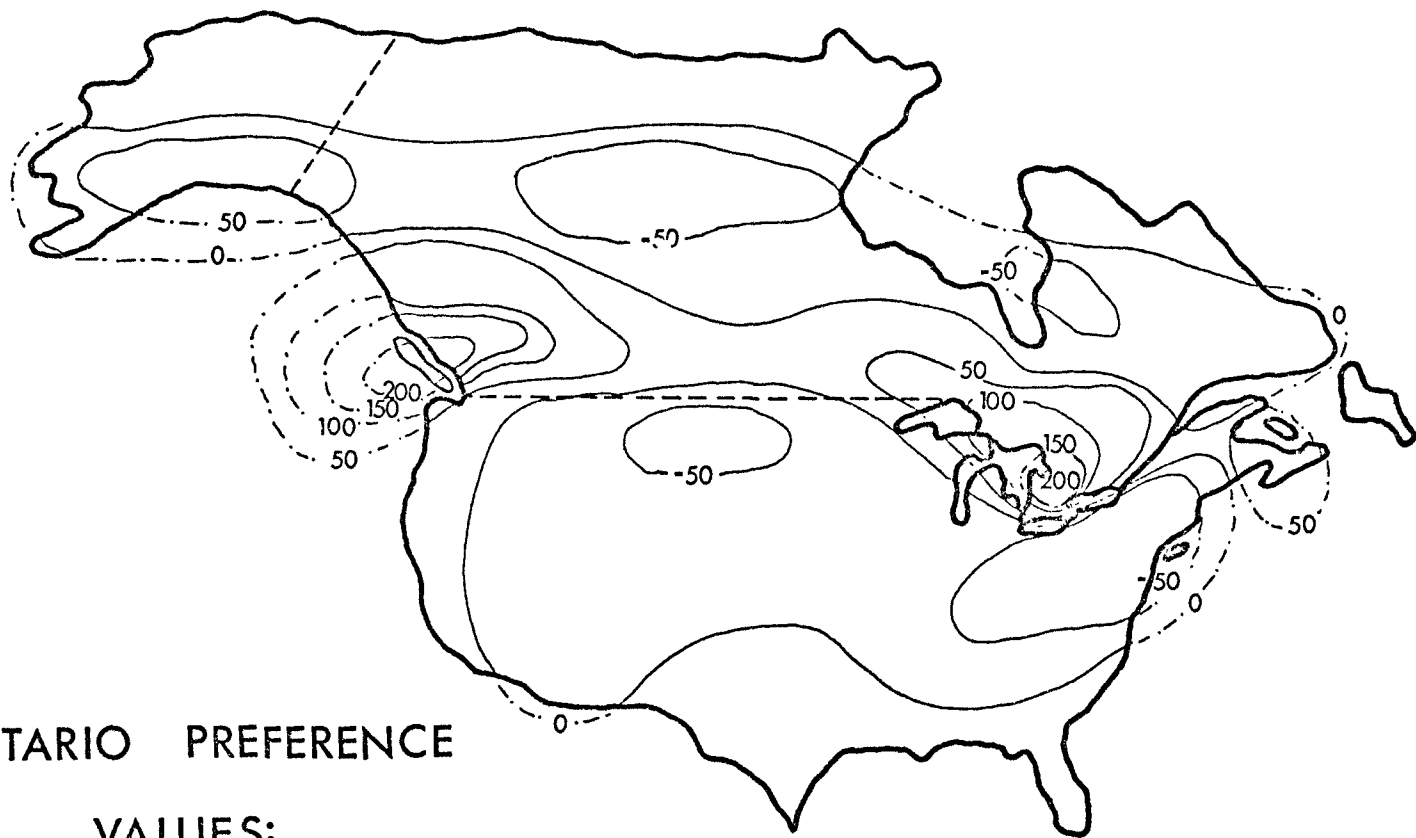


FIGURE 13

The second area of strong negative residuals is in the north-eastern United States. Trend surface analysis predicted the north-eastern United States as the point of highest residential preference on the continuous surface. This was in response to the southerly shift of the focus of the neighbourhood dome on the continuous surface. Thus it would appear that when compared to the strong positive residuals in Ontario and the Maritimes the southerly shift has been overemphasized. This was undoubtedly due to the rapidly declining preferences to the north and north-east of Southern Ontario.

Trend surface residuals emphasized areas of localized positive preference in southern Ontario and south-west British Columbia. These areas then epitomize areas of high residential desirability in the minds of the Ontario respondents. Northern North America's strong negative residuals support the belief that these areas are the epitomy of residential undesirability. Few areas in the central states are associated with weak to strong negative residuals. The Canada corridor is, as in the other regional views, associated with positive residuals. The Canadian and American north varies between strong negative and strong positive residuals.

Locational Considerations

When asked to list their locational considerations the Ontario respondents listed a number of considerations which demonstrated markedly different emphasis on the per-

ceived locational attributes of a place. (Table 3) Twenty-nine per cent of the Ontario sample perceived climate as an important consideration; 21% perceived factors concerned with politics, and racial and criminal climate as important; 17% perceived factors concerned with the people, their nature and their proximity as important; 13% perceived factors concerned with the state of the environment as important; 11% perceived factors concerned with the economics of the areas as an important consideration, while 9% perceived other factors as important.

The order and importance of these considerations are considerably different from both the Maritime and British Columbian considerations. This reflects another unique set of perceived attributes of residential desirability. The most important residential consideration of the Ontario respondents is climate. The percentage of Ontario respondents who considered this element is closely comparable to the number of British Columbian respondents who considered it as the most important locational consideration. Both Ontario at 29% and British Columbia at 30% indicate this as a considerably more popular consideration than the Maritimes at 20% who placed it as the second most important locational consideration.

The residents of Ontario make a marked distinction from the other regions in their second most important locational consideration. Twenty-one per cent of the Ontario population perceived factors concerned with the political,

TABLE 3

Locational Considerations
of
Ontario

CONSIDERATION CLUSTERS	of CHOICE				TOTAL
	1st	2nd	3rd	4th	
Climate	49	24	17	3	29
Population Density	4	1	2	-	
Isolation	1	3.5	-	-	
Nature of People	5	11	6	9	
Language or Culture	4	1	7	3	
Way of Life	2	3.5	4	-	
TOTAL	16	20	19	12	17
Economics	1	7	10	9	
Opportunity	-	4	6	6	
Standard of Living	-	8	-	-	
TOTAL	1	19	16	15	11
Nationality	10	8	6	3	
Political Climate	1	8	16	17	
Criminal and Racial Climate	4	6	4	9	
TOTAL	15	20	29	29	21
Scenery	8	6	4	6	
Recreation Facilities	2	2	7	17	
Nearness to Ocean	-	1	-	3	
Degree of Pollution	-	1	-	3	
TOTAL	10	10	11	29	13
Nearness to Family & Friends	5	6	6	3	
Geographic Location	-	1	1.5	3	
Hearsay	-	-	1.5	-	
Familiarity	4	-	-	6	
TOTAL	9	7	9	12	9
GRAND TOTAL	100	100	100	100	100

racial and criminal climate of a location as an important locational consideration. This is a considerably higher degree of consideration of this factor when compared to British Columbia at 8% and the Maritimes at 12%. Both these provinces perceived it as the fifth consideration in order of importance. This would tend to indicate a greater concern with politics from the provincial to international level by the Ontario population. This being an important consideration, it should have been reflected as a prominent factor in rating the North American surface for residential preference. If this consideration reflects the long-heard cry of Canadian nationalism perhaps it should have caused a stronger difference in preference between Canada and the United States, comparable to the distinction made by the Maritime respondents. The third most important consideration is people, their nature and their proximity. This consideration is far less important with 17% of the Ontario sample perceiving it as an important locational consideration when compared to the Maritime sample where 26% of the sample considered it as an important locational consideration. This number is comparable to the 18% of British Columbia respondents who perceived it as an important consideration. The Ontario population perceives this factor as comparatively less important, seeing it as the third most important consideration in comparison to the Maritimers who placed it first and the British Columbians who place it second. This factor would appear to reflect the more cosmopolitan nature of Ontario with its

wider range of experience with the United States, and with immigrant populations from Europe and the rest of Canada. Thus, the Ontario respondents appear more tolerant of a wider range of people. The state of the environment represents the fourth most important consideration of the Ontario respondents. The 13% of the respondents who perceived this as a significant factor is somewhat less important than the 18% in British Columbia and 18% in the Maritimes. The decrease in importance of this factor compared to the other regions indicates less concern with the physical environment on the part of the Ontario respondents. Therefore, this factor would appear to play a less important role in determining what places are residentially desirable in the minds of the Ontario population. The residual effects of economic considerations are less apparent than in either of the other two regions. Other considerations play a comparatively small role in determining residential desirability similar to the other regions.

The residential preference surface as viewed from Ontario presents a series of important considerations. The residents of Ontario perceived climate, politics and population as the most important locational considerations for residential desirability. The surface of residential desirability they produced indicated southern Ontario and southwest British Columbia as the areas of highest residential desirability in their respective domes of residential desirability. The pattern of residential desirability was closely

comparable to the pattern produced by British Columbia who perceived climate, population and topography as the most important locational considerations. Thus, distinctions between these two surfaces should reflect the differing emphasis of locational considerations and differing physical milieus of the population of these two provinces.

The decided Canada corridor focus of residential desirability in the Ontario view would appear to be a result of the strong national and political considerations of the Ontario respondents. In comparison, the British Columbian view did not stress this consideration as strongly and demonstrated a weaker Canada corridor focus of residential desirability.

The higher rating of the west coast of North America would appear to be the result of the strong climatic consideration expressed by the Ontario respondents. In conjunction with the environmental attributes of mountains, scenery and coastal location, the west coast is seen as the high on the surface in terms of residential desirability. The residual desirability measures indicate that the epitomy of residential desirability is associated with a very restricted area around south-west and southern British Columbia. This area is thus perceived to exemplify the primary locational considerations of climate, politics and population perceived as desirable.

Similarly, Ontario is perceived as highly desirable particularly in terms of the residual surface. A very localized area in Ontario is closely comparable to the British

Columbian area of the surface in terms of residential desirability. While the preference for the west coast reflects a continuous trend of the perceived attributes increasing with decreasing distance from the west coast, Ontario's preference indicates more localized area which meets the locational considerations. The Ontario area undoubtedly is perceived to meet the considerations of climate, politics and people based upon the factor of familiarity with the conditions of the home area. No doubt it is the strong climatic consideration of the Ontario respondents which causes the west coast and British Columbia to be perceived as surpassing the home area in terms of desirability. The preference evaluations based upon these considerations are so localized in Ontario that the neighbourhood dome is not in evidence on the continuous surface.

As in the other regional views examined, these considerations are perceived to be most lacking in Alaska, the Canadian north and the central United States. Again the primary consideration of climatic attributes can be hypothesized to be a strong factor in determining the low desirability of these areas.

The shift in the isoline trends along the Canadian-Alaskan border in the north would indicate the effect of the political and possibly the considerations of population affecting the patterns. A strong feeling of Canadian nationalism would appear to be reflected in the considerations but not necessarily the patterns of residential desirability.

The sinkhole of residential desirability in the United States would appear to indicate that this area represents the least desirable area in terms of the major considerations of climate, politics and population in the continental United States, after Alaska. The climatic considerations of the central United States would thus appear to be perceived as undesirable in comparison to the remainder of the southern United States. Combining this consideration with the consideration of politics and people, which appears to reflect an un-American attitude, this area is seen as undesirable. Thus, like both regional views previously examined, the American periphery is seen as more desirable than the central United States in terms of the consideration of residential desirability.

Summary

The preference surface analysis has indicated that the surface of residential desirability, like the other regions tested, is very selective. Areas of residential unfavourableness outnumber areas of residential favourability. A marked distinction is made between the populated areas of Canada and the rest of the continent. The Ontario respondents have showed a far weaker neighbourhood effect than any other region so far discussed. In fact British Columbia was perceived as more residentially desirable than the home area of Ontario. Localized positive preferences are associated with south-west British Columbia and southern and central Ontario.

These areas are perceived as the areas most closely associated with the residential considerations of climate, politics and people. Trends in residential desirability for the Ontario sample is closely comparable to the British Columbian trends. Like the Maritime sample, a marked distinction is made between Canada and the United States in terms of residential desirability. The distance decay effect of residential preference, which is associated with the neighbourhood effect in the other regions, is not as evident in the Ontario surface of residential preference. Distance would appear to play a role with regard to preference in terms of distance away from the Canada corridor. Trend surface analysis would indicate that as distance increases north and south from the Canada corridor, residential desirability decreases.

Analysis of the Ontario region has provided another set of locational considerations and resulting patterns of residential preference. The view from Ontario has shown similarities and differences in the neighbourhood and distance decay effect and areas of favourability and unfavourableness on the map of North America.

The Prairies

Manitoba, Saskatchewan and Alberta make up what is commonly called the Canadian prairie region. This region stretches from the Canadian shield of Ontario in the east to the foothills of the Rocky Mountains of British Columbia in the west. Physographically, there are no more forests or ancient rocks, no water falls or deeply incised valleys, and the rivers are generally smaller and slower moving. Huge areas are covered by sedimentary rock and the soil is deep and rich. The land is flat or gently rolling and covered by long grass which was the pasture for the famous buffalo herds of old. The precipitation is scanty and the winters are cold and intense. Nevertheless, much of the prairies are ideal for year round grazing and the growing of the area's major agricultural product, wheat.

The history of settlement is rather short in the Canadian prairies. Hunters and fur traders penetrated the region rather early but intense settlement did not begin until the construction of the railroad in 1885. Then came the realization of the vast agricultural potential of the area which attracted a series of waves of European settlers. Settlement focused on isolated agricultural towns across the prairies.

The waves of immigrants who migrated to this area consisted of various ethnic groups who wanted to preserve

their traditional ways of life. There is as yet little unity among these widely scattered peoples as each cultural wave tended to live in isolated settlements preserving many of the customs of their former country. Thus the population of these more recently settled regions has not the same homogeneity as many of the other regions of Canada.

According to J. H. Richards (1970, 396), 'isolation is the outstanding characteristic of the prairie region'. Its vast distance from the Canadian heartland of the Great Lakes-St. Lawrence lowlands and the Pacific focus of the lower mainland of British Columbia combine with physical barriers to create this isolation from the rest of Canada. Similarly, the region is isolated from the American prairie regions to the south by the Canada-U.S. border and is bounded by forests and a less favourable climate to the north. Therefore, it is not surprising that the population of this area manages to retain local and regional identities which are different from the rest of Canada.

According to J. H. Richards,

Isolation has helped to create a special identity, and common acceptance of this has induced a conceptual frame in which popular characterizations such as 'bread basket' and 'colonial economy' are frequent, and vague ideas exist of second class economic status vis-a-vis the rest of Canada. (Richards, 1970, 396)

This image does not fit the present conditions of the prairies as well as it used to. The prairies would appear to consist of a diverse but changing population which is beginning to foster a similar series of regional aspirations and attitudes.

Thus the people of this region are beginning to develop a more homogenous outlook which in turn fosters a stronger regional identity. Therefore, it is believed that the residents of the prairies are simultaneously starting to develop a regional outlook in terms of residential desirability. The changing structure of the prairies is exemplified by a constant rural to urban migration and a process of farm consolidation. According to statistics obtained during the 1950's, this region had the highest increase in urbanization in Canada at 104%. (Wier, 1970, 173) Traditionally, the prairies had experienced some of the largest population losses in Canada as a result of provincial out migration. Most of the prairie emigrants involved in inter-provincial movement have moved to British Columbia and Ontario. This is quite easy to understand since British Columbia has an attractive climate, the amenities of life and a boyant post war economy while Ontario has its high per capita income level and its high rate of industrialization which allows it to absorb population better than any other part of Canada. (Wier, 1970, 174-175)

The economic development of the prairies, especially in agriculture, has from its earliest pioneer beginnings been closely related to climate and export markets. The distance to markets, the small local population and the few natural resources have limited the development of a competitive secondary industrial base. Urbanization and a reduced proportional participation in direct agricultural activities is

causing a new pattern to emerge. This pattern is replacing the traditional agrarian outlook of the prairies.

The people of the prairies are beginning to recognize their common problems and work together to further develop this region and its available resources. (Richards, 1970, 421) A new and stronger regional identity is being fostered through these joint economic interactions. The oil crisis of the early 1970's exemplifies this joint economic front and promises to bring up the quality of life to the level of the other regions of Canada. Although the new focus of the prairies promises to be more regional, the population still looks outward from its isolation. The three largest cities of the region, on the regional periphery, with Winnipeg facing the east and Calgary and Edmonton facing the west, exemplify this focus.

Thus, an area of traditionally unfavourable residential desirability, as reflected in statistics of inter-provincial migration (Wier, 1970, 174), would appear to be changing. The lower standard of living, the lack of economic opportunity and secondary industrial development characteristic to this region is also changing. The residents of the prairie provinces will no longer need to look outside their province to enjoy the maximum that Canada has to offer. Thus both the locational considerations and patterns of residential desirability might be expected to be more reflective of the changing conditions of the Canadian prairies.

One would expect that the prairie respondents would demonstrate a stronger neighbourhood effect than their image of the past would predict. This would hopefully reflect the changing economic conditions and improved standard of living within the prairie regions. In addition, the elimination of the immediate requirements of trying to find a suitable means of employment has removed the basic economic limitations of the region in terms of residential desirability. Thus the patterns of residential preference would be expected to reflect more of the non-economic considerations of residential desirability. Therefore the neighbourhood dome of residential desirability would be expected to be centred over the southern populated portions of the Canada corridor in which nearly all the residents of the prairies reside. This dome will also be expected to demonstrate the influence of the traditional areas which have in the past drawn the greatest proportions of prairie emigrants. The provinces of British Columbia and Ontario which have been perceived as the most attractive areas of resettlement outside the prairies would be expected to cause an eastwest elongation of the neighbourhood dome. The focus might be expected to be more west than east, reflecting a history of a stronger emigrant link with the west.

The decay of preference with distance would be expected to be most acute in the northerly direction. The preferential decay gradient would be expected to be less acute in a southerly direction towards its American counterpart. Gradients of preferential distance decay are expected

to be least along an east west axis in the Canada corridor towards B.C. and Ontario.

The Raw Data

The view of residential preference of the 71 prairie respondents does express the hypothesized neighbourhood effect. (Figure 14) This occurs even though the peak of the neighbourhood dome encompassing the prairie provinces is centred over southwest British Columbia. This peak appears to represent a combination of the neighbourhood and 'Eden' effects. Thus, the western orientation hypothesized for the residential preferences of the prairie respondents does indeed occur. The dome of residential desirability associated with the prairies extends eastward along the Canada corridor towards the Great Lake Lowlands in Ontario. This neighbourhood dome of residential desirability represents the only prominent dome of residential desirability on the North American surface. Preferences expressed for other areas on the surface like Florida and the Maritimes would appear to be desirable only in the context of the more undesirable areas surrounding them.

The prairie dome of residential desirability is more extensive in area than the neighbourhood or 'Eden' domes of residential desirability seen from the other regions of Canada. From the preferential high in southwest British Columbia, preference decreases very gradually along an east-west axis in the dome to a somewhat neutral residential

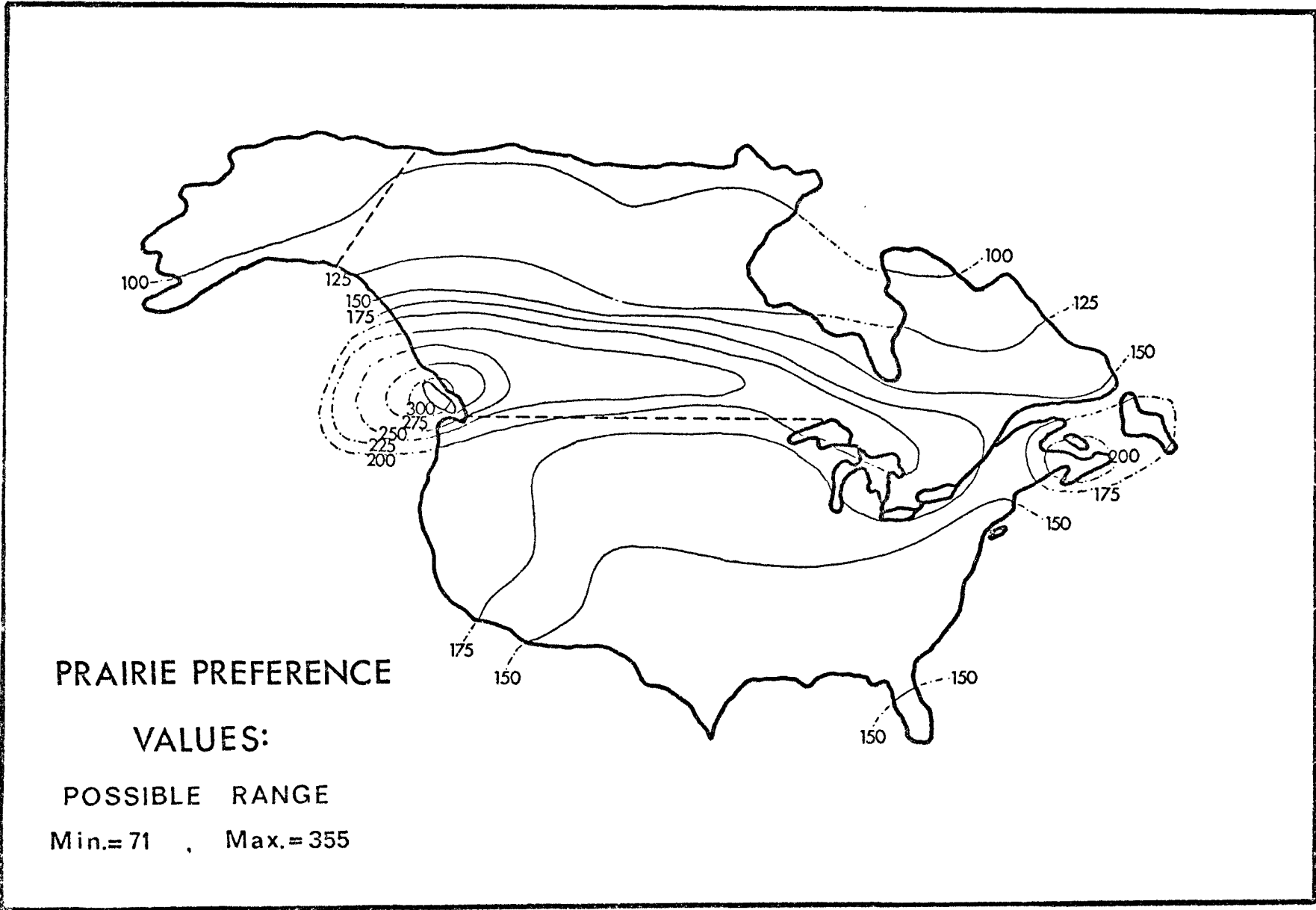


FIGURE 14

desirability in the Ontario extremities of the dome of residential desirability. Similarly a southward extension of the dome along the American west coast drops off to a neutral level of favourability. Preference falls off quickly to the north and south of the dome of residential favourability. Thus it would appear that the areas perceived as most residentially desirable are located in the western extremities of the Canada corridor. The southwest portion of British Columbia exemplifies these conditions of desirability followed by the western prairies. Residential desirability decreases moving eastward and southward from the high in British Columbia. The eastward axis of the Canada corridor ridge of residential desirability provides the focus for a north-south decline in desirability.

Two sinkholes of residential desirability are readily discernable on the surface. The decreasing preferential trends into these sinkholes are based upon northerly or southerly locations from the preferential ridge along the Canada corridor. Preference decreases more acutely to the north than to the central states in the south. Thus it would appear that the perceived locational attributes fall off with increasing distance towards the north from this preferential ridge. The rapid decline in preference is undoubtedly due to the climatic, topographic and vegetational changes that begin just north of the inhabited portion of the prairies. Decline is rapid until the North West Territories are reached. Preferential decline then appears

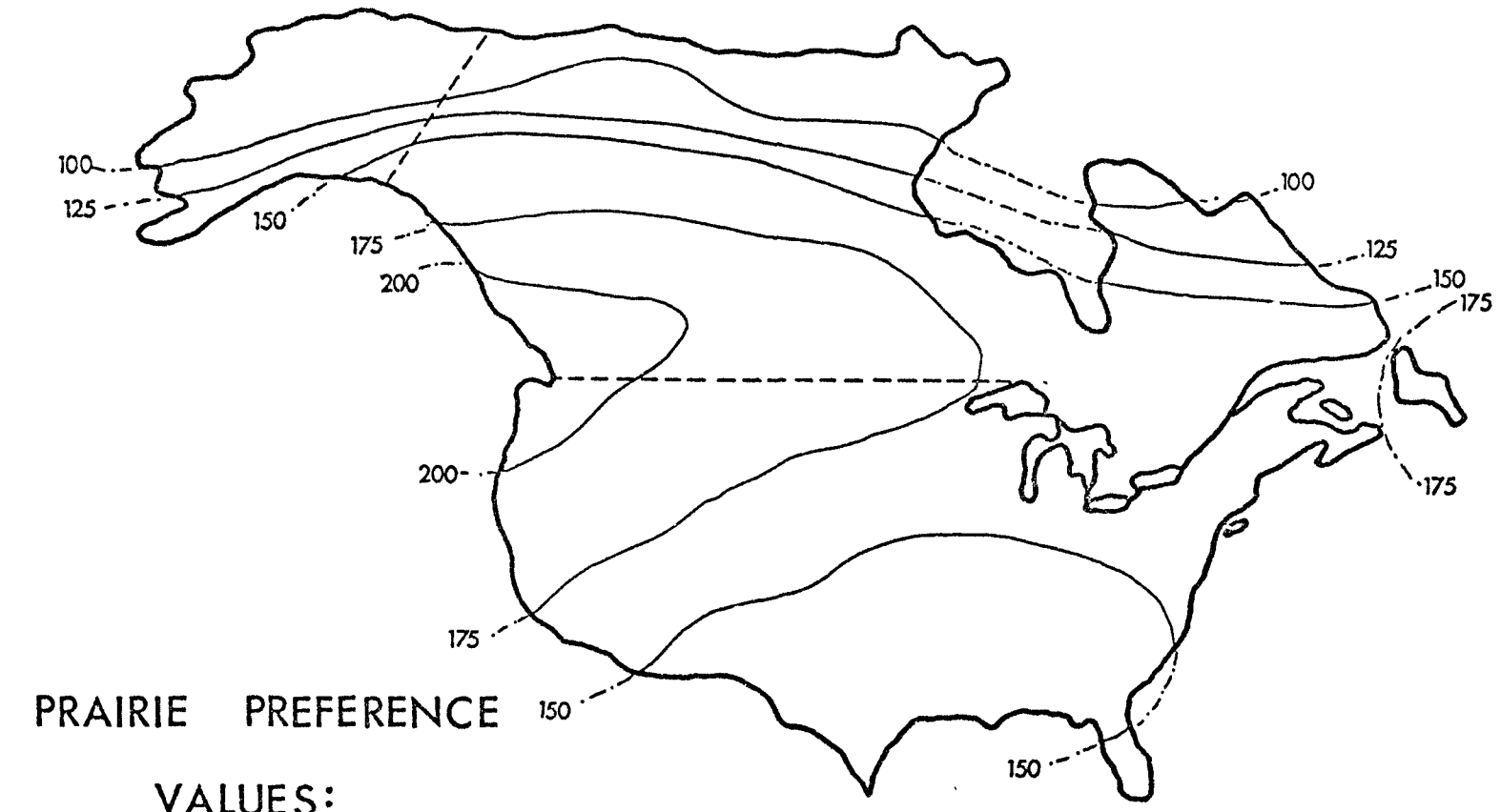
to level out. Preference drops off very quickly to the U.S. border, where, with the exception of the American west coast and Florida, the states are perceived in a relatively uniform manner. Once in the United States, preference decreases very slowly as distance increases from the Canada corridor. In order to clarify the nature of these trends in reference to continuous and local surfaces, the surface will be examined by trend surface analysis.

The Trend Surface

Trend surface analysis of the residential preference surface as viewed from the Prairies is based upon a cubic trend surface that explains 62% of the variation in the surface (Figure 15 and Figure 16). Again this level of analysis has been chosen for the combination of its high degree of explanation plus its easily interpretable surface.

The trend surface as viewed from the prairie provinces shows striking similarities to the trend surfaces of British Columbia and Ontario. All three surfaces are associated with a dome of high desirability centred on the west coast of North America and all three have an associated ridge of high desirability along the Canada corridor. The surfaces are all associated to some degree with declining preference with increasing distance away from the west coast and the Canada corridor.

The prairie trend surface would appear to be a cross between the primary Canada corridor focus of the Ontario trend



PRAIRIE PREFERENCE

VALUES:

CUBIC TREND SURFACE

FIGURE 15

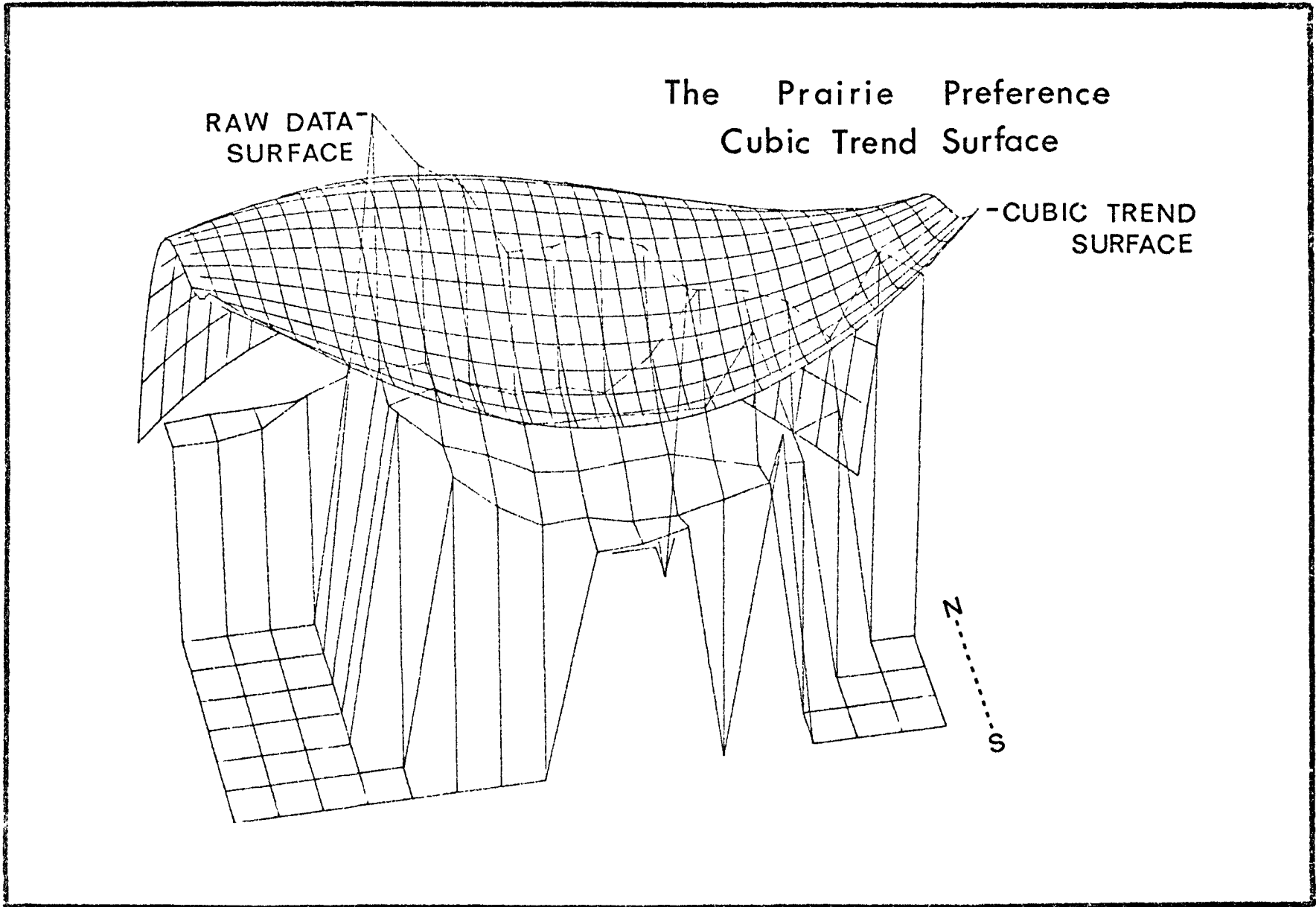


FIGURE 16

surface and the primary west coast focus of the British Columbian trend surface. The focus of the west coast 'Eden'-neighbourhood dome, as seen from the prairies, is more selective than the view from Ontario or British Columbia. Both these surfaces had more extensive west coast domes encompassing the west coast of North America and focusing on the United States portion of the coast. This would indicate a more selective continuous surface of residential desirability in the north-south direction as viewed from the prairies. Like the British Columbia trend surface, preferences decrease from east to west on the trend surfaces of the prairies but they experience a decidedly slower rate of preferential decrease along the Canada corridor axis. This more east-west continuous trend of high preference along the Canada corridor gives the surface a decided north-south element of decreasing preference with increasing distance from the Canada corridor. Thus, based on the preferential high point over southern British Columbia and Alberta, preferences decrease in an easterly, south-easterly and north-easterly direction with increasing distances away from the preferential focus of the surface.

Like all the trend surfaces viewed from the other regions of Canada, preference decreases into a perceptual sink hole in the central United States. The residential unsuitability of the central United States would appear to have been equally impressed on the minds of all Canadians in all regions. The only question is the particular location

of this area within the central states. All regional views seem to focus on the extreme southern states in the New Mexico, Texas and Oklahoma areas. Thus, these areas represent the epitomy of residential unsuitability in North America. Texas specifically represents the epitomy of residential undesirability in the central United States as viewed from the prairie provinces.

Similarly, the surface trends towards the northern continental periphery are quite similar to the continuous trends in the other regional surfaces. Isolines lines are oriented from west to east. Thus preference generally decreases with increasing distance away from the Canada corridor. Likewise, the slopes of the preferential decrease in the continuous surface are almost identical as one moves north. All surfaces seem to experience steeper preferential gradients once the northern limits of the prairie provinces are reached in the west and the latitude of James Bay is reached in the east.

Trend surface analysis of the preference surface of the prairies presents us with a continuous surface of residential desirability that appears to be a cross between the Ontario and British Columbian continuous surfaces. Similarly it shares elements in common with the Maritime trend surface.

Like the Ontario surface, the home area was not the highest point on the raw data or continuous preference surface. The dome of residential desirability on the continuous surface was centred on southern British Columbia and Alberta,

thereby indicating a slightly westward placement of what could still readily be called the neighbourhood effect. Therefore, it would appear that in terms of the continuous surface, the areas satisfying the primary locational considerations of the prairie respondents are situated in the Canada corridor and are at their best in southern British Columbia and Alberta. The continuous surface stresses the Canada corridor as a link or continuous ridge of residential desirability joining specific or discrete areas of residential desirability. Residential desirability in Western Canada falls off as a function of distance from the peak of residential desirability in southern British Columbia and Alberta along the Canada corridor. While in central and eastern Canada, the distance decay of preference appears to be a function of distance from the Canada corridor.

