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KERIKERI 'GOLD'

A Behavioural Investigation of the Process Involved in the Evolution of Spatial Patterning and the 'Personalite' of Kerikeri, Bay of Islands

A thesis presented

in partial fulfilment of the requirements for the Degree of Master of Arts in Geography

by

Christine Elizabeth Pearson Elson-White Massey University

There will be orange groves, where the fruit will shine like balls of gold against the dark green foliage ...

Beautiful Kerikeri. 26/9/29. Northern News



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I acknowledge the valued help of Mrs J. Mackintosh and Mr D. Stenhouse, Senior Lecturer in Education, Massey University for their critical comments in proof reading the thesis script. Finally, without the unceasing encouragement of my mother, father and two brothers from the time of first interest in this research and throughout the entire preparation process, <u>Kerikeri 'Gold'</u> could not have been possible.

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PREFACE

This thesis was initiated by two prime factors. In the first place, local knowledge of this area, acquired over a period of four years, indicated the existence of a notable and unfortunate void of recorded information concerning the growth and development of the Kerikeri area as an important citrus and subtropical fruit producer with its own distinctive 'personalite'; and secondly there was an interest in, and a desire to explore, one of the contemporary geographical research frontiers - that of the growing alliance of the fields of geography and psychology, coupled with a view that everything in the physical world is basically process and nothing simply spatial or temporal, a view in which 'pattern' and 'process' are seen as simply occupying different locations upon a space-time continuum. ¹

In addition to the desire to fill in some measure the apparent hiatus of information dealing specifically with the evolution and related aspects of citrus growing at Kerikeri, the writer was also motivated by the assertion of David Harvey that " ... geographic

¹ Blaut, J.M. 1961. Space and process. Prof Geog. 13: 2.

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theory can no longer rest content with implicit assumptions about human behaviour; and that the sooner these assumptions are made explicit the better." ²

The main title of the thesis <u>Kerikeri 'Gold</u>' may be seen to embrace two facets of gold, simultaneously symbolic of the region's citrus growing history, and the 'gold' of its numerous individually and group perceived promises that have eventuated in successive pioneering waves of settlers.

² Harvey, D.W. 1966. Behavioural postulates and the construction of theory in human geography. <u>Geog. Polonica</u>. 18: 42.

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Chapter 1

INTRODUCTION

General Comments

Enumerate the more obvious components of Kerikeri - one District High School, church, cemetery, one cinema, two garages, a string of general, hardware, clothing stores and milk-bars, a recent addendum of motels, a small population of primary producers - and the result is an aggregate of a typical New Zealand village. It is patently true that nowhere is ever entirely typical of its class. There is an element of uniqueness in any settlement. Of Kerikeri however it may be said, that its uniqueness is such that people both collectively and individually from the first pioneers to those of this decade - have continued to 'discover' it.

Situated on an inlet of the Bay of Islands, Kerikeri has been the location for many critically important events in the history of New Zealand. The second New Zealand mission station, and the first to achieve permanent significance, was established at Kerikeri by the Rev. Samuel Marsden in August 1819.¹ Here in May 1820, the first plough ever to turn New Zealand soil was drawn. Mrs James Kemp planted the first orange seeds in 1820. In July 1821, the Rev. John Butler sowed the first two acres of grass. The first European church in New Zealand was built in 1823 while the first European dwelli:g was completed in March 1822 and New Zealand's first stone building erected in 1833. These latter two structures still stand today in Kerikeri. The first New Zealand road, a distance just over



ten miles, linking Kerikeri and Waimate North, was engineered by two of the missionaries in 1830.

More recently Kerikeri has been the scene of much significant project and concept inception. Subsequent to the era of large scale citrus farming in the late 1920s, Kerikeri became in 1930 with a population of 40, the first township north of Whangarei to harness and reticulate electricity for its residents. Some of the early experiments relating to the processing and packing of subtropical fruits were undertaken in the early 1930s at Kerikeri. ² On 4 January 1936, the second smallest registered newspaper in the world at that time - <u>The Kerikeri Gazette</u> - was launched. Though it was short-lived, it was of importance in indicating the personality of the area, its entirity and its articulacy.

These are but some of the notable events that have taken place at Kerikeri. The history of the area has always been intimately related to its soil, and throughout its century and a half of European development the aptness of its name has been borne out, for Kerikeri, a Maori term, means 'to dig' or 'to keep on digging.'

This thesis attempts to investigate the process involved in the formation of spatial patterning at Kerikeri during the period 1927-71, especially the early formative phase 1927-33. The study aims at appreciating the intrinsic significance of individuals, and of one particular individual, in the formation of the present cultural landscape and 'personalite' of the area. This work is primarily more concerned with a study of how and why a particular spatial pattern evolved at Kerikeri, than in presenting a descriptive report of solely what occurred, though this latter

aspect is not of course excluded. 'Structure' and 'process', traditionally viewed as two separate facets, are in this thesis, seen as elements in a continuum. The theme of process rather than pattern was not an arbitrary selection but evolved itself during the first six months of investigation.

For clarity of presentation, the thesis is divided into three sections each of which is closely interrelated. After establishing the setting in time and place, Section One examines the importance of a study of the process of development involved in the evolution of a spatial pattern, the value of behavioural postulates in geographical study and the significance of individual decision makers throughout New Zealand's development. A Second Section deals with the process involved and the developments at Kerikeri during the initial establishment of citrus and subtropical fruit farming (1927-33) as well as subsequent related developments (1934-50). In Section Three a survey of modern Kerikeri and surrounding area (since 1951) is undertaken, with the view to appreciating the continued process of decision making involved in spatial patterning and the extent to which the formative era of Kerikeri's growth under the hand of George Edwin Alderton originally, has influenced the contemporary composition of the area as exemplified in certain selected aspects of landuse, population composition, attitude and other related elements which collectively form the 'personalite' of the area.

Kerikeri, the 'cradle' of much of New Zealand's European history and the people concerned with its growth and development in its formative era, have not received any detailed academic attention

in the past. This thesis attempts to collate material whose recording has not previously been attempted, while its authority is still verifiable. The passage of another decade could mean that the gap in the knowledge of this area of potential future development might have been in part irremediable. Data sources correspondingly are seen to be rather unorthodox. Settlers who emigrated to Kerikeri in the late 1920s and the early 1930s era, " and descendents of the original settlers' families - living witnesses of a developmental epoch - have provided the writer with verbal accounts of the origins of citrus and subtropical fruit growing; with old correspondence, ³ personal records, and newspaper cuttings from several Northland and overseas sources. These latter help to convey the very important human element and process involved in decision making and appear to often have a lengthier life expectancy than official records. Special techniques were required to maintain fieldwork on three levels - physical, scholastic and psychological. The physical barriers in the penetration of this densely wooded subtropical area for landuse survey and location of specific cultural features were often more easily overcome than the human ones. Interviews with some 60 people and much correspondence sometimes elicited conflicting aspects of material whose relevance and reliability was then diligently crosschecked and where possible subsequently verified by further reference to official sources - aerial photographs; statistics where available; and to Departmental offices and officers, serving and retired. The paucity of official records for the period 1920-40 👘 presented again much difficulty. ⁴ Further, an initial emotional

barrier was sometimes encountered in the attitude of those who accounted themselves victims of, rather than participants in, or beneficiaries of, the Alderton Group Settlement Scheme under the North Auckland Land Development Corporation.

Kerikeri - Its Setting in Time and Place

The resources of Kerikeri, an area located between Bull's Gorge Waipapa, Purerua nd Moturoa Island, have been variously utilised by a number of groups. Kerikeri has passed through at least six distinct phases of development each characterised by a particular form of economic organisation. At present the area is entering upon a seventh developmental phase.

Pre-European phase

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The Kerikeri area was occupied by a number of Maori chiefs and their followers. The headquarters of the chiefs Whatarau and Wairua were found in the Okura Creek region, while Tareha and his followers lived along the shores of the Mangonui Inlet. The area at the head of the Kerikeri Inlet was occupied on a temporary basis, during the summer months, by two Ngapuhi groups - the Ngati rehia and the Ngai te wake. They numbered well over a thousand and would move to Kerikeri from Waimate North and Okuratope (the location of Hongi Hika's main pa) for the annual sea-fishing season. A small group would remain at Kerikeri to cultivate fern root and practice agriculture for the soil in certain areas around the estuary was rich, level and well suited to cultivation. After the arrival of the missionaries in 1819, a more permanently based Maori settlement was established, occupied by the principal chiefs and brothers Kaingaroa and Hongi Hika of the Ngai te wake sub-tribe and their

followers. At the head of the Inlet, Kaingaroa established a potato field to barter with the numerous traders who frequented the Bay of Islands at this time. As sea port for the tribe, Kerikeri became a Ngapuhi military base, the point of embarkation for many of Hongi Hika's war expeditions. From here, Hongi travelled down both the west and east coats of the North Island as far afield as the Hauraki Gulf (December 1821), Matakitaki, Waikato (February 1822), Tauranga and Lake Rotorua (March-April 1823) and Kaiwaka (1825). At Kerikeri Hongi had constructed his famous Kororipo Pa, a wonderful specimen of elaborately carved Maori art.

... Kororipo, surrounded on three sides by water, and guarded on the land side by long stretches of mangrove swamp that no enemy could cross. It was also defended by a deep fosse, and a strong stockade. There was a perfect network of pits and pallisade ways inside.

Church Missionary Society

During his second visit to New Zealand in 1819, when the Rev. Samuel Marsden announced his intention of establishing a second mission 5 ation, Korakora and Hongi Hika, the two most influential chiefs of the Bay of Islands clamoured for its founding in his own territory. Both offered Marsden the choice of their lands. Commenting at the time on the location and hinterland of the Kerikeri area, Marsden considered,

... this district the most promising for a new settlement of any he. had met with in New Zealand, the soil being rich, the land pretty level, free from timber, easy to work with the plough, and bounded by a fresh-water river, the communication by water free and open to any part of the Bay of Islands, and safe anchorage for ships of any burden within about two leagues of the settlement.

For a token of 48 axe heads, given to Hongi Hika, 13,000 acres of land at Kerikeri passed into the hands of the Church Missionary



Society. Here the missionaries lived for almost 30 years, attempting to inculcate Christian ethics and simultaneously establishing agriculture for the benefit of both Maori and European.. In 1848 the Kerikeri mission station closed down, the result of lack of Church Missionary Society funds available to the missionaries and years of strife, unrest and dissatisfaction among the Maori people with the actions of the British government in the Bay of Islands. ⁷ The mission station at Waimate North tended to supercede the one at Kerikeri as agricultural and principal spiritual centre for the missionaries, being located in a more populous native area.

Kauri gum

The period from 1850 until the First World War, a third phase, may be classified as the 'gum era' of the Kerikeri area. A drift north to the gum fields occurred especially during the 1880-90 era of the economic depression. At Kerikeri the main fields were located at Waipapa, Puketotara, Kapiro, at various locations along the shores of the Inlet with a large field at Purerua. The Stone Store centrally situated, carried on a flourishing export trade in kauri gum. The Store acted as a collecting, sorting, packing and payingout point from whence the gum was taken by coastal steamer to Auckland for processing. ⁸ In 1922 a gum-washing plant was established at Waipapa despite the fact that after the First World War, gum digging was declining as a profitable livelihood.

Timber exploitation

Kerikeri has also been a centre of exploitation of timber resources. Though the Rev. Samuel Marsden had described the area immediately surrounding the head of the Inlet as "... pretty level,

free from timber ..." ⁹, where the Kerikeri and Waipapa Rivers wound back into the western hills there grew great forests of native trees. Kerikeri acted as a timber port for many years, timber being collected on waggons outside the Stone Store or floated down the Inlet to Doves Bay (five miles distance) and then taken by steamer for milling to Auckland. Timber from both the Puketi and Pungaere Forests, west of Kerikeri, was handled this way. A wooden tramway seven miles in length was constructed between the Puketi Forest and the Waipapa Landing. The Puketi Mill operated until 1915, then closed,due basically to a lack of available labour.

Pastoral development

Concurrent with the gum and timber phases of development, much of the land that lay between the head of the Inlet and the forest reserves to the west, was used by several pastoral farmers. Cecil Yemp farmed the 'Childrens' Land' at Kerikeri. ¹⁰ Over the years James Kemp had bought sections from the other six claimants. By the 1890s, Shepherds'block, part of William Williams' and Baker's land were all owned by Kemp while in 1889 Cecil Kemp purchased the original 393 acre Kemp block as well. On this estate he grazed sheep and cattle. By 1898, with Kemp now 74 years old, T. C. Williams had bought up most of the 'Childrens' Land'. He had also purchased some Crown and other land still in the possession of the descendents of the original missionaries. This area formed the Manako Estate. The estate covered 10,000 acres but did not include the areas closer to the Inlet surrounding the Kemp house, the Stone Store and the land owned by the Scudder, Fuller, Clarke and Bedggood families. Cecil Kemp, appointed manager of this massive sheep and



cattle station, continued to live in the Homestead, today located centrally in Kerikeri. The Manako Estate was characterised by open, rolling countryside with a notable absence of trees. Turnips and swedes, oats and grass were sown in rotation as animal feed. At this phase in Kerikeri's development, gorse was systematically grown in rows and, while still young, was harvested. After having been passed through a chaff-cutter, the gorse was used as supplementary animal feed.

The estate next passed into the hands of H.C. Bull (1910) who ran it along similar lines as had T.C. Williams until its sale in 1914 to George Riddell. The Riddell Estate continued the same tradition as laid down by previous owners. With World War One intervening and a consequent lack of manpower available, the coverage of gorse developed into a 'runaway experiment' bringing with it major management problems. In 1920 the Riddell family leased 2,600 acres to S.G and H.G. Worsp and in 1926 subdivided a portion of the estate from Springbank Road to Access Road, into a number of varying sized lots for the promotion and trial of early vegetable growing.

The North Auckland Land Development Corporation

In 1927, 6,817 acres of the Riddell Estate were sold to the North Auckland Land Development Corporation. George Edwin Alderton, one of the company's six directors, acted as executor. He was the original instigator of the company's formation and the 'Alderton Scheme', by which it was illustrated how migration in a limited form without government assistance, could be used to settle and develop an area that had precluded any substantial change for over

a century. Around him Alderton drew a group of similar idealists, pioneers and 'opinion leaders'. Through Alderton's initial stimulus and inspiration, the company and many other individuals, singly and collectively, have directly influenced the progression of developments in the evolution of the cultural landscape at Kerikeri. This early 'formative era' continues to pervade modern Kerikeri in many more facets than simply the existence of 'relict' features of a previous landscape morphogenesis.

Kerikeri now began a sixth and excitingly new phase in its history of development - as a citrus and subtropical fruit growing area. 1927 was indeed the 'watershed' in the history of Kerikeri and surrounding area.

A seventh era of development is at present characterizing the Kerikeri area. An era of larger scale, more rationalised citrus and subtropical fruit farming and notable tourism developments in the Bay of Islands are taking place.

FOOTNOTES

¹ The first mission station was established in 1814 at Rangihoua, Oihi Bay, Bay of Islands, home of the chief Ruatara, by the Church Missionary Society. By the very nature of its physically steep hinterland and consequent lack of sufficient arable land, Rangihoua mission was unable to support a permanent resident population independent of outside supplies.

² In March 1932 a trial shipment of Kerikeri grown passionfruit left for England on the 'S.S. Kent'. Nineteen cases were shipped utilizing nine different packing methods.

³ Reference should be made here to a too rare human characteristic - that of methodical records keeping - which might have provided a great deal of source material for an investigation such as this. The writer, in the midst of frustrating dead-end quests for such matter, was heartened to find that at least one such individual - the late Mr H.S. Benner - had meticulously kept all records of his dealings with the North Auckland Land Development Corporation and his family did not destroy them.

⁴ At this stage, such was the official image of Northland that state advances and bank loans though available to settlers, were not in equable quantities as in other parts of New Zealand. The Department of Agriculture view of the Kerikeri Scheme was that it was doubtful whether the venture would be an economic success. Though prepared to assist to the limit of the scientific information available at the time, the Department did not appoint a resident orchard instructor in Kerikeri until the early 1940s. <u>pers. comm</u>. Mr I.G. Forbes, Horticulture Division, Department of Agriculture, Wellington.

⁵ Clark, G. 1903. <u>Notes on Early Life in New Zealand</u>. 10

⁶ Elder, J.R. (Editor). 1932. <u>Letters and Journals of Samuel</u> <u>Marsden</u>. 147

⁷ After 1840, customs dues were enforced on all imports. A Maori warrior henceforth had to pay more for his tobacco, maskets and blankets. Soon trading vessels ceased to call in at the Bay of Islands. Even after Governor Fitzroy implemented his promises and whalers reappeared in the Bay of Islands, there persisted a general disenchantment with the government misunderstandings in law

enforcement occurred. Gradually a spirit of lawlessness prevailed and culminated in war in 1845.

⁸ Kauri gum formed an ingredient in a variety of manufactured articles including sealing wax, candle stiffener, glue, varnishes, lacquers and linoleums.

⁹ Elder, <u>op. cit</u>. 147.

 10 The 'Childrens' Land' referred to that area of land bounded by the Puketotara Stream, the Okura Creek and Whiringatau Stream surveyed by missionary William Clarke. This land was bought in 1831 for £271/18/- by seven missionaries ('The Seven Claimants') from the Maori owners. Once a missionary child reached 15 years, he was no longer in the charge of the Society. A sum of money was given with the approved purpose of land investment. Before 1840 only two careers were open to missionary children - the Church Missionary Society or farming. Adequate provision for the future of their children was thus of extreme concern and importance to the missionaries. SECTION ONE

Chapter 11

BEHAVIOURAL POSTULATES - THE IMPORTANCE OF 'PROCESS' AND OF INDIVIDUAL DECISION MAKERS IN GEOGRAPHICAL STUDY

The study of spatial patterns has traditionally been the prime concern of geographers. More recently however, a growth of theory, hypothesis and dynamic studies (involving a study of the 'spacetime manifold' or process) has begun to mark the emphasis of contemporary geographical research. By means of a study of process and particularly of the decision making process, geographers may come to more fully understand the existence of areal variations in all the myriads of aspects that make up human geography. It is very necessary and important to appreciate the factors of who was involved, the time and conditions prevailing and whether the decision acts have proved wise, successful or unsuccessful in both economic and aesthetic senses, in the short and long term viewpoints.

Geography-Psychology Interrelationships

Coupled with the increasing awareness of theoretical unification and process orientated studies, there is still a need however for an even sharper realisation of the important part played by man in his decision making role (i.e. the process of selecting one primary action from a number of alternative courses) in influencing geographic patterns. ¹ "Geographic patterns are simply after all the end-product of a large number of individual decisions made at different times for often very different reasons." ²

It is patently true that "... the search for and fulfilment and

enlargement of new relationships are not unique to the geographer. They are characteristic of the age." ³ Just as there have been developed research links involving geography and other social, natural and pure sciences, there exists limitless potential for an interdisciplinary study to be furthered between geography and psychology. If it is true that geographic patterns result primarily from human decisions, be they consciously or unconsciously motivated, then any geographic explanation must intrinsically make reference to research undertaken in the sphere of psychology, sociology and behavioural science. An appreciation and awareness of the decision making and behavioural qualities of the individual or group in the process of forming spatial patterns is of interest and value to the student of geography. For, "To fully understand the processes and thereby the differences in influences whereby the image of a geographical area or feature is created is to be partly aware of the causes that lie behind human behaviour."14 An appreciation of 'achievement motivation', 'goal identification' and 'individual differences' in 'frame of reference', 'cognitive style' and perception can provide the basis for more realistic study in all fields of human geographical endeavour.