The Trend Surface Residuals

The surface residuals provide an indication of localized residential preferences expressed by the sample from the prairies. (Figure 17) The localized preferences indicate a further distinction made by the prairie respondents between the Canada corridor, especially west of and including Ontario, and the rest of the continent. The Canada corridor is associated with positive residuals, indicating that the corridor was perceived locally as an area of higher residential desirability even though it was part of a continuous ridge of residential desirability on the trend surface. The remainder

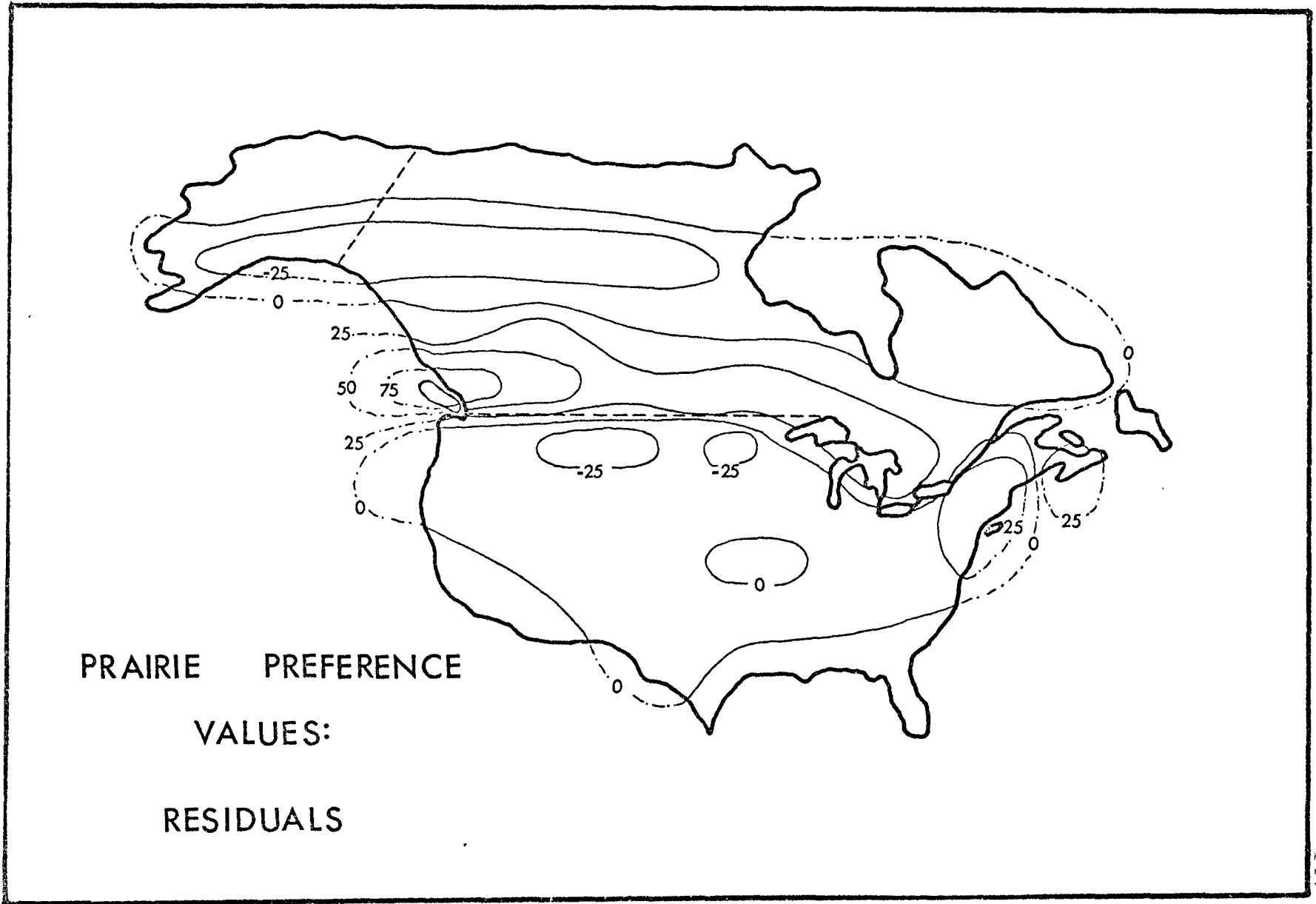


FIGURE 17

of the continent was generally associated with very low positive to strong negative residuals.

Strong positive residuals are associated with the western portions of the Canada corridor. South-west British Columbia experiences the highest measure of localized positive preference on the map of surface residuals. This would indicate that even though this area represents the highest point on the continuous surface it is also perceived in a very local manner in terms of residential desirability. Residuals become less significant as you move east along the Canada corridor, although they still indicate strong measures of localized areal preference for the prairie provinces and the Great Lakes lowlands. Strong negative residuals are associated with the central portions of northern North America, the northern fringe of the American prairies, and the American east coast including the New England states. All these areas appear associated with strong negative residuals as part of the limitations of trend surface analysis.

The strong negative residuals for the central portions of northern North America indicate this area is perceived as considerably less desirable than the trend surface would predict for its particular location. These areas, then, are perceived as very undesirable locations for residential purposes.

The north periphery of the American plains experience strong negative residuals, indicating that they are perceived as considerably less desirable than the surface would pre-

dict. The effect of the Canada-United States border on preference that appeared on the raw preference surface is again demonstrated by this surface of residual measures. This would indicate that localized preferences are registered for these cells in terms of residential preference. While the continuous surface indicates an underlying flow of decreasing preference, these residual measures would indicate a more local negative rating for these cells than the continuous surface indicates.

Strong negative residuals for the New England states of the east coast of the United States would tend to indicate that these cells are more localized in preference than their surrounding continuous trend indicates. While the trend surface indicates the continuous surface trend in this area, of a slightly higher evaluation for the east coast continental periphery, it does not really hold true for this area. Apparently, the increasing preferential trend would be almost exclusively for the Maritime provinces. Therefore, these areas are perceived as considerably less desirable than neighbouring cells. Thus the New England states represent a localized evaluation of residential undesirability.

The surface residuals seem to strengthen the hypothesis of a strong Canada corridor, with British Columbia the central focus of residential desirability. The effect of the international border on this pattern is again demonstrated. Thus it would appear that a marked distinction is made between preference for the Canada corridor and similar

areas in the United States and dissimilar areas in the northern portions of the continent. Again these patterns show striking similarities to the views from Ontario and British Columbia and to a lesser extent the Maritimes.

In a further effort to understand the patterns of residential desirability expressed by the sample from the prairies, their locational considerations for residential desirability were examined.

Locational Considerations

When asked to list the factors they found themselves considering in assigning residential preference, the prairie respondents differed little from the observed patterns of locational considerations found in the other regions. (Table 4) Twenty-seven per cent of the prairie sample perceived factors concerned with climate as an important consideration; 26% perceived factors concerned with the people, their nature and their proximity as an important consideration; 17% considered factors concerned with the state of the environment as important; 12% considered factors concerned with politics, and racial and criminal climate as important, 10% perceived factors concerned with the economics of the area as an important consideration, while 8% perceived other factors as important.

Like Ontario and British Columbia, climate at 29% was perceived as the most frequent locational consideration of the population of the prairies. It appears that the low

Locational Considerations
of the
Prairies

CONSIDERATION CLUSTERS	% CHOICE				TOTAL
	1st	2nd	3rd	4th	
Climate	58	16	8	-	27
Population Density	8	33	12	18	
Isolation	-	-	-	-	
Nature of People	2	8	-	9	
Language or Culture	-	3	8	9	
Way of Life	-	-	-	-	
TOTAL	10	44	20	36.5	26
Economics	-	2	12	9	
Opportunity	2	3	-	-	
Standard of Living	-	3	12	8	
TOTAL	2	8	24	9	10
Nationality	10	3	4	-	
Political Climate	8	-	8	-	
Criminal and Racial Climate	-	5	4	-	
TOTAL	18	8	16	-	12
Scenery	8	13	12	36.5	
Recreation Facilities	-	-	8	-	
Nearness to Ocean	-	3	-	-	
Degree of Pollution	2	-	-	-	
TOTAL	10	16	20	36.5	17
Nearness to Family & Friends	-	3	4	9	
Geographic Location	-	3	4	-	
Hearsay	-	-	-	9	
Familiarity	-	-	8	-	
TOTAL	2	6	12	18	8
GRAND TOTAL	100	100	100	100	100

percentage of the Maritime respondents (20%), who considered climate as an important consideration, represents a unique situation in the Canadian regions tested. The second most important locational consideration was the people, their nature and their proximity at 26% was an extremely close second. A stronger emphasis on the population has been stressed by this sample than in either British Columbia or Ontario. As in the Maritime sample, population becomes an important consideration. Next in locational considerations comes the state of the natural environment at 17%. The environmental concern of the prairie sample is similar to the percentages in British Columbia and the Maritimes. Only Ontario perceives factors concerned with the natural environment as less important than the other regions. Politics, economics and other factors play less important roles as locational considerations in the prairie sample. This area does not show the political concern of Ontario nor the economic concern of British Columbia in the rank order listings of locational considerations.

The most important locational considerations of the prairie sample would then appear to be climate, people and environment. The patterns of residential desirability produced by the sample should reflect and thus be partially explained by these locational considerations.

The hypothesis of a more westward focus of residential desirability would thus appear to be based upon these locational considerations. Therefore the balance of

these conditions of climate, population and environment appear to be best exemplified in a British Columbia 'Eden' focus. Thus British Columbia is perceived as the best area for residential desirability in all of North America.

The preferential treatment of the North American west coast, especially British Columbia, appears to indicate that the locational attributes existing on the North American surface exceed those in all other areas. Southern British Columbia and Alberta sharing the perceived attributes of the western climate, the Rocky Mountains, and the so-called 'pioneering enthusiasm' of the population, would appear to have greatly influenced the patterns of residential preference. The existence of perceived attributes slowly declines as you move eastward along the Canada corridor. These perceived attributes decreases quickly in a northerly and southerly direction from the prairies and the Canada corridor.

It would thus appear that the residents of the prairies identify with a western Rocky Mountain climate, whose epitomy is found in south-western British Columbia in the Fraser Valley. The consideration of population is also met most strongly in western Canada. The density of population and the nature of the people appear as important factors in residential suitability and are best met in western Canada. Thus the image of the less crowded, less urbanized hospitable Canadian west seems to hold an attraction for the prairie residents when compared to the rest of the country. It seems that the prairie respondents consider themselves as a western

population and the farther west one goes, the better. Likewise in the North American topography, the Rockies exercise a pull as a favourable environmental attribute followed by the following prairies to the east.

Similarly, the more associated the areas are with the Canada corridor, the more favourable they are. The climate, while deteriorating to the north and east in relation to the corridor, still represents a favourable area of residential preference. It seems that climate, population and topography in these areas still represent a suitable combination of conditions in terms of residential desirability. One would assume that the population, which is increasing and taking on more of an eastern orientation towards Ontario, represents a less desirable condition in terms of locational attributes when compared to the west. Likewise, the change in topography would appear less suitable as one moves east. The rest of the continent would appear to lack these locational considerations and thus their degree of unsuitability would appear to depend upon their north-south distance from the corridor.

The areas which least meet the considerations of locational suitability include Alaska and the northern continental fringe of Canada. These areas lack any form of a desirable climate, population requirements or conditions of the natural environment that are considered locational attributes.

Summary

The preference surface analysis has shown that the preferred areas of residential desirability are very selective. The populated portions of Canada are again perceived as more desirable than the rest of the continent. The neighbourhood effect, while not as weak as that of Ontario, does not find the centre of the neighbourhood dome over one of the prairie provinces. The peak of the neighbourhood dome combines with an 'Eden' dome and is situated in southwest British Columbia. The neighbourhood effect comes out strongly on the continuous surface and is part of a ridge of residential desirability along the Canada corridor. The neighbourhood effect is reinforced by strong positive residuals for southern British Columbia and the prairie provinces. The neighbourhood-'Eden' dome represents the most suitable area in terms of the locational considerations of climate, population and topography. The existence of these suitable attributes falls off with increasing distance from southwest British Columbia.

Like Ontario and the Maritimes, a distinction exists between the level of desirability in Canadian and American cells along the border. This distinction in the continuous surface is not as marked as Ontario or the Maritimes but is more akin to the distinction made by the British Columbian respondents. Like all regions, this distinction is strongest in the residual measures.

The distance decay effect of residential desirability is dependent on both the distance from the neighbourhood peak and the Canada corridor. This effect demonstrates a much more extensive range on the surface, possibly indicating the more extensive area of the region samples. The distance decay surface would appear to combine the orientation of the British Columbia and Ontario surfaces of residential desirability. This appears to be the result of their influence and the area's intermediate geographic location between the two dominant Canadian heartlands.

Analysis of the prairie region has provided another set of locational considerations and resulting patterns of residential preference. The view from the Prairies has shown another regional view which shares similarities yet expresses differences from the other view tested.

Quebec

Quebec, with an eighty per cent French population, represents the only province in Canada with a French majority. The personality of Quebec is distinguishable by this French character. Thus it appears that Quebec represents, at least linguistically and culturally, a unique region in Canada. Many factors tend to separate it from the rest of the country but,

The most distinctive characteristic of all is the French language. It is also the most important, for it carries within it its own set of values and fosters a particular attitude. The survival of the French language on a continent where English can be said to rule almost unchallenged is a remarkable fact, almost a paradox, an act of defiance. (Biays, 1970, 281)

When Quebec joined confederation it was a province devoted almost exclusively to agriculture. The rich lowlands of the St. Lawrence Valley contained most of the population, who worked the land and followed the traditional system of land use particular to this region of Canada. Contrary to the old image, Quebec's economy is no longer centred on the habitant of Quebec's past. Although the French culture has dominated the province since its conception and the traditional values have held back the development of the province in the past, this is no longer so. Modern Quebec is a province which has, in recent years, begun to question traditional values as it undergoes a continual process of urbanization and industrialization.

Quebec has always played a major role in the Canadian economy and development of Canada. Since its earliest days the province has been the strategic gateway of the St. Lawrence and the Great Lake centres to the Atlantic. Both Quebec City and Montreal owe much of their development to this route. Their development was dependent on their role as trans-shipment points between the urban industrial complexes of the Great Lakes periphery and the Atlantic markets. Thus like southern Ontario, Quebec owes much of its initial development to its relative location. Location though, has also proved disadvantageous in terms of relative location to the markets and other associated services of the majority of the centres of the American midwest. Thus much of the province has remained underdeveloped with a low standard of living as a result of its peripheral location.

Quebec now represents a growing and dynamic province. According to Putnam & Putnam (1970, 162) the 1966 census showed that 78% of the population lived in urban areas. Not only is Quebec highly urbanized but it contains Canada's largest city, Montreal. The rural character of Quebec is no longer the dominant character in the province. In the past two decades, the urbanization and industrialization of Quebec has brought about a radical change in the outlook of Quebec and it is this new attitude which presently dominates the people of Quebec.

. . .with urbanization, the people of Quebec became acutely aware of the economic and social lethargy which can still be detected in the province; of its natural resources being either underdeveloped or exploited in a way which deprived them of almost all profit; of the conservatism which affected important areas of their culture and education; and above all, of a standard of living which was below the Canadian average and much lower than Ontario. (Biays, 1970, 289)

Quebec would then appear to have a population that is awakening from a long period of stagnation. Traditional values of the French culture appear to be weakening as the population strives for a better share of the high standard of living experienced in other parts of the country. This province, which has experienced a consistent loss by net inter-provincial migration for many years, is beginning to slow the population loss. Thus a traditionally unfavourable area of residential desirability for many is experiencing a changing image. At the same time the values, aspirations and attitudes of the population of Quebec are changing. So too would the attitude of the population about residential desirability be expected to re-orient itself. According to Wier, (1968, 149), 'the re-orientation of Quebec's economy associated with the rapid process of industrialization is considered fundamental to the demographic changes now being experienced by that province'.

The new dynamism in Quebec is still centred around the retention of the French culture. The desire for cultural survival has now been coupled with the desire for economic and social progress. (Biays, 1970, 187) Thus, Quebec is

developing a more self sufficient system using Quebec's resources to supply Quebec's industrial needs, processing to create jobs and educating to provide skilled French-Canadian Scientists and technicians. This attempt at economic and cultural survival has inspired the French Canadians in the province and put new life into Quebec. (Blays, 1970, 288)

This new French vitality in Quebec should foster a strong neighbourhood effect on the part of the Quebec respondents. Combined with the fact that Quebec represents the only significant cultural island of the French Canadian, the province should be perceived as considerably more desirable in terms of residential preference than other areas of North America. The cultural island effect of Quebec would be expected to strongly outweigh any other locational consideration. Thus, one might expect the view from Quebec to be very restricted in terms of residential desirability.

On the other hand, the Quebec area, being at a considerable climatic disadvantage in comparison to much of Canada, might prove to be perceived as residentially disadvantageous for much of the province. The short summers and long bitter winters of all but the upper St. Lawrence sections of the province does undoubtedly affect the climatic evaluation of the most part of the province in terms of residential desirability.

Nevertheless, being culturally self centred and thus more isolated from the rest of North America, one would expect a significantly different orientation in terms of

residential preferences than viewed from the other regions of Canada.

The Raw Data

The preference data from 112 Quebec respondents demonstrates, as in most of the other regions tested, the neighbourhood effect. (Figure 18) The neighbourhood dome of residential desirability is centred over the Quebec portion of the St. Lawrence lowlands but extends in a south-westerly direction to include much of the Great Lake lowlands of Ontario.

This dome can be extended to cover an area of higher residential desirability which encompasses the Atlantic and Gulf coasts of the United States. The influence of this dome extends westward to include all of the Great Lake lowlands of Canada and the United States. Within this area, Florida represents a minor peak of residential desirability. It would appear that the Quebec view demonstrates a decidedly different orientation than many of the regions toward the United States. Like the view from British Columbia, the neighbourhood dome extends far into the United States. Thus both these areas would appear very tolerant of the conditions existing in the United States.

The strength of the neighbourhood dome of residential desirability is followed closely in intensity of desirability by a dome of residential desirability encompassing the west coast of North America. This dome of residential desirability

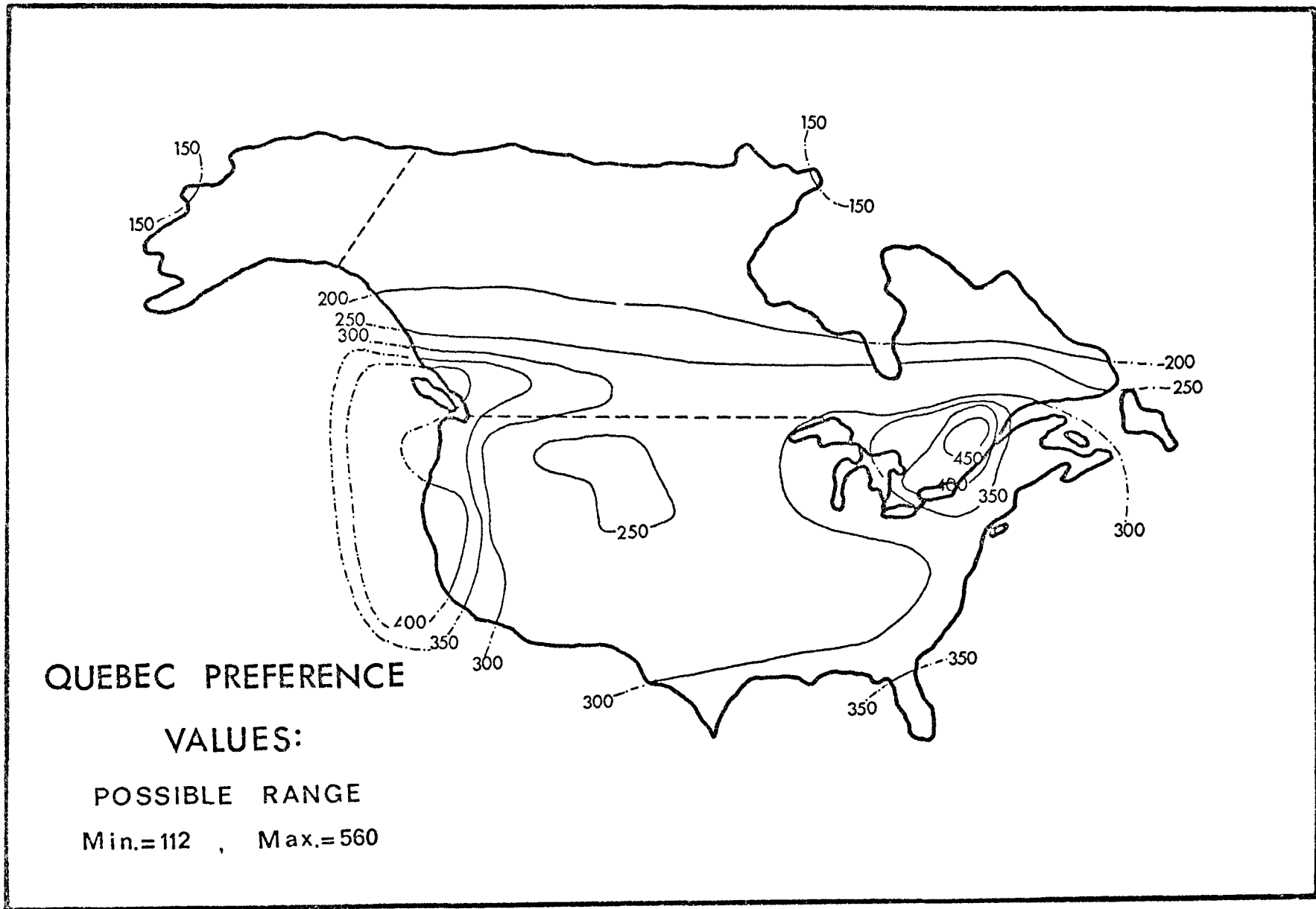


FIGURE 18

is comparable to the domes of residential desirability seen on the other regional views. The peak of desirability centred over south-west British Columbia experiences a slightly lower cumulative residential desirability than was noted for the Quebec focus of the home area. Like the other regional views, the dome includes the rest of the American Pacific rim south of British Columbia. This dome shows a westward extension of high residential desirability along the Canada corridor into Alberta. Past Alberta, it drops off to a less favourable preference which dominates the rest of the continent.

The preference surface seems to lack the connecting ridge of higher residential desirability along the Canada corridor which was noted in the other regional views. Thus, overall preference would appear to be based upon two separate and distinct focuses of residential desirability.

A sinkhole of residential desirability is located along the northern periphery of the continent, in the north-west extremities of the North West Territories. This sinkhole represents the absolute in residential undesirability on the surface. Another more relative sinkhole (relative in terms of the surrounding surface), of residential desirability, is found in the United States. Unlike the views from the other regions, this American sinkhole of residential desirability is not centred over the south central United States. This sinkhole has a more northerly focus over Montana and Wyoming in the north-western states of the Great

Plains of the United States.

That the raw patterns of residential desirability in the view of the Quebec respondents show similarities and differences when compared with the other regional views is readily apparent. The focus of residential desirability upon two domes of residential desirability, one along the west coast of North America centred over British Columbia and the other centred over the home area is a pattern shared with the other regions of the country. The focus of absolute residential undesirability over the northern portions of the continent is a characteristic which the Quebec surfaces share with the other regional surfaces. Similarly a sinkhole of residential undesirability over the central United States is a shared characteristic of all the surfaces. It is the characteristics of the surface that differ markedly from the other regional views that would appear a product of the regional identity of the province of Quebec. Thus, while having much in common with the other regions, which might possibly be described as part of a Canadian view or even in terms of a general model of residential desirability, the surface represents a distinct set of characteristics which might be attributed to a set of unique regional characteristics. The seemingly unconnected domes of residential desirability, the apparent lack of a Canada corridor ridge of residential desirability and the differing focus of residential undesirability in the United States might provide us with a key to the unique regional flavour of the surface.

Trend surface analysis should demonstrate if the characteristics of the surface are a continuous or local preference and thus provide further insight into this view.

The Trend Surface

Trend surface analysis of the Quebec surface of residential desirability is based upon a cubic trend surface that explains 71% of the variation in the surface. (Figure 19 and Figure 20)

The trend surface of the residents of Quebec represents a rather unique continuous surface of residential desirability. As in the other regions examined, three trends of residential desirability become evident in the surface: the pattern associated with the west coast dome of residential desirability; the pattern associated with the neighbourhood dome of residential desirability; and the pattern associated with the decline of preference in the northern portions of the continent.

A strong trend in the continuous surface of residential desirability is associated with the dome of residential desirability centred over the west coast of North America. The focus of this dome is on the state of California to the south rather than the province of British Columbia in the north. This would indicate that even though a generally higher residential preference for the west coast is a continuous trend, the high residential desirability expressed for southern British Columbia represents more of

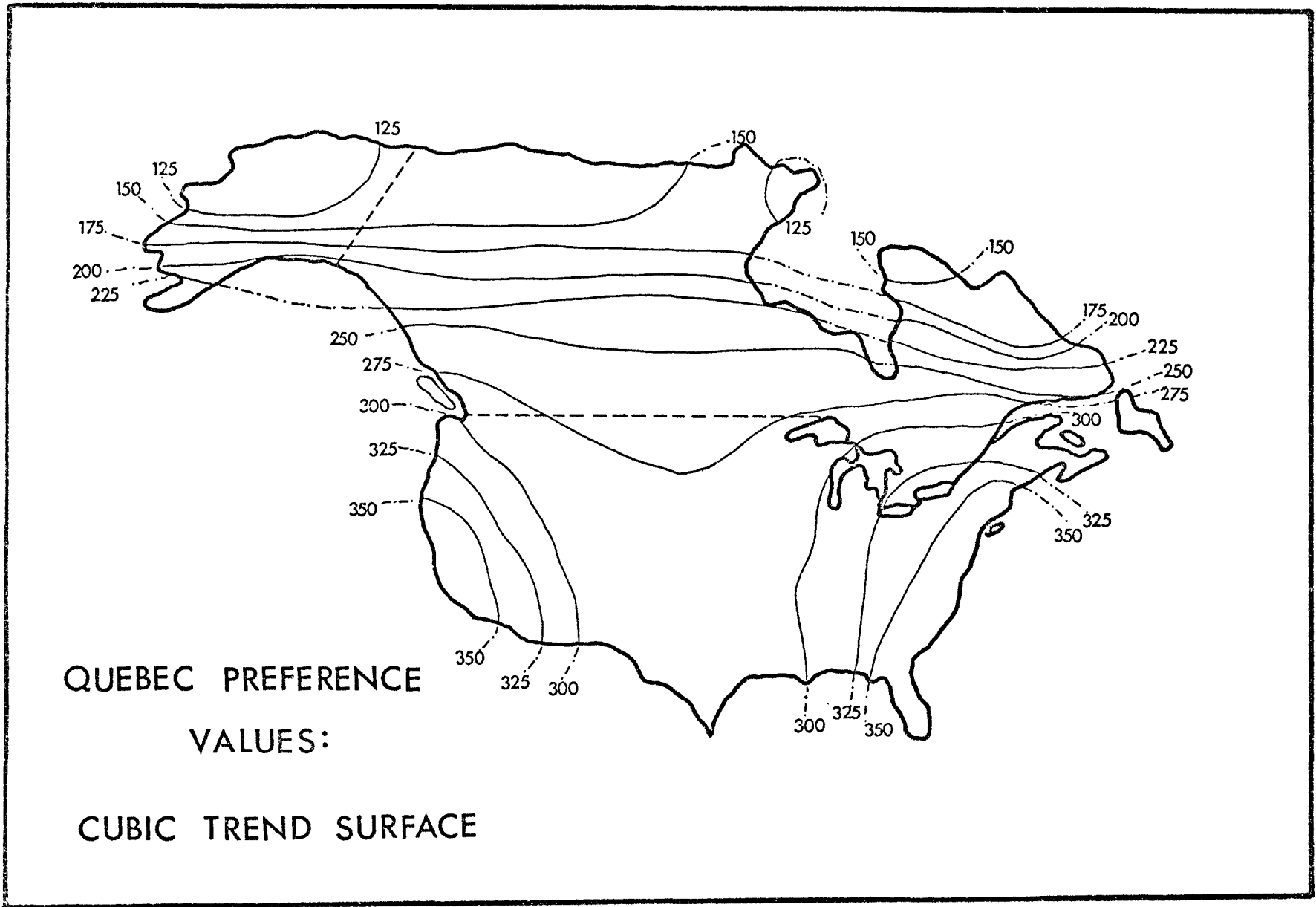


FIGURE 19

The Quebec Preference Cubic Trend Surface

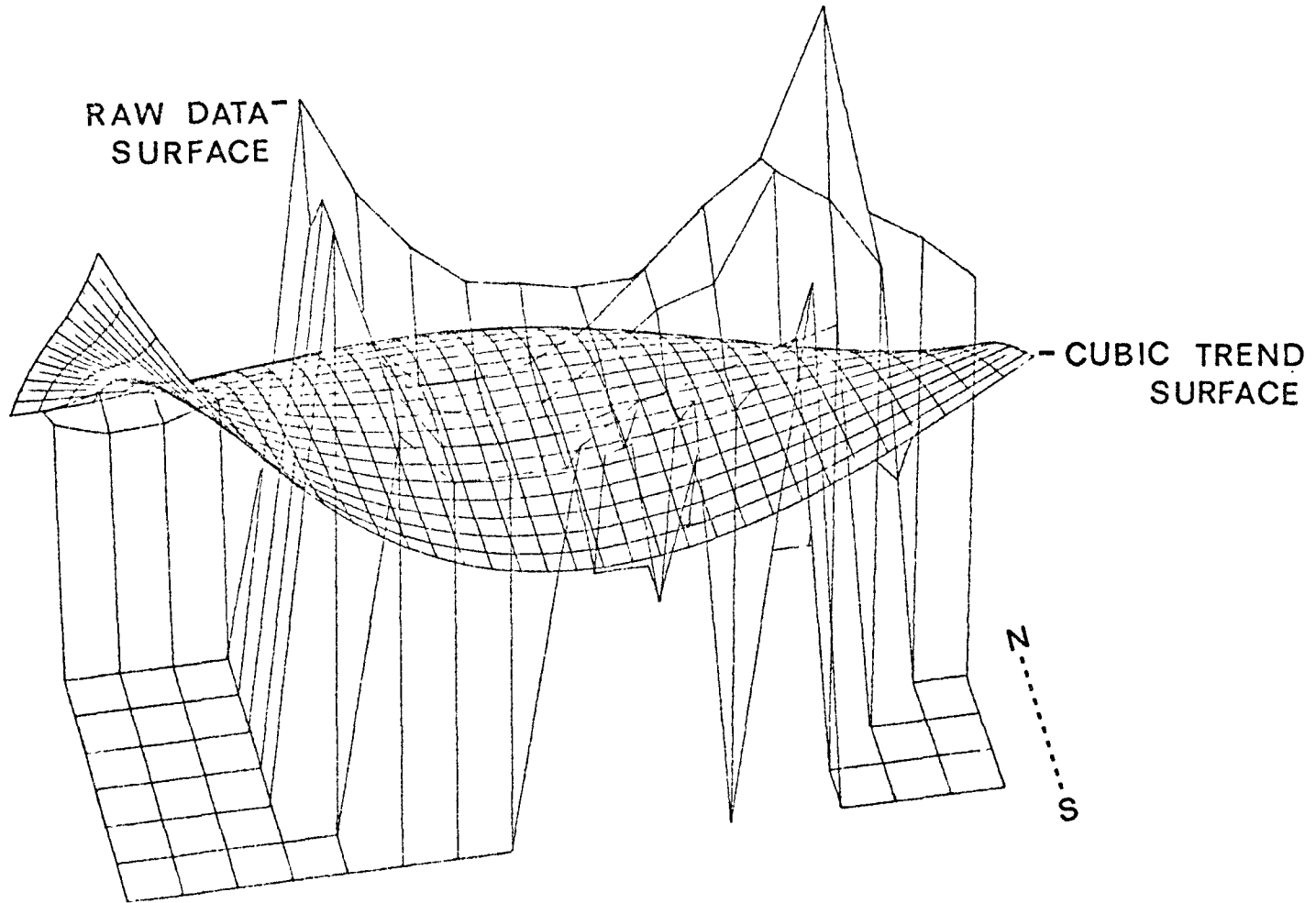


FIGURE 20

a localized preference than part of this continuous trend in the surface. The residential desirability associated with this dome falls off uniformly with increasing distance from the Californian focus. The distance decay effect of this dome appears to last for a distance of approximately five hundred miles in all directions. At that point either the uniform surface of the central United States is reached or the trend of decreasing residential preference of the northern half of the continent is met.

The second trend on the Quebec surface of residential desirability is associated with what was the dome of residential desirability on the raw data surface. The focus of this dome on the continuous surface is shifted far to the south of the neighbourhood focus observed on the raw data surface. This would indicate that the stronger preferences of the dome of high residential desirability centred on Quebec and encompassing the Great Lakes-St. Lawrence lowlands was undoubtedly associated with very local preference evaluations for those areas. Only the high preferences noted for the eastern seaboard form part of the continuous surface trend. The peak of this continuous dome of residential desirability appears to focus upon the Virginias. Preference decreases generally with increasing distance from the focus of this dome of residential desirability. This preferential decay holds true for about one thousand miles from the Virginia focus of the dome. Preferential decrease is rather uniform in all directions experiencing what appears

to be a gentle gradient towards the Great Lakes lowland areas. Unlike the other continuous surfaces, there does not appear to be any ridge of residential desirability connecting these two domes. Preference generally decreases until the effect of the next dome of residential desirability is encountered.

The third surface trend noted in the continuous surface is evident for all of the continent north of the 49th parallel and a large portion of the west-central United States. The area between the two domes of residential desirability, while experiencing a decreasing preference moving from both domes inwards toward the ninth column of cells, is also subject to a trend of decreasing preference as one moves north. Preference generally decreases with increasing distance north and the preferential gradient appears to increase with increasing distance north. Thus it would appear that the third continuous trend is based upon a northerly location to determine the residential desirability for an area.

The continuous surface of residential desirability as viewed from the province of Quebec shows a marked difference in orientation from the other regional views. Quebec shares with the other regions, a southerly focus of the west coast dome. On the continuous surface, this dome is focused on California.

On the east coast the dome of desirability is again focused in the United States in the south. This differs markedly from the focus of the neighbourhood domes in the other regions. In much of the central United States and

Canada there is a decided decrease in preference as one moves north. This is in contrast to the other regions which experienced a preferential decrease with increasing distance from the Canada corridor.

The Quebec view lacks the Canada-United States residential distinctions that were noted in the other surfaces of Canada. Perhaps this may be attributed to the alienation brought about by a differing language and culture in Quebec. Being a cultural island in North America it would appear that the English portions of North America are regarded in a homogeneous manner. Apparently, little distinction is made between Canadian and American territory in the surfaces examined thus far.

Trend Surface Residuals

The surface residuals reinforce the patterns noted thus far. Domes of residential desirability noted on the raw data and trend surfaces are generally associated with strong positive residuals. The neighbourhood effect is reinforced by a strong positive residual measure indicating that the preference for the home area is by and large a localized preference. Similarly, the preference for southwest British Columbia is associated with a strong positive residual measure. This would tend to indicate that the preference for this area is also very localized in nature. (Figure 21)

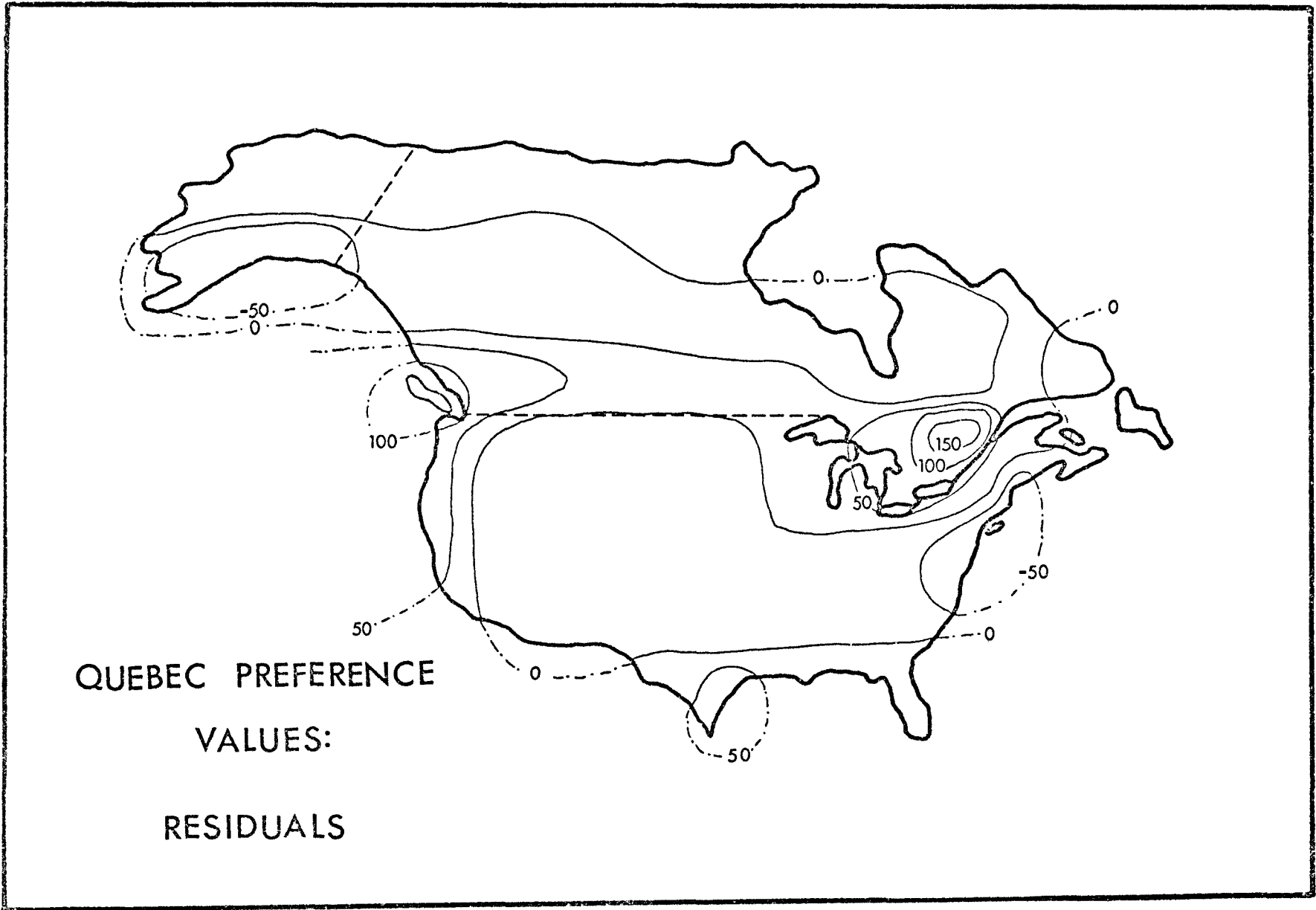


FIGURE 21

The Canada Corridor is generally associated with weaker positive residuals. This indicates a somewhat more localized positive preference evaluation of the Canada Corridor. Thus, while the Canada corridor does not become as evident as a link between the domes of residential desirability on the continuous surface noted in the other regional views, it is evident as an underlying link in the localized preference surface.