Behavioural postulates in geography

There have existed in much geographical literature since the time of Von Thunen's publication of <u>Der Isolierte Staat</u> (1826), many explicit, though more often implicit, assumptions regarding human behaviour. Brinkmann was the first writer to seriously grapple with some of the purely non-economic aspects of the entrepreneur involved in production intensity yet coupled his

ideas with traditional location theory. [>] The "... personal qualities" of entrepreneurs, according to Brinkmann often "... greatly overshadow the influence of ... natural and economic conditions" in the formation of agricultural landuse and cultural landscapes. ⁶

The notion of 'economic man' has been used as a conceptual tool variously by theorists in agricultural location, industrial location and central place. ⁷ The notion of 'economic man' involves the assumptions that the individual is endowed with perfect knowledge, a single goal, lacks any hindering human fraility and has omniscient perception, reasoning and computation powers and predictive abilities. The concept has been employed to great value in geographical works though more especially in the study of process and pattern in optimal situations and not in actual or real life situations.

Man is never motivated solely by economic considerations. This thesis rests upon the assumption that social and psychological factors play an often very important if indeed not paramount role in determining his decisions and ultimately their spatial expression. The concept of the 'spatial satisfier' - that man tends to behave according to his own special needs, whims, values and what he perceives as 'good enowgh', and not according to rational economic rules, was first defined by Simon.⁸ The 'spatial satisfier' concept or the 'principle of bounded rationality' allows for the inclusion of non-optimalising economic decisions and consequently for the full understanding of actual real world spatial distributions. The notion has often proved to be more
descriptively accurate for geographical purposes than the normative concept of 'economic man' which Simon has criticised as possessing "... preposterously omniscient rationality." ⁹

As the study of the behavioural aspects of geographical study (both pattern and process) is still in its infancy, it is not possible to construct "... geographical theories of any great power. Yet as behavioural science itself progresses so we may expect more powerful behavioural postulates to be generated." ¹⁰ At this point one may note the studies by Isard with his suggestion for the inclusion of individual differences in 'space preferences' as affecting the geographical association of employment opportunities and thus industrial location and trade ¹¹; Gould with his notion of 'perception surfaces' and 'mental maps' of students attending Pennsylvania State University, his 'perception of choice' within game and learning model frameworks and his postulated 'curve of acceptances' in a study of wheat growing on Mount Kilimanjaro 12; Stevens with his 'game theory' applied to a problem in location strategy ¹³; Greenhut's addition of the element of uncertainty (such as the individual's position in the life-cycle and individual differences in incentives, fears, drives and 'psychic satisfaction') to profit maximization seeking entrepreneurs ¹⁴; and finally Katz's notion of 'perceptual regions' and 'regional perception' in a study of flood plain management. With the exception of Isard and Gould however, all writers adhere to the premises upon which the 'economic man' concept is based. A criticism of many of the geographical studies is their overall abstract treatments that often bear little relevance to real world occurrences.

The significance of people, both individually and in groups in the creation of geographical patterns, and the importance of real life situations is crucial, in fact implicit in the study of human geography. It is of considerable importance however to make explicit behaviQural assumptions regarding the human decision maker and to bridge the gap between the unreal 'never-never land' of game theQry and the actual world situation. Geography must essentially be aimed at interpretation, description and analysis of the process of creation and of the outcome of actual spatial patterns. It is the opinion of the writer that much geographic literature both past and present, tends to igngre the special importance of the factor of individual and group human behaviour in shaping the 'total geography' of a region. ¹⁵ There has however recently arisen a group of geographers keenly aware of behavioural ideas. ¹⁶

The act of decision making

Human decisions taken by innovators at any given moment in time may have an immediate or delayed, direct or indirect effect upon the formation of geographical patterns. They may ultimately entrain a positive or negative result. An 'event chain' of data, decision and outcome may be formulated for almost any happening in any explanation of human geography. It is of paramount importance in any explanation of human geographical patterns, to appreciate those events (the data) and their setting in time which led to the formulation of a plan or idea and to the decision to implement it (the act of decision making). This notion of the 'event chain' may be transformed into a probabalistic circular and cumulative model to be outlined later. At this point it is profitable to examine, by

means of the diagram presented below, the relevant stages involved





Fig. 1

Information Receipt and Generation at the Various Stages of the Adoption Subprocess

The power of the human mind to make decisions at critical moments in time has the propensity to bring changes strikingly visible and/ or succintly intangible. Both these aspects it must be appreciated make up the 'personalité' of a region and thus both are equally invaluable to a study of its 'total geography'.

The Behavioural Matrix

The concept of the behavioural matrix arose out of the shortcomings afforded by the rather rigid traditional concept of 'economic man' employed consciously or subconsciously by geographers for over a century. Within the framework of a behavioural matrix, a decision maker or 'actor' is accorded a position on each of an 'x' and 'y' axis. These axes are loosely termed the 'ability to use' and and the 'information' axes. Each decision maker will obviously have a unique position on the graph. As he learns from his mistakes and successes, he will have his own individual 'path of movement' within the behavioural matrix. Individual differences in abilities and personality types and varying individual 'psychic stimulus fields' can thus be accentuated and accounted for by means of the model, even though lamentably crudely at present levels of understanding in behavioural science.

The model of the behavioural matrix is established on three planes - the individual, the group and the composite regional group. Composed of four quadrants, it will be appreciated that there exist an infinite number of sub-quadrants, classes or cells in the matrix, representing the infinite number of actor types. Decision makers or actors in the lower right hand quadrant (with good ability-to-use and large and accurate amounts of information at their disposal) represent the ultimate in decision making ability and successful adapters. Those actors in the lower left hand quadrant (possessed of large and accurate amounts of information but with poor abilityto-use it) represent the unsuccessful adapters. Those in the upper right hand quadrant (with small though highly accurate quantities of information accumulation coupled with good ability-to-use it) represent the successful adopters, while those decision makers in the upper left hand quadrant (with small highly imperfect quantities of information and poor ability-to-use it) represent the unsuccessful adopters. (Fig. 2)

Throughout this study it is assumed that all actors involved in the process of spatial pattern evolution are, using Simonian terminology 'boundedly rational satisfiers'. i.e. that they tend to behave and make decisions in a rational though not wholly economically perfect fashion. This investigation thus concentrates

ABILITY TO USE INFORMATION



The Behavioural Matrix

upon the conscious and rational aspects of decision making and does not attempt to deal with the even greater complexities of the nonrational. The ubiquitous presence of human failings and frailities (despite what logically and rationally ought to occur) thus implies that the likelihood of a decision maker reaching the ultimate location (extreme lower right hand cell in the lower right hand quadrant) would be unreal - representing 'economic man'.

The decision maker or 'boundedly rational actor' is seen as a "complex information processing system" ¹⁷, influenced basically by past experience (memory, established cognitive patterning and abilities to apply, analyze, synthesize and evaluate) and present perception of the environment. The importance of public and private) information and visual experience and other factors, is crucial to the working of the model. Some of the other factors include the individual's personality type, his background, occupation, social position, sex, age, education, intelligence, marital status and political and religious affiliations, as well as other 'reference: groups' to which the individual may subscribe and by which 'he may be influenced to a greater or lesser degree. Individual differences in decision making patterns are consequently inherent in the process and formation of any spatial pattern. At any point in time, a certain

element of apparent disorder or chaos in the landscape is normal, to be expected and simply represents this inherent multiplicity in individual decision making acts.

Determinants of actor location within the behavioural matrix

Some of the component factors and concepts forming part of the individual's 'frame of reference' that result in individual differences in decision making ability and variation in initial location (propensity for successful, i.e. influential, or unsuccessful decision acts) and consequently 'path of movement' within the behavioural matrix are examined below. These factors form some of the basic assumptions of this investigation.

Accessibility of private information

Quality and quantity are the major determinants of the influence of private information. It is necessary at this point to differentiate between objective and subjective factors. Information available to the potential decision maker may be seen to encompass information objectively available as well as information of which the individual is or is not aware. The accumulation of private information is only possible when personal contacts with others of similar (confirmation or reinforcement of views held) and sometimes dissimilar interests (views are subjected to criticism and testing), are relatively frequent. Geographic location, personality traits and type, background, age, sex, marital status, education, intelligence, political and religious affiliations, occupation, social position and 'group norms' are seen to be some of the variables that influence the extent, range and power of the individual's field of private information.

Accessibility of public information

Utilisation again depends upon the individual's geographic location in respect of sources of information dissemination. The variables noted above influence the individual's receptiveness to take advantage of public information channels. Crain has established the existence of several levels of information diffusion from a central core (usually a large city where there exist more resources for the establishment of avenues or channels for the dissemination and development of public information) to areas of lesser intensity (such as smaller cities, towns and more geographically isolated areas).¹⁸ Crain's hypothesis states that the higher the 'order' of the city, the greater the possibility of increased quantity and depth of public information avenues upon which the individual can potentially draw.

Lazarfeld, Berelson and Gaudet, in a study of electoral geography first presented the model of the 'Two Step Flow of Communication' (The Two Step Flow Hypothesis) that may be seen to operate in essence in relation to public and private information avenues. ¹⁹ According to Lazarfeld et al, ideas tend to flow from mass media sources (radio, television, press) to 'opinion leaders' and secondly to segments of the population less actively concerned with information accumulation ('followers'). The large city, using a combination of Crain's and Lazarfeld et al's ideas, thus represents an 'urban opinion leader'.

Visual impressions 20

1

The individual's place of work and residence is again crucial to the operation of the factor of visual impressions. His 'field

of visual impressions' is seen to diminish in extent rapidly with increases in physical distance. Geographical proximity thus tends to create conditions more favourable for the recognition of the existence of a problem and incomplete pattern, and secondly over time, may create the desire to solve it.

Past experience

Memory of past experience (stockpile of information and established cognitive patterning) is yet another factor that governs the individual's level of understanding of the need for decision making and generally speaking determines his pessimistic or optimistic outlook. Dependent upon past experience, the individual consciously or subconsciously edits, simplifies, modifies, biasses or even purposefully distorts the content or emphasis of both private and public information that he accumulates. ²¹ Past experience is synonymous with the particular attitudes, predispositions and assumptions held by the individual. The decision maker may accomodate new information by altering what he has learned from past experience or change information that is in some way incompatible with his past experience. He is constantly striving to establish his own homeostatic psychic level. 22 In accordance with the notion of the 'boundedly rational satisfier' the individual either consciously or subconsciously views information or events not as optimal or nonoptimal, but simply as satisfactory or unsatisfactory. ²³ If he is sufficiently motivated, by dint of the combined force of other personality attributes and his own perception of external conditions, he will attempt to ameliorate a condition of an unsatisfactory nature.

Aspiration level of the individual

Consciously or subconsciously there exists the desire to avoid failure. ²⁴ A certain force for self-actualisation is included in this general desire. ²⁵ The influence of past experience will affect the aspiration level of the individual with success usually entraining a need or wish for further success - a spiralling upward movement of successes over time. The converse - a spiralling downward movement denoting failure can also apply. A subgroup of this latter state of aspiration level is the condition of 'homeostasis', 'psychic stability' or underachievement, when the individual desires retention of the status quo. This may be partially accounted for by factors such as fear of the unknown, realistic goal setting or individual differences in desired goals and aspiration levels. ²⁶

Place in the life cycle

A general tendency for particular behavioural characteristics to be associated with particular age groups is noted. ²⁷ A young person may be seen to be more likely to undertake risks and innovative behaviour than an older person. It is often noted that intellectual development reaches its peak around the age of 25 years and that at this time adaptability, innovative powers and the ability to perceive many possibilities are at their height. Despite this observed tendency however, a multitude of other factors can influence an individual's receptiveness to significant decision making behaviour, including 'group norms' and other influences younger or older than the decision maker himself.

Group norms, reference groups and 'acquaintance circle bias' At any point in time, each individual belongs to a number of

groups, whether they be formal or informal in organisation or purpose. 'Group norms' involves the desire, through continual striving to better or simply maintain one's status or position within a certain group class - a need to belong, a desire for security and to feel one is worth something. The important influence of the 'neighbourhood effect', the 'friends and neighbours effect' or social support in promoting, canalising or restricting individual behaviour, is dependent upon many variables. $^{\mbox{$28$}}$ The degree of identification of the individual with the group, the intensity of interaction of the members, their level of friendliness and amount of activity in the group as well as the 29 influence of the 'external' environment are some of these variables. Since each individual belongs to many groups each with associated norms throughout his life time, he plays many roles. All these groups and roles have the potential to affect the individual's perception of the need for, and his receptiveness to decision making. Barth has likened this group influence to an " ... aggregate of people exercising choice while influenced by certain constraints and incentives." 30

Other factors

Some of the other elements to be noted include the desire to reduce uncertainty which is perhaps the most important, ³¹ the intelligence, educational level and mental powers of the individual (including his finite problem solving and computation abilities, his interests, attitudes, reasoning ability, facility in mental co-ordination and in drawing mental relationships). Other related factors include such immeasurable vagaries of personality type as degree of confidence, gregariousness, self esteem, emotional

stability, objectivity, patience, persistence, flexibility of the individual as well as his own particular needs, drives, fears, wishes and anxieties - in sum, the individual's personal 'cognitive style'.

The dynamic behavioural matrix

Motion is reality. Within the framework of the behavioural matrix model, each decision maker is seen to be continually changing in respect of the factors outlined and examined above. No matter how minutely this change may be, each has his own 'path of movement' within the matrix. A stockpile of decision situations and outcomes is built up by each actor. Dependent upon whether he is successful or not, the individual is propelled either forwards (towards optimalisation) or backwards (regression) in the behavioural matrix, setting the stage for any future decision acts. A continual process of dying off (extreme backwards propulsion in the matrix) and births of actors (appearance of new decision makers due to changes in events) occurs. A growing confidence in decision making and appearance of 'multi-decisional locational actors' is reflected in greater intricacies of spatial patterning.

The element of chance

In the formation of spatial geographic patterns,".... the evidence suggests that there is a strong element of the accidental ...".³² Some decision makers with limited ability-to-use qualities and small, inaccurate amounts of information may make fortuitous decisions that locate them in the lower right hand quadrant. Their effect on spatial patterning may be of both short term and/or long term duration.

Circular and cumulative causation

The notion of the 'event chain' outlined earlier may logically be modified with the permutation of ideas relating to the 'principle of circular and cumulative causation' as presented by Myrdal.

In the normal case a change does not call forth countervailing changes but, instead, supporting changes, which move the system in the same direction as the first change but much further. Because of such a circular causation a social process tends to become cumulative and gathers speed at an accelerating rate. 33

The concept of circular and cumulative movement may also be joined to the notion of the behavioural matrix. There is a tendency for a 'path of movement' to be established diagonally across the matrix from top left hand quadrant to lower right hand quadrant. Such a long term movement within the matrix is dependent upon four change elements - a) an accumulation of information (a gradual elimination of past errors by a stockpiling of information and a learning from past decision situations or a gaining of experience),

b) the 'death' of some decision makers (involuntary, due to circumstances beyond the actor's immediate control, or selfimposed death with self-perception of non viability),

c) by increases in pioneering innovational decision acts and imitational acts by multi-decisional actors (representing a growing facility in decision making), and.

d) the 'birth' of some new pioneering and imitational actors. (Fig. 3 and 4).

With the accumulation of information and death of some decision makers, the centre of gravity (where the majority of actors are located) of the matrix shifts increasingly towards the lower right hand quadrant. Not only do individuals and groups thus undergo a



- A = Information accumulation
- B = Death of some actors
- C = Pioneering innovation and imitation by some existing multi-decisional actors
- D = Birth of some pioneering innovative and imitative actors

Major parametric change New viability conditions

Fig. 3

Diagonal Shifting Within the Behavioural Matrix





Path of Movement of Matrix Shifting

learning process (an early successful decision, learning from their own and others' mistakes in ability to use information, coupled with a stockpiling of new information of which they have the opportunity to take advantage), but it is also logical to assume, so does an entire region - the aggregate of decision making in individuals and /or groups. In the spatial context, increased orderliness or 'rationalisation' at a rapid rate can occur. Succintly

put,

... as an economic geographic process uncoils there is a tendency for the distribution or interaction pattern to become increasingly 'rationalised' due to 1) feedback from the economic environment (profitability constraints and /or competition) that causes the death of some actors and decision making adjustments on the part of some multi-decisional units; and 2) a not always separable behavioural feedback either between the experience (locational actor) of self and the subsequent choice made by self (selfimposed elimination or voluntary death by some otherwise viable individuals and firms, and self-duplication or innovative selfelaboration by other multi-decisional actors) and/ or between the experience of others and the action of self imitative and embellishing- innovative locational decisions by newly born and some multi-decisional actors.

This process is not however exclusive of the continued existence of some deviant (top left hand cell occupiers). An 's' shaped or logistic growth curve may develop with early adopters affecting the decisions of later adopters, logically extended to a bell-shaped curve of the diffusion process. (Fig. 7 and 6).



Fig. 5

Fig. 6

'S' Curve of Adoption

Normal Distribution Curve of Adoption

Pa rametric shocks

Institutions promote or restrict ... growth and thereby the operation of geographic processes of spatial patterning and structuring of aereal 'personalite' according to the protection they accord to effort, according to the opportunities they provide for specialisation, and according to the freedom of manoeuvre they permit.

Constant change and fluctuation in individual or group paths of movement within the matrix (influenced by numerous institutions and reflected in spatial patterning) is natural. The diagonal movement of matrix shifting continues until the intrusion of one or more major or minor 'parametric shocks'. These include abrupt economic environment changes, breakthroughs of crucial significance in transportation, production technology or large social, political or institutional realignments. Parametric shocks which form watersheds in the developmental sequence, upset the homeostasis of the decision making system causing a retreat within the matrix as regards the decision making behaviour of the region. In the light of the various theories of 'dissonance reduction', restoration of balance or congruity is sought. ³⁶

Actor frequency

Pred divides increasing rationalisation of spatial patterning into three distinct phases, each of which has its related pattern of decision maker frequency. (Fig. 7)

a) Majority of decision makers in the top left hand quadrant (low composite attribute score);

b) Majority of decision makers in the middle ranges (median composite attribute score);

c) Majority of decision makers in the lower right hand quadrant (high composite attribute score).



Ideal-Typical Frequency Distributions

of Composite Actor-Attribute Scores

at Three Stages of Development



Fig. 7

As will be appreciated later, this phenonemon is an important factor in the historical evolution of increasing orderliness of the cultural and especially the agricultural landscape at Kerikeri.