Weaker positive residuals are associated with the Gulf coast rim of the United States and they indicate localized positive preference evaluation of the Gulf rim. This area is associated with a stronger positive preference evaluation of the ocean rim of the United States which includes a strong local preference for Florida.

The strongest negative residuals are associated with the Virginias, mid Alaska and the North West Territories. Although this area represented the highest preference in the east coast dome of the continuous surface, the strong negative residual associated with the Virginias indicate that this area was overrated by the trend surface. Even though the surface trend indicated a higher preference for the Atlantic rim, it would appear that this area was regarded as significantly less desirable than the trend surface indicates.

The majority of the United States is associated with negative residuals which are most intense in the Montana-Wyoming area. The American sinkhole (noted in both the

raw data and continuous surfaces) is again supported by these residual measures.

Strong negative residuals are associated with southern Alaska. This would indicate, in reference to the raw data, that the trend surface tends to produce the alternate negative and positive residuals. The alternating negative and positive residuals are caused because of the uniform preference for the northern continental periphery.

Locational Considerations

When asked to list the factors that they found themselves considering in assigning residential preference, the Quebec respondents differed little in their opinions from other areas. Their views followed the observed patterns in terms of locational considerations observed in the other regions. (Table 5) Twenty-nine per cent of the Quebec sample perceived factors concerned with the people, their nature and their proximity as a significant consideration; 22% perceived factors concerned with climate as a significant consideration; 20% considered factors concerned with the state of the environment as significant; 13% considered other factors as significant; 9% perceived factors concerned with the economics of the area as an important consideration, while 7% perceived factors concerned with politics and racial and criminal climate as significant.

As in the Maritime sample, population was perceived as the most important locational consideration. It appears

Locational Considerations
of
Quebec

CONSIDERATION CLUSTERS	of CHOICE				TOTAL
	1st	2nd	3rd	4th	
Climate	43	14	9	11	22
Population Density	5	14	7	8	
Isolation	-	1	-	3	
Nature of People	9	7.5	4	3	
Language or Culture	8	8.5	4	3	
Way of Life	2	10	9	3	
TOTAL	24	41	25	20	29
Economics	-	2	4	8	
Opportunity	2	4	7	3	
Standard of Living	-	4	2	3	
TOTAL	2	10	13	14	9
Nationality	4	3.5	7	3	
Political Climate	2	3.5	-	-	
Criminal and Racial Climate	-	-	2	3	
TOTAL	6	7	9	6	7
Scenery	6	16	13	14	
Recreation Facilities	-	2	4	9	
Nearness to Ocean	5	6	7	6	
Degree of Pollution	-	-	-	-	
TOTAL	11	24	24	29	20
Nearness to Family & Friends	3	-	3.5	6	
Geographic Location	1	1.3	2	3	
Hearsay	-	1.3	3.5	3	
Familiarity	10	1.3	11	8	
TOTAL	14	4	20	20	13
GRAND TOTAL	100	100	100	100	100

that both these regions share the concerns of population in order to determine areas of residential suitability. In the case of the Quebec sample this might be easier to understand since this French cultural island appears to consider factors such as language and culture. Surprisingly, language and culture did not dominate as a locational consideration to the degree one might expect it to. By examining the way of life and the social conditions dominant in an area, we will be able to see some evidence of the unique population considerations of the Quebec respondent. Surprisingly enough, the cultural island effect did not show up in a strong neighbourhood effect when compared with the other regions tested. The respondents of British Columbia perceived climate, then environment and population as significant considerations which demonstrate a far stronger neighbourhood effect. Thus even though the cultural island effect is played up considerably, it does not result in an overly strong neighbourhood effect. Similar to the locational considerations of the other regions tested, the Quebec respondents perceived the climate of the area as an important locational consideration. Twenty-two per cent of the population saw this as an important consideration. Climate has been a common consideration shared by all the regions and has undoubtedly been responsible for much of the similarity in the patterns of residential preference. For example, British Columbia, the west coast of the United States and Florida are undoubtedly perceived as areas of residential desirability and a large part of this may be

attributed to the shared residential considerations of climate.

Topography also rates highly with 20% of the population perceiving it as an important locational consideration. This is slightly higher than in the other regions of Canada, even though it ranks third in importance in reference to the considerations of the Quebec sample. This factor undoubtedly plays a predominant role in determining the high preferential evaluation of the fabled west coast of Canada and the United States.

Thirteen per cent of the Quebec sample considered other factors as important locational considerations. When compared to the other regions, this is not out of order. Economic considerations as in the other regions were relatively few. One should note the low rating of political considerations which was only indicated by 8% of the sample. This percentage is quite comparable to the low rating assigned by the respondents of British Columbia. Only 7% of the sample considered this factor as important and similarly placed it as the least important locational consideration. This is much lower than that of Ontario with 21% and that of the Prairies with 12%. Thus the lack of distinction between the areas of Canada and the United States as noted in the Quebec view might be attributed to the lack of importance of this consideration. This situation is quite comparable to that noted in the British Columbian view where little distinction was made along the Canadian and United States sides of the border. In both areas the neighbourhood domes of residential

desirability extended into the United States along their respective coasts. Thus other considerations such as climate, environment and population can dominate. Where the political considerations were stressed there appeared a noticeable drop in residential preference along the Canada-United States border on the United States side.

Summary

Thus a dome of residential desirability for the home area is evident. This neighbourhood dome of residential desirability is centred on the populated portions of the St. Lawrence lowlands of Quebec. The locational considerations of population, climate and topography are best met in this location. Population was undoubtedly the most dominant factor in favour of the home area. Preference falls off rapidly towards the north and east of the home area. A less rapid distance decay effect is experienced towards the Great Lakes lowlands to the south-west and the United States to the south. The lack of distinction between populated Canada and the United States demonstrated in the raw surface is undoubtedly related to the lack of importance of political considerations. The continuous surface shifts the focus of this dome far to the south into the Virginias. The local surface tends to indicate that the positioning of the neighbourhood dome is largely due to localized residential preferences.

The dome of residential desirability which is over the west coast of the continent and focused on south-west British Columbia, is apparently determined by the high consideration of the climatic and environmental attributes of the area. This view has held true for all the regions. Analysis has indicated that much of the dome is part of a continuous trend while the preference for British Columbia is largely local in nature. On the continuous surface, distance decay is based upon a uniform preferential decline from a California focus. On the discrete surface, distance decay is based upon distance from south-west British Columbia. Here the decay is gradual along the Canada corridor axis, less gradual along the southerly axis and extremely steep along the northerly or south-easterly axis.

The third feature on the surface is almost exclusively associated with a continuous trend in the residential preference surface. It was observed that preference decreases as distance toward a northerly location increases. This trend seems to underlie the entire surface offset only by the domes of residential desirability. This is undoubtedly associated with the general trend of decreasing climate, topographic and population attributes of North America. These are the basic underlying structures of the continent which are offset only by the conditions of the Rockies and the Great Lakes.

The North

The Canadian North has been delimited in many different ways; however, for the purpose of this paper, the author will utilize Putnam's and Putnam's (1970, 349) classification of this region. Thus the North shall include the Yukon, the Northwest Territories, the islands of the Arctic Ocean and the northern portions of Quebec and Labrador. The southern boundary of this region is roughly synonymous with the 25 degree isotherm and the permafrost regions of the continent. Although this classification consists of various territories, which either belong to provinces or are independent territories of Canada, this region has cultural, physical and climatic features in common.

Physically, the land varies with location; it consists of the mountains of the Yukon in the far west, the Mackenzie Delta and Lowlands in the central west, the Arctic Islands in the northern extremities and the tundra plains of the Canadian Shield in the east. Thus many of these areas are isolated from other parts of this region as well as other parts of Canada. Also, each section of this region offers a different type of existence due to its natural attributes. Similarly, the vegetation varies from place to place. There are forests in the south, taiga areas in the south-central areas, tundra in most central and some northern areas and snow and ice in the more northern regions. As one can see,

the vegetation deteriorates as one moves north and the land becomes harsher. Thus lifestyle would vary according to location since the type of vegetation available would determine the type of subsistence of a region. Climatically, the region is dominated by a polar continental climate in which the area becomes colder and less hospitable as one moves north. Physically and climatically the entire North appears to be limited.

The original inhabitants of this region were the native people who consisted of the Eskimos and the Indians. To overcome the harsh conditions of the land these people had developed a transitory, nomadic lifestyle in which they could survive and live in harmony with their environment. Their economy centred on basic survival and was sustained by hunting, fishing and sealing. This type of existence began to change with the coming of European exploration and development.

Exploration and the hundred year search for the Northwest Passage brought the white population to the North. The natives were first influenced by the early nineteenth century whalers who reached the coastal regions of the Yukon, Mackenzie Delta, Hudson Bay and Labrador. Next came the fur traders who spread further inland. With time traders such as the Hudson Bay Company established posts and the natives no longer found themselves alone in the North. In some instances a few explorers and traders established permanent settlements. Development continued and more and more of the

white society came to the North to take advantage of the primary resources that this region had to offer.

The basic self-sufficient economy of the natives was replaced by an economy based on the exploitation of the area's natural resources. The change from the whaling and fur industry to mineral exploration has resulted in the present day oil extraction rush.

But the development of the economy had always been inhibited by its location. This has been especially so since more and more of the economy has become trade orientated. The isolation from the Canadian and American markets required the produce of this region to be of high cost yet low bulk which could easily be transported. Since the transportation system was underdeveloped and inadequate, the North has lagged far behind the rest of Canada in economic development.

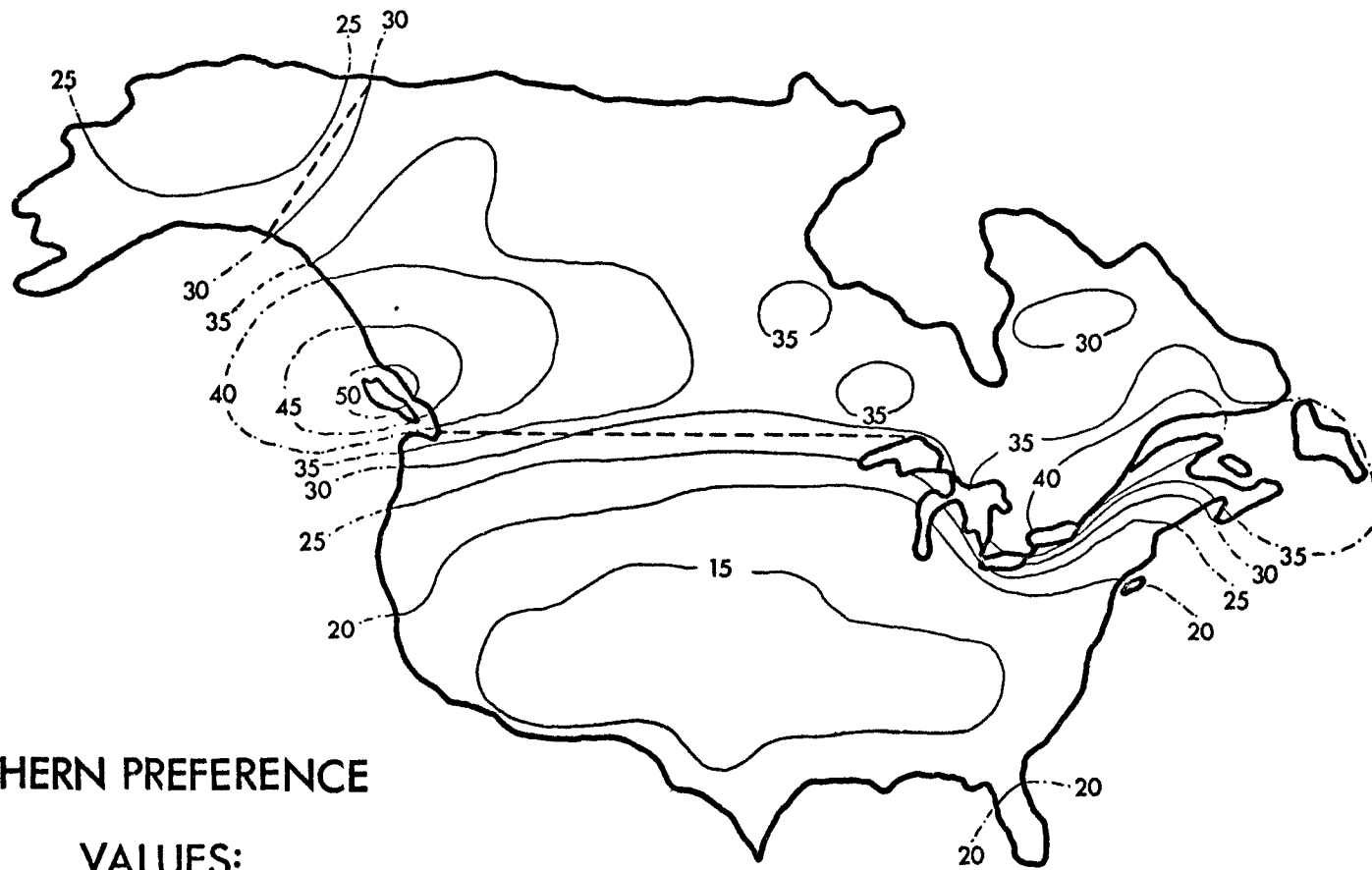
Since the earliest period of contact, a gap has existed and continues to exist between the two cultures of the North. For the most part, the white population can still be considered a temporary migrant group which consists of government officials and employees, and employees of large multinational oil companies. While one would expect markedly different patterns of residential desirability from these groups of people, the sample of this study has been limited to the white immigrant population.* However, usable replies

*Attempts to obtain responses from the native population were completely unsuccessful. Questionnaires were distributed at Inuvik and Frobisher Bay; however, no questionnaires were returned.

were limited in numbers, thus the view from the North portrays the view of a small immigrant group who have been drawn to the North by high pay and benefit programs of the government and private industry. Because the northern respondents came only from the immigrant group, one would expect the view to lack a strong neighbourhood effect for this region. The patterns of residential desirability might reflect a higher residential desirability for the southern service centres such as Montreal, Winnipeg and Edmonton since many of the northern residents came from these areas. Hence, one would expect the view of residential desirability to correspond with the views of the other regions of Canada. This preference is one with a west coast peak in an extended ridge along the Canada corridor.

The Raw Data

The patterns of residential desirability expressed by the twelve respondents from the North, appear to demonstrate another unique regional view. (Figure 22) A strong neighbourhood effect is lacking in the sense that a strong dome of desirability is not associated with the North. The strongest dome of residential desirability on the surface is associated with the Canadian west. The peak of this dome is centred over south-west British Columbia. This higher rating does not represent a unique west coast focus of residential desirability. This preferential surface indi-



NORTHERN PREFERENCE

VALUES:

POSSIBLE RANGE

Min.=12 , Max.=60

*** Based upon limited returns**

FIGURE 22

cates that there is a stronger preference for the west coast than for the home region which is similar to the surface of Ontario. However, unlike Ontario, the North lacks a real home dome of residential desirability.

This dome of residential desirability for the west coast differs from other regional views that have been expressed since this dome does not encompass the entire west coast of North America. Instead it illustrates a preference for western Canada as the dome extends eastwards to include Alberta and Saskatchewan and northwards to include the Yukon Territories and Inuvik. The dome also includes the Edmonton and Winnipeg areas which are respective western and central service centres for the North. Preference falls off rapidly towards the American border and the 49th parallel. While the west coast of the United States is rated the highest on the United States surface, it is not considered part of this northern dome.

The second and only other dome of residential desirability on the raw surface is centred on the Montreal area and the St. Lawrence Lowlands. The Montreal area is the southern service centre for the eastern portions of northern Canada and the focus of the dome is centred on this area. The dome extends westwards to include southern and central Ontario and eastwards to include the Maritimes. It is interesting to note that southern Ontario lacks any distinctive strength in residential preference in this dome. This contrasts with the distinctive preference noted for this area

in other regional views when it was associated with a dome of residential desirability. The southern limits of this dome of residential desirability are again the Canadian-American border.

As in the other regional views, Florida demonstrates a slightly higher residential desirability than its surrounding cells. However, this represents only a relative high measure of desirability in terms of the rather low desirability for the American surface. Therefore, the desirability of this area is not important in terms of the surface as a whole since it rates below all of Canada, Alaska and portions of the American west coast.

There is only one significant sinkhole of residential desirability on the surface and it is located in the central United States. This sinkhole is represented by a ridge of cells in row G; this area represents the epitomy of residential undesirability in the minds of the northern respondents and this area appears more extensive than the central United States sinkhole noted in the other regional views. The low preference for this area appears to be the bottom of a saucer-like trend of residential desirability in the United States. The dominant trend appears to be associated with decreasing preference moving southward from the Canada-United States border. There is a simultaneous, yet less dominant trend overlaying the first that is associated with decreasing preference as one moves inland from the east, west and south Maritime peripheries.

A less important sinkhole of residential desirability is noted in the State of Alaska. Here we find a sinkhole of residential desirability which is a sinkhole only in terms of its surrounding cells. That is, the preference for the cells in the state of Alaska far exceeds the preference for the continental United States. However, it is considerably below its Canadian neighbours. This appears to be a reversal of the patterns noted in the other regions where the absolute sinkhole was located in Alaska and the relative sinkhole was located in the central United States. This is undoubtedly due to the relative location of the sinkholes to the other regions tested. The reversal of this trend can be easily accounted for if the relative degree of undesirability of the two sinkholes noted is regarded as a product of distance away from the regions tested. This relationship appears to hold true for all the regions tested with the exception of British Columbia. This exception would appear to be the result of a very strong climatic consideration of the British Columbia respondents combined with a far closer proximity to the United States to the south.

Contrary to the initial hypothesis, the residents of the north demonstrate a unique view toward northern residential desirability even though the people represent a migrant population. The respondents have failed to demonstrate a strongly peaked neighbourhood effect for this region even though they have rated the majority of northern Canada relatively high. This is in contrast to the other regions which

demonstrated obvious neighbourhood effects for their home region on the raw data surface.

Residential preferences appear to indicate that the populated portions of Canada are the most desirable. These populated areas focus on southwest British Columbia, the prairie provinces and the major supply and communication centres such as Edmonton, Winnipeg and the Montreal area. Preference falls off rapidly to the south towards the United States and very slightly to the north. These patterns of residential preference indicate a decidedly north-south trend of declining preference but with a bias which indicates a well developed sense of Canadianism in their preferences. This sense of Canadianism seems to be supported by the surface trend whereby residential preference declines rapidly at the Canadian-United States borders in the south and the Canadian-Alaska border in the north.

To cast further light on the nature of the surface of the north, we shall consider the localized and continuous trends of the surface which should provide us with further information with which to compare and contrast this regional view with the other regions previously examined.

The Trend Surface

Trend surface analysis of the preference surface of northern Canada is based upon a cubic trend surface that explains 66% of the variation in the surface. (Figure 23 and Figure 24) This level of trend surface analysis contains

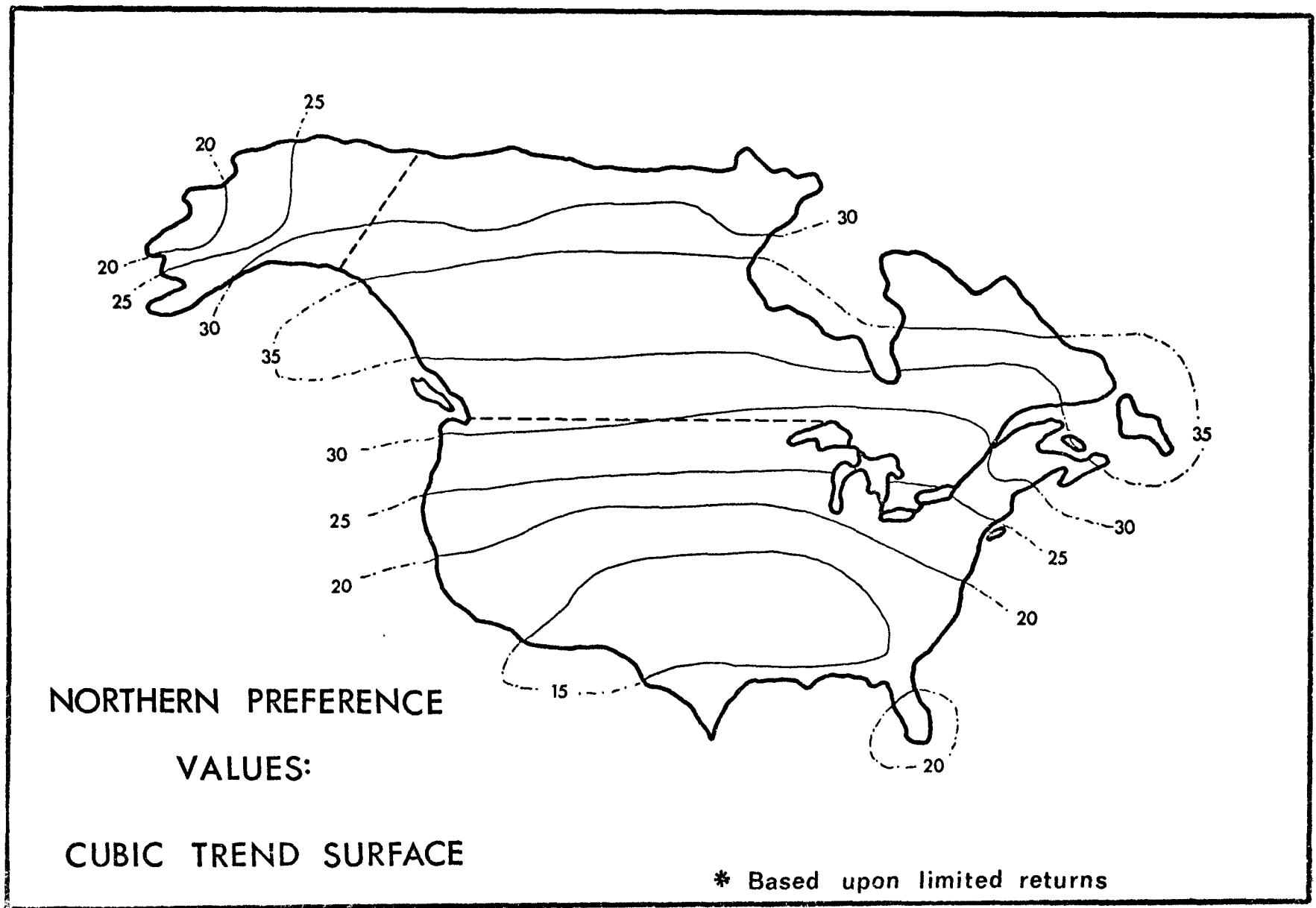


FIGURE 23

The Northern Preference Cubic Trend Surface

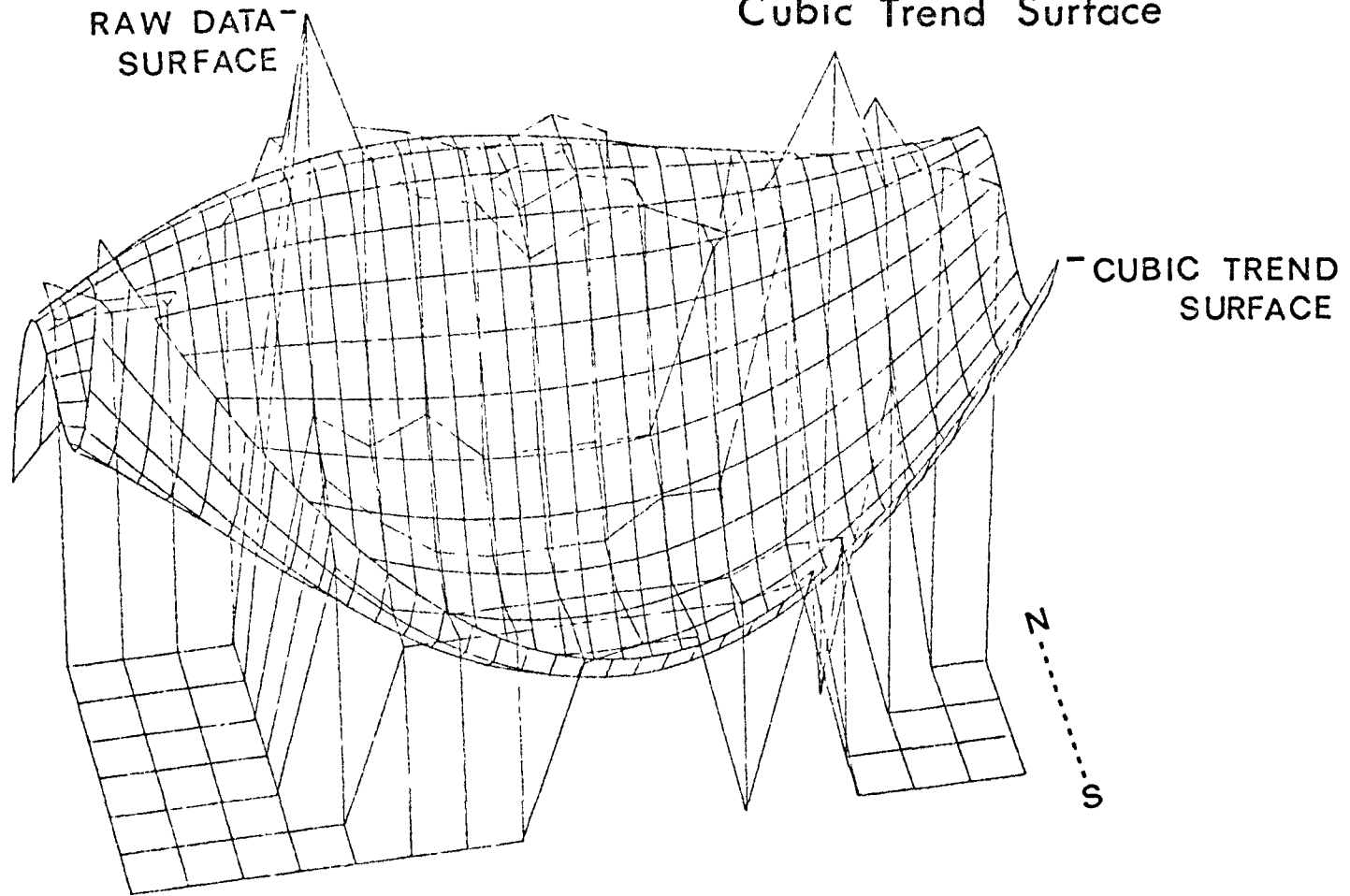


FIGURE 24

a high degree of explanation of the surface while maintaining a degree of simplicity for purposes of trend interpretation.

The Trend Surface indicates that portions of the two domes of residential desirability centred on south-west British Columbia and the Montreal area are very much part of a continuous surface trend. This surface trend is indicated by a dome or continuous ridge of residential desirability that encompasses the northern portions of British Columbia, the prairie provinces, the southern portions of the Yukon and Northwest Territories in the west and north-central Labrador and Quebec in the east. This ridge is very close to what might be called a neighbourhood dome of residential desirability on the continuous surface. The ridge of high residential preference noted on the raw surface has been shifted to the north on the continuous surface and this is in contrast to the southerly shift of the continuous surface noted in the other regional views. The focus of residential preference of the northern respondents would then appear to be considerably different than that of the other regions of Canada. The high residential preference recorded for south-west British Columbia and the Montreal areas represent very local residential preferences, even though the largest portion of the preference is part of the continuous surface. Thus, this ridge represents the focus of residential desirability on the continuous surface.

From the continuous ridge of residential desirability, preferential decrease to the north and south is seen as a

function of distance from the central portions of the north. Thus, an east-west trend of the isolines is evident. These isoline trends provide contrast to other regional views. In the other regional views, a north-south trend of decreasing residential preference was only a secondary feature underlying more dominant trends associated with the dominant surface domes. As in the surface of the Maritimes, British Columbia and Quebec, the neighbourhood dome is the dominant feature of the continuous surface. However, in contrast to these areas, the east-west trend of the isolines dominates the entire surface.

The east-west isoline trends appear to be associated with a very noticeable distance decay effect of residential desirability. The distance decay effect is associated with increasing distance from the neighbourhood dome of residential desirability running along the southern portions of the region. To the north there is a fairly standard drop-off of preference to the northern continental periphery. This trend is offset somewhat in Alaska by a shift of preferential decay to an east-west orientation parallel to the border. Thus a feature quite commonly noted is again made apparent in the northern surface. That feature is the orientation of isopercept lines parallel to the Canadian-American border such that preference decreases in the United States with increasing distance from the international boundary.

To the south, preference decreases in a uniform manner with increasing distance from the dome of high resi-

dential desirability. Isolines are already parallel to the international boundary so that no shift of the lines is apparent along the border. Preference decreases to a low on the continuous surface centred over the south-central United States. The saucer-like effect of residential desirability in the United States that was noted on the raw data surface is apparent as a feature of the continuous surface. Therefore, it would appear that the sinkhole noted on the raw surface is part of a continuous trend of residential undesirability for the United States. Thus it seems that the deeper one is in the United States the less desirable the areas are perceived in terms of the existence of residential attributes.

The distance decay surface in terms of the dominant dome of residential desirability has a much greater range than was noted in the other regional views. The entire continent is involved whereas only a limited range of approximately 800 miles is involved in the other regional views. The distance decay effect was limited in extent by the existence of strong 'Eden' domes in these other views. Thus, the Northern view represents a seemingly more simplistic continuous surface in that only one area seems residentially desirable and preference generally decreases with increasing distance from it. Only areas of marked undesirability cause any deviations from this trend as were noted in Alaska and the central United States.

The Surface Residuals

The surface residuals from the trend surface analysis shows a complex pattern of deviations from the trend surface. (Figure 25) From these measures it can be noted that there are numerous areas that were perceived as distinct cells in terms of residential desirability. While being perceived as part of a continuous surface trend, the residuals indicate that some areas were also perceived very locally when compared to surrounding areas.

The most obvious feature on the map of surface residuals is the negative residuals associated with most of the neighbourhood dome of residential desirability on the continuous surface. Thus it would tend to indicate that the neighbourhood effect is overemphasized by trend surface analysis. However, the neighbourhood effect is an important part of the residential preference surface even though it is not apparent on the map of the surface residuals.

The strongest positive residuals are associated with the domes of residential desirability centred over south-west British Columbia and the Montreal area. South-west British Columbia is the cell experiencing the strongest positive residuals. This would indicate in addition to being perceived as highly favourable on the continuous surface, it shows a high degree of local preference evaluation. This cell, which was perceived as the most desirable on the raw data surface is thus perceived very distinctly in terms of

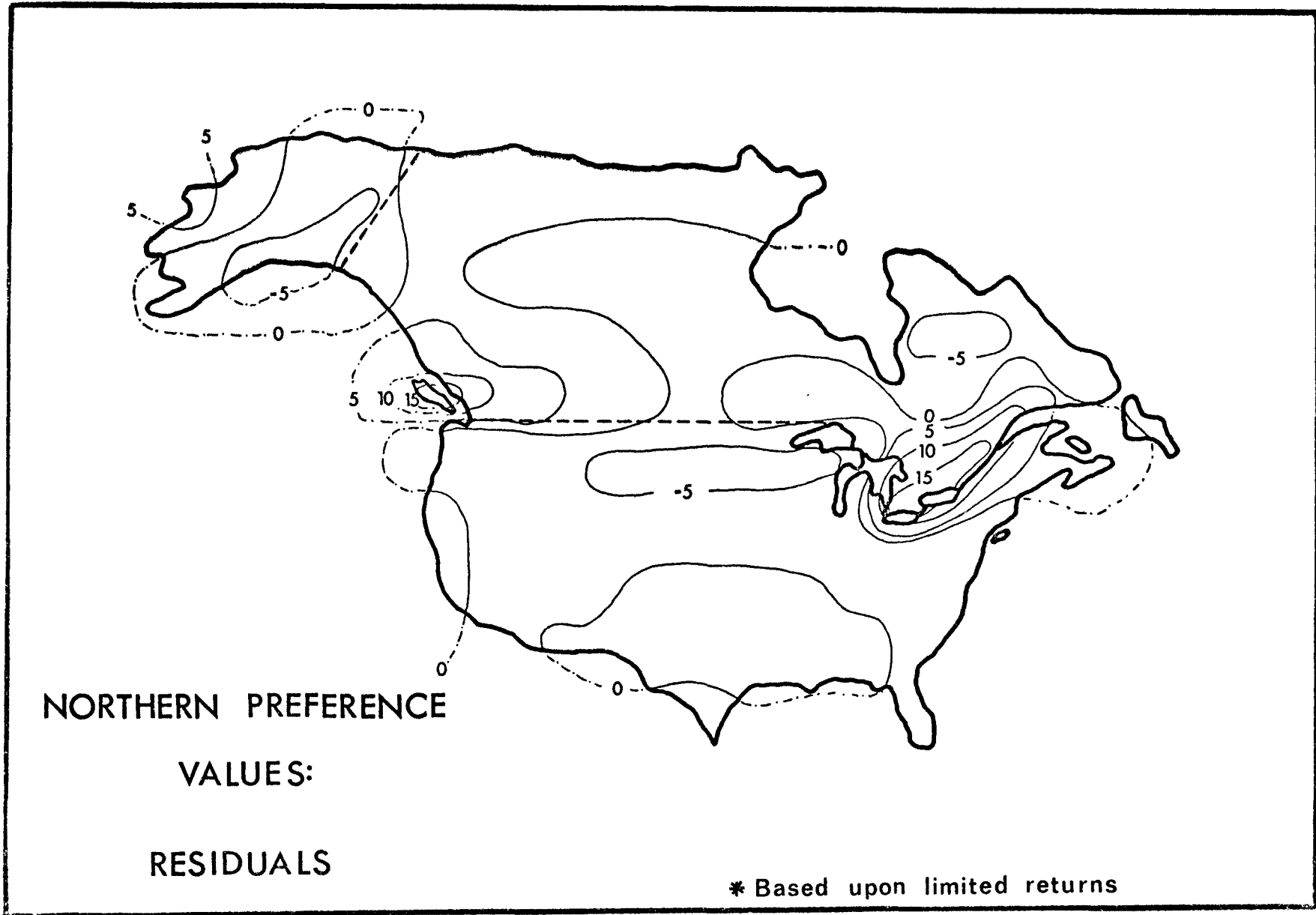


FIGURE 25

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residential desirability when compared to the surrounding cells. The most part of this dome centred over south-west British Columbia is thus associated with varying intensities of positive residuals. This indicates that the area encompassed by this dome is perceived as more desirable than the surface trends account for. Similarly, the dome of residential desirability centred over the Montreal area is associated with varying intensities of positive residuals. As in the west coast dome this would indicate that the cells in the dome are perceived as more desirable than the surface trends account for. The strongest of these residuals are associated with the Montreal area and the southern and central parts of Ontario. This would indicate that there was a very localized preference evaluation assigned these areas in terms of the surface and the surrounding cells.