Imitative and pioneering innovative decision making acts

Schumpter has noted that,

Wherever a new production function or innovation has been set up successfully and the trade beholds the new thing done and its major problems solved, it becomes much easier for other people to do the same thing and even to improve upon it.

A feedback mechanism (part of the process of circular and cumulative movement) of pioneering decision making acts affecting subsequent decision making behaviour, is inherent in a study of the evolution of spatial patterns. Imitation of a prototype however involves some modification. The exact conditions (soil, climate, economic, political and social) that led to the first development can never be entirely recreated in all their detailed minuteness. The existence of uneconomic elements in a spatial pattern may thus be partially explained by such imperfect imitation. "No innovation springs fullblown out of nothing; it must have antecedents ... Every innovation is a combination of existing and original ideas." ³⁸

The perception by the individual or group of an unsatisfactory state or pattern of the environment, or perceived knowledge of a solution to a certain problem may bring forth pioneering innovative decision making acts. Despite their classification, pioreering innovative acts are intrinsically related to previous events and prior perception of the existence of unsatisfactory states and patterns.

The factors of conflict, anxiety and frustration in the pre-decisional state, disrupt existing goals, values and processes. In order to reduce stress, behaviour may take many forms. Aggression, extreme innovation or even less adaptive behaviour may result. ³⁹ This inventive process, according to Usher, may be divided into four stages forming a progressive synthesis and which essentially illustrates the important factor of inventions or decision making acts as interrelated phenonema. (Fig. 8)

an unfulfilled want; perception of an incomplete pattern

"gratification" by a fortuitous configuration in events or thought that presents the individual with data essential to a solution

solution to a problem is found

"working into" the context

Stages of Decision Making Illustrating the Principle of 'Progressive Synthesis' in the Emergence of Inventions

Fig. 8

Aim of the Study

Inclusion of behavioural postulates in human geography is a vital prerequisite to the understanding of spatial patterns, their entity and evolution. "... the concepts of behavioural science can sharpen and fashion geographical thinking in a most productive way." ⁴⁰ Geographers are not concerned with unmotivated behaviour such as neural or synaptic responses, but with an examination of the premotivated stage of behaviour (the events and influences leading up to the act of decision making) that eventuates in the overt spatial act. Though the writer makes no pretentions to an understanding in depth of psychological or behavioural theory, the acknowledgement that individuals and their decisions can ultimately override other considerations in producing geographic patterns, is fully appreciated.

The aim of this investigation, succintly put, is to demonstrate the process involved and the marked interconnection between recorded empirical facts and the background and personality in particular , though not exclusively, of one individual. This latter is represented by George Edwin Alderton and the 'recorded empirical facts' by the growth and development ^{of} citrus and subtropical fruit culture, other related landscape features and certain intangible elements, that collectively form the total geography of Kerikeri, Bay of Islands. Though it is acknowledged that physical factors such as land type. climate and soil quality can be modified, it is man's own character, his personality and his ability to choose which have ultimately decided the existing character and distributional pattern of citrus orcharding in Yorthland. The behavioural matrix, first postulated and

developed by Alan Pred, functions as a conceptual tool in order to appreciate or lay bare some of the important factors and forces that have assisted in the evolution of spatial patterning and formation of 'personalite' at Kerikeri. ⁴¹ It is acknowledged that by so doing, some exaggerations and to a certain extent, simplification of actual processes involved is unfortunately entrained. Despite these disadvantages inherent in any model use, an essentially behavioural explanation for the past and present cultural and social landscapes is offered.

The afore-going comments form the basis to this investigation. It will be appreciated that the geographer should constantly be aware that the most important factor in spatial patterning, process and change, is primarily the individual with all his complex behavioural nuances. It is relevant and profitable at this stage to survey some aspects of the development and change in New Zealand's physical and cultural landscape. Of the numerous forces which have exerted their influence not the least has clearly been the human element. The examples of individual decision makers that follow may be classed as occupying cells in the lower right hand quadrant of the behavioural matrix. It is not proposed to analyze the various factors that make up their individual paths of movement - this will be reserved solely for the figure under study, George Edwin Alderton and other Kerikeri pioneers, past and present. It is sufficient at this stage to suggest some of the more important decision makers in New Zealand's history of evolution. Their suggestion may perhaps entrain further behaviourally-orientated research of a geographical nature.

Pioneering Individual Decision Makers

Names such as William Goodfellow, Henry Reynolds and Chew Chong in the evolution of the dairy industry in South Auckland and Taranaki bear testimony to the importance of individual decisions made at critical moments in time. Philpott has provided a comprehensive survey of the developments in New Zealand dairy processing and farming from its inception to the mid 1930s. ⁴² The crucial part played by significant individuals forms the basis to this work.

William Goodfellow

The rather dramatic birth of the Waikato Co-operative Dairy Company Ltd., is one example of the importance of the individual decision maker in the geographical context. As a hardware merchant, Goodfellow imported from the United States of America for a client, a plant for the manufacture of butter from home separated cream. The client however failed to take delivery. To avoid wastage of the equipment, Goodfellow together with Mr F. Blomquist, a dairy factory manager, subsequently established a small factory in Hamilton in 1909. Within a year the factory was re-organised on co-operative lines and by July 1913 a large new factory had been erected at Frankton. The next few years saw numerous important developments the Waikato Co-operative Dairy Cheese Company, operating in association with the Waikako Co-operative Dairy Company was formed in 1915; in November 1917 a butter factory was built at Tuakau to cope with the lower Waikato milk supply; finally in 1919 amalgamation with the New Zealand Dairy Association was completed. To one man, William Goodfellow, is cwed the establishment of what has become the largest

single dairy company in New Zealand. Had it not been for Goodfellow's receptiveness to the taking of the risks involved in an unknown venture, coupled with his business foresight, the South Auckland area might not have assumed its early recognition as a leading dairying district.

Chew Chong

A further example is that of a Chinese immigrant in Taranaki. A peddlar of toys, Chew Chong recognised a fungus growing on certain native trees (especially the tawa, puhatea and mahoe) as akin to a traditional Chinese delicacy. Philpott notes "It proved to be yet another instance of a chance and apparently insignificant discovery which developed into a commerce of major importance." 43 It was due to Chew Chong that trade between Taranaki and China sprang up and the value of fungus exported in the mid 1860s amounted to \$144,000 more than the total value of butter shipped from the province. Between 1872 and 1904, the fungus exports to China were valued at \$750,000. The importance of this 'Taranaki Wool' to the struggling dairy farmer at the time was considerable. The settlers lived by a system of barter. For the butter they produced they would receive approximately 8c a pound, and while the fungus brought only 6c a pound, this amount was pure profit from very little physical effort. Store keepers in the province did not pay cash for the butter produced, but accepted it in exchange for supplies. It was thus very difficult to acrue sufficient ready cash to meet the annual rates levied by the local bodies. For fungus produced however they did receive cash. The advantages of this system are obvious.

Henry Reynolds

Pioneer of the sharemilking system in the Waikato, Henry Reynolds is a third striking example of how individual enterprise and initiative has influenced spatial patterning. In 1886 Reynolds established the first specially built butter factory in the Waikato on his own farm at Pukekura. He selected the 'Anchor' as his brand and sent specimens of the manufactured butter to the 1886 Melbourne Exhibition where success was recorded. Between 1886-89, Reynolds and Company was established and factories built at Ngaruawhaia and Newstead with skimming stations at Te Kowhai, Whatawhata, Paterangi, Te Awamutu, Kihikihi, Purkerimu, Hamilton, Waihou and Te Aroha West. With these successes, the company in 1890 decided to extend operations to Taranaki. A butter factory was subsequently built at Inglewood and creameries at Waimate, Egmont Village and Taraki. The following personal tribute has been recorded by Philpott.

Like every other great, and ultimately successful enterprise, the dairy industry in the Waikato began under a cloud of doubt and disappointment., through which it grimly struggled for a decade. The difficulties in those pioneering days were tremendous, and Mr Reynolds was fated to reap but little personal reward for his foresight and courage. He blazed the path for others to follow, and for that fine and courageous work his name will ever be honoured in the Auckland Province.

William Hulke

A final dairy pioneer to note briefly is William Hulke, one of New Zealand's earliest immigrants. Arriving in New Zealand in 1840, Hulke later established a model dairy factory in North Taranaki for the benefit of the surrounding farmers. To him is owed recognition for the establishing the Jersey breed as the main dairy type. Hulke was also responsible for innovating modern dairy techniques

and improvements over a considerable area of Taranaki, in addition to giving lectures and practical dairy instruction.

Some notable pioneers of the fruit industry in New Zealand include names such as Messrs J.N. Williams and A. McKee. Both have contributed significantly to the development of previously virgin areas for fruit farming.

J.N. Williams

To Williams is owed the pioneering of the temperate fruit industry in the Hawkes Bay region. In 1890 an overseas expert, Mr F. H. Spawn, asserted that Hawkes Bay contained some of the finest fruit growing land in the world. Responding to this challenging statement, Williams established the famous Frimley Orchard in 1900. Frimley, located about ten miles from Hastings, was a mile in length by approximately eight rows of peach trees. Though owned and operated by Williams, anyone interested in fruit farming was invited to buy a section of the orchard and run it himself. In 1904 a canning factory close to the orchard was established and two years after, Hawkes Bay Nurseries opened, located on an adjoining 40 acre block. The fruit from Frimley was sent to many areas of the southern North Island

A. McKee

The Nelson fruit growing area is today New Zealand's largest apple producing region. This area, like the Hawkes Bay fruit region owes its recognition and development to the factor of significant individual enterprise. The Moutere Hills in the early years of this century barely supported one sheep to ten acres and even the rabbits

on them were starving. McKee of Riwaka however believed that this land was suitable for the growing of apples. Consequently he bought the freehold of two blocks of manuka and scrub covered land, the Moutere Bluffs, comprising 2,600 acres. With the example of Tasmania in mind, McKee renamed the area Tasman and in 1911 set to work to clear, road and plant approximately 900 acres. He sold the balance of the estate to Tasman Fruitlands Ltd and acted as Chairman of Directors until the specially formed company had finished its job and went into liquidation. The company undertook to clear the land, plant the apple trees and carry them onto the bearing stage on behalf of absentee owners. As the 'grow apples for export' slogan was disseminated, other companies were formed and bought up large, previously virgin blocks of land on the Moutere Hills and proceded to subdivide them for fruit farming. According to Monigatti,

That confidence of Mr McKee and others who saw great apple growing possibilities in the Moutere Hills was soundly based, for today, with topdressing and proper treatment at a cost of about thirty pounds to the acre this land is carrying some four or five sheep to the acre and has become fine orchard country.

The Whangarei area has been the scene of some very notable individual decision makers who have assisted substantially in the formation of the present landscape and particular emphases of the surrounding district. It is not proposed to outline all of these pioneers but one is drawn to the varied influence of one particular pioneer.

Henry Walton

Under the hand of Walton a flour mill and flax mill were established at Maungatapere as early as 1845. Two years later, after a visit to Australia, Walton brought back a flock of Merino sheep.

By 1858 he had established the lime industry on Limestone Island, in Whangarei Harbour, and a shipping agency. In 1859 Walton imported a chaff cutter and threshing mill and in 1864, after having purchased 400 acres of the Hikurangi coalfields, brought out coalminers from Great Britain to develop the coal reserves.

A man of substance and enterprise, Henry Walton brought in farm lands, grew wheat, grazed cattle and sheep, opened up Whangarei's earliest industries and was a large employer of labour. One of his achievements was the opening of a road from Maungatapere to the Whangarei Harbour, to get his produce to shipping ...

Focal to this investigation is the realisation that innovation springs mainly from a reshuffling of existing ideas into 'original' frameworks for action. Though the above noted decision makers did not begin 'carte blanche', it is interesting and profitable to speculate whether the progressive course of events in the various areas of New Zealand as regards land development and settlement, under the hand of such enterprising individuals, would have eventually led to their current emphases.

George Edwin Alderton

George Edwin Alderton, whose ideas and efforts at Kerikeri, Bay of Islands are studied in this investigation, is a further example of the importance of the individual in his decision making role, in inspiring, creating or in assisting to create a cultural landscape. It will be demonstrated how the influences upon and resultant decisions by originally this one individual have strikingly altered the course of development in this area of New Zealand. It was primarily Alderton's faith in the future of Northland generally that initiated the establishment of that part of New Zealand as an area of development of subtropical fruit farming and led to the recognition of its special potential.

FOOTNOTES

¹ The writer disagrees with Carl Sauer's assertion that "Human geography is a science that has nothing to do with individuals but only with human institutions or cultures." Sauer, C.O. 1941. Foreword to historical geography: Annals. 34: 7.

² Harvey, D.W. 1969. <u>Explanation in Geography</u>. 119.

³ Mead, W.R. 1969. The course of geographical knowledge. In Cooke, R.U. and Johnston, J.H. (Editors). <u>Trends in Geography</u>. 4.

4 Ibid. 8.

⁵ Brinkmann,T. 1935. <u>Theodore Brinkmann's Economics of the Farm</u> <u>Business</u>. Translated by Benedict, E.T., Stippler, H.H. and Benedict, M.R. Brinkmann however like his predecessors believed in the principle that all farmers strove for the highest possible profit. His sole departure from this viewpoint was in relation to the varying degrees that they were fully or partially optimalising in outlook.

⁶ Ibid. 115-6

⁷ Lösch, A. 1954. <u>The Reconomics of Location</u> .(monopolistic competition and profit maximization); Weber, A. 1929. <u>Theory of the Location of Industry</u> (cost minimization); central place theorists dealing with the individual's maximization of his space-utility as in the journey-to-consume behaviour.

⁸ Simon, H.A. 1957. <u>Models of Man</u>. Especially Chapters 14 and 15.

⁹ Ibid. xxx111

¹⁰ Harvey, D.W. 1966. Behavioural postulates and the construction of theory in human geography . <u>Geog. Polonica</u>. 18: 42.

¹¹ Isard, W. 1956. Location and Space-Economy. 22.

¹² Gould, P.R. 1967. Structuring information spacio-temporal preferences • J. Reg. Sci. 7: 259-74.

¹³ Stevens, B.H. 1961. An application of game theory to a

problem in location strategy. <u>Papers and Proc. Reg. Sci. Assn</u>. 7: 143-57.

¹⁴ Greenhut, M.L. 1963. <u>Microeconomics and the Space Economy</u>. Greenhut, M.L. 1966. The decision process and entrepreneurial returns. <u>Manch. School Ec. and Soc. Stud.</u> 34: 247-67.

¹⁵ "House types, production and communication facilities, domesticated plants, the ways in which open land and forest are allocated, all the features which constitute the visible cultural landscape, were once innovations that have now risen from their inconspicuous origins to become characteristic of their region. The same is true of communications media, techniques employed in fields and factories, political and religious ways of thinking, jazz and dance music, and all the thousands of other cultural features which teem within a region and are just as significant as those things which manifest themselves on the physical landscape." Hägerstrand, T. 1967. Innovation Diffusion as a Spatial Process. 1-2. 'Total geography' according to the writer, includes both tangible and intangible elements in equal significance. Seen as equally important, though outside the scope of this investigation, is Eduard Hahn's study of food and drink habits in Europe. Sauer, C.O. 1941.Foreword to historical gepgraphy. Annals. 31: 16

¹⁶ King, L. 1966. Approaches to location analysis. <u>East Lakes</u> <u>Geog</u>. 2: 1-16; Olsson, G. 1965. <u>Distance and Human Interaction: A</u> <u>Review and Bibliography</u>; Harvey, D.W. 1966 and 1969; Pred, A. 1966 and 1969; Lowenthal, D. 1961. Geography, experience and imagination. <u>Annals</u>. 51: 241-60; Cox,K.R. and Golledge,R.G. (Editors). 1969. Behavioural problems in geography: a symposium. <u>North Western</u> <u>Studies in Geog</u>. 17; Wolpert, J. 1965. Behavioural aspects of the decision to migrate. <u>Paper Reg. Sci Assn</u>. 15: 159-65; Olsson, G and Gale, S. 1968. Spatial theory . <u>Paper Reg. Sci. Assn</u>. 21: 229-39.

¹⁷ March, J.G. and Simon, H.A. 1958. <u>Organisations</u>. 9 Lionberger, H.F. 1960. <u>Adoption of New Ideas and Practices</u>. 96.

¹⁸ Crain, R.L. 1966. Fluoridation: the diffusion of an innovation among cities. <u>Soc. Forces</u>. 44: 467-76; Murphey, R. 1954. The city as a centre of change: Western Europe and China. <u>Annals</u>. 44: 349-62.

¹⁹ Lazarfeld, P.F, Berelson, B and Gaudet, H. 1948. <u>The People's</u> <u>Choice</u>. 151.

²⁰ Most psychologists agree that 'visual impressions' is "not an instantaneous datum but, instead that it is considered an event over time." Smith, G. 1957. Visual perception: an event over time. <u>Psych. Review</u>. 64: 306. ²¹ Festinger, L. 1957. <u>A Theory of Cognitive Dissonance</u>. 1, 260.

²² Studies involving stress reduction by problem solving include: Festinger, <u>op. cit.</u> 3, 83;Brehm, J.W. and Cohen, A.R. 1962. <u>Explorations in Cognitive Dissonance</u>. 3; Cohen, J. 1964. <u>Behaviour In</u> <u>Uncertainty</u>. 27; Adams, J.S. 1961. Reduction of cognitive dissonance by seeking consonant information. J. Abn. and Soc. Psych. 62: 74-78.

²³ "Most human decision-making, whether individual or organizational, is concerned with the discovery and selection of satisfactory alternatives; only in exceptional cases is it concerned with the discovery and selection of optimal alternatives. To optimalize requires processes several orders of magnitude more complex than those required to satisfice." March and Simon, op cit. 140.

²⁴ McWhinney, W.H. 1965. Aspiration levels and utility theory. Gen. Systems. 10: 131-43.

²⁵ Maslow, A.H. 1950. Self-actualizing people: a study of psychological health. <u>Pers. Symposium.</u> 1: 11-34; Siegel, S. 1957. Level of aspiration and decision making. <u>Psychol. Review.</u> 64: 253-62.

²⁶ Birch, D. and Veroff, J. 1966. <u>Motivation: A Study Of Action</u>. 8.

²⁷ After Kurt Lewin's notion of 'life space'. Through a process of structuring, positive or negative valencies are accorded acts and decisions. Increased structuring of the life space occurs as the individual ages. Thus different propensities for different decision acts is associated with different age groups.

"It has been consistently confirmed ... that older people tend to a greater extent to select courses of action which involve lower degrees of risk." Wolpert, op.cit.550.

²⁸ Cliff, A.D. 1968. The neighbourhood effect in the diffusion of innovations. <u>I.B.G. Trans</u>. 44: 75-84; Melvin, B.L. 1954. The rural neighbourhood concept. Rur. Soc. 19: 371-76.

²⁹ Simon, <u>op. cit</u>. 100.

³⁰ Barth, F. 1959. Models of Social Organization. 1.