The only important negative residuals appear to be associated with the row of cells directly below the American border in the American midwest (Row E). These cells have been rated below the predicted trend surface. If the remainder of the cells along the American border are examined it becomes apparent that the cells are all associated with negative residuals. Thus it would appear that in comparison with the corresponding row of cells on the Canadian side, these cells are considerably less desirable. The same trend can be noted to a lesser degree along the Canada-Alaska border. Thus, there is a distinct difference in residual measures along opposite sides of the borders. Therefore, even though the

surface trend is declining in preference as one moves south, there appears to be a very localized drop in preference when crossing the border from Canada into the United States. This holds true for the Canada-Alaska border as well. It is interesting to note that the south-central United States sink-hole of residential desirability noted on the raw data and continuous surfaces is associated with positive residuals. Thus it would appear that the saucer effect apparent on the raw data surface is not as important as trend surface analysis would indicate.

In an effort to further explain the patterns of residential desirability expressed by the northern respondents, the author examined locational considerations as factors in residential desirability.

Locational Considerations

When asked to list the factors that they found themselves considering when assigning residential preference to particular areas, the respondents from the north differed considerably from the other regions of Canada . (Table 6) Thirty-four per cent of the northern respondents perceived factors concerned with the state of the environment as important; 31% perceived factors concerned with the people, their nature and their proximity as an important consideration; 11% perceived other factors as an important consideration; 9% perceived factors concerned with the economics of the area as an important consideration; while 6% perceived

Locational Considerations
of the
North

CONSIDERATION CLUSTERS	CHOICE				TOTAL
	1st	2nd	3rd	4th	
Climate	27.3	-	-	-	9
Population Density	27.3	9.1	12.5	-	
Isolation	9.1	9.1	12.5	-	
Nature of People	-	-	-	-	
Language or Culture	-	9.1	25	-	
Way of Life	-	-	-	-	
TOTAL	36.4	27.3	50	-	31
Economics	-	9	-	-	
Opportunity	-	-	-	40	
Standard of Living	-	-	-	-	
TOTAL	-	9	-	40	9
Nationality	-	9.1	-	-	
Political Climate	-	9.1	-	-	
Criminal and Racial Climate	-	-	-	-	
TOTAL	-	18.2	-	-	6
Scenery	27.3	18.2	12.5	40	
Recreation Facilities	-	18.2	12.5	20	
Nearness to Ocean	-	-	-	-	
Degree of Pollution	-	-	-	-	
TOTAL	27.3	36.4	25	60	34
Nearness to Family & Friends	9	-	-	-	
Geographic Location	-	-	12.5	-	
Hearsay	-	9.1	12.5	-	
Familiarity	-	-	-	-	
TOTAL	9	9.1	25	-	11
GRAND TOTAL					

factors concerned with politics, and the racial and criminal climate as an important consideration.

The most important locational consideration was concerned with the state of the environment at 34%. The concern of the northern respondents with this factor by far exceeded the concern demonstrated by the other regions tested. In other regions, the consideration of this factor ranged from 13 to 20% and ranked either third or fourth when compared to the total considerations of the sample. It would appear that this consideration is reflected in the high evaluation of the relatively untouched environment of the Canadian territories. It is interesting to note that these considerations were totally concerned with the amount of scenery, wilderness, relief and the recreation facilities available. The reference to the availability of recreation facilities raise the question of what role it plays in determining the high residential preferences for the north. When referred to by respondents in other regions, the references to recreation facilities available was assumed to be related to the availability of outdoor activities and thus associated with factors concerned with the natural environment rather than the total milieu.

Like many other regions including Quebec, the Maritimes and the prairies, people remain a very important factor in determining the residential desirability of a place. Regions like Ontario and Quebec which seem to have a lot more going for them economically, climatically or otherwise, fail to place such an emphasis on the characteristics of the popu-

lation to determine its residential desirability. The emphasis on population is closely comparable to the emphasis demonstrated by the respondents from the Prairie provinces. Similar to the respondents from the Prairies, the population characteristics were perceived as a very close second in terms of residential considerations. However, a stronger emphasis has been placed upon this consideration than in any other region examined, even in reference to the Quebec and Maritime respondents who indicated it as the primary locational consideration. This consideration appears to be met in the north and in the strongly localized peaks of the Canada corridor. Perhaps this is one of the contributing considerations in the strong preferences registered for Canada.

After the two most important considerations, the percentage consideration of other factors drops drastically. Thus they would appear to play less important roles in determining a location's residential desirability.

The lack of the consideration of climatic requirements by the northern respondents provides a drastic contrast to the other regions. All of the other regions placed this factor high up on the list of locational considerations thereby demonstrating a much more important percentage consideration of this factor. The same reason hypothesized for a lack of consideration of this factor by the Maritime respondents should hold true in this case. That is, once people grow accustomed to a climate of lower quality, climate

is not considered an important locational attribute. Therefore the respondents living in a less favourable climate appear to tolerate more extreme climates than those living in a good climate. The northern respondents would therefore be expected to be much more tolerant of extreme climates than any of the other regions tested. This does not affect their evaluation of higher climatic areas such as British Columbia; it just affects the preferential gap which exists between the areas.

It is interesting to note that the political, racial and criminal climates are the least important considerations. Although there is some consideration of the country and politics, it plays a less important role in determining the residential desirability of a place than in the other regions tested. This would appear to be in contrast to the border effect noted in the various surfaces of the regional view.

When these locational considerations are compared to the patterns of residential desirability, they tend to infer certain qualities perceived as desirable about certain areas of the country. The locational considerations appear to be focused on the southern fringe of the northern region and decline with increasing distance from this ridge. Canadian areas appear to best meet these considerations in comparison to the United States. Very localized areas such as southwest British Columbia represent variances to the general trend.

Summary

Preference surface analysis of the northern respondents has provided us with another distinct surface of residential desirability. The focus of the residential preference surface is much further north than the focus of the surface in the other regions. This northerly focus of residential desirability for the southern fringe of the Canadian north. Although the neighbourhood dome is not evident on the raw data surface it become dominant on the continuous surface of residential desirability. This neighbourhood effect as seen on the other continuous surfaces represents the focus for a very distinct distance decay effect of residential desirability. Residential desirability decreases uniformly to the north and to the south of this dome. The distance decay effect is most noticeable towards the south where it holds for a distance of approximately 1500 miles until the sinkhole of residential desirability over the south central United States begins to dominate the surface.

The residential preference surface does not demonstrate the existence of a strong ridge of residential desirability in association with the Canada corridor. Rather, the southern fringe of the northern region and northern fringe of the Canadian provinces represent the epitomy of residential desirability and the perceived locational attributes of environment and population on the continuous surface. The Canada corridor is associated with the southerly slope of

this ridge of residential desirability. Although this represents a contrast to most of the other regions tested, the Canada corridor is not completely forgotten. Two centres along the Canada corridor represent the focus for local domes of residential desirability. They are a western Canada and a Montreal dome of residential desirability. These areas represent localized preference evaluations in terms of residential desirability.

Like many other regions, the residents of the North demonstrate a distinction in preference between comparable Canadian and American cells. This effect shows up in the raw preference surface where the southern boundary of the domes of residential desirability are very obviously the Canadian-American boundary. This factor shows up on the continuous surface but shows its strongest effect on the residual surface. The effect is such that the southward extension of the west coast dome, noted in the other regional views, is not apparent on the raw data or residual surfaces. The border effect would appear to be most noticeable on the northern surface where isolines are all parallel to the Canada-United States border.

CHAPTER V

THE DISTANCE DECAY

RESIDENTIAL DESIRABILITY MODEL

In this chapter an attempt will be made to construct a general model of residential desirability. The aim of this model is to determine what the nature of a preference surface would be when viewed from anywhere in Canada. The major building blocks will be provided by the underlying trends of residential desirability that have emerged through trend surface analysis. The author will focus on the relationship between distance from the region of testing and preference evaluations.

One of the recurrent trends of residential desirability that has emerged through trend surface analysis is the existence of one or more domes of residential desirability. These domes have been of a neighbourhood type or of an 'Eden' type or a combination of both. The total residential desirability surface appears to be closely associated with the location of these peaks. As distance increases from these domes, it was observed that residential desirability generally decreased. Thus on a surface of residential desirability, the distance component appeared to play an important role in determining the desirability rating of a place. The degree of the preferential decline was dependent upon a number of factors which were related to the nature of the dome, the intensity of the dome and the relative location of other domes or sinkholes on the surface.

The neighbourhood dome of residential desirability hypothesized earlier as common to all surfaces is believed to provide the focus for a general model of residential desirability. The intensity of this effect has varied from region to region and is dependent upon the relative attributes of the surface. Thus a combination of the effects noted in each surface should provide the basis for a model which can be applied to the preference surface as seen from any area in Canada.

To establish a residential preference model, each regional trend surface will be examined in regards to the decay of preference with distance from the home region. The starting point for the measurement of this effect was either the demographic or geographic centre of the region of testing. The choice of this centre was based upon the characteristics of the particular region in question. Distance decay characteristics will be examined along the four cardinal points of the compass (north, south, east and west) from each of the six regions. Although some exceptions have been made, both the east and west axis have been aligned along the Canada corridor since most Canadians perceive points along the Canada corridor as directly east or west of them. The north and south axes have been slightly adjusted where required. For example when the views from the Maritimes and British Columbia were considered, the north-south axes were run along the coastal fringes.

In order to facilitate a direct comparison between the distance decay surfaces associated with the neighbourhood domes on the trend surfaces, the raw preferences were converted to a percentage of the score possible for the following figures. Because the range of the preference was from 1 to 5, the lowest percentage vote possible for any cell would be 20%. Therefore, this must be taken into consideration when evaluating the percentage of the possible vote registered for each cell. The percentage decline associated with the different axes of the surface with increasing distance from the neighbourhood dome of residential desirability is the main fact by which the spatial preference model will be described.

The Regional Distance Decay Slopes

The Maritime trend surface demonstrated one of the strongest neighbourhood effects for the home region. (Figure 26) Out of the possible preference that could be assigned any cell on the surface, the Maritime respondents assigned the central Maritimes a surface high of 60%. Preference generally decreased with increasing distance from the central Maritimes (cell E16) for a distance of about 900 miles (Graph 1).

The distance decay effect is strongest along the north-westerly axis. This axis demonstrates a uniform slope of -2.36% for the total length of the axis. The fact that the northern continental periphery is reached is the

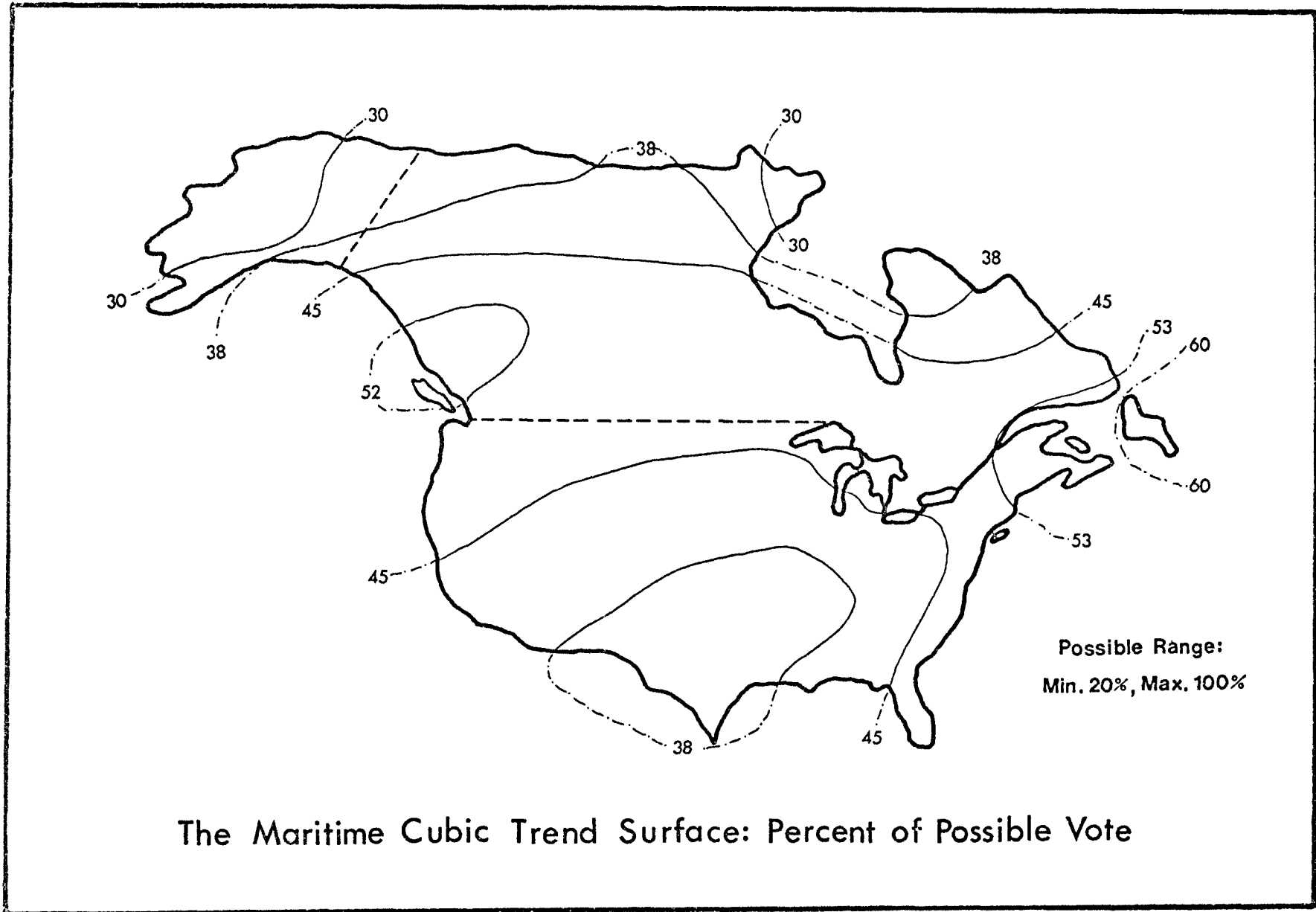
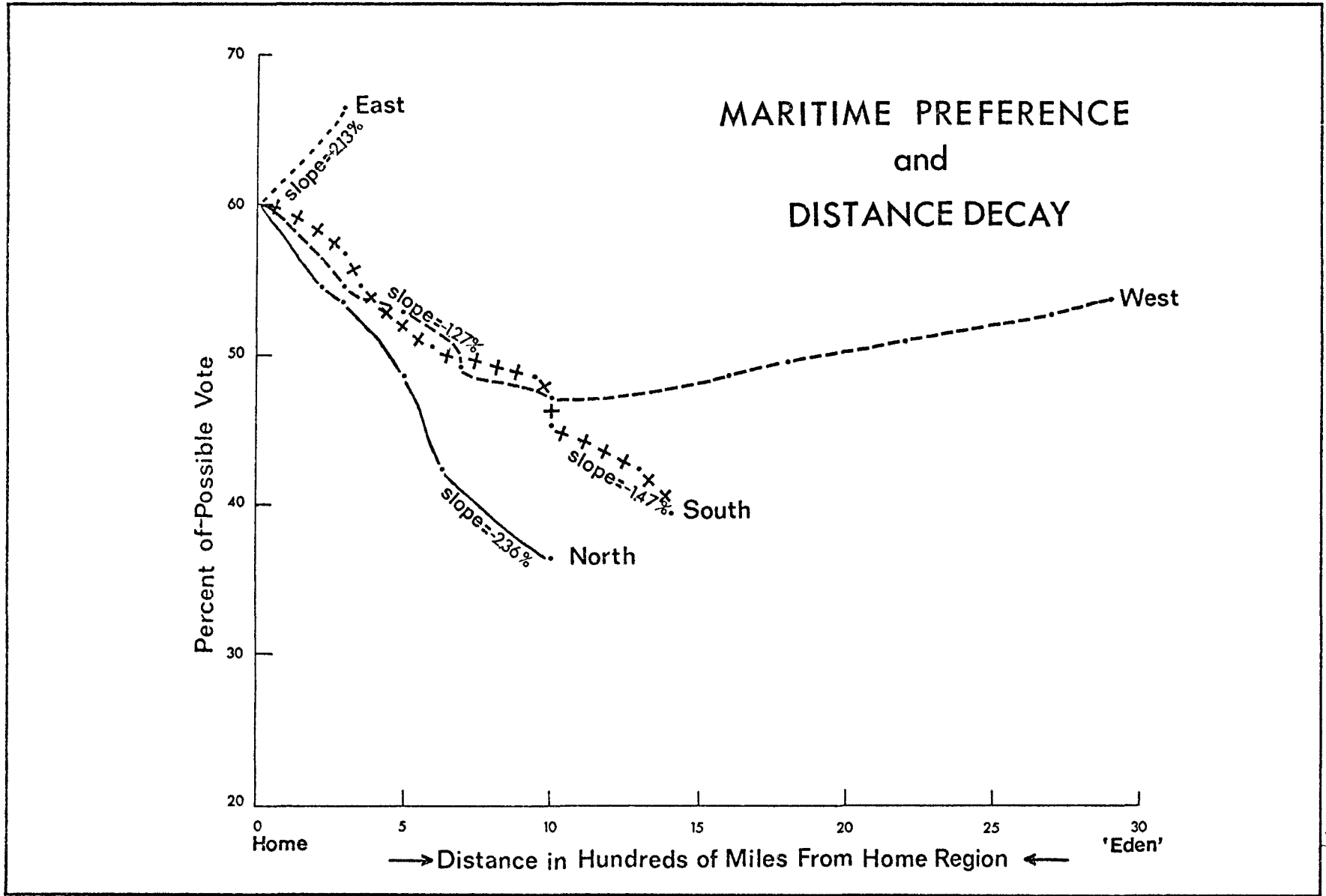


FIGURE 26



GRAPH 1

only factor that appears to limit the extent of the distance decay effect to 1000 miles.

Similarly, the southerly axis demonstrated a negative slope of 1.47% per hundred miles. Again, the continental periphery appears to limit the range of this effect. The preferential decline along this axis, even with its greater range, does not achieve as low a preference as was noted along the steeper yet shorter distance decay axis towards the north.

The westerly axis along the Canada corridor experiences only a slightly weaker distance decay effect than the southern axis. The negative slope of 1.27% per hundred miles indicates that preference generally decreases with increasing distance from the Maritime provinces. The decrease is more extensive (1600 miles) but less marked than the slope of the other axes. The existence of a British Columbia 'Elder' dome is the factor limiting the extent of the distance decay effect along this axis.

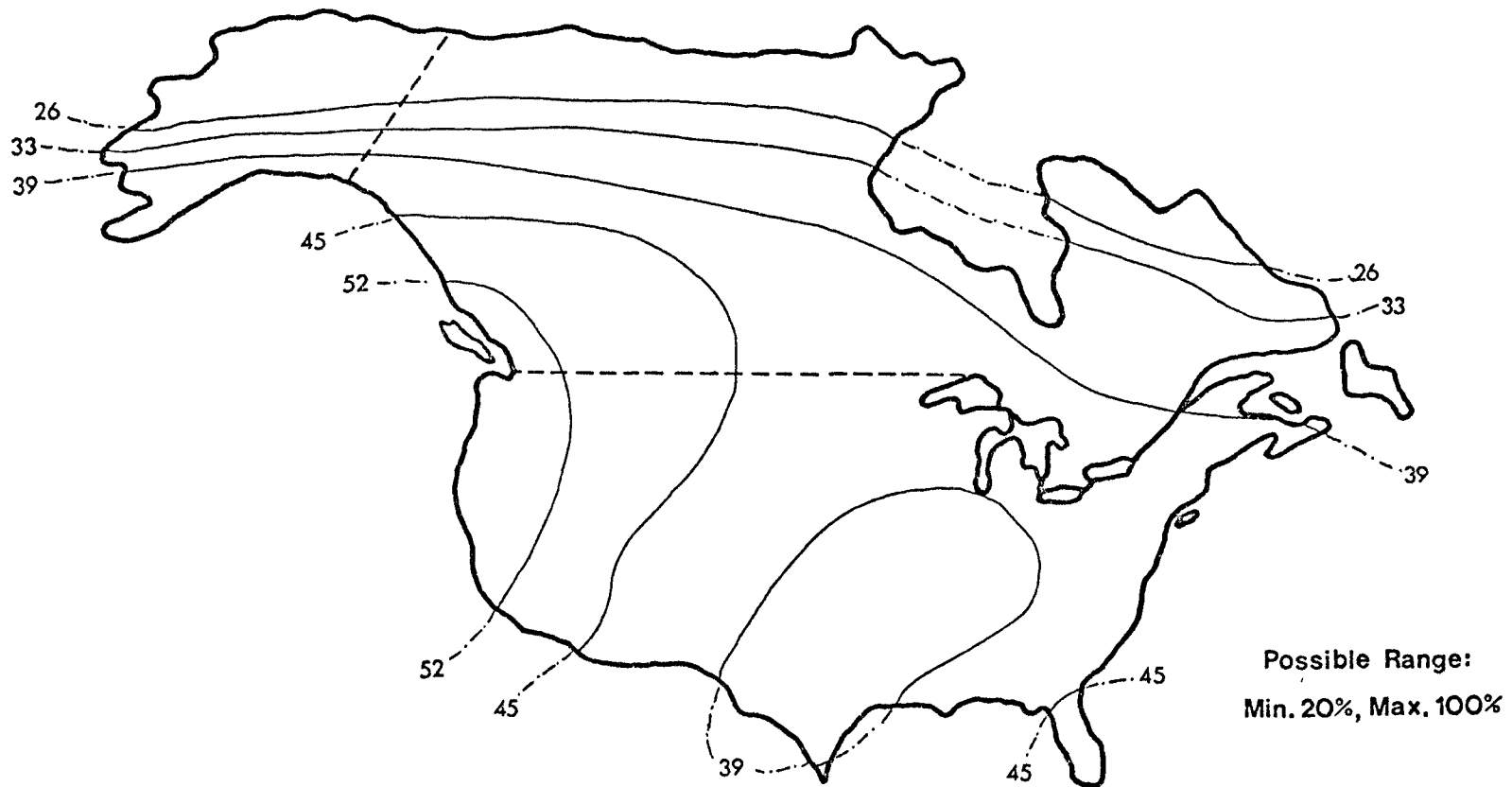
The eastern axis is the only axis which demonstrates a positive slope of residential desirability. Preferential increase is comparatively strong with a positive slope of 2.13% per hundred miles for the 300 miles along this axis. This range is again limited by the continental periphery.

Thus it would appear that the Maritimes view strongly supports a distance decay surface of residential desirability which is based upon distance from the neighbourhood of test-

ing. The region of testing is strongly dominated by a neighbourhood dome which provides the focus for the distance decay surface along a northerly, southerly and westerly axis on the surface. Thus initial findings in the Maritime surface appear to support the search for regularity towards a Canadian model of residential desirability which is based upon a distance decay surface from the region of testing.

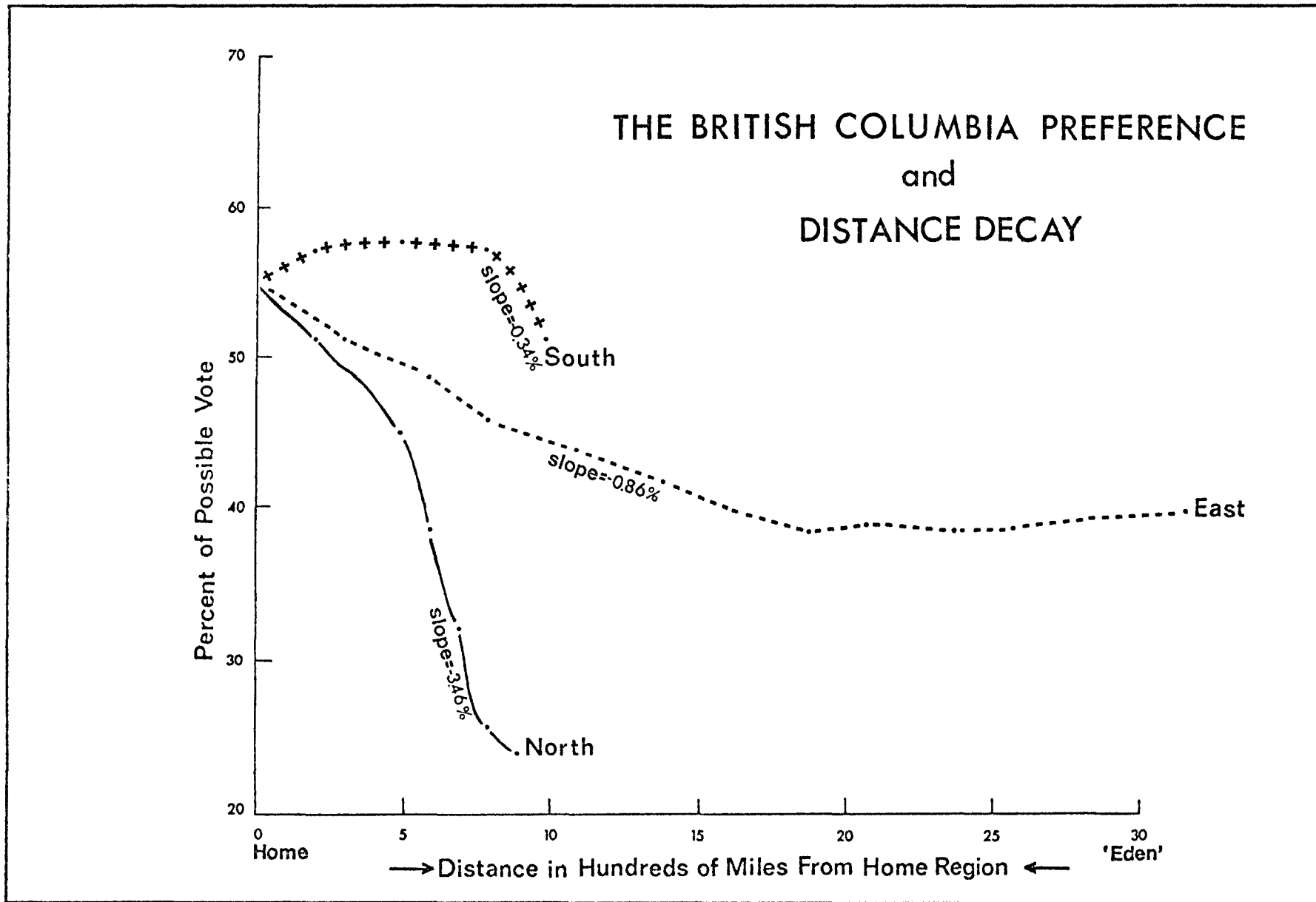
The British Columbian trend surface also demonstrates a strong neighbourhood effect for the west coast of North America (Figure 27). The demographic centre of the region being tested, cell D5, experiences a preferential rating that represents 55.3% of the possible votes that could have been assigned the cell (Graph 2). As in the Maritime view, preference generally decreases with increasing distance from the centre of the region. Preference generally decreased with increasing distance along the easterly and northerly axis. The only exception to the distance decay effect appears to be associated with the southerly axis which is represented by a relatively constant slope along the backbone of the west coast neighbourhood dome.

The strongest distance decay of residential desirability is experienced along the northern axis. This axis is somewhat steeper than the northern axis on the Maritime surface and it has a negative slope of 3.46% per hundred miles. As in the Maritime view, the distance decay effect is limited to 900 miles by the continental periphery.



The British Columbia Cubic Trend Surface: Percent of Possible Vote

FIGURE 27



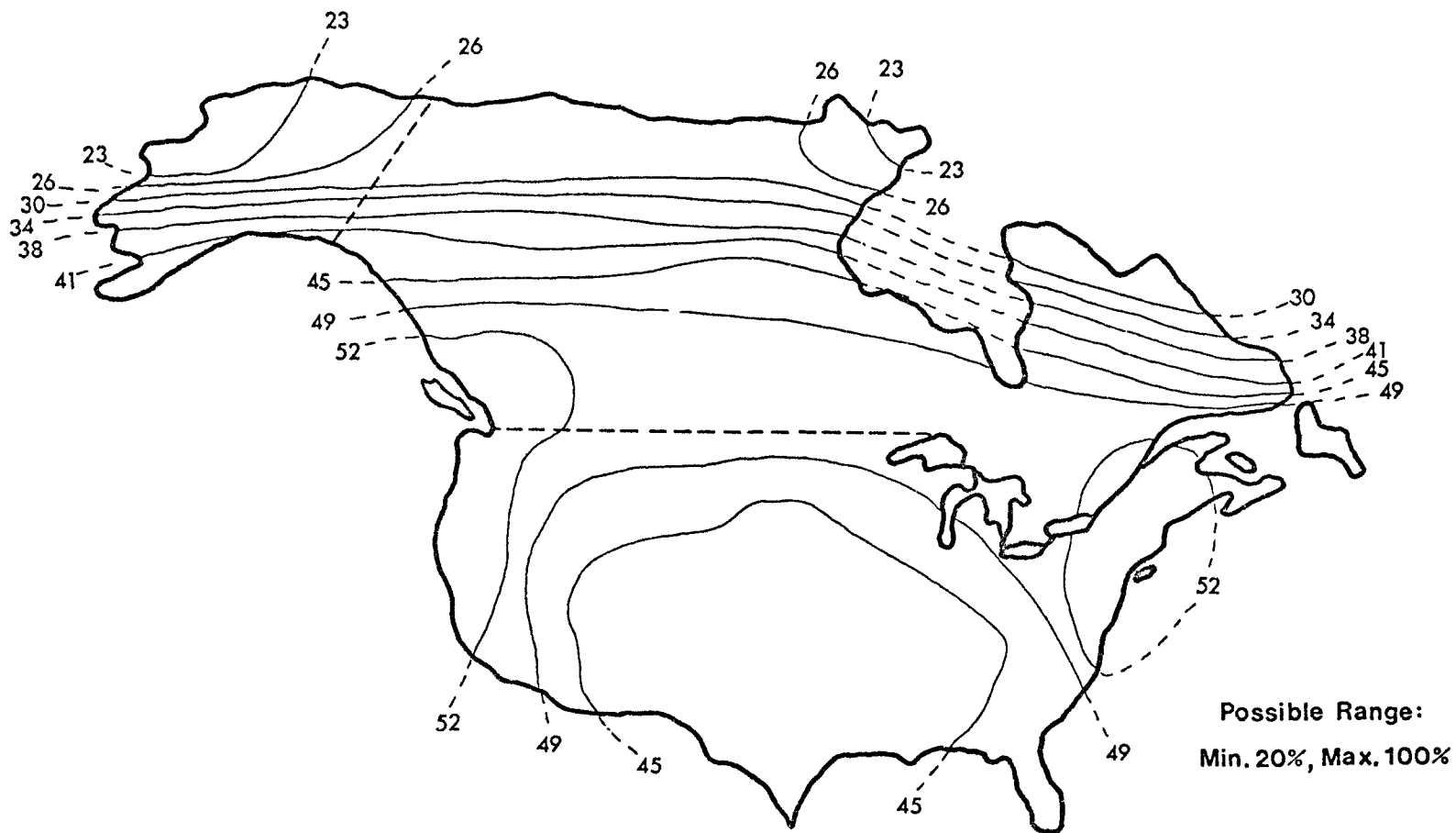
GRAPH 2

The easterly axis demonstrates the next strongest distance decay effect. This axis experiences a slope of -0.86% per hundred miles for the first 1900 miles along the axis. Thus the Canada corridor axis associated with the neighbourhood dome exhibits a moderate distance decay effect of residential desirability.

For the first 800 miles along the southerly axis of residential desirability, there is no distance decay effect. The slope of the southerly axis is -0.3% per hundred miles for the first 800 miles. After the first 800 miles, preference begins to fall off rapidly with increasing distance. The total axis can be seen to demonstrate a slight negative slope of 0.34% per hundred miles for the 1000 miles of land area along this axis. The slope of this axis contrasts sharply with the strong negative slope of the southerly axis of the Maritime view.

It would appear that the British Columbian view demonstrates a distance decay surface of residential desirability which dominates the trend surface. This effect is very marked along the northerly axis, less marked along the easterly Canada corridor axis and almost non-existent along the southerly axis. Thus it would seem that this view corresponds to the basic hypothesis proposed concerning a general model of residential desirability.

The Ontario respondents demonstrated the existence of a weaker neighbourhood effect than those displayed by the Maritimes and British Columbia respondents. (Figure 28)



The Ontario Cubic Trend Surface: Percent of Possible Vote

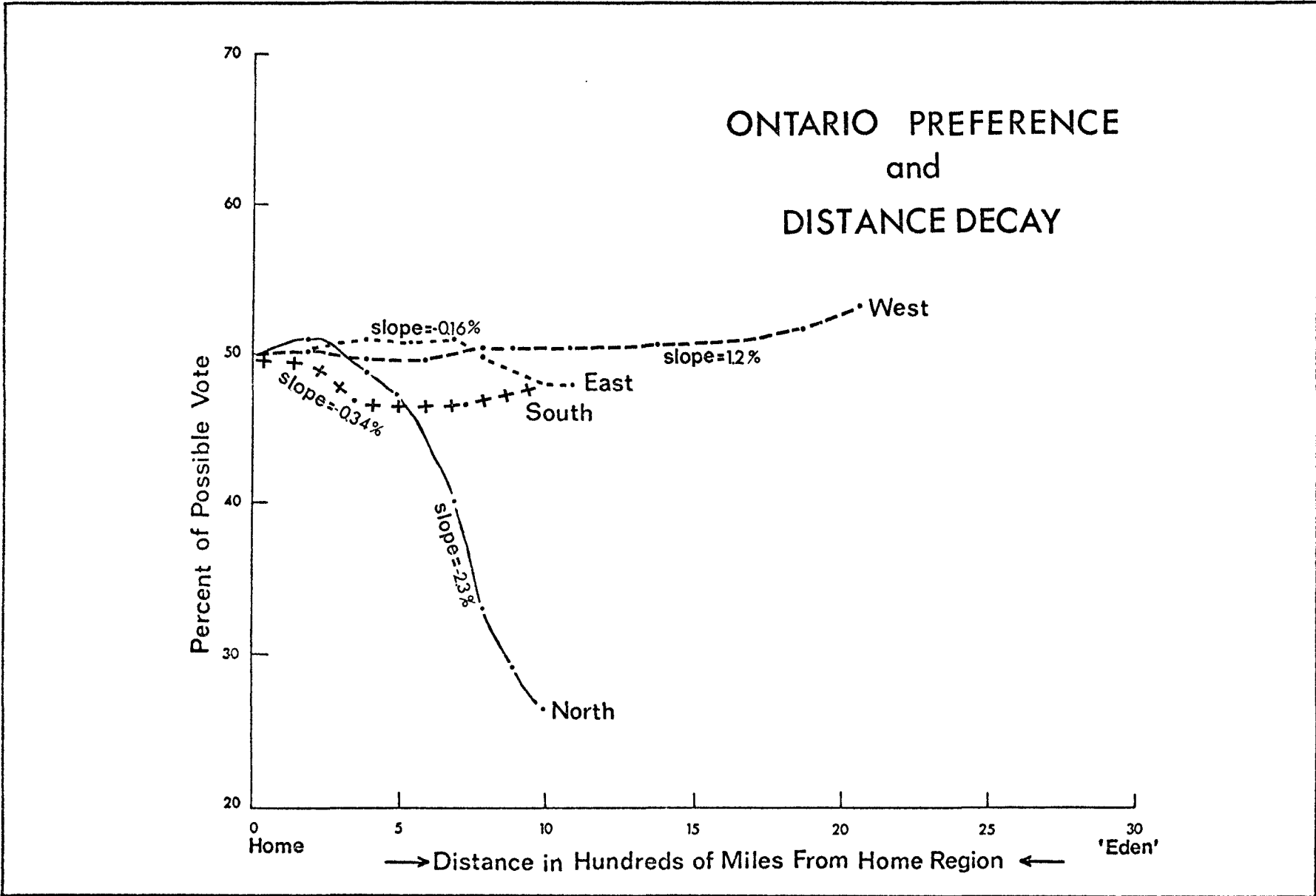
FIGURE 28

Even though Ontario does not represent the peak in its neighbourhood dome, the demographic centre of the region (cell F13) receives 50.2% of the possible votes. In contrast to the other regions, strong distance decay effect^s of residential desirability can only be observed along one of the four cardinal axes from the centre of the Ontario region. (Graph 3)

The only strong distance decay effect is noted along the northerly axis. This axis demonstrates a continually increasing slope of preferential decay for 1000 miles along this axis. The average slope is -2.3% per hundred miles along this axis. Again the fact that the continental periphery is reached, appears to be the factor limiting the extent of the distance decay effect along this axis.

The southerly axis demonstrates the next steepest distance decay effect. A weak distance decay effect of -0.34% per hundred miles can be noted for a distance of 800 miles along this axis until the effect of a Florida peak of residential desirability begins to dominate and preference begins to increase. This pattern is comparable to the slopes along the southern axis of the British Columbian view.

The eastern axis of residential desirability demonstrates a trend which can be compared to the trend noted along the southern axis of the British Columbian view. Preference increases slightly for the first 700 miles toward the neighbourhood peak and is associated with a slight positive slope of 0.19% per hundred miles. From 700 to



GRAPH 3

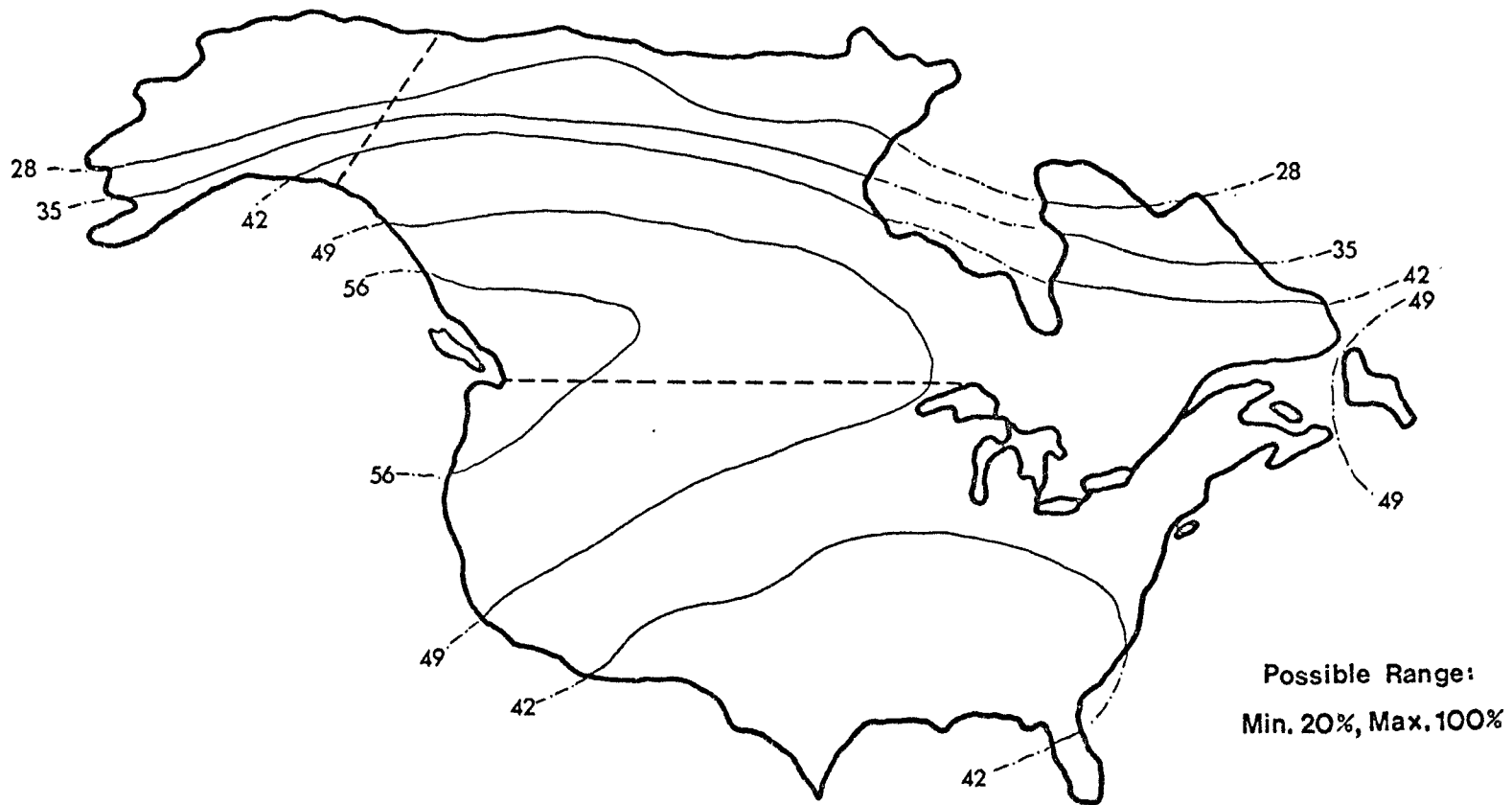
1100 miles, the eastern axis demonstrates a very weak distance decay slope of -0.16% per hundred miles.

The westerly axis is associated with a slight positive slope in the order of 0.35% per hundred miles for the first 1400 miles along this axis. For the last 700 miles, this axis experiences a positive slope of 4.2% per hundred miles toward the 'Eden' dome of British Columbia.

Thus, even though the Ontario surface experiences a distance decay effect of residential desirability along only two of its axes, it appears to support the concept of a distance decay effect of residential desirability from the region of testing.

The Prairie region demonstrates a rather strong neighbourhood effect. (Figure 29) Even though the focus of its neighbourhood dome is over British Columbia, the central prairies (border between cells 8 & 9 row D) still experience a relatively high preference rating receiving 54.8% of the possible votes. Preference appears to decrease with increasing distance north, south and east of the centre of the Prairie region. (Graph 4) In contrast, the western axis demonstrates a surface of increasing preference with increasing distance from the central Prairies towards the peak of the neighbourhood dome.

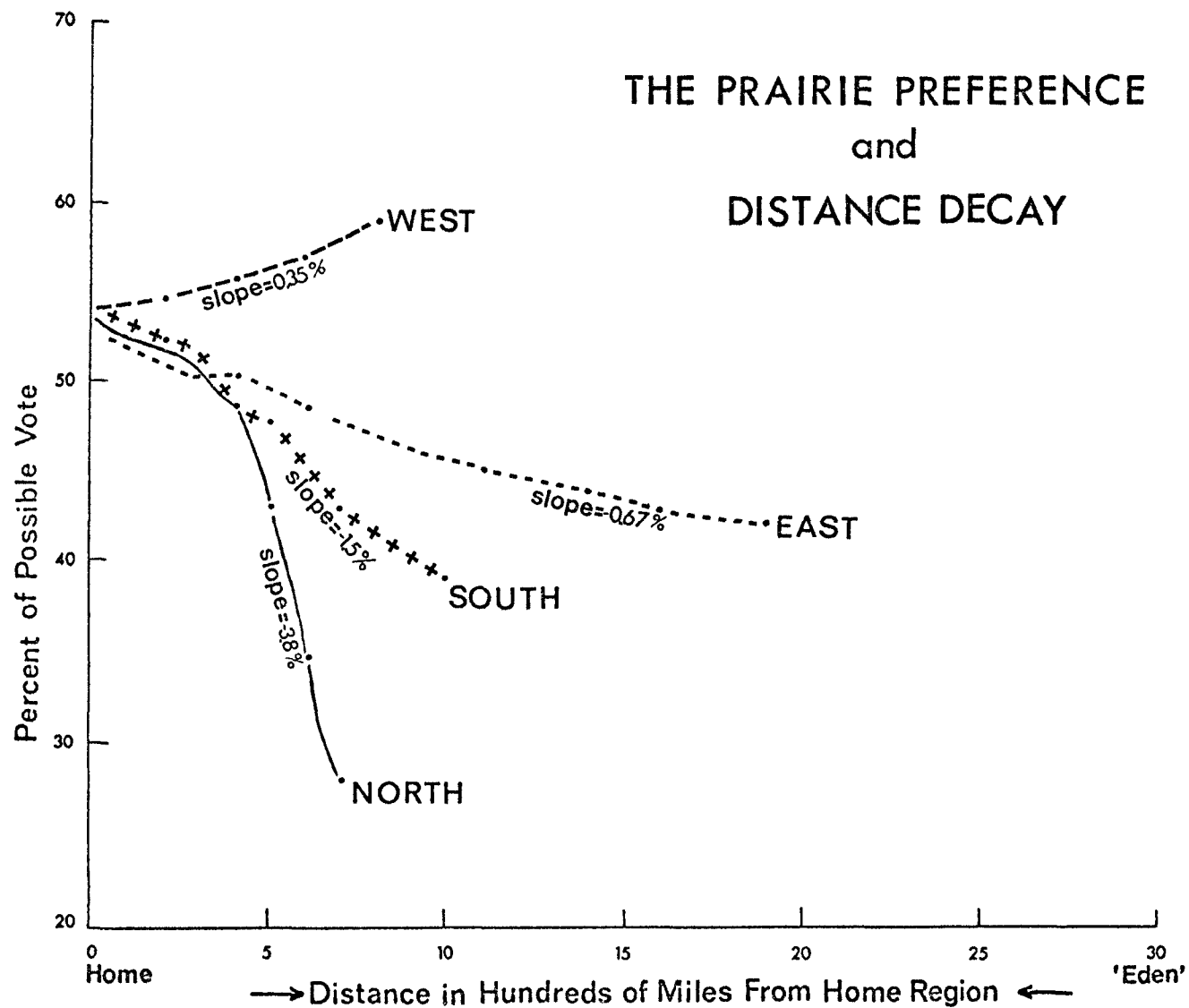
As on all other regional trend surfaces, the northern axis from the home region exhibits the strongest distance decay slope. It demonstrates a negative slope of 3.8% per hundred miles for the 700 miles along this axis. While this



The Prairie Cubic Trend Surface: Percent of Possible Vote

FIGURE 29

THE PRAIRIE PREFERENCE and DISTANCE DECAY



GRAPH 4

distance decay slope is comparable to the slope seen in the other regions, it is the strongest northern distance decay slope yet observed.

The southern axis demonstrates the next strongest distance decay slope from the home region. A rather uniform decay effect with a slope of -1.5% per hundred miles is evident for a distance of 1000 miles along this axis. The distance decay slope of residential desirability along this axis is comparable with the slope exhibited along the southern axis in the Maritime view.

The next steepest distance decay slope is exhibited along the eastern axis of the Prairies. This axis demonstrates a distance decay slope of -0.67% per hundred miles for the 1800 miles along this axis. The range of the distance decay effect along this eastern axis is comparable to the range of 1900 miles observed along the eastern axis of British Columbia.

The western axis towards British Columbia demonstrates a preferential increase as one moves towards the 'Eden' dome. Preference increased at a rate of 0.35% per hundred miles over the 1000 mile length of the axis. The slope became increasingly stronger as distance increased from the central Prairies and decreased towards the west coast focus of the neighbourhood-'Eden' dome.

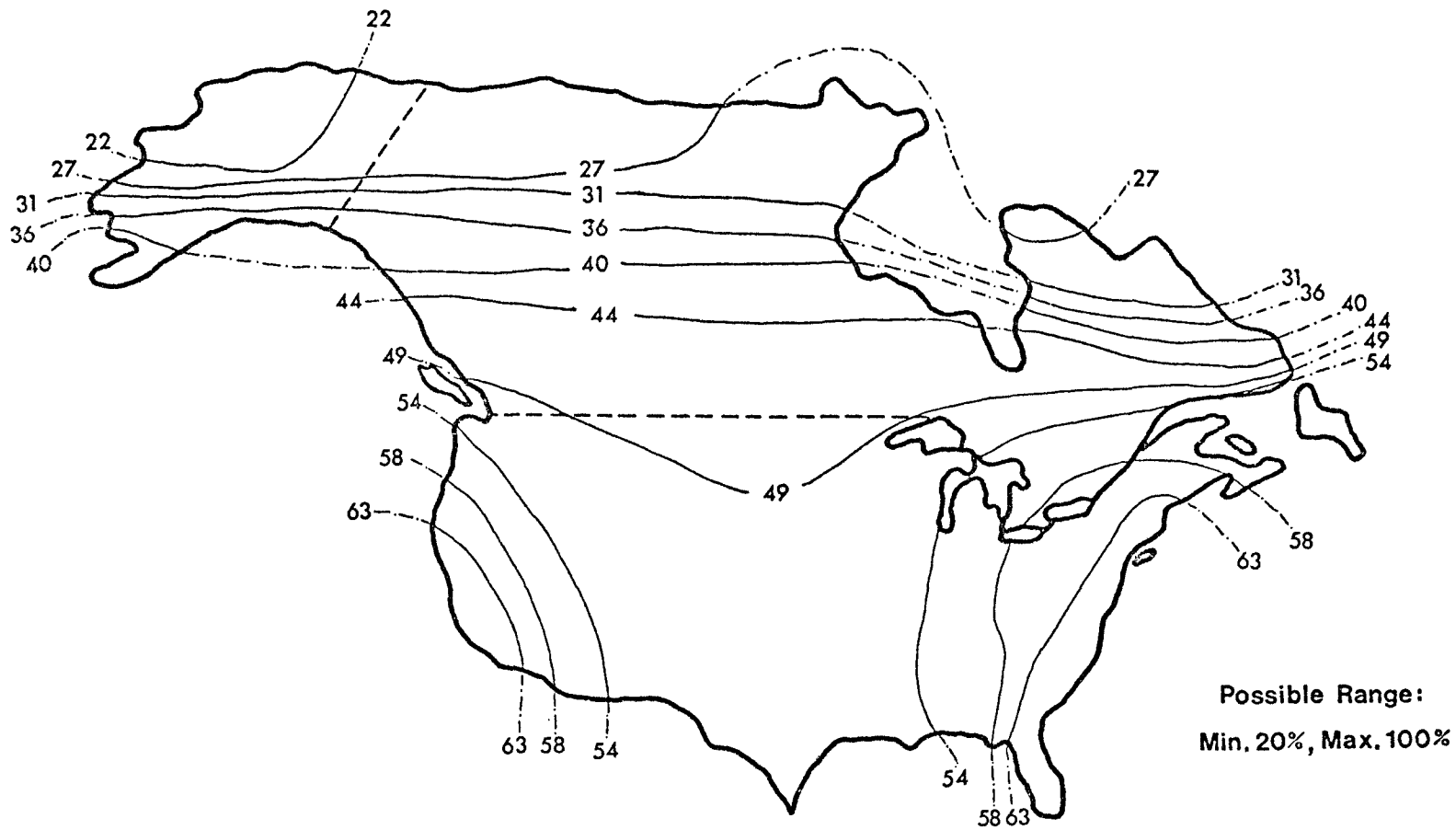
The Prairies would appear to represent a position along this east-west axis that is close to the high point along this axis. Their position along the north-south axis

which runs through the central Prairies is the high point of residential desirability. This neighbourhood effect is evident for the Prairie region but the effect is not necessarily focused directly over the Prairie provinces. The 'Eden' pull of the west coast dome causes distance decay, along the east-west axis, to focus upon it rather than the Prairies.

The respondents from Quebec have also demonstrated a neighbourhood effect of residential preference for their home province. (Figure 30) Even though much of the neighbourhood effect on the raw surface was associated with localized preferences, the central portions of populated Quebec, cell E14, received 56.2% of the possible votes as part of the continuous surface. Preference decreases with increasing distance north, east and west of the centre of this region. (Graph 5) In contrast, the southern axis demonstrates the southern shift of the focus of the neighbourhood dome and is associated with alternating, increasing and decreasing preference with increasing distance from the home region.

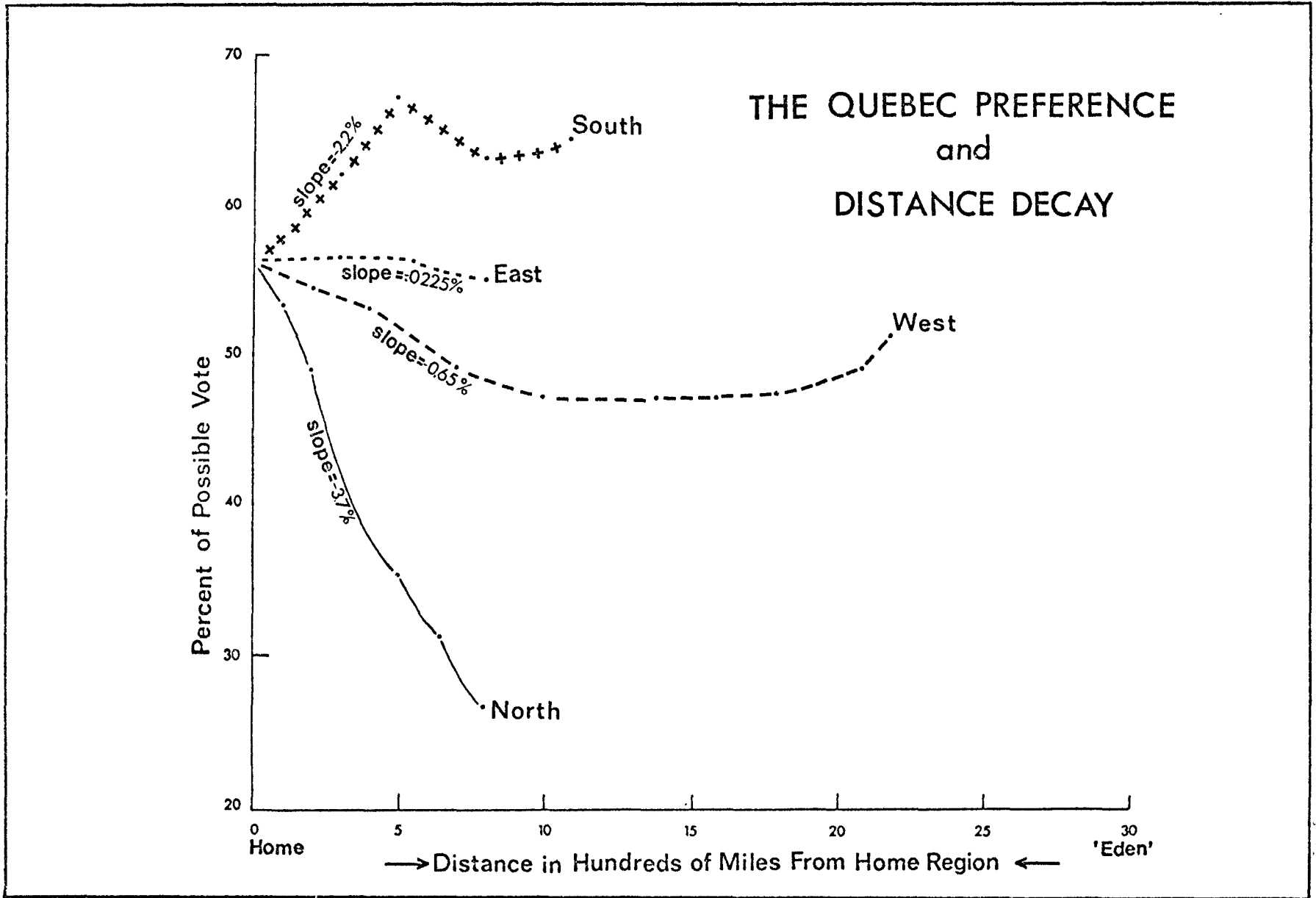
The northern axis demonstrates the strongest distance decay effect and has a rather constant slope of -3.7% per hundred miles for the 800 miles of land along this axis. The intensity and range of the preferential decrease along this axis is closely comparable to that noted along the northern axis in the Prairie and British Columbian views.

Preferential decrease is the next most noticeable along the western axis. An average slope of -0.65% per hundred miles can be observed for a distance of 1400 miles



The Quebec Cubic Trend Surface: Percent of Possible Vote

FIGURE 30



GRAPH 5

along this axis. At the 1400 mile mark, the trend is reversed and preference increases for the remaining 800 miles along the axis towards British Columbia.

A slight to negligible distance decay effect is associated with the eastern axis running from central Quebec. A uniform slope of -0.0225 is observed for the 800 miles along this axis. Even though it can be concluded that there is a distance decay slope associated with this axis, it is of little importance on the Quebec surface.

In contrast, the southern axis exhibits a relatively uniform positive slope of 2.2% per hundred miles for the first 500 miles along the axis. Preference then decreases along the southern axis between 500 and 800 miles. Past the 800 mile mark, preference begins to increase once again as Florida is approached. This complex pattern of preferential change along the southern axis is, like the British Columbian view, a result of the southern displacement of the focus of the neighbourhood dome.

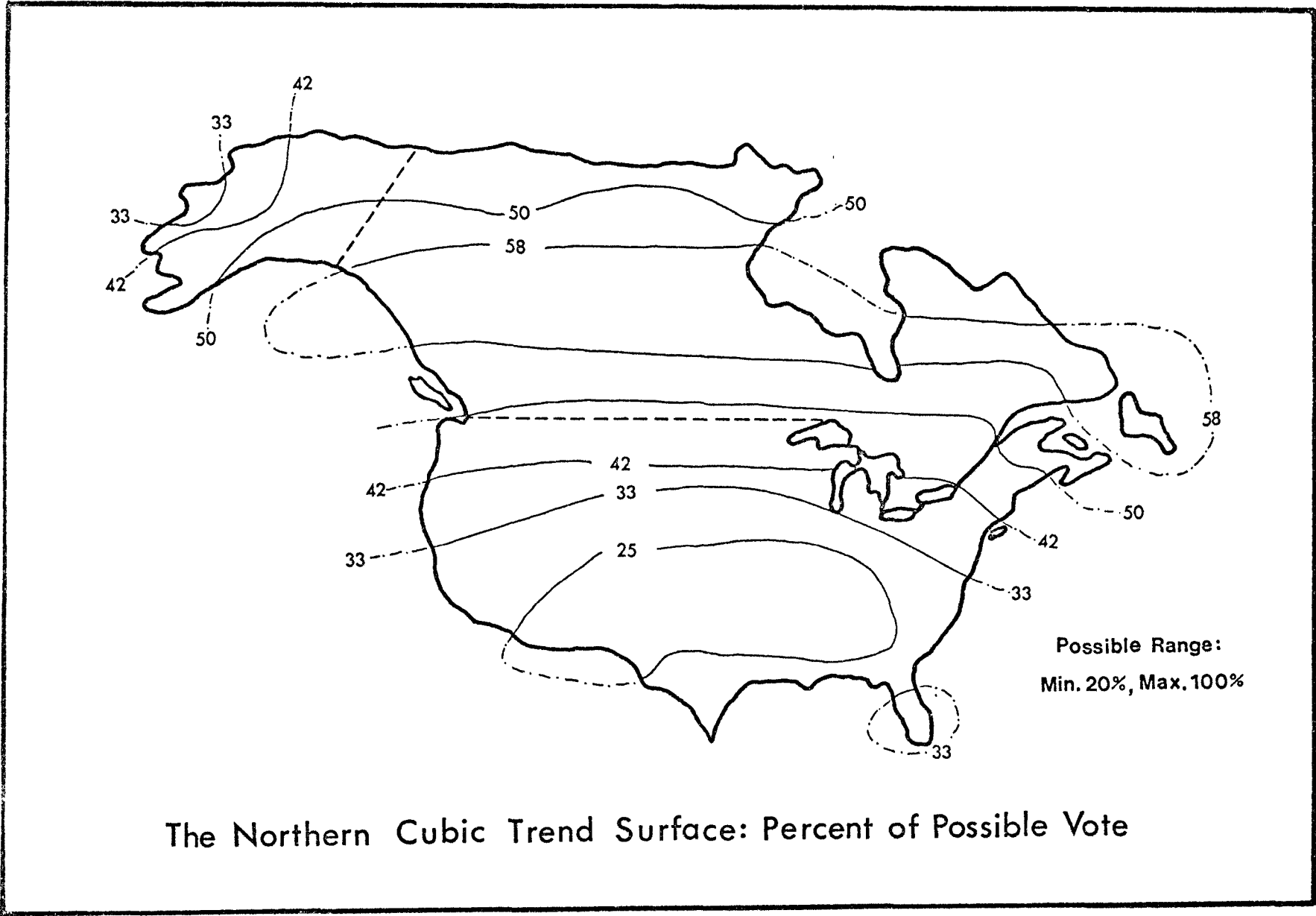
Again it would appear that there is a distance decay effect associated with the region of testing. In the case of Quebec, the distance decay effect along the southern axis is distorted by other features. To the east, the distance decay effect is very weak. There is no distance decay effect along the western axis. Only the northern axis demonstrates a strong continuous distance decay effect of residential desirability.

The northern respondents demonstrated the strongest neighbourhood effect for their home region (Figure 31) and assigned the central areas of the North 62% of the possible preference votes. Preference declined in all directions from the centre of the home region which has been defined as the border between columns eight and nine in row B. (Graph 6)

The strongest distance decay effect was observed along the northern axis. This axis experienced a slope of -4.27% per hundred miles for the 300 miles of land along the axis. This slope is the strongest noted on any surface of residential desirability. Once again, the continental periphery is the factor that appears to limit the range of the distance decay effect along this axis.

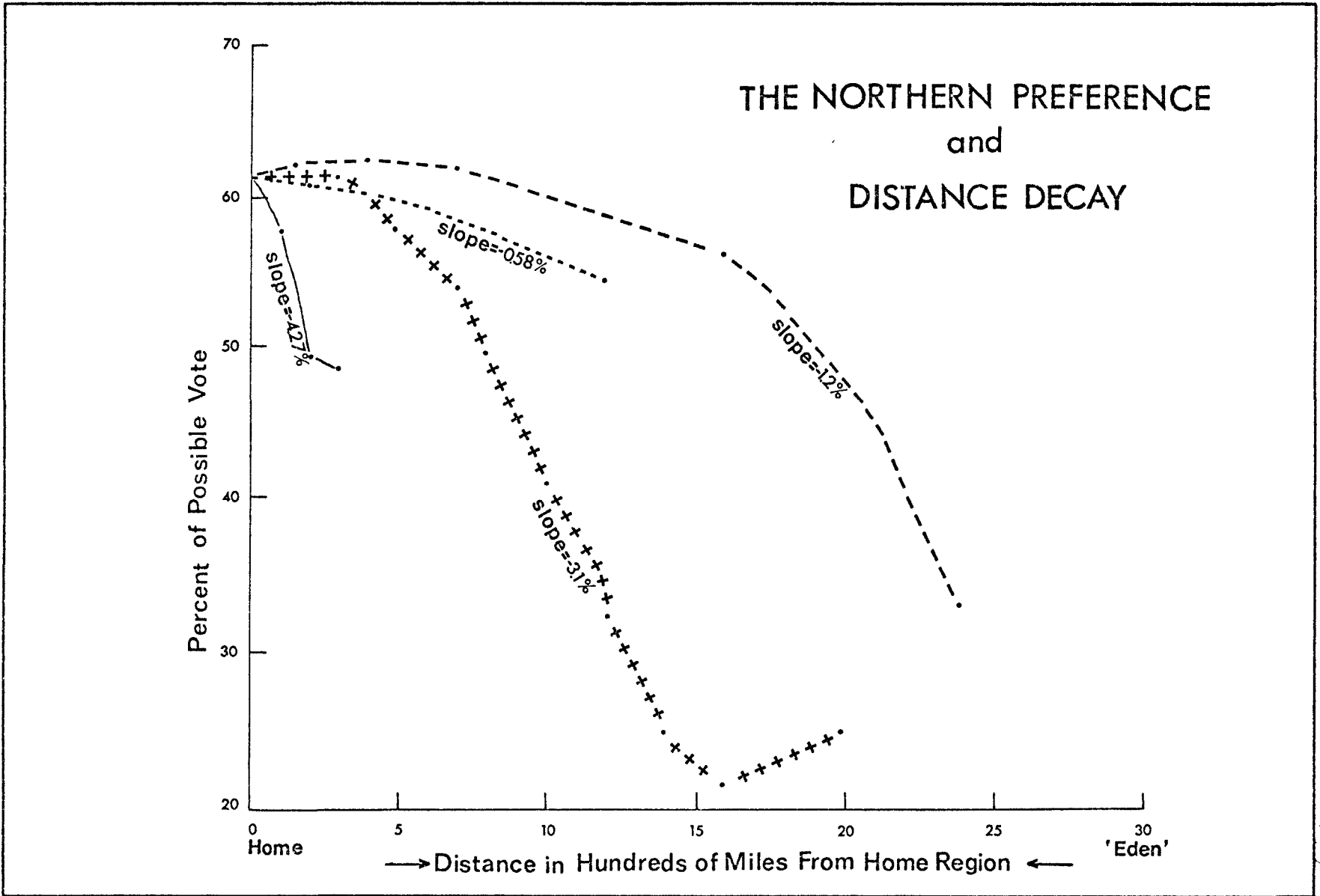
The distance decay effect is next strongest along the southern axis. This axis experiences a uniform distance decay slope of -3.1% per hundred miles for the first 1600 miles along this axis. For the last 400 miles, preference rises slightly in response to a minor ridge of residential desirability along the American Gulf coast rim. The slope of this axis is far steeper than the slope noted along the southern axis in any other of the regional views.

The western axis exhibits a distance decay effect of residential desirability but with qualifications. Preference is fairly constant for the first 700 miles along this axis which runs along the ridge of the neighbourhood dome. Past the 700 miles mark, preference declines evenly for the remaining 1700 miles along the axis. The total axis demon-



The Northern Cubic Trend Surface: Percent of Possible Vote

FIGURE 31



GRAPH 6

strates a distance decay slope of -1.2% per hundred miles. Thus in terms of the total axis, there is a decided distance decay effect along the western axis.

The eastern axis demonstrates a very weak distance decay effect of residential desirability. Preference declines at an average of 0.58% per hundred miles for the 1200 miles along this axis.

Like the other regional trend surfaces, the trend surface of the northern respondents has demonstrated a distance decay effect of residential desirability from the region of testing. In contrast to the other regional views, this effect is noticeable along all axes, north, south, east and west of the home region. Therefore, the surface of residential desirability viewed from the North would appear more simplistic than the other regional views and thus the distance decay effect associated with this dome is much stronger.

Discussion of the distance decay surfaces of residential desirability for the various regions has indicated that the basis of a general Canadian model of residential desirability does exist. An examination of the regional surfaces has shown that in each case a neighbourhood dome of residential desirability provides the focus for a distance decay surface. The above, combined with the recurrence of an 'Eden' dome some distance from the home dome and its corresponding distance decay surface, provides the basis of a distance decay model of residential desirability.

The extent of the neighbourhood distance decay effect is dependent upon the existence and relative location of an 'Eden' dome. Where the 'Eden' dome is absent and the neighbourhood dome is the dominant feature, the distance decay effect will be based upon the peak or ridge of this dome and will dominate the entire North American preference surface. Where an 'Eden' dome is evident along one axis, the distance decay effect associated with the neighbourhood dome will be limited along that axis.

Thus for the proposed model, an average slope of residential desirability will be hypothesized for each cardinal axis of the model. The average slope of the distance decay effect will be established along each cardinal axis of the model by using simple linear regression analysis. It is assumed that the neighbourhood distance decay effect is always a part of the surface. However, this effect is very often limited in range and distorted by the existence of 'Eden' domes and their corresponding distance decay surfaces. Thus only those observations that are clearly based upon a neighbourhood distance decay effect have been used to propose the basic neighbourhood model.

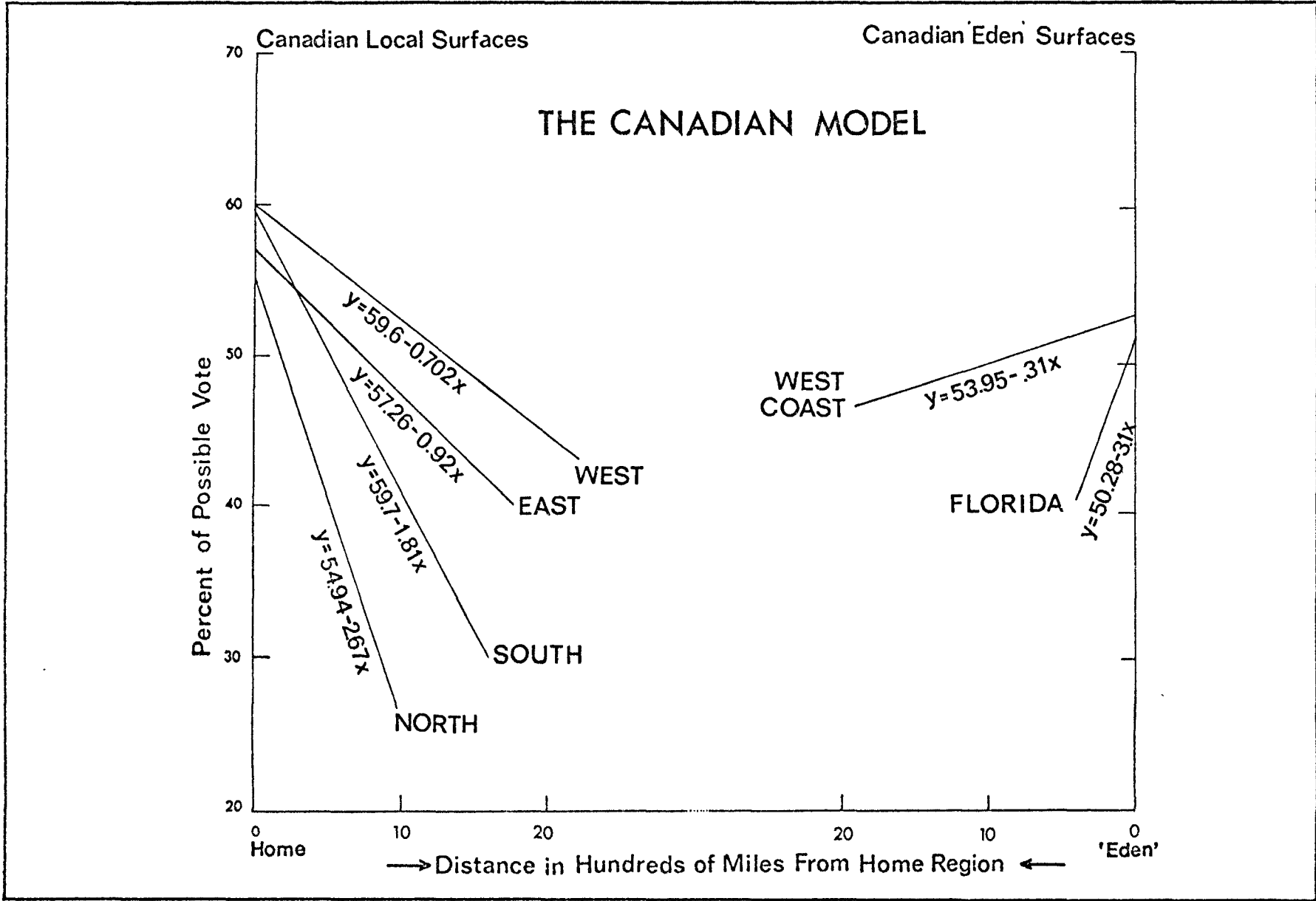
Trend surface analysis has shown that the average percentage of the possible votes registered for the various regions is 56.4%. In terms of a model, this value provides us with an expected percentage of the possible vote registered for the home region would be expected to vary according to a normal distribution. That is, a given percentage of samples

would be expected to register within a defined standard deviation of this figure.

Distance Decay and a Canadian Model

Regression analysis would indicate that the slope of the distance decay surface is -2.42% per hundred miles along the northern axis. (Graph 7) In terms of this Canadian model of residential desirability, preference would be expected to fall off at a rate of 2.42% per hundred miles with increasing distance from the region of testing along the northern axis. This represents a decided distance decay effect of residential desirability in our model. In all regional views, the distance decay surface towards the north was unaffected by other domes of residential desirability. Therefore, based upon recurrent observation, it is proposed that residential desirability viewed from any area in Canada will be subject to a decided distance decay effect of residential desirability along the total length of the northern axis of the surface. Perhaps this reflects the increasingly inhospitable climate and environment and the corresponding decline of civilization noted in the respondents locational considerations as one moves north in Canada.