³¹ Murray, E.J. 1964. <u>Motivation and Emotion</u>. 23; Lazarus, A.S. 1966. <u>Psychological Stress and the Coping Process</u>. 10; Festinger, <u>op</u>. <u>cit</u>. 83; Burdick, H.A. and Burnes, A.J. 1957. A test of 'strain towards symmetry' theories. <u>J. Abn. and Soc. Psychol</u>. 57: 367-70; Osgood, C.E. and Tannenbaum, P.H. 1955. The principle of congruity in the prediction of attitude change. <u>Psych. Rev</u>. 62: 43.

³² Morrill, R.L. 1965. <u>Migration and the Spread and Growth of</u> <u>Urban Settlement</u>. 15.

³³ Myrdal, G. 1957. <u>Economic Theory and Underdeveloped Regions</u>. 13.

³⁴ Pred, A. 1969. <u>Behaviour and Location</u>. 2: 58

³⁵ Lewis, W.A. 1955. Theory of Economic G owth. 57.

³⁶ Festinger, <u>op. cit;</u> Osgood and Tannenbaum, <u>op. cit</u>.

³⁷ Schumpter, J.A. 1964. <u>Business Cycles: A Theoretical</u>, <u>Historical and Statistical Analysis of the Capitalist Process</u>.

³⁸ Barnett, H.G. 1953. <u>Innovation: The Basis of Cultural Change</u>. 151.

³⁹ This aspect forms one current research frontier in behavioural science. Fitts, P.M. and Posner, M.I. 1967. Human Performance.

40 Harvey, 1966. op. cit. 42.

⁴¹ Pred, A. 1966. <u>Behaviour and Location</u>. 1. Ibid. 1969. 2.

Acknowledgement is made to Alan Pred for providing the basic framework of investigation for this study.

⁴² Philpott, H.G. 1937. <u>A History of the New Zealand Dairy</u> <u>Industry</u>.

43 Ibid. 47.

44 Ibid. 61.

45 Monigatti, R. 1966. Fruitful Years. 66.

46 Vallance, D. 1964. The Story of Whangarei. 50.

Chapter 111

GEORGE EDWIN ALDERTON

In order to attempt a placing of one more significant selected individual within the behavioural matrix, this chapter aims at presenting some of the more relevant past behaviours and experiences and personality traits of ^a particular decision maker. It is acknowledged that the evolution of the present spatial pattern at Kerikeri is a combined result of decision making acts of numerous important and less influextial actors with both short and long term effects as well as the element of chance. For the sake of convenience and practicality however it was decided to concentrate upon the prime instigator of the developments at Kerikeri and to treat the influence of other individual and group decision makers only where and when information recording allowed.

George Edwin Alderton (1855-1942) was born in Kingston-on-Thames, Surrey, England. With his parents he emigrated to New Zealand, arriving in Whangarei in 1874. He subsequently became the originator of numerous schemes aimed at boosting the northern portion of New Zealand, for he always had great faith in its potential. When Alderton arrived in Whangarei, the population of Marsden County was approximately 2,500, most of whom lived in or near the town itself. The area north of Auckland and more especially that north of Whangarei had been variously classified, relegated in thought and perception, as 'no Man's Land', 'roadless', even 'uncivilized'.

Journalist interests

Alderton, primarily a journalist, having been employed with the Thames Advertiser in England, first established the Whangarei Comet (1874), a small demyfolic sheet $(17\frac{1}{2}"$ by $11\frac{1}{4}")$. This was the first newspaper to be established north of Auckland and later it grew to become the Northern Advocate and General Advertiser (1876). Alderton was the entire staff of the Whangarei press - editor, publisher, printer, compositor (1876-97). In the North at this stage there was little avenue for criticism, small scope for change via mass media. There were no local bodies per se, to support representation of public opinion, and only a few scattered roads boards. There existed no regular mail or telegraph services in the North at this time. The Comet and Advocate thus found a wide field of support for roading, bridging, and other much needed development in this part of New Zealand. Out of the first vote of money appropriated by Parliament for roading and bridge construction in Northland, £15,000 was taken to build the Mangere Bridge alone - this was the first of many injustices taken up by Alderton by means of the paper. Alderton represented a spur to change and development, for it was through his newspaper that he managed to educate the general public to the advantages of advertising - something unheard of in Northland at this time.

In 1885 Alderton launched the <u>Waitemata County Messenger</u> and in the 1890s the <u>Gumdiggers' Weekly</u>. Between 1897 and 1911 he edited yet another publication, <u>The Resources of New Zealand</u>, later renamed <u>The</u> <u>Tourist and Resources of New Zealand</u>.

Railway developments

Another of the early crusading projects undertaken by Alderton as Editor and Honorary Secretary to the North Auckland Railway Commitee, was the drawing up of a petition to parliament regarding the establishment of a railway linking Kamo and Whangarei (to Limeburners' Creek) - a distance of $4\frac{3}{4}$ miles. ¹ Only a few rail links existed in Northland at this time, notably at Kawakawa, between Helensville and Riverhead and from Auckland for but a few miles north. This fact in particular severely hampered land development.

By dint of a personal visit to Wellington, Alderton managed to secure sanction for the construction of the line. Within three months, in October 1879, Sir George Grey, Prime Minister, came to Whangarei and turned the first sod. Mr J. Sheehan, Native Minister, said to the people of Whangarei at the time of the opening of the link in 1880,

It was the pertinacious advocacy of the <u>Northern Advocate</u> that obtained the Whangarei-Kamo railway, and they had to thank the editor of that paper, and no-one else, for that railway.

The opening of this link, as well as being of significance to Northland generally, had many economic repercussions on the city of Whangarei. One of the more immediate results was that the coal from the Kamo field was able to be transported much more easily to the town wharf. The long term outcome of this change was naturally beneficial to the economy of Whangarei. Alderton's ability to perceive a need or problem and his determination in seeking satisfaction of that need or solution to that problem, were the prime moving factors.

Mining and timber interests

In 1894, again by means of the Advocate, Alderton began agitating for extensions to the railway through to Hikurangi and Puhipuhi in order that the coal deposits around the former and metallic resources of Fuhipuhi could be more easily obtained Alderton subsequently headed a deputation calling upon Sir Julius Vogel at Waiwera and urged the government to construct the line. In 1895 the line was surveyed. Mr Richard Seddon, Minister of Public Works, after an investigation of the whole affair, returned to urge immediate government action. As further evidence of Alderton's resourcefulness, in 1897 when the Puhipuhi fiasco occurred, he at once set about finding out how the mistake in mulling the ore had happened. With the aid of Eussler's Metallurgy of Silver, he unravelled the mystery. Being of a practical nature, Alderton demonstrated the fact by going to the field and, in the presence of the Chairman of Directors of the mining company, Mr James Whitelaw, treated the ore by roasting (with the exclusion of air) and hot-pan amalgamation, saving 85% of the silver.

Fruit farming

Apart from roading and local affairs, another of Alderton's abiding interests was the growing of citrus and subtropical fruits. In the 1870s he had founded the first commercial vineyard and orange orchard (12 acres) in Whangarei. It was largely due to Alderton's efforts that Whangarei developed into the foremost fruit growing district in the 1890s, in which position it remained until the First World War. In 1883 Alderton was sponsored by the New Zealand government to report on citrus growing in Australia. On his return

his celebrated <u>Treatise and Handbook on Orange Culture</u> was published. ³ It was originally this particular work that initiated thoughts of possible citrus development in Northland. The aim of the study as seen by Alderton himself was,

... with a view of encouraging the more extensive culture of citrus fruits in the northern portion of New Zealand, and of aiding planters with reliable information on the subject ... and to personally inquire into and report upon the methods of cultivating the orange ... as pursued in Australia .

The work basically indicates the advantages as offered by Northland for citrus growing. Alderton concludes, from a comparison of trees already growing in Northland and those he inspected at Parramatta, New South Wales, that "situations are to be found in North Auckland which are admirably suited to the growth of the orange." ^b His book also covers the important details of the necessary basic physical requirements of citrus growing such as location, aspect, climate, soil, shelter and drainage. At Mr Pye's citrus plantation in Parramatta he noted that the young trees were surrounded by shelter belts of Eucalyptus trees. At the time of his visit to Australia, Alderton attended a fruit growers' conference and returned to New Zealand with the firm belief that Northland was the ideal location for large scale development of citrus growing. According to Alderton. "... there are a number of such situations suited to citrus cultivation to be found in the sandy bays on the coast between Whangarei Heads and Russell."

In 1886, again sponsored by the New Zealand government, Alderton visited California, United States of America. ⁷ His aim was once more to investigate the fruit growing industry and the viticulture industry in particular. A number of instructive reports were

published on his return to New Zealand. At 'Vinelands', Whangarei, Alderton put to practical use his acquired knowledge regarding fruit farming. Here he grew various fruits including citrus as well as grapes. Not content with solely primary production, Alderton next established a small wine company.

At this particular time in his life, Alderton was attracted by a group citrus settlement scheme operating at Riverside, California. In 1870 the site of Riverside had been bought by the Southern California Colony Association, a land development concern, under the stimulus originally of J. W. North of Knoxville Tennessee. In 1872 cultivation of navel oranges was commenced. Two circulars were printed concerning the activities of the land development company. The first (17 May, 1870) from Knoxville, Tennessee was a call for people to join in a colony starting venture, while the second described the Riverside colony activities and successes. The foundations of one of the leading industries of the state were thus laid by originally one promoting company instigated by one prime innovator.

Real estate

As an employee land agent of the firm Mandeno Jackson, Auckland, at the beginning of this century, Alderton perceived the idea of acquiring the estate of the late George Riddell at Kerikeri in order to subdivide it into more manageable units, to establish citrus and subtropical fruit growing in Northland. This particular venture appears to have embraced a number of Alderton's life long abiding interests - journalism, citrus culture, real estate and especially provided the opportunity to reveal and develop in some small way,

the potential of a part of Northland.