Similarly, the southern axis of residential desirability can be expected to demonstrate a decided distance decay effect of residential desirability. (Graph 7) Simple linear regression analysis has indicated that the distance decay slope generally associated with the southern axis is



GRAPH 7

in the order of 1.81% per hundred miles. Although the distance decay effect would not be as severe as the effect noted for the north, this axis was expected to demonstrate a distinct distance decay effect. While the distance decay effect to the north can be hypothesized to be a result of an increasingly severe climate, less hospitable environment and less civilized and populated landscape being perceived by the respondents, the same cannot be hypothesized about the axis to the south. The strong distance decay effect might have been hypothesized as the result of the much publicized attitude of Canadianism cultivated in Canada. While the distance decay effect along this axis is steeper than that to the east and west, as will be discussed later in this section, it cannot be described as being a uniformly shared attitude in all regions of the country. Different attitudes were demonstrated by many areas thereby indicating the existence of distinct regional attitudes towards our American neighbour. In terms of the continuous surface of residential desirability, the more developed areas of the country appeared more tolerant of the United States. The more tolerant attitude towards the United States was reflected by a shift of the focus of the neighbourhood dome into the United States. This shift might represent the more tolerant attitude towards the United States. On the other hand, the shift in focus of the neighbourhood dome on the continuous surface might be attributed to the rapidly declining preferences north of the populated portions of the regions tested. As a result, the

preferential views of British Columbia, Ontario, and Quebec demonstrated little or no distance decay effects along the southern axis. Thus in terms of our model, the calculated distance decay of residential desirability is offered with qualifications. In terms of a general Canadian model of residential desirability, preference can be expected to decline at a rate of 1.81% per hundred miles along the southern axis. Thus preferential views from the more developed areas of Canada would be expected to demonstrate a slightly weaker distance decay effect than is expected along the southern axis in the model.

A distance decay effect in the order of 0.92% per hundred miles is associated with the eastern axis of our Canadian model. (Graph 7) This slope represents a weaker distance decay effect than was noted along the northern and southern axes. This lesser value reflects the decided Canada corridor focus of residential desirability noted in so many of the regional views. Thus the attributes of the Canada corridor are perceived as more favourable than the rest of the continent and continuously demonstrated weaker distance decay effects along the east-west axis in the corridor. Still, it can be said that residential desirability in the Canadian model will be subject to a distance decay effect in the order of 0.92% per hundred miles along the eastern axis. Thus residential desirability declines with increasing distance east of the region of testing.

The western axis of our Canadian model can be expected to demonstrate the weakest distance decay effect. Linear regression has indicated that the distance decay slope is in the order of 0.70% per hundred miles along the western axis. In comparison to the distance decay surfaces of the other axes, it represents a comparatively weak distance decay effect. This weak effect seems to reflect the high residential desirability commonly attributed to the west coast continental periphery. In the regional views examined, the west coast was consistently subject to a variable 'Eden' effect. It would appear that this high evaluation of the west coast has strongly effected the distance decay slopes along the western axis of the regions tested. As was previously noted, it tends to weaken and severely limit the range of the distance decay effect along this axis to a maximum range of 1000 miles. Thus in terms of a Canadian residential preference model, this effect is hypothesized such that distance decay along the western axis is weakest of all the axes. If the region of testing is anywhere west of Quebec, the existence of any distance decay surface towards the west is questionable. The implications of the 'Eden' dome will be discussed in the following section.

'Eden' Domes and the Canadian Model

Almost every desirability surface demonstrated that in addition to the neighbourhood region, there was at least one other area on the surface that was perceived as highly

desirable. In this thesis, the terminology used to describe this other area has been an 'Eden' dome. This 'Eden' dome generally represents an area where the perceived residential attributes are such that the area is consistently seen as a highly favourable area of residential desirability. In work by Gould, the American west coast was the local North American version of 'Eden' for the American students tested. (Gould, 1966a) Similarly in the present study, the west coast of North America is the focus of this 'Eden' effect although in many cases this dome was focused exclusively on British Columbia. Florida also demonstrated a consistent 'Eden' effect but only in terms of a localized 'Eden' peak of residential desirability in relation to the surrounding surface. The 'Eden' effect was such that it rivalled and often surpassed the neighbourhood effect of residential desirability. In terms of an average possible percentage value, the British Columbian 'Eden' dome scored only slightly below the neighbourhood average with an average percentage vote of 54.44%. In all cases, the west coast 'Eden' dome played a dominant role in determining the extent and intensity of the neighbourhood distance decay effect along the western axis of the particular area tested. This effect is so noticeable because the 'Eden' dome has its own distance decay effect of residential desirability. Simple linear regression would indicate that the slope of the 'Eden' distance decay surface is in the order of -0.32% per hundred miles for the eastern axis of a British Columbian 'Eden' dome and -3.1% per hundred miles for

the northern axis of a Florida 'Eden' peak. (Graph 7) Only these axes are considered because any Canadian area will always be respectively east and north of these 'Eden' areas. In terms of the British Columbian 'Eden' dome, the lesser slope of the distance decay effect is understandable. As Gould implied the ability to discriminate between places decreases as a function of distance. (Gould, 1973, 219) Thus distinction in preferences immediately around the 'Eden' focus would be less distinct than the home region and the resulting decay slope would be less marked. This distinction does not appear to hold true for the Florida peak as it represents a singular distinction in terms of an 'Eden' effect only in terms of the surrounding undesirable surface. Thus the distance decay slope is strong and of short duration.

Where the west coast 'Eden' and neighbourhood domes both exist on the surface, the effect of the two domes meet along the east-west axis and a neutral area of residential desirability is established between them. The distance decay effect of the domes clash such that a rather flat surface or a very slightly sloped surface towards one of the domes is evident. This neutral zone can be said to represent the dividing line between the two distance decay surfaces and can range in size from one hundred to one thousand miles in extent depending upon the nature and intensity of the domes involved.

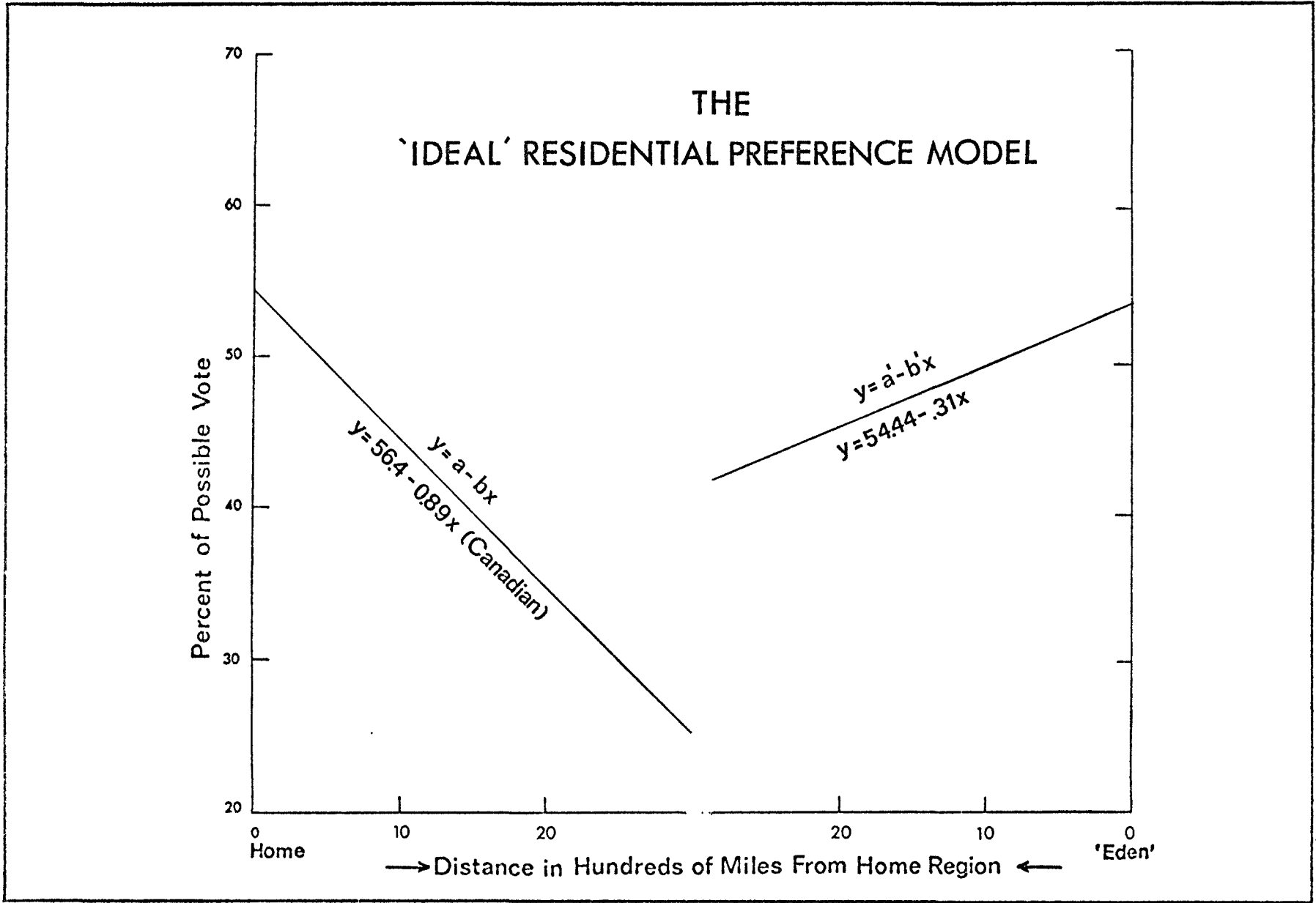
When the 'Eden' dome is so strong that it dominates the surface, the distance decay of the neighbourhood dome is

wiped out along the east-west axis. Thus distance decay along that axis is dependent upon the 'Eden' dome and not the neighbourhood dome. This effect was clearly demonstrated along the east-west axis of the Ontario and Prairie views where the neighbourhood effect was engulfed by a much stronger 'Eden' effect along the east-west axis.

Trend surface analysis has indicated that the existence of a west coast 'Eden' dome would appear to be an expected feature of a North American preference model. Linear regression has indicated that when this dome represents an independent surface feature, it will demonstrate its own distance decay effect for a distance of 700 to 900 miles. When combined with a neighbourhood effect, it would tend to dominate with its own distance decay effect along the total east-west axis. Thus in terms of a Canadian model, the 'Eden' effect can be expected to occur and exhibit its own distance decay surface.

An 'Ideal' Model of Residential Desirability

Although research into a Canadian model of residential desirability is strongly biased towards a Canadian view, much of the findings can be used to hypothesize about an 'Ideal' model of residential desirability. (Graph 8) If the concept of a homogeneous plain is used as a base, a very simplistic model of desirability can be hypothesized. The model proposed is a basic distance decay model in which the home area would be perceived as the most desirable location



GRAPH 8

on the surface and would provide the focus of a neighbourhood dome of residential desirability. The home region might be expected to receive the average trend surface preference for the home region which was 56.4% of the possible vote. The distance decay effect of residential desirability would be expected to be equal in all directions and would be expected to dominate the entire surface. In the Canadian model the distance declined at the average rate of -0.89% of the possible vote for each hundred miles. In Graph 8 we have a simple two dimensional sketch of such a model.

Deviations from this 'Ideal' model can be proposed to explain the actual preference surface observed in any area tested. One of the most marked deviations that can be expected on a surface of residential desirability is the introduction of a second dome of high residential desirability on the surface associated with a so-called 'Eden' area.

(Graph 8) This second dome should be expected to appear on any surface of residential desirability as there is seemingly always one area of any country, region, or continent that is perceived as the 'land of milk and honey'. The existence of this dome runs true to form since 'the grass is always greener on the other side of the hill'. In North America this 'Eden' effect is commonly associated with the west or 'sunshine' coast of the continent where the commonly desirable attributes of climate, mountains, scenery and coastal location combine. (Gould, 1966; Ullman 1954; Svart, 1974) In England it is associated with the south-eastern counties and London.

(Gould and White, 1968) In places like France it would no doubt be associated with the Riviera. Thus, the existence of this second dome can be expected to appear on any large scale residential preference surface. If the view is from the predominant 'Eden' area another 'Eden' dome might become evident; however, it will undoubtedly be considerably less intense in terms of preferential ratings.

This 'Eden' dome drastically affects the distance decay surface of the neighbourhood dome along the axis joining the two since the 'Eden' dome affects the surface with its own equally powerful distance decay surface. The effect of this dome and its distance decay effect will be dependent upon the degree of perceived attributes of the home area. In the case of the two domes existing simultaneously on the surface, the effect of the two distance decay surfaces will result in a ridge of higher residential desirability joining the two areas. Where the perceived neighbourhood attributes are low in comparison to the 'Eden' attributes and a short distance separates the two domes, the distance decay effect of the 'Eden' dome will dominate. Where a large distance separates the two, each surface will exhibit its own distance decay effect for a distance of approximately 1000 miles.

Other factors that might tend to alter the basic distance decay model are associated with the heterogeneous nature of the physical, climatic, economic, demographic and cultural milieu. Where a major factor, such as climate and

environment is perceived to substantially decrease or increase along one axis, as in the case of Canada, it will alter the strength of the distance decay effect along that axis. The same can be said about population and culture since people tend to dislike unfamiliar conditions. Thus, if the attributes of population and culture are perceived to change substantially along one axis the distance decay effect will be equally affected along that axis. This effect might also reflect itself in terms of an international or inter-provincial border such that crossing the border might demonstrate a strong effect upon the distance decay effect. This effect will also be dependent upon the attitude of the respondents of the area tested, towards the particular foreign power involved. This effect can generally be expected to cause an increase in the distance decay effect along the axis involved. This was often the case in the regions tested when the United States border was crossed.

This model should be able to provide the explanatory basis for basic residential and general preference studies in most parts of the western world. Although the model is only based upon a pilot sample, the large size of the sample would be used to support the general argument for this inductive model of residential desirability; however, further testing and refinement are still needed to fully comprehend and represent residential preference surfaces.

CHAPTER VI

SUMMARY AND CONCLUSION

Summary

Based upon the introductory research conducted in the field of perception, geographers have entered into the study of how man perceives and evaluates the geographic space around him. This study has been concerned with how man perceives and evaluates geographic space in terms of residential desirability. Using Peter Gould's pioneering study (1966a) in residential desirability, as a methodological base, the present study examined the Canadian regional views of residential desirability.

Based upon the theory of selective information flows, it was hypothesized that large scale agreement in terms of selective patterns of residential desirability would only extend to a regional level of testing. Thus it was hypothesized that each regional surface would demonstrate a pattern of residential desirability that reflected a unique regional flavour but which would demonstrate a series of predictable features in terms of the residential preference surface. These hypothesized features included the existence of a neighbourhood effect and an 'Eden' effect and a distance decay effect of desirability from the region of testing.

Trend surface analysis was used to separate the 'random noise' in terms of both the areal and individual responses from the smooth continuous preferential trends

on the surface. Using this statistical tool as a base, regional preference surfaces were compared and contrasted based upon the existence or lack of existence of the hypothesized surface features. Locational considerations of each regional sample were used as an explanatory basis in accounting for the similarities and differences in the structures of their respective surfaces.

The analysis of the regional preference surfaces indicated a decided regularity in the surfaces, although each view demonstrated a different residential perspective. These perspectives varied according to the locational considerations and the nature and location of the regions involved. While each surface demonstrated varying degrees and intensities of an 'Eden' and neighbourhood effect, it was continuously noted that distance was a very important underlying component on the residential preference surfaces. As distance increased from the region of testing, preference generally decreased. Thus all hypotheses were shown to be true and the basis for a Canadian model of residential desirability existed.

Conclusion

The foundation of this model is a distance decay effect of residential desirability from the region of testing. When combined with preferences for 'Eden' areas, the distance decay effect determines the nature of residential preference surfaces viewed from anywhere in Canada. The most important limitation of this model is associated with the

economic constraints posed in the data base. By removing job opportunity as a consideration, the Canadian model represents a more idealistic model of residential desirability. This constraint undoubtedly had a strong effect on the surface of residential desirability. Economic centres such as Ontario would have been assigned higher evaluations in each regional view if this constraint had been eliminated.

The Canadian model indicates that the surface of residential desirability, viewed from anywhere in Canada, will exhibit a neighbourhood focus of residential desirability. Preference will generally decline in all directions from the region of testing but will be strongest to the north and then to the south. Weaker west-east slopes will give rise to a focus of desirability along the Canada corridor. The surfaces will also exhibit an 'Eden' effect for the west coast centred on British Columbia and to a lesser extent for Florida. Each of these 'Eden' areas will exhibit their own distance decay effect and thus weaken the decay of residential desirability along the axis joining it and the neighbourhood dome. The emphasis on the neighbourhood dome, the 'Eden' effect and the distance decay of residential desirability from the region of testing will vary according to the nature of the region tested. However, the basic characteristics of the model will always be in evidence. Differences in the physical milieu, the orientation of the population, their location and their locational considerations will be the major contributing factors to these variations.

The 'Ideal' model which was hypothesized is subject to the same economic constraint of the data base and thus represents another idealistic model of residential desirability. However, there is a second constraint in the 'Ideal' model which is associated with a Canadian bias in the sample. Even with this bias, the model should be representative of the basic characteristics of residential preference surfaces. This model should also be applicable to any other country. However, variations in the intensities of the characteristics of the model would vary according to the cultural and physical characteristics of the nation tested. Furthermore, since national borders appeared to effect the basic patterns, the political shape of a nation would be expected to distort the general structure but not reject the underlying model.

Although preference evaluations were based upon macro areas, this model should be equally applicable to preference evaluations at a micro level of testing. Applications of the model at this level might be found in intra urban and inter urban residential relocation studies.

Further refinement and applications of this model have been left for future research.

APPENDIX I

DATA BASE

The Data Base

It is acknowledged by the author that the data base for this study does not represent a random sample. Thus this must be taken into consideration by those wishing to quote this text. The original sample was designed to areally cover the different regions of Canada. This sampling was made as random as was financially possible for a university thesis. However, it is believed that a well financed random sample on a large scale is necessary to properly depict the true regional surfaces of residential desirability.

The sampling was conducted over a period of nine months, from May 1972 to January 1973. During this time, 1600 questionnaires were distributed across Canada. The primary sample was conducted by mail and was later supplemented by distribution of questionnaire packets through direct contact with interested individuals. In the primary sample, 1440 questionnaires were distributed by mail across Canada in packets. An additional 160 questionnaires were distributed in packets and individually through personal contact by the author and several individuals who aided in the study. All returns have been utilized in this study. No follow up has been made on the non-respondents due to the economics involved.

A sample questionnaire and covering letter which

accompanied each packet of questionnaires is displayed on the following pages. A list of the distributors to whom questionnaires were sent follows below. Similarly, the location from which responses were received is displayed directly following the sampled locations.

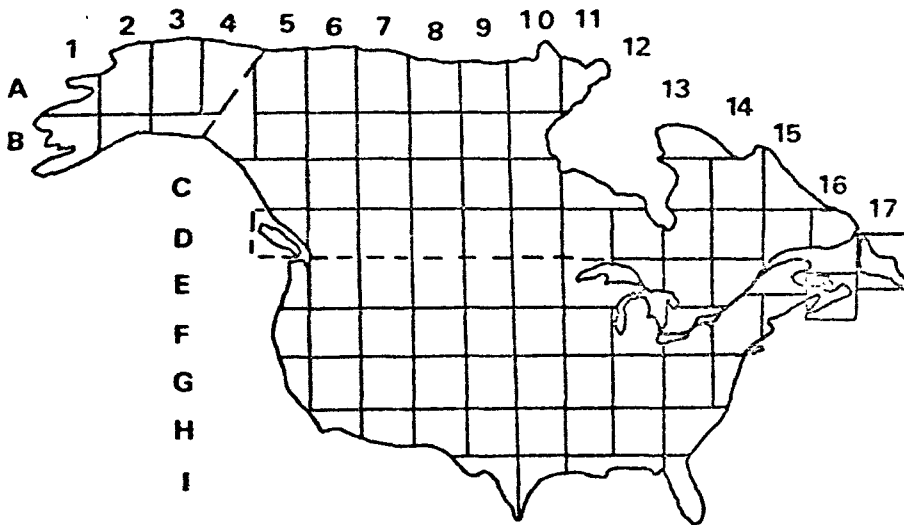
Permanent Residence
(Please fill in)

City _____

Prov. _____

Assuming you could make a living (doing what you wanted) anywhere in North America, where would you most and least prefer to live? Indicate by squares on the map: put a 5 in the square if you would very much prefer to live there, a 1 if you would really dislike living there etc. (see legend).
Suggestion: Mark squares you feel strongly about first (#5 and # 1), then any 4's and 2's, and finally add 3's to all remaining squares.

5. Would like very much to live there
4. Would like to live there
3. Neutral about living there
2. Would prefer NOT to live there
1. Would really dislike living there



List the major things you found yourself considering when evaluating the squares. (Use back side if necessary).

Put a red check in any square you have lived in or visited during the past five years.

Covering Letter

Kitchener, Ontario.

Dear

It has been suggested to me that you might be willing to, or be able to donate a few minutes in aiding me in the collection of information for my thesis. My name is Grant Brown and I am a fourth year student writing a geography thesis on Canadian perception patterns or How Canadians Perceive North America. I attend Waterloo Lutheran University in Waterloo, Ontario.

Since my thesis is an attempt to depict the regional views of all sectors of Canada, I require information from all areas of the country. I will be travelling personally to many parts of Canada in collection of my data, but because of time and Canada's great size, there are many parts of the country that I will be unable to visit. This is where I ask for any aid which you might be able to give.

If you decide you might be able to help, it would involve distributing and collecting a maximum of thirty questionnaires to fellow employees and friends. The questionnaire itself takes a maximum of five minutes to complete and would require a minimum of time to distribute and collect.

If you feel you would be willing to assist me in my task, would you please distribute as many of the questionnaires as possible and return the completed questionnaires in the stamped return envelopes. Your co-operation would be greatly appreciated in this matter.

Yours truly,

Grant Brown

THE MARITIME SAMPLE

<u>NAME</u>	<u>OCCUPATION</u>	<u>LOCATION</u>	<u># OF QUESTIONNAIRES SENT</u>
Mr. C. Ames	Insurance Salesman	Dartmouth N.S.	20
Mr. J. Beveridge	Minister	Lower Sackville N.S.	20
Mr. G. Oickle*	Teacher	Halifax N.S.	15
Mrs. C. Richmond	Housewife	Shearwater N.S.	<u>15</u>
		NOVA SCOTIA SUBTOTAL	70
Mr. T. Peters	Teacher	St. John N.B.	20
Mr. R. Craig	Insurance Sales Manager	Moncton N.B.	20
Mr. O. Brown	Gas Station Manager	St. John N.B.	<u>20</u>
		NEW BRUNSWICK SUBTOTAL	60
Dept. of Geography	Memorial University	St. John's Nfld.	30
Mr. H. Meeker	Sports Announcer	St. John's Nfld.	<u>20</u>
		NEW FOUNDLAND SUBTOTAL	50
Mrs. S. Kincaid	Housewife	Charlottetown P.E.I.	<u>10</u>
		PRINCE EDWARD ISLAND SUBTOTAL	10
		THE MARITIME TOTAL	190

* Packets distributed through personal contact.

THE BRITISH COLUMBIA SAMPLE

<u>NAME</u>	<u>OCCUPATION</u>	<u>LOCATION</u>	<u># OF QUESTIONNAIRES SENT</u>
Mr. G. More	Hotel Manager	Kitimat B.C.	20
Mr. J. Redmand	Teacher	Vancouver B.C.	20
Mr. H. Russel	C.P.A. Executive	N.E. Westminster B.C.	20
Mr. H. Rumsby	Electrician	Victoria B.C.	20
Mr. R. Brown	Retired Grocery Store Proprietor	Victoria B.C.	20
Mr. B. Brown	Civil Servant	Salt Spring Island B.C.	20
Mr. P. Brodeur	Retired R.C.A.F.	Madeira Park B.C.	20
Mr. D. Lamont *	Insurance Manager	Prince George B.C.	20
Mr. F. Lamrose *	Bartender	Prince Rupert B.C.	<u>20</u>
BRITISH COLUMBIA TOTAL			180

THE ONTARIO SAMPLE

Mr. G. Kightley	Civil Servant	Trenton Ont.	20
Mr. E. Tufts	Teacher	Ottawa Ont.	20
Mr. C. Brown	Bell Telephone Executive	Toronto, Ont.	20
Manager	Cleavelanes House Ltd.	Muskoka, Ont.	20

*Packets distributed through personal contact.

THE ONTARIO SAMPLE

<u>NAME</u>	<u>OCCUPATION</u>	<u>LOCATION</u>	<u># OF QUESTIONNAIRES SENT</u>
Mr. D. Blakslee	Hotel Manager	Ottawa Ont.	20
Mr. H. Levin	Inn Keeper	St. Catherines Ont.	20
Miss M. Young	Student	Kenora Ont.	20
* Mr. G. Brown	University Student	Waterloo Ont.	50
Mr. P. Hoes	University Student	Kingston Ont.	25
Capt. F. McNeil	Armed Forces	London Ont.	25
Miss S. Brown	University Student	Hamilton Ont.	30
Mr. D. Belridge	Insurance Manager	Toronto Ont.	20
Mr. B. Brown	Insurance Saleman	Kitchener Ont.	15
Miss B. Napran	Secretary	Wawa Ont.	15
Mr. D. Downer	Recreation Director	Sault Ste. Marie Ont.	15
Mr. D. Braun	Insurance Manager	Thunder Bay Ont.	20
Lt. C. Brassard	Air Force Officer	North Bay Ont.	20
Mr. B. Wheatley	Insurance Manager	Windsor Ont.	20
* Mr. D. Gilbert	Teacher	Galt Ont.	25
Mr. B. Hergot	Brewmaster	Kitchener Ont.	10

*Questionnaires distributed and collected individually.

THE ONTARIO SAMPLE

<u>NAME</u>	<u>OCCUPATION</u>	<u>LOCATION</u>	<u># OF QUESTIONNAIRES SENT</u>
Mr. F. Wittig	Steelworker	Delhi Ont.	10
Mr. K. Lawson	Office Worker	Welland Ont.	20
Mr. H. Becker	Civil Servant	St. Catherines Ont.	<u>20</u>
		ONTARIO TOTAL	480

THE PRAIRIES SAMPLE

Mr. J. Wilson	Retired RCAF	Sherwood Park Alta.	20
Mr. D. Ulyett	Insurance Executive	Calgary Alta.	20
Mr. B. Booth	Oil Executive	Calgary Alta.	25
Lt. R. Husband	Army Officer	Lethbridge Alta.	20
Mrs. R. Eaton	Teacher	Edmonton Alta.	20
* Mr. B. Brown	Insurance Salesman	Banff Alta.	20
Mr. B. Richardson	Hotel Manager	Medicine Hat Alta.	<u>15</u>
		ALBERTA SUBTOTAL	140
Mr. P. Danakas	Hotel Manager	Regina Sask.	20
Mr. H. Gottschlich	Hotel Sales Director	Regina Sask.	15
Lt. R. Keightly	Air Force Officer	Moose Jaw Sask.	20

* Questionnaires distributed by personal contact.

THE PRAIRIES SAMPLE

<u>NAME</u>	<u>OCCUPATION</u>	<u>LOCATION</u>	<u># OF QUESTIONNAIRES SENT</u>
Mrs. J. Young	Housewife	Saskatoon Sask.	15
Mr. R. Janke	Insurance Manager	Regina Sask.	<u>20</u>
	SASKATCHEWAN SUBTOTAL		90
Mr. B. Dohan	Student	Dauphin Man.	20
Mr. S. Petrow	Hotel Manager	Winnipeg Man.	15
Mr. B. Rostov	Hotel Manager	Winnipeg Man.	15
Capt. B. Henley	Army Officer	Shilo Man.	20
Mr. G. Nichols	University Student	Winnipeg Man.	<u>30</u>
	MANITOBA SUBTOTAL		100
	THE PARIRIES TOTAL		330

THE QUEBEC SAMPLE

Mr. E. Beaulieu	Service Manager	Baie D'Urfee Que.	20
Mr. V. Carrard	Hotel Sales Manager	Dorval Que.	20
Mr. C. Beaulieu	Hotel Sales Manager	Montreal Que.	20
Mr. G. McMichael	Hotel Manager	Montreal Que.	20
Mr. Carriere	Hotel Sales Manager	Quebec City Que.	20

*Questionnaires distributed by personal contact.

THE QUEBEC SAMPLE

<u>NAME</u>	<u>OCCUPATION</u>	<u>LOCATION</u>	<u># OF QUESTIONNAIRES SENT</u>
Mr. L. Bedard	General Hotel Manager	St. Jovite Que.	20
Mrs. J. Ladouclur	Hotel Sales Director	Sherbrooke Que.	20
Mr. J. Gratwick	Civil Servant	Montreal Que.	20
Mr. R. Rondeau	Hotel Asst. Manager	Trois Rivers Que.	20
Dept. Of Geography	Laval University	Montreal Que.	50
Mr. R. Berrard	Insurance Manager	Montreal Que.	20
Mr. A. Fauteux	Hotel Manager	Ste. Adele-En-Haut Que.	20
Mr. D. Hurtubise	Hotel Manager	Ville R'Esterel Que.	20
Mr. P. Nason	University Student	Sherbrooke Que.	20
Mr. A. Lampron	Air Force	Sherbrooke Que.	20
Mr. W. Brown	Insurance Salesman	Montreal Que.	30
Mr. C. Andre	Hotel Proprietor	Quebec City Que.	<u>20</u>
		QUEBEC TOTAL	380

THE NORTHERN SAMPLE

Mr. R. Wood	Civil Servant	Inuvik N.W.T.	10
Mr. I. Shapel	Factory Owner	Frobisher Bay N.W.T.	20

THE NORTHERN SAMPLE

<u>NAME</u>	<u>OCCUPATION</u>	<u>LOCATION</u>	<u># OF QUESTIONNAIRES SENT</u>
Mr. R. Lawson	Civil Servant	Dawson City Yukon Territories	<u>10</u>
		THE NORTHERN TOTAL	40
		QUESTIONNAIRE TOTAL	<u>1600</u>

RETURNSTHE MARITIMESNOVA SCOTIA

<u>CITY</u>	<u>NUMBER OF RESPONDENTS</u>
Halifax	21
New Minas	2
Wolfville	1
Dartmouth	1
	SUBTOTAL = 25

NEW BRUNSWICK

Moncton	8
Saint John	6
	SUBTOTAL = 14

NEWFOUNDLAND

St. John's	11
Spanish	1
Bishops Falls	2
Stephenville Crossing	1
Robinson	1
Ramea	1
Botwood	1
Summerford	1
Grand Falls	3
Glovertown	1
Lethbridge	1
Slearstown	1
	SUBTOTAL = 25

PRINCE EDWARD ISLAND

Charlottetown	2
	SUBTOTAL = 2

TOTAL = 66

% of Returns 34.7

BRITISH COLUMBIA

<u>CITY</u>	<u>NUMBER OF RESPONDENTS</u>
Vernon	1
Victoria	37
Vancouver	12
Coquitlam	4
Cowichan Station	2
Richmond	3
North Vancouver	4
Port Albernie	5
Ganges(Salt Spring Island)	5
Madeira Park	2
Williams Lake	2
	TOTAL = 77
	% of Returns 42.7

ONTARIO

Ottawa	18
Toronto	36
Trenton	8
Kingston	7
Sudbury	6
St. Catherines	7
London	1
Windsor	2
Waterloo	35
Thunder Bay	6
Delhi	1
Sault Ste. Marie	1
Bowmanville	1
Welland	1
Kenora	1
Georgetown	1
Hamilton	2
South Baymouth	1
North Bay	1
	TOTAL = 136
	% of Returns 28.3

THE PRAIRIESALBERTA

Calgary	13
Sherwood Park	1
Edmonton	19
	SUBTOTAL = 33

MANITOBA

<u>CITY</u>	<u>NUMBER OF RESPONDENTS</u>
Winnipeg	6
St. Rose	2
Russell	1
Roblin	1
Eden	1
Dauphin	2
Shilo	6
Brandon	2
SUBTOTAL =	21

SASKATCHEWAN

Regina	8
Moose Jaw	9
SUBTOTAL =	17
TOTAL =	71
% of Returns	21.5

QUEBEC

Montreal	20
Cowansville	1
Aylmer East	1
Breckenridge	1
Ayers Cliff	1
Montmagny	1
Gentilly	1
Trois Rivieres	7
Sherbrooke	14
Coaticook	1
Danville	1
Cooksville	1
North Hatley	1
St. Adelphe	1
Ste. Thecle	1
St. Tite	3
Victoriaville	1
Ancienne Turitte	1
St. Ferdinand	1
Pointe du Lac	1
Ste. Guillaume d'Upton	1
Quebec	15
Drummondville	4
Theford Mines	1
Foster	1

QUEBEC

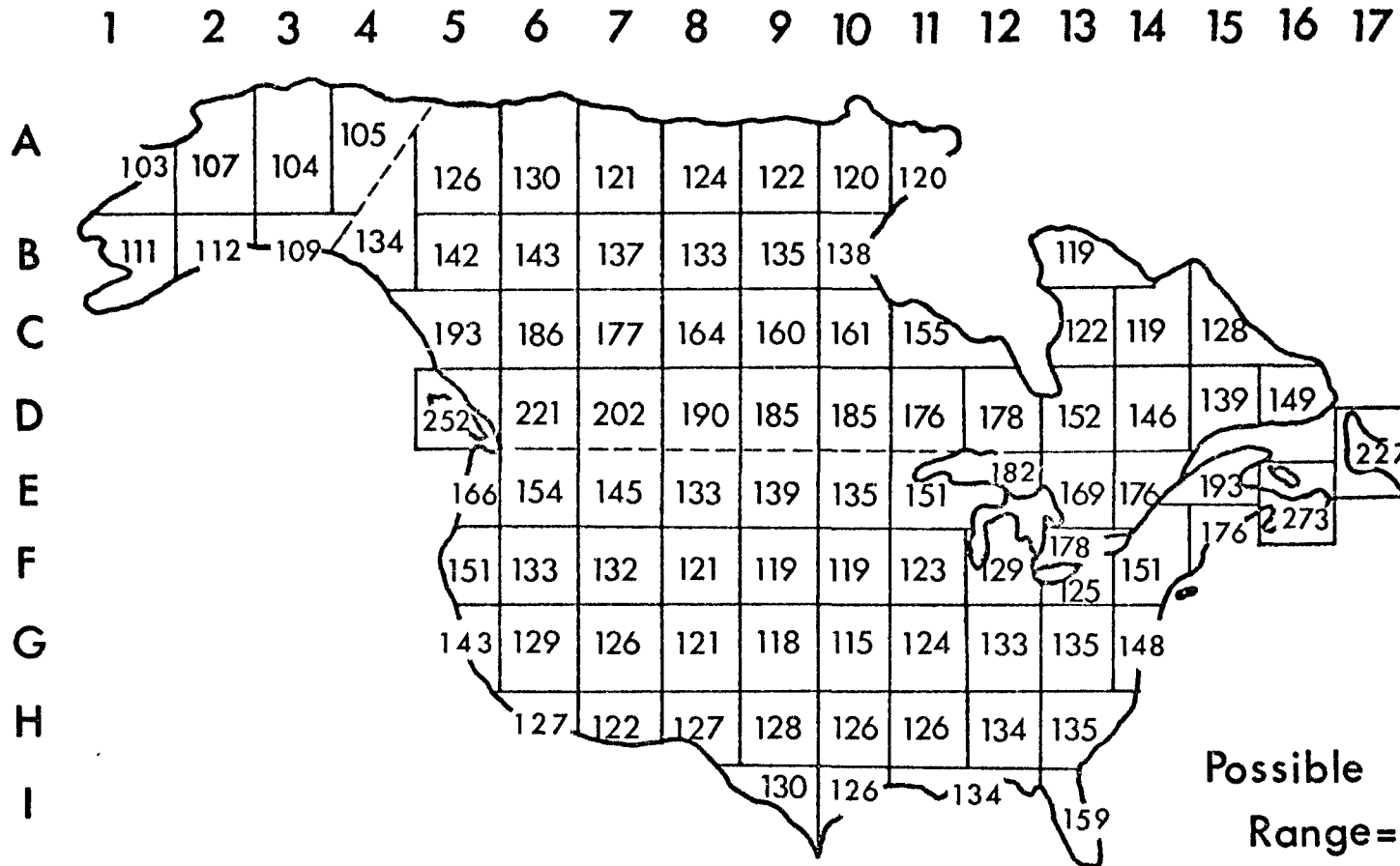
<u>CITY</u>	<u>NUMBER OF RESPONDENTS</u>
Nicolet	1
Cookshire	1
Rouyn	1
St. Etienne Des Gres	1
Chicoutimi	10
Kenogami	2
Bagotville	2
Junquiere	2
Port Alfred	1
Mante	3
St. Denis Kan	1
Ste. Sophie de Levrard	1
Nouvelle cte Bonaventure	1
Shawinigan	2
St. Adalbert	1
	TOTAL = 112
	% of Returns 29.4

THE YUKON AND NORTHWEST
TERRITORIES

Baker Lake	6
Inuvik	1
Frobisher Bay	5
	TOTAL = 12
	% of Returns 30.0
	GRAND TOTAL = $\frac{474}{33\%}$
	% of Returns

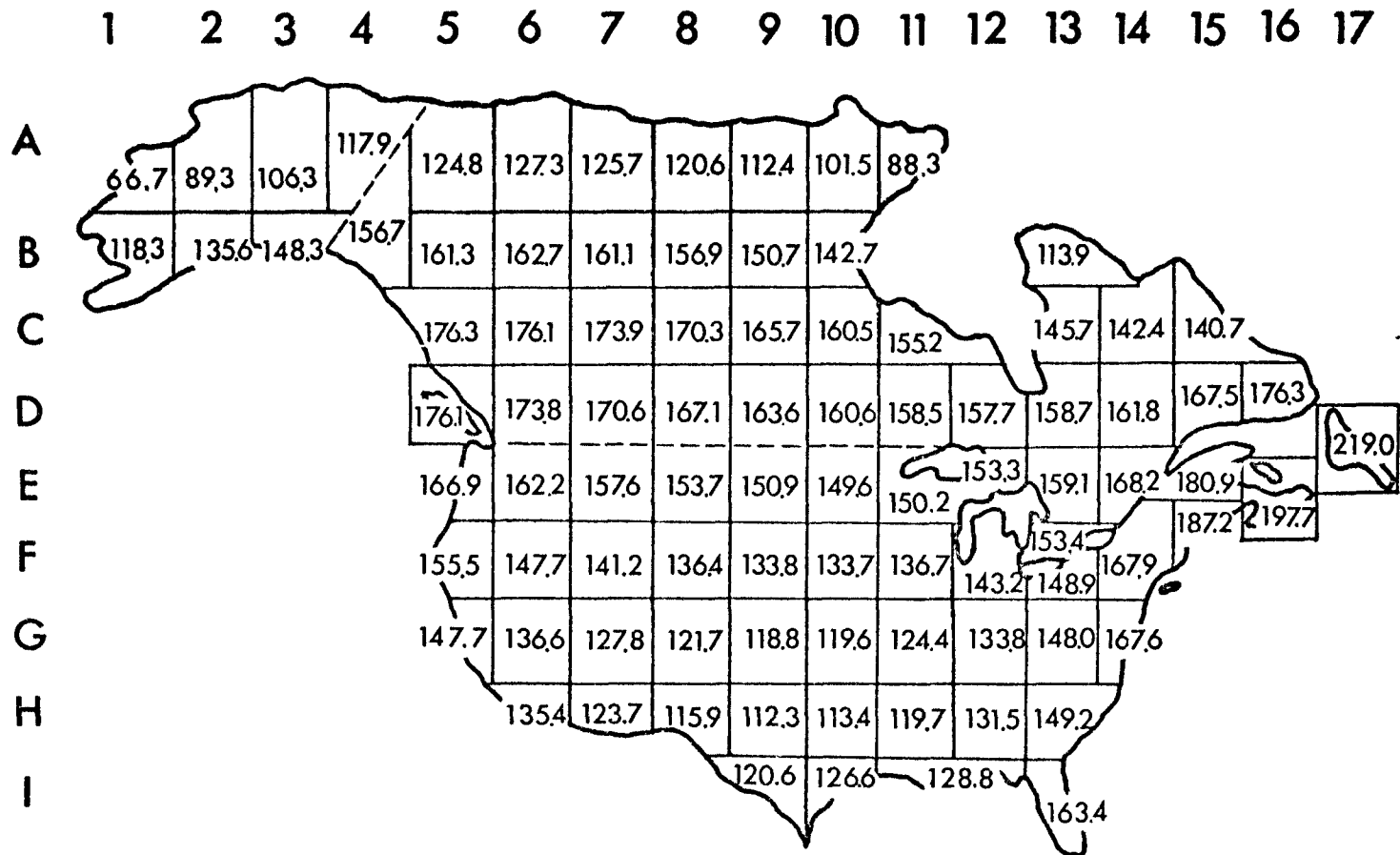
APPENDIX II

THE RAW DATA



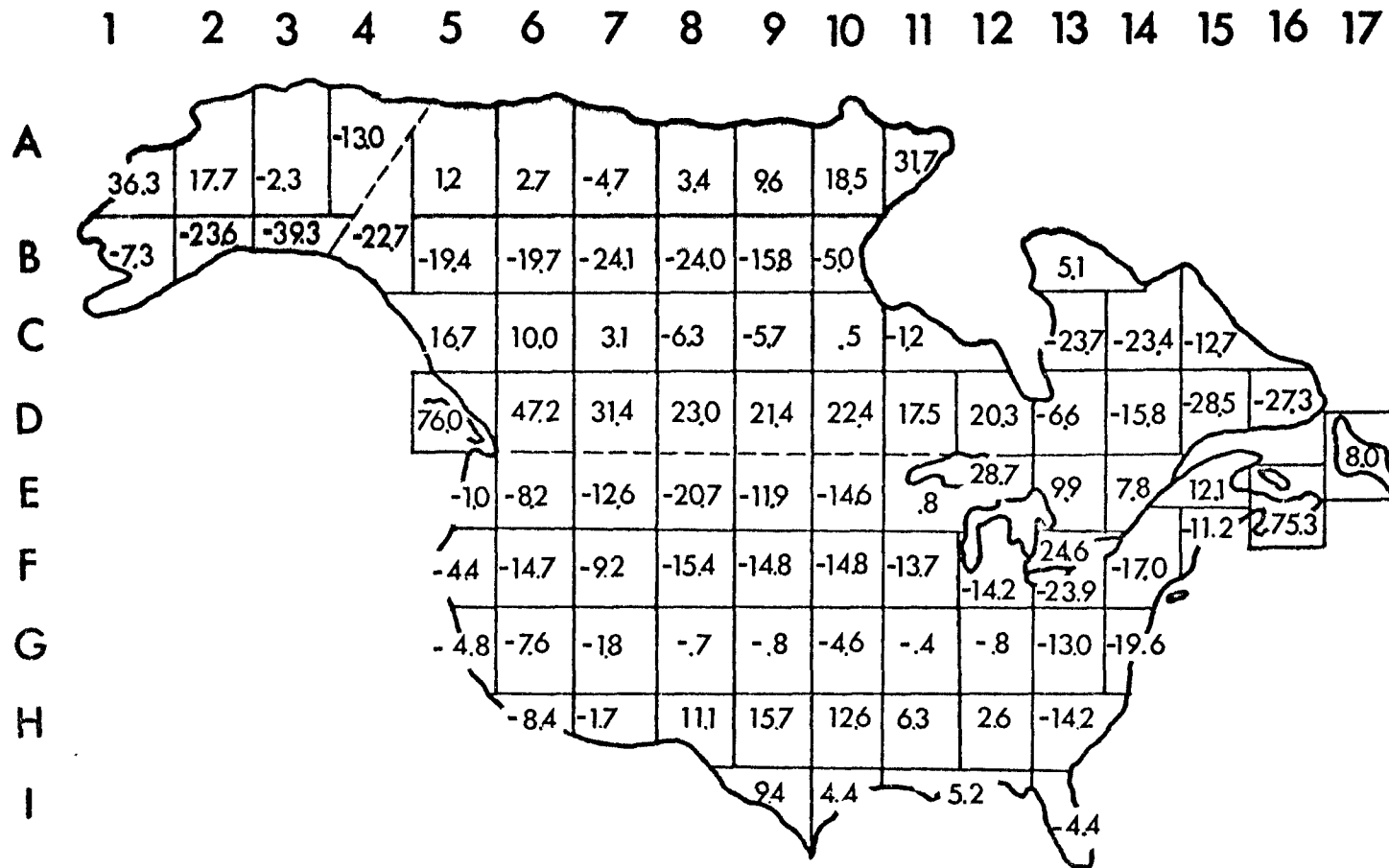
The Maritime Preference

MAP 1



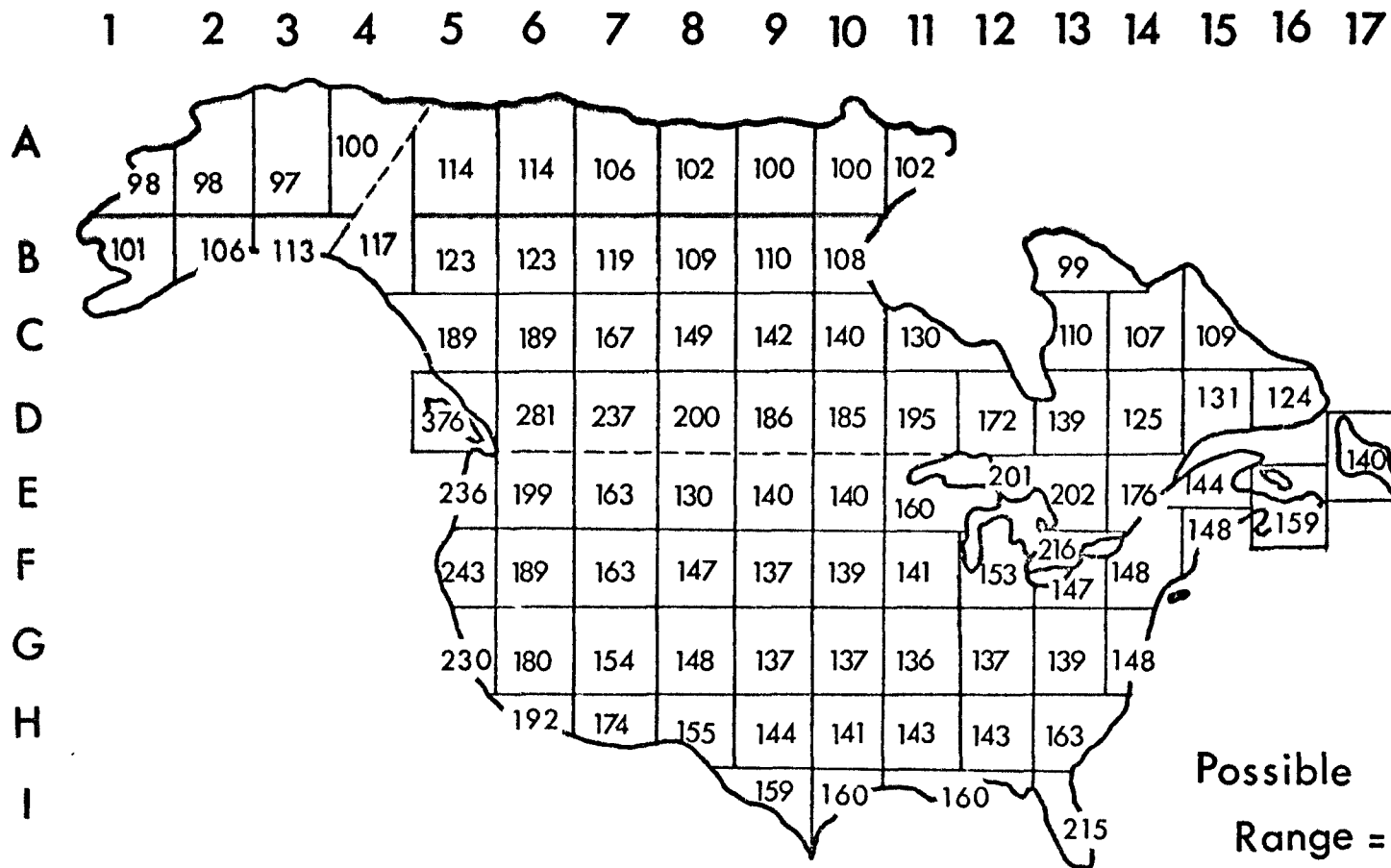
The Maritime Preference - Cubic Trend Surface

MAP 2



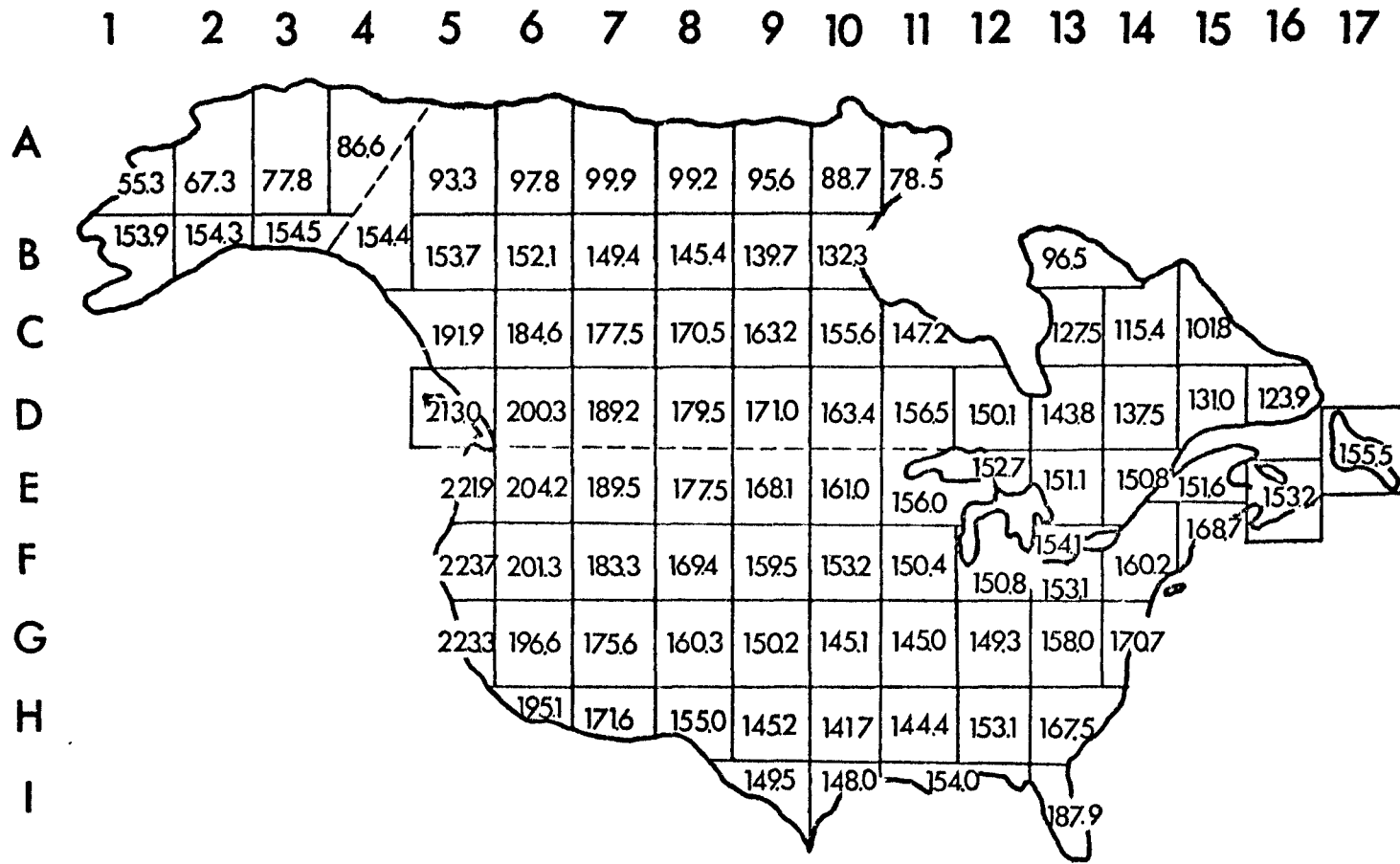
The Maritime Preference - Residuals

MAP 3



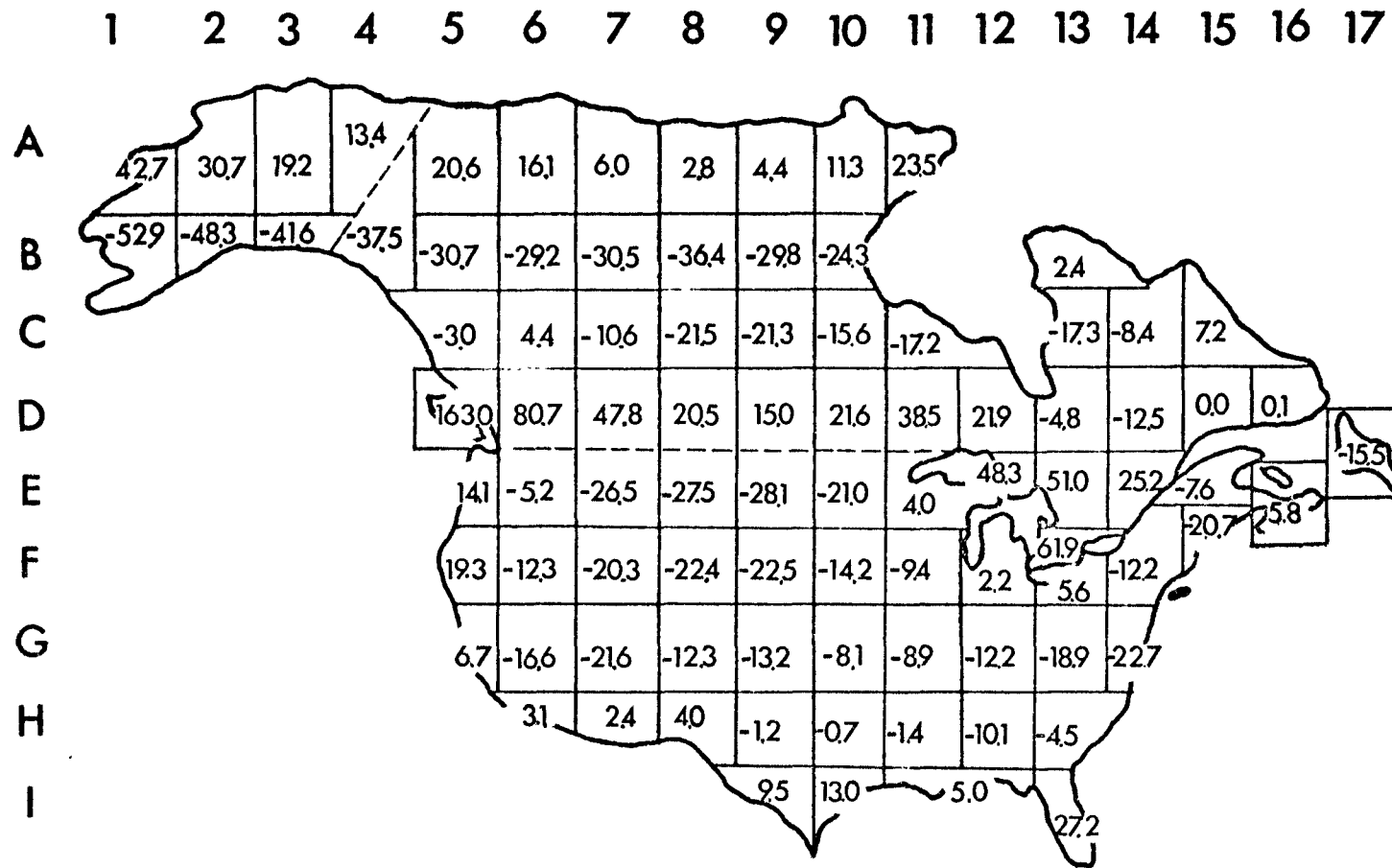
The British Columbia Preference

MAP 4



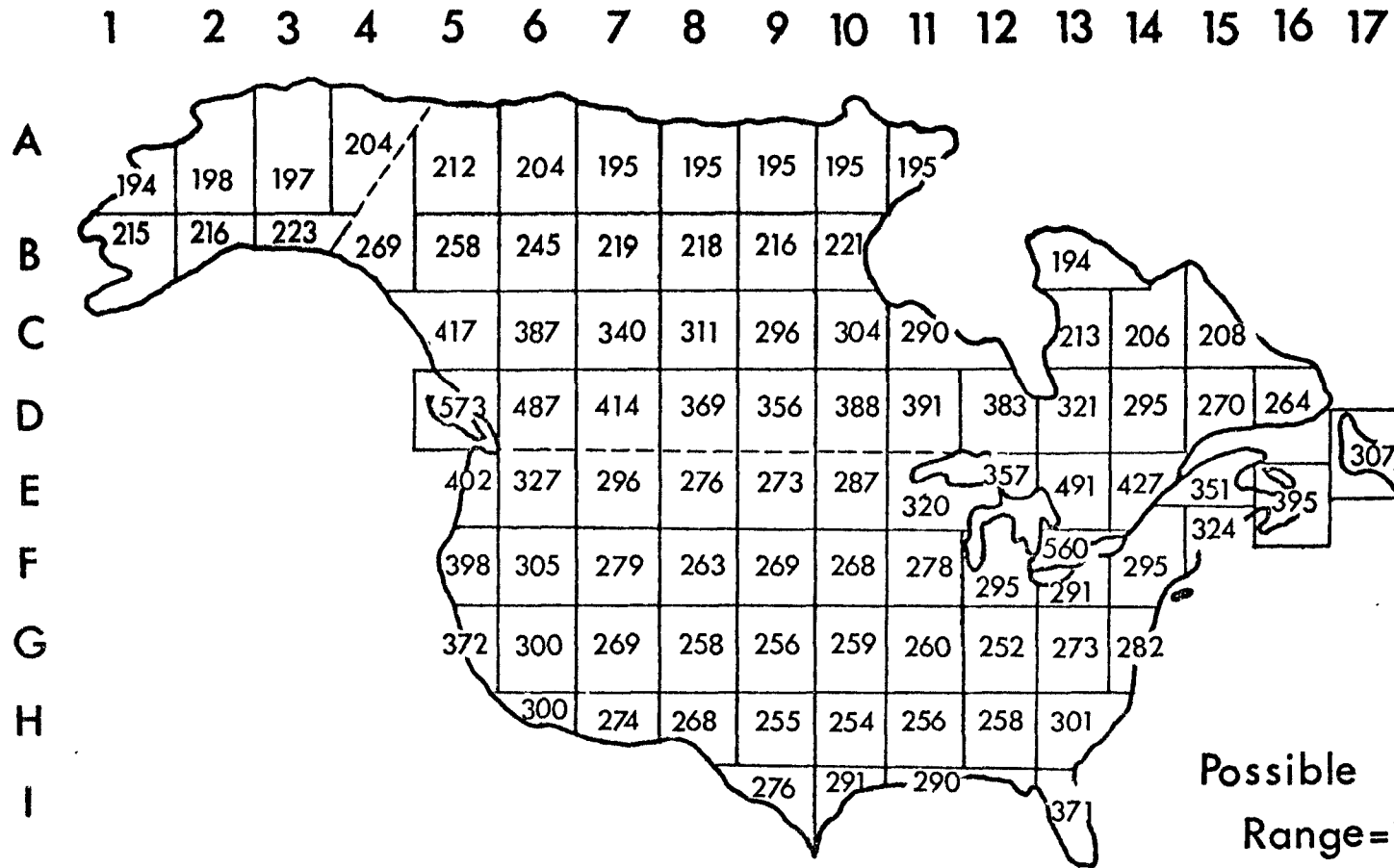
The British Columbia Preference - Cubic Trend Surface

MAP 5



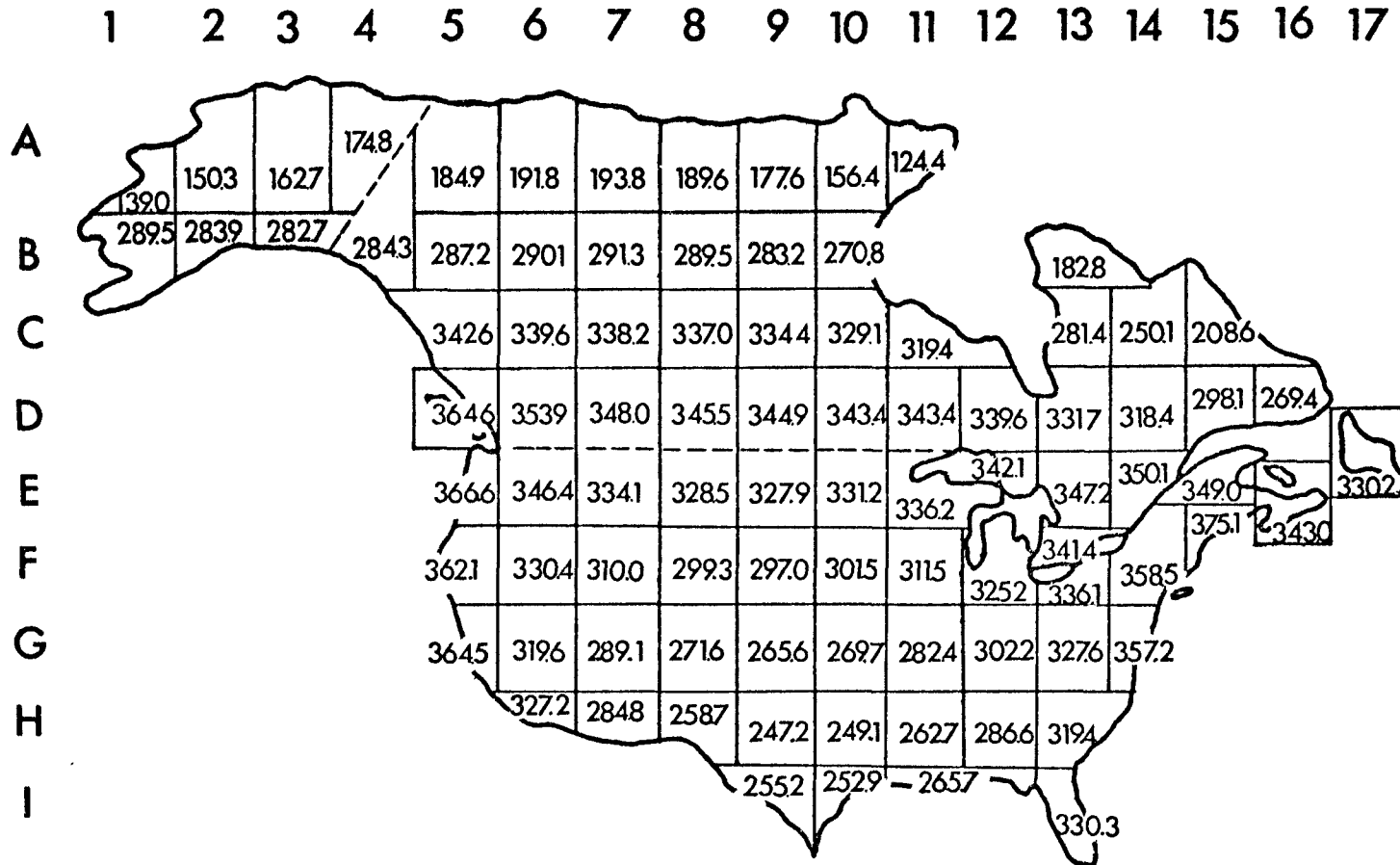
The British Columbia Preference - Residuals

MAP 6



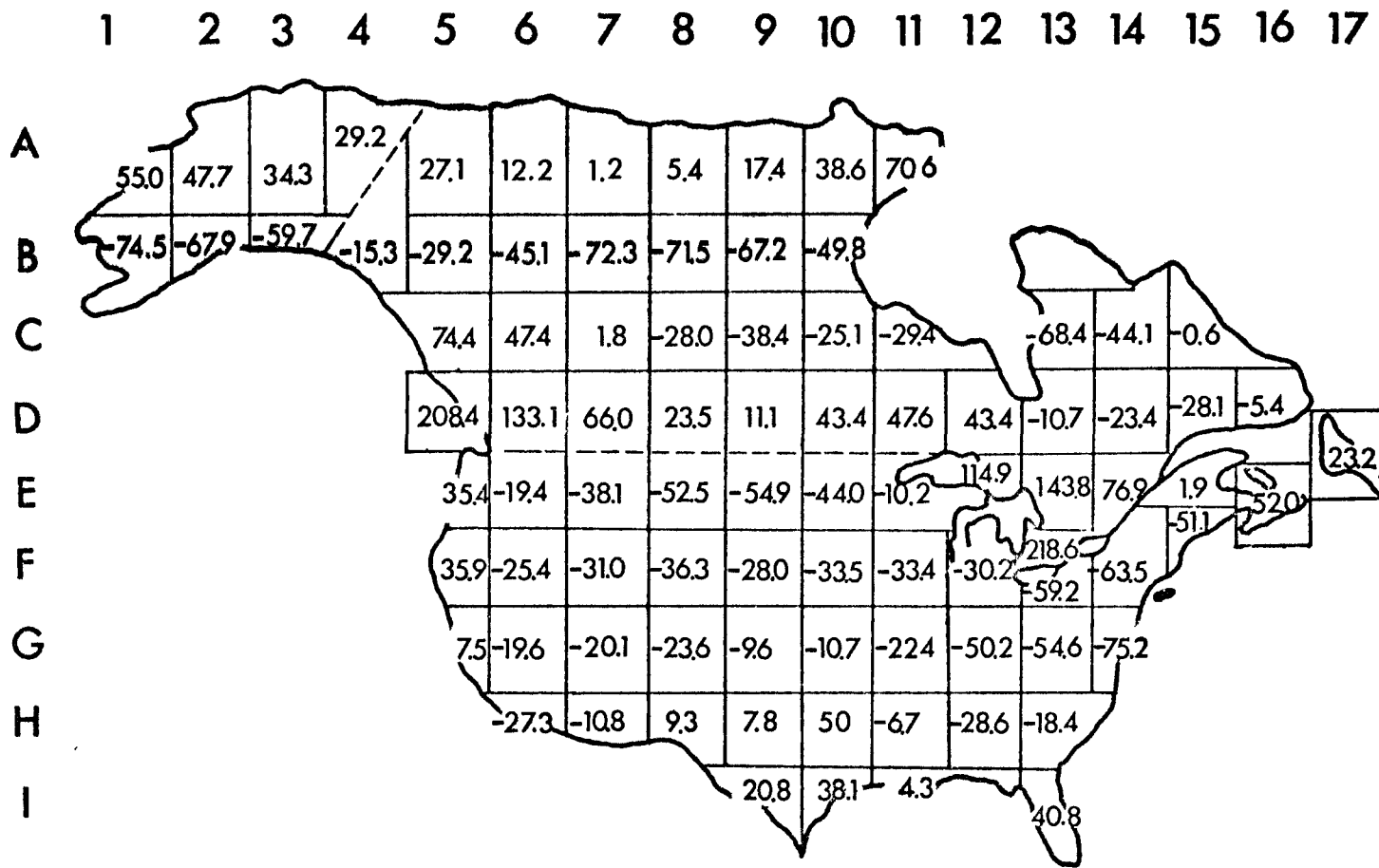
The Ontario Preference

MAP 7



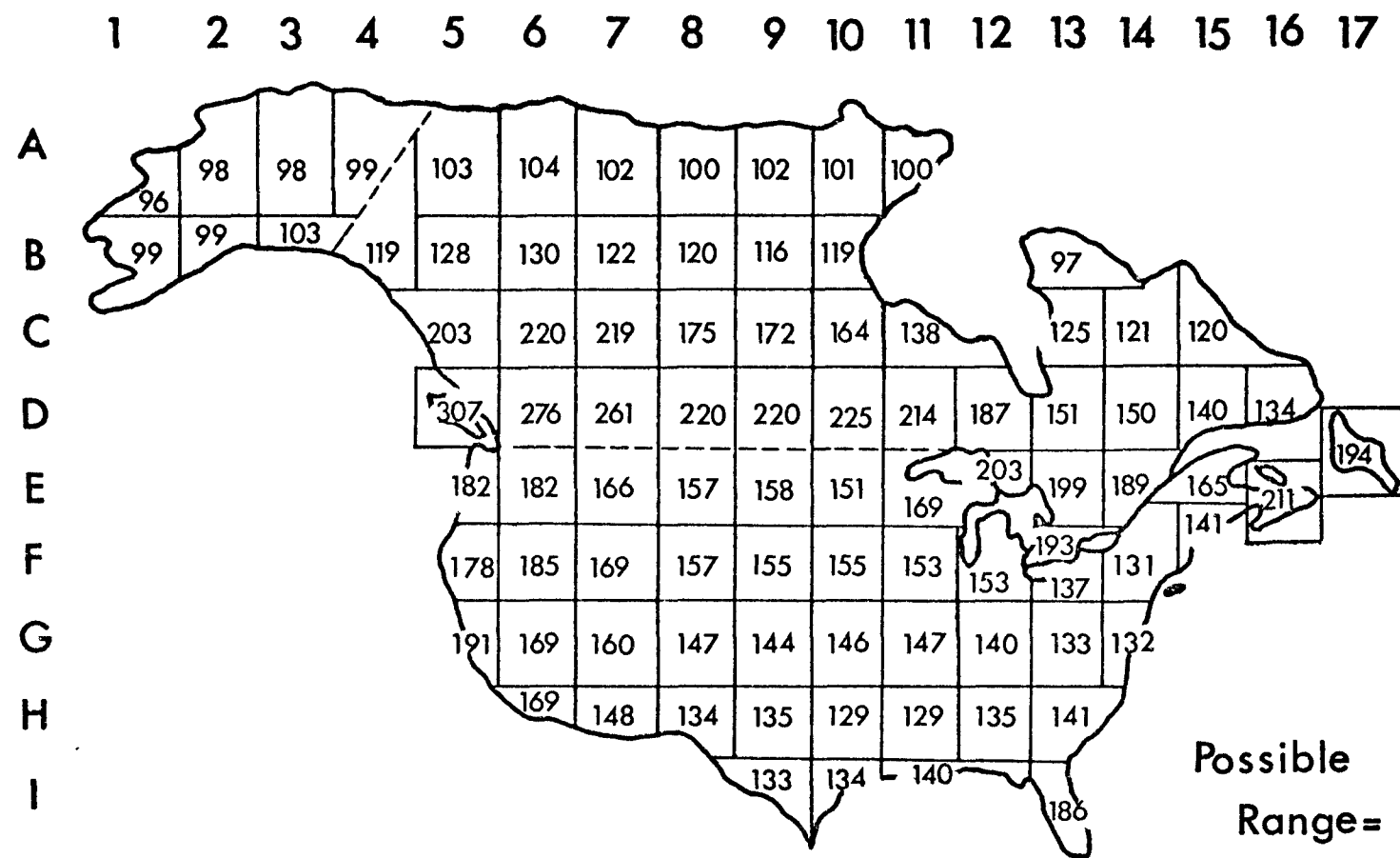
The Ontario Preference - Cubic Trend Surface

MAP 8



The Ontario Preference - Residuals

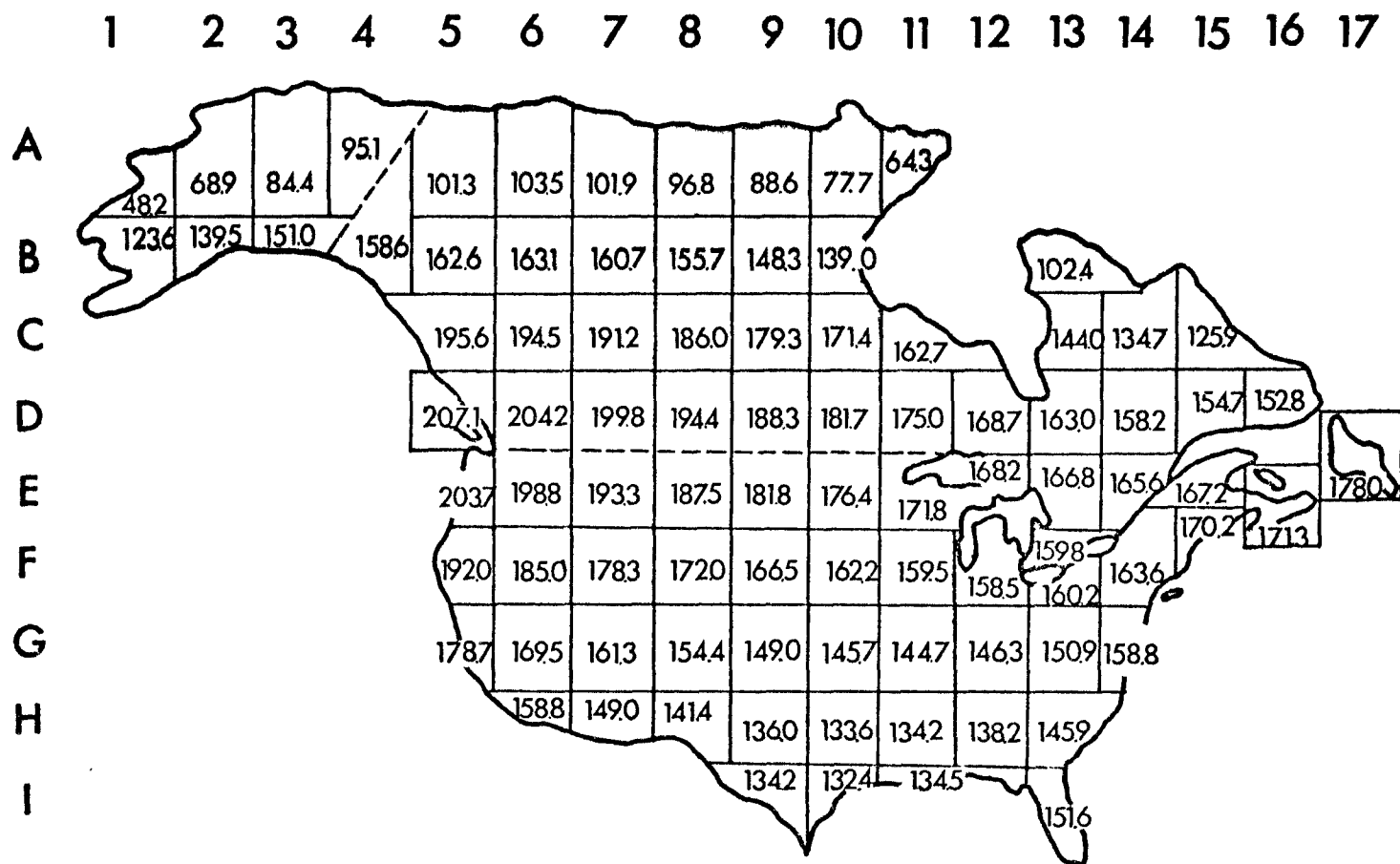
MAP 9



Possible Range = 71-355

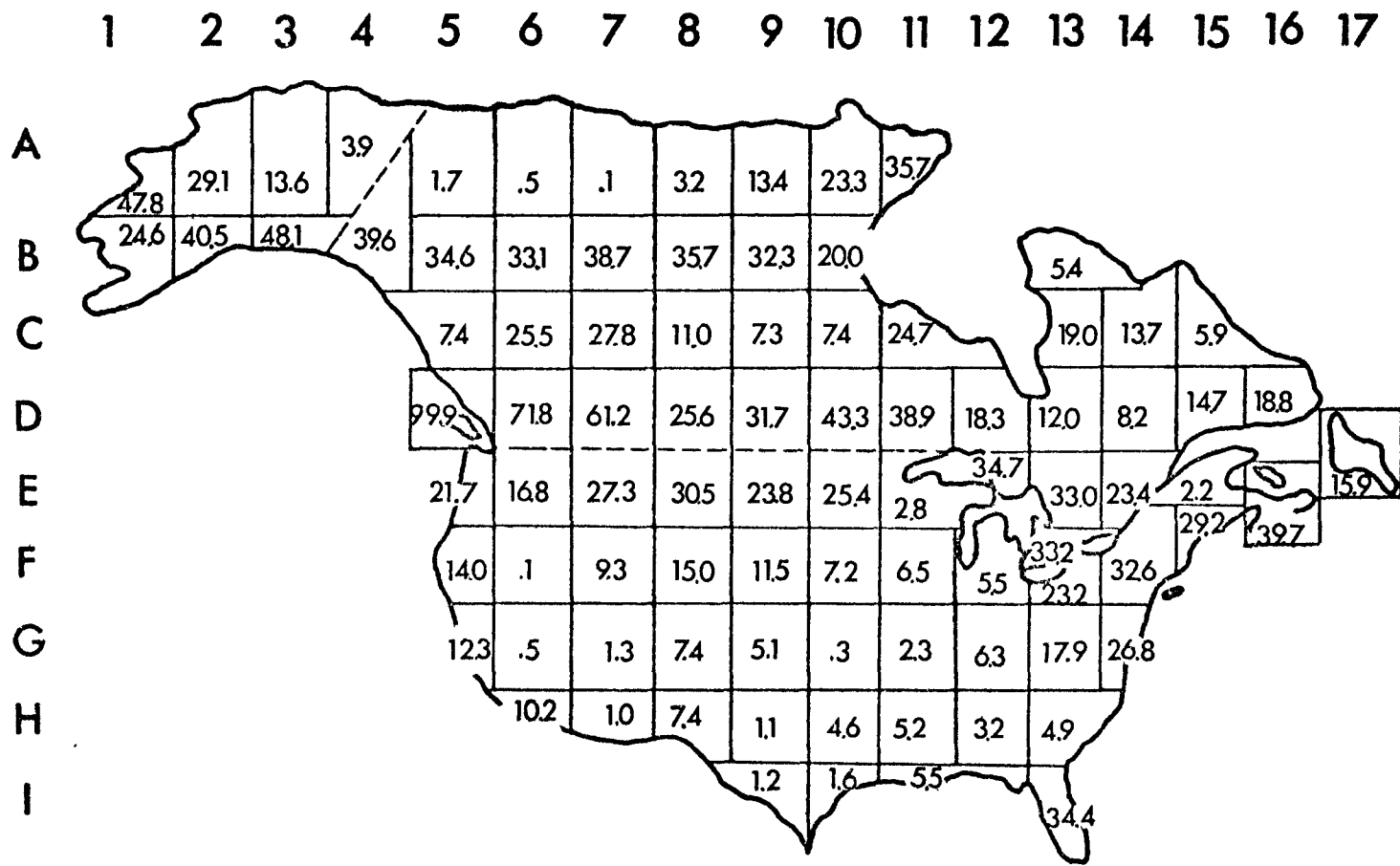
The Prairie Preference

MAP 10



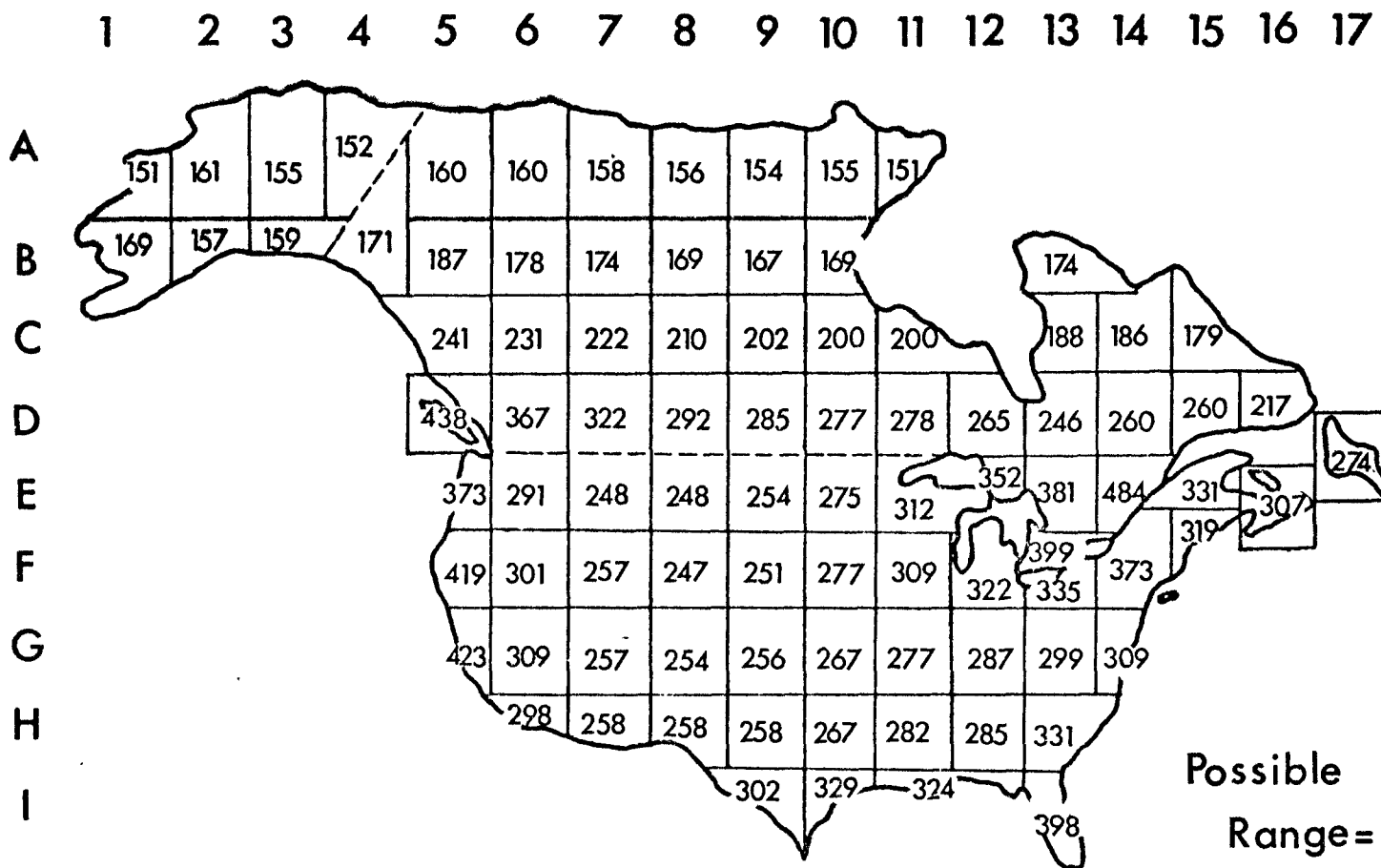
The Prairie Preference - Cubic Trend Surface

MAP 11



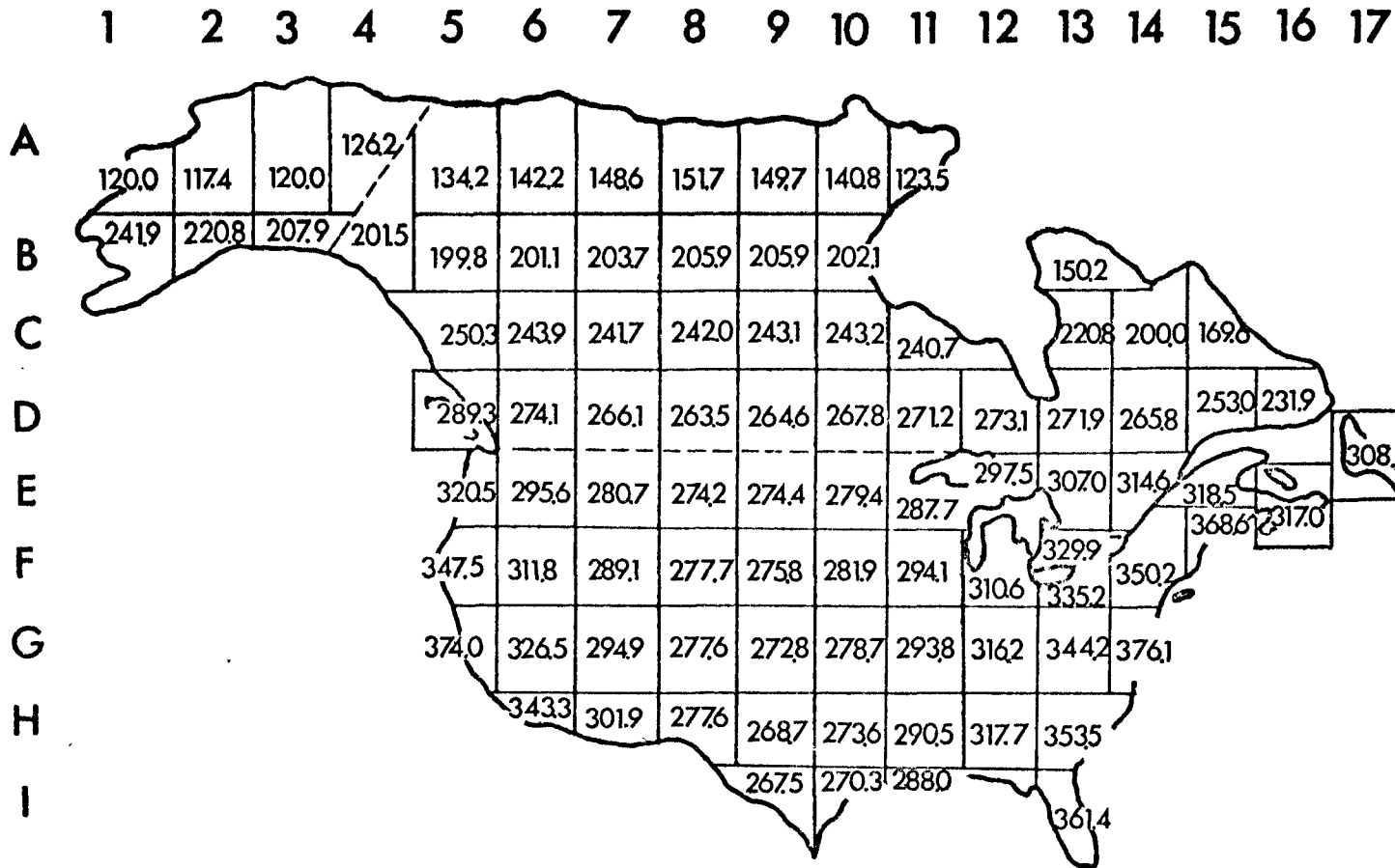
The Prairie Preference - Residuals

MAP 12



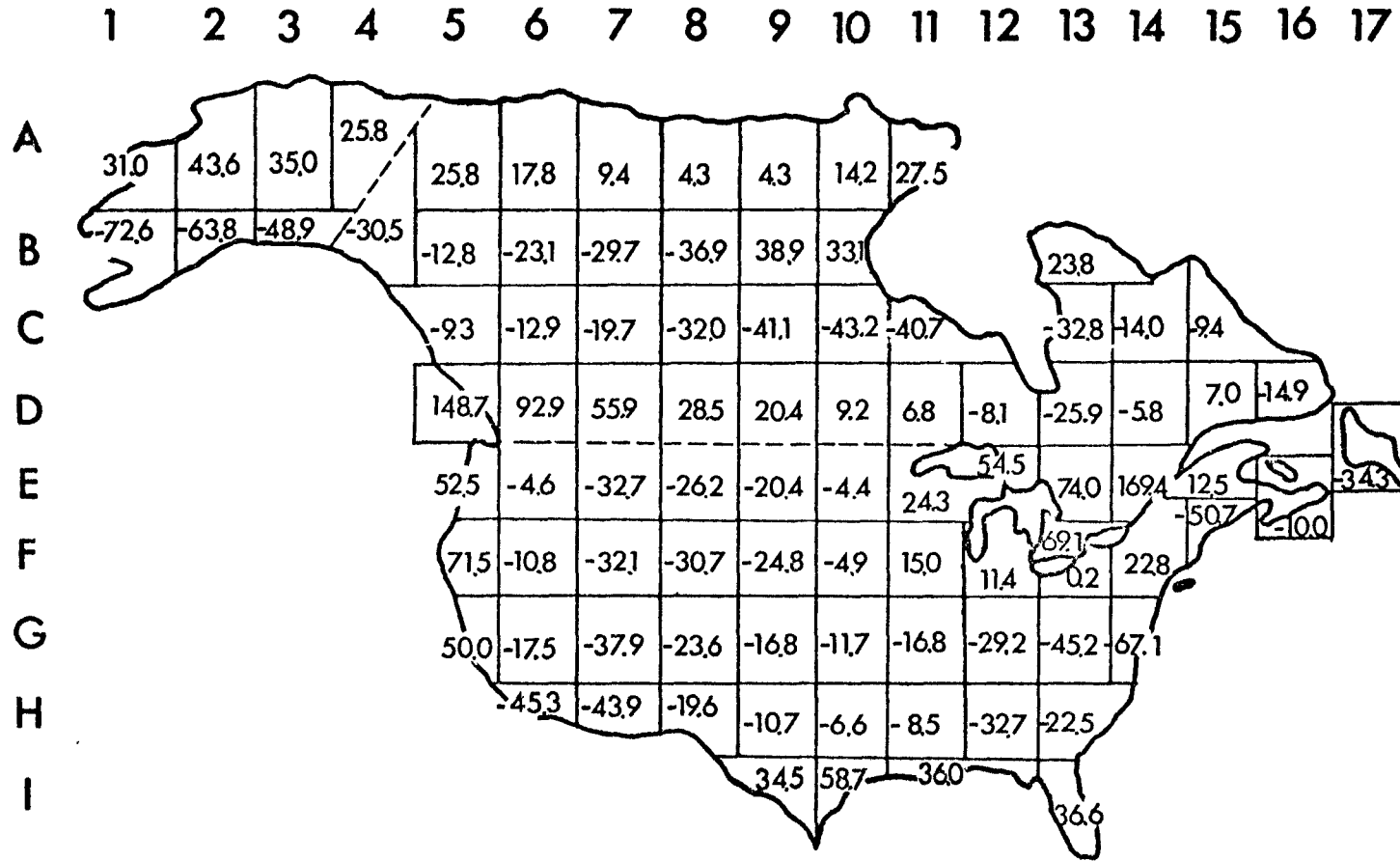
The Quebec Preference

MAP 13



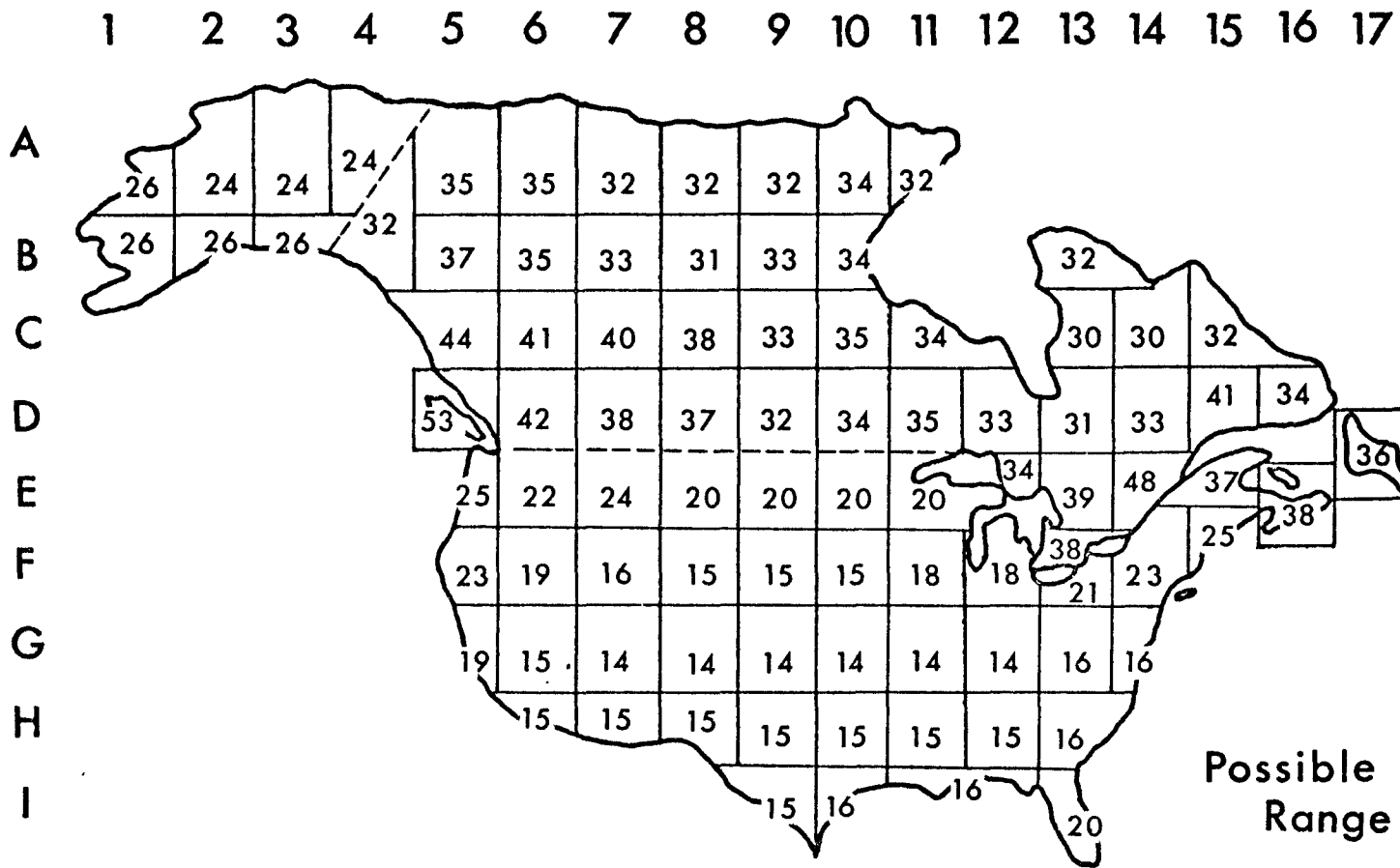
The Quebec Preference - Cubic Trend Surface

MAP 14



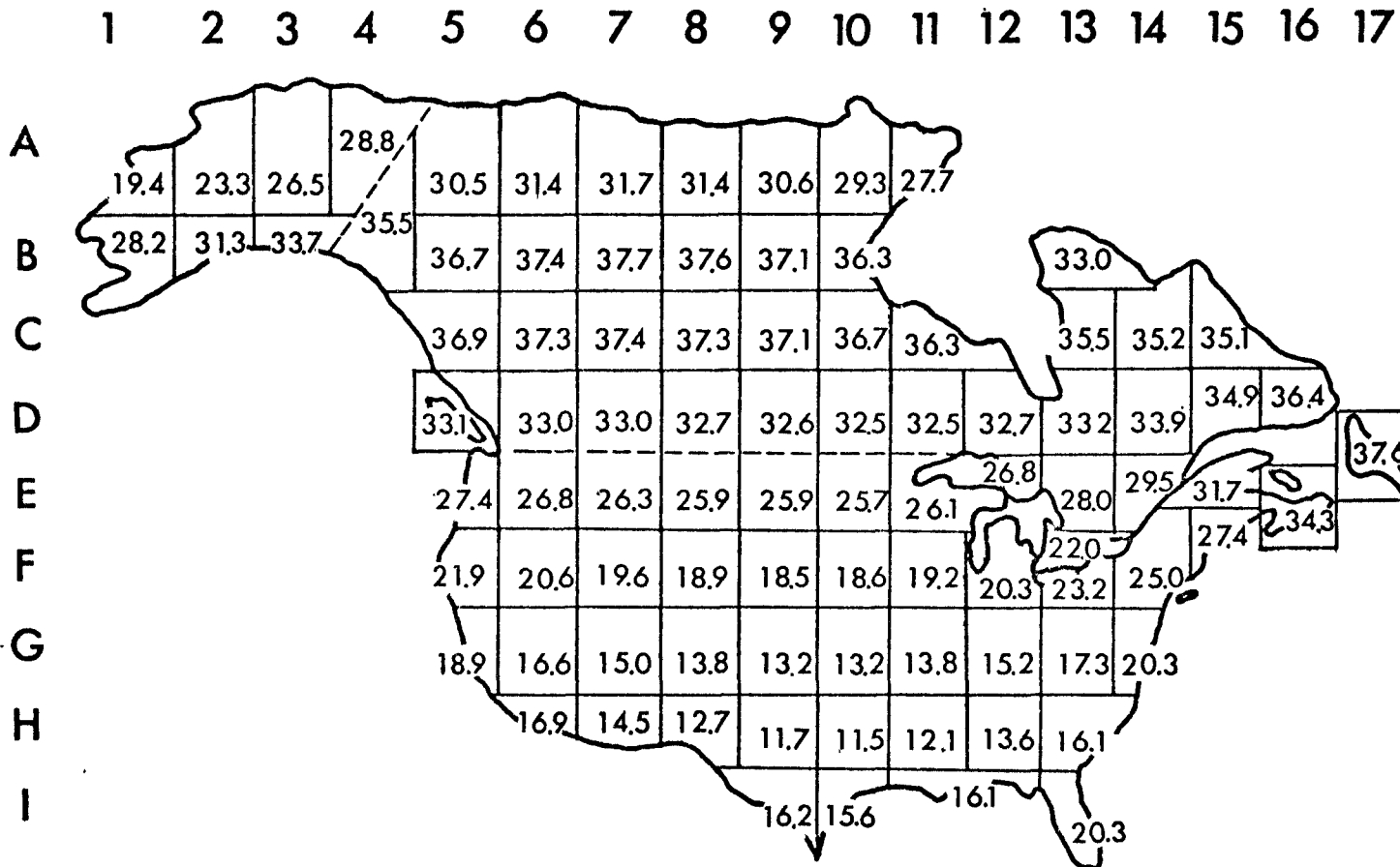
The Quebec Preference - Residuals

MAP 15



The Northern Preference

MAP 16

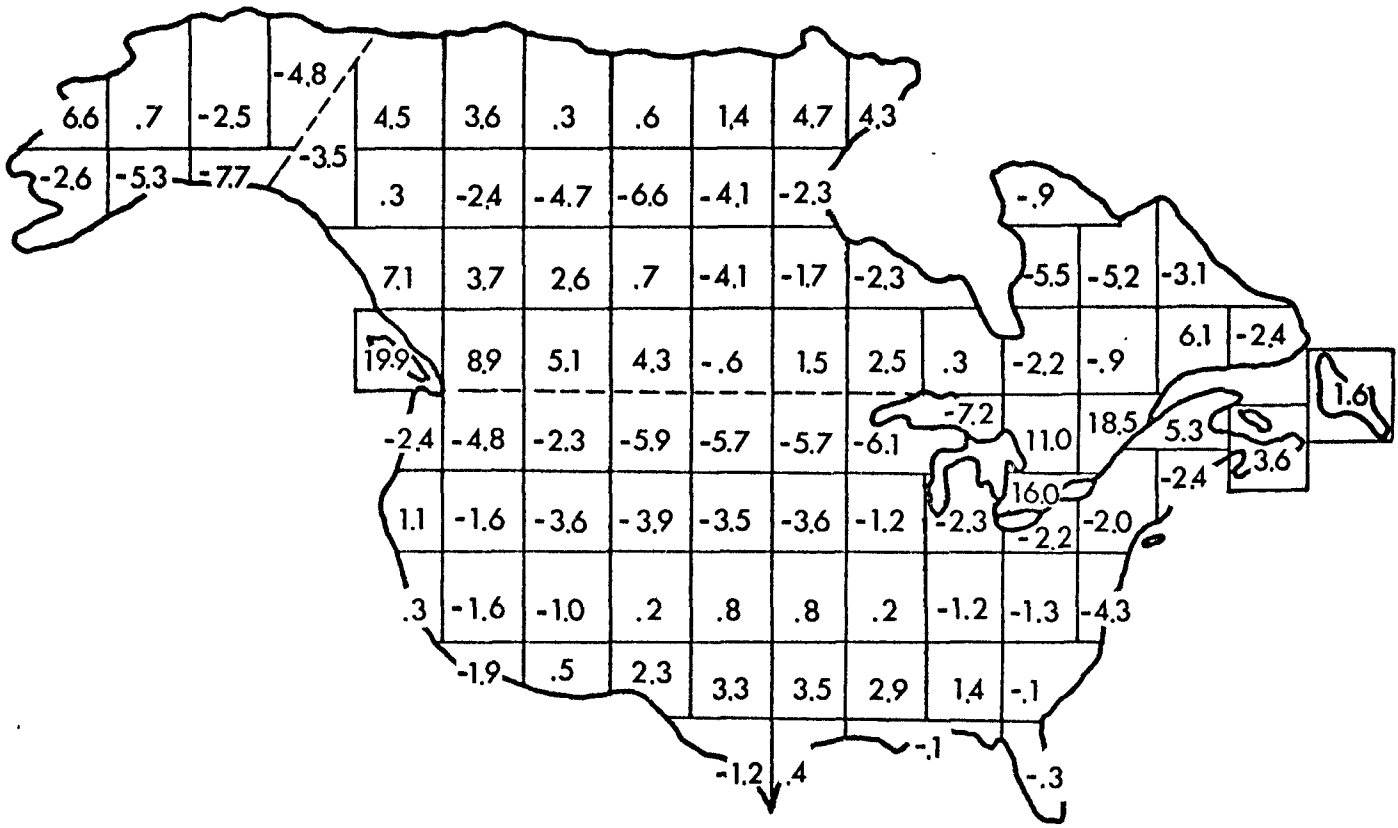


The Northern Preference - Cubic Trend Surface

MAP 17

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

A
B
C
D
E
F
G
H
I



The Northern Preference - Residuals

MAP 18

Locational Considerations
of the
Maritimes

CONSIDERATION CLUSTERS	1st	2nd	3rd	4th	TOTAL
Climate	24	10	1	2	37
Population Density	6	4	6	1	17
Isolation	2	3	3	-	8
Nature of People	3	5	3	1	12
Language or Culture	-	2	1	1	4
Way of Life	2	3	1	1	7
TOTAL	13	17	14	4	48
Economics	1	3	4	3	11
Opportunity	-	2	2	1	5
Standard of Living	1	3	3	1	8
TOTAL	2	8	9	5	24
Nationality	4	3	1	1	9
Political Climate	2	2	2	2	8
Criminal and Racial Climate	1	-	1	2	4
TOTAL	7	5	4	5	21
Scenery	6	5	5	2	18
Recreation Facilities	1	2	2	-	4
Nearness to Ocean	3	3	-	-	6
Degree of Pollution	1	2	1	-	4
TOTAL	11	12	8	2	33
Nearness to Family & Friends	1	4	2	1	8
Geographic Location	3	2	2	-	7
Hearsay	-	2	-	-	2
Familiarity	-	-	1	-	1
TOTAL	4	8	3	1	16
GRAND TOTAL	61	60	41	19	181

Locational Considerations
of
British Columbia

CONSIDERATION CLUSTERS	1st	2nd	3rd	4th	TOTAL
Climate	38	8	4	-	50
Population Density	1	6	4	6	
Isolation	-	1	-	-	
Nature of People	2	-	2	1	
Language or Culture	-	-	-	2	
Way of Life	-	3	1	1	
TOTAL	3	10	7	10	30
Economics	-	3	2	2	
Opportunity	3	2	2	-	
Standard of Living	2	6	1	1	
TOTAL	5	11	5	3	24
Nationality	3	1	1	1	
Political Climate	1	2	-	1	
Criminal and Racial Climate	-	1	2	1	
TOTAL	4	4	3	3	14
Scenery	2	10	5	1	
Recreation Facilities	-	2	1	-	
Nearness to Ocean	1	2	-	-	
Degree of Pollution	2	-	2	1	
TOTAL	5	14	8	2	29
Nearness to Family & Friends	3	4	2	1	
Geographic Location	1	1	2	-	
Hearsay	-	-	1	-	
Familiarity	-	-	2	1	
TOTAL	4	5	5	2	16
GRAND TOTAL	59	52	34	20	165

Locational Considerations
of
Ontario

CONSIDERATION CLUSTERS	1st	2nd	3rd	4th	TOTAL
Climate	49	21	12	1	83
Population Density	4	1	1	-	
Isolation	1	3	-	-	
Nature of People	5	9	4	3	
Language or Culture	4	1	5	1	
Way of Life	2	3	3	-	
TOTAL	16	17	13	4	50
Economics	1	6	7	3	
Opportunity	-	3	4	2	
Standard of Living	-	7	-	-	
TOTAL	1	16	11	5	33
Nationality	10	5	6	1	
Political Climate	1	7	11	6	
Criminal and Racial Climate	4	5	3	3	
TOTAL	15	17	20	10	62
Scenery	8	5	3	2	
Recreation Facilities	2	2	5	6	
Nearness to Ocean	-	1	-	1	
Degree of Pollution	-	1	-	1	
TOTAL	10	9	8	10	37
Nearness to Family & Friends	5	5	4	1	
Geographic Location	-	1	1	1	
Hearsay	-	-	1	-	
Familiarity	4	-	-	2	
TOTAL	9	6	5	4	24
GRAND TOTAL	100	86	70	34	290

Locational Considerations
of the
Prairies

CONSIDERATION CLUSTERS	1st	2nd	3rd	4th	TOTAL
Climate	23	6	2	-	31
Population Density	3	13	3	2	
Isolation	-	-	-	-	
Nature of People	1	3	-	1	
Language or Culture	-	1	2	1	
Way of Life	-	-	-	-	
TOTAL	4	17	5	4	30
Economics	-	1	3	1	
Opportunity	1	1	-	-	
Standard of Living	-	1	3	-	
TOTAL	1	3	6	1	11
Nationality	4	1	1	-	
Political Climate	3	-	2	-	
Criminal and Racial Climate	-	2	1	-	
TOTAL	7	3	4	-	14
Scenery	3	5	3	4	
Recreation Facilities	-	-	2	-	
Nearness to Ocean	-	1	-	-	
Degree of Pollution	1	-	-	-	
TOTAL	4	6	5	4	19
Nearness to Family & Friends	-	1	1	1	
Geographic Location	1	2	-	-	
Hearsay	-	-	-	1	
Familiarity	-	-	2	-	
TOTAL	1	3	2	2	8
GRAND TOTAL	40	38	25	11	112

Locational Considerations
of
Quebec

CONSIDERATION CLUSTERS	1st	2nd	3rd	4th	TOTAL
Climate	34	11	5	4	54
Population Density	4	11	4	3	
Isolation	-	1	-	1	
Nature of People	7	6	2	1	
Language or Culture	6	7	3	1	
Way of Life	2	8	5	1	
TOTAL	19	33	14	7	73
Economics	-	2	2	3	
Opportunity	2	3	4	1	
Standard of Living	-	3	1	1	
TOTAL	2	8	7	5	22
Nationality	3	3	4	1	
Political Climate	2	3	-	-	
Criminal and Racial Climate	-	-	1	1	
TOTAL	5	6	5	2	18
Scenery	5	13	7	5	
Recreation Facilities	-	1	2	3	
Nearness to Ocean	4	5	4	2	
Degree of Pollution	-	-	-	-	
TOTAL	9	19	13	10	51
Nearness to Family & Friends	2	-	2	2	
Geographic Location	1	1	1	1	
Hearsay	8	1	6	3	
Familiarity	-	1	2	1	
TOTAL	11	3	11	7	32
GRAND TOTAL	80	80	55	35	250

TABLE 12

Locational Considerations
of the
North

CONSIDERATION CLUSTERS	1st	2nd	3rd	4th	TOTAL
Climate	3	-	-	-	3
Population Density	3	1	1	-	
Isolation	1	1	1	-	
Nature of People	-	-	-	-	
Language or Culture	-	1	2	-	
Way of Life	-	-	-	-	
TOTAL	4	3	4	-	11
Economics	-	1	-	-	
Opportunity	-	-	-	2	
Standard of Living	-	-	-	-	
TOTAL	-	1	-	2	2
Nationality	-	1	-	-	
Political Climate	-	1	-	-	
Criminal and Racial Climate	-	-	-	-	
TOTAL	-	2	-	-	2
Scenery	3	2	1	2	
Recreation Facilities	-	2	1	1	
Nearness to Ocean	-	-	-	-	
Degree of Pollution	-	-	-	-	
TOTAL	3	4	2	3	12
Nearness to Family & Friends	1	-	-	-	
Geographic Location	-	-	1	-	
Hearsay	-	1	1	-	
Familiarity	-	-	-	-	
TOTAL	11	1	2	-	14
GRAND TOTAL	11	21	8	5	35

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