Authorship

At the age of 70 years, Alderton wrote Income Homes That Grow in the Trees, a study collating and presenting to the public his various individual ideas and visions of how Kerikeri could develop. By means of a 'control system' directed by a land development company, as he had seen operating in California and Australia, and which incorporated the necessary agricultural expertise, Alderton had faith in the idea that Kerikeri could develop into a subtropical fruit producing area of considerable significance. The notion of 'income homes', focal to this study was also suggested in this publication - an idea Alderton acknowledged had been used in both parts of Australia and California in the latter 19th century by numerous land development companies. Alderton advised the need for a 'community' type of development for ultimate success. His sincere faith in the North as an orange producing area is continually and emphatically expressed throughout his work. Not only does he purport that the North, especially Kerikeri could grow excellent quality oranges and other citrus varieties, but also other subtropical produce such as vines, passionfruit, melons, as well as tomatoes, peaches, early vegetables, onions and seeds of various kinds. The area at Kerikeri he suggested would also be equally suited to other specialised forms of agriculture such as dairying and poultry raising.

Kerikeri Syndicate Limited

Under the direction of Alderton a promoting concern, Kerikeri Syndicate Limited , was inaugurated. In 1927 a registered company,
the North Auckland Land Development Corporation, was formed. In 1928 Alderton again visited Australia returning this time with 10,000 citrus trees destined for the group settlement scheme at Kerikeri.

The interests of George Edwin Alderton thus ranged from journalism, viticulture, citrus growing, local and political affairs, ¹⁰ and real estate. Above all Alderton sincerely desired to see the northern portion of New Zealand disturbed from its sleepy isolationist existence, to see its potential unfold. Primarily through his journalism, George Alderton had turned to his selfappointed task of boosting Northland and freely **advocated the** growing of citrus fruits at a time when even the idea was considered both outlandish if not completely 'hors de raison.'

FOOTNOTES

¹ Report of the Railway Commission. 1880. Petition presented by George Edwin Alderton. <u>A.J.H.R.</u> 1: 178.

² Keene, F. 1966. <u>Between Two Mountains</u>. 192.

³ Alderton, G.E. 1884. <u>Treatise and Handbook on Orange Culture</u>.

4 Ibid. 1

5 Ibid. 2.

6 Ibid. 3.

⁷ A lack of information in both New Zealand and Californian institutions (University of California - Department of Geography; Citrus Research Institute, Riverside) and libraries (Department of Special Collections, University of California; Bio-agricultural Library, University of California; Honnold Library, Claremont; Pomona Public Library, Pomona; California State Library, Sacramento) regarding the visit in 1886 by George Alderton and the Riverside scheme has been discovered.

8 J.W. North (Judge), founder of Riverside, was a native of New York State and before getting the colony fever , had a distinguished career as an anti-slavery lecturer, a practicing attorney, an appointee of President Lincoln as judge of a territorial district and judge of the Supreme Court of Nevada as well as an industrialist in Tennesse. A committee representing the proposed colony composed Dr J.P. Greves, Judge E.G. Brown and Dr K.D. Shugart, who inspected the Riverside area. The colony group saw a "bare dry, sun-kissed, and wind-swept mesa ... having not a tree or schrub in sight." (Robinson, W.W. 1957. The Story of Riverside County. 22) They tested the soil, found it suitable and were convinced that sufficient water was available. Judge North and his first colonists arrived and pitched their tents. These settlers and colonists yet to come, were encouraged by circulars issued from time to time by Association President North. e.g. one circular (10 October, 1870) pointed out the advantages (locational, climatic and scenic) of the area. 1870 saw construction of the irrigation canal from the Santa Ana River. By April 1871, several houses had been built and a town named Riverside. By 1872 Riverside had homes, stores, churches, a school house, planted citrus fields, stage coach connections with San Bernadina and Los Angeles, a corps of pioneers who were helping build a now famous community.

⁹ Alderton, G. 1925. Income Homes That Grow in the Trees.

¹⁰ Alderton stood for the Marsden Seat against E. Mitchelson (later Minister of Public Works) in the parliamentary elections of 1881.

SECTION TWO

Chapter 1V

EARLY DEVELOPMENTS 1927-33

The process of spatial patterning and formation of a distinctive 'personalite' at Kerikeri may be viewed as occupying three interrelated phases, each of varying characteristics and durations. As a result of these phases, the region in terms of its individual decision makers, has undergone a learning process. Hypothetically speaking a trend towards the lower right hand quadrant of the behavioural matrix as regards decision maker ability and information available, has occurred. Both these phenonemon have had spatial expressions.

This chapter proposes to investigate the first and most vital phase (1927-33) during which the economic basis to many subsequent developments was laid. It is characterised by a behavioural matrix pattern weighted towards the upper left hand quadrant. The two major influences, 'primary movers' or 'communicators', the North Auckland Land Development Corporation and George Alderton, by contrast occupy positions in the lower right hand quadrant.

Initially it is proposed to briefly review the developments as they occurred at Kerikeri in this early formative period, and then, in a behavioural light, to seek an explanation of the process that led up to their formulation and their implementation.

Initial Developments

a) Agriculture

The major vegetative coverage during the previous 30 years had consisted of small areas of pastureland with gorse and scrub in the valley sections. Modern machinery - four heavy three-furrow disc ploughs, caterpillar tractors as well as horse teams - was used by the North Auckland Land Development Corporation to break up this established coverage and prepare the land for planting. Labourers were taken on, and by August 1929, 85 mem were employed in planting and cultivating sections at Kerikeri.

Land was initially ploughed and harrowed. After reploughing, the area was disced, levelled and then planted to lupins. ¹ Citrus trees and passionfruit vines were then planted in alternate rows, with an average of five acres of inter-planted subtropical fruit per 20 acre section.

One of the first tasks undertaken by the company was the setting up of a demonstration plantation of four acres, with 500 citrus trees and 500 passionfruit vines on $1\frac{1}{4}$ miles of trellises.² The section was intended to indicate to visitors exactly what the Corporation proposed to do for absentee owners: how the sections were to be laid out; how they were to be cultivated, planted and maintained. A nursery of just under four acres was also set up to provide a local source of afforestation and food plant stocks.

The Wellington Block (1,000 acres) was the first area to be surveyed and divided into 25 acre lots. The first private section planted with citrus was located opposite the intersection of Pa and Wellington Roads. In October 1928 this property was planted with 500 Washington Navel orange trees. On specially constructed wire trellises, run between the rows of citrus, were planted 500 passionfruit vines. A fast maturing and luxury crop, the vines provided almost immediate remuneration while the citrus matured. ³ Twelve months after this initial planting, it was reported that "The first section planted to passionfruit ... is now bearing fruit, some of which has already been marketed...." ⁴ Within the first year, over 15,000 orange and lemon trees on <u>citronelle</u> and sweet orange stock were planted at Kerikeri as well as interplantings of 20,000 passionfruit vines.

A second block, on slightly higher ground, of 1,000 acres opened for selection in 1929. ⁵ As in the previous block, plantings in the Uplands Block were at a ratio of 500 vines to every five acres of citrus trees. Ocean View subdivision was surveyed during 1929 while the Falls Block opened for selection the following year. Proposed farms in the latter subdivision indicated a greater range of sizes, with 15 to 50 acre lots surveyed. By November 1929, of the 97 lots for sale at Kerikeri, 76 had already been purchased.

Cultivation of passionfruit was an immediate economic success. From one five acre property of 500 vines, over 1,000 cases of fruit were taken from plants barely 18 months old. 6 By the close of 1929, nearly 20,000 cases of passionfruit were picked, packed and marketed from Kerikeri orchards. 7

Afforestation trees, by their nature and prolific growth rates recorded in a subtropical climate, were the most dominant feature of the landscape during this early period of development. ⁸ Over 12 miles of Eucalyptus shelter belts were planted during the first year

of operation of the scheme. In principle, each 25 acre section was to have approximately four acres of Australian hardwood shelter belt trees planted a chain wide on at least three sides of the property. In reality, some areas were afforested much more, depending upon the nature of the terrain first and foremost. Since most sections consisted of half cultivable and half sloping land, many of the valley areas which were not terraced, were afforested with gums. By the end of 1929 a company spokesman reported that,

Our shelter belts are coming along splendidly. The belts planted two years ago are now fifteen feet high and are already beginning to make their influence as wind breaks felt. They are already a feature of the landscape.

As well as long lines of gums bordering many of the sections and plantings on land unsuitable for citrus cultivation, by the close of 1929, several consolidated stands of trees had been established. The largest, located to the northwest of the main settlement, on Pungaere Road, totalled 400 acres. Professor H.H. Corbin, Director of Afforestation for the group settlement scheme, commented that,

This area has been recently planted with Eucalyptus, Botryoides, Pilularis, Saligna, and Mulleriana and the work has been well done with good planting stock ... The trees are approximately eight feet by eight feet., i.e., 680 trees per acre nett = 400 X 680 = 272,000 trees. The trees are all alive and they were showing signs of growth here and there. They are all valuable species, and will be a good asset in a very short time.

Subtropical fruit growing coupled with afforestation trees formed the economic basis to the Kerikeri scheme. Other subsidiary types of cultivation were also undertaken. In 1929 on areas of company owned land and the property of Edward Little, one of the more prominent settlers, small plots of tung oil trees and tamarillos were established. ¹¹ On one property across the Inlet at Waipapa, ten acres of tobacco was grown experimentally and special drying

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kilns constructed. Resident settlers also undertook cropping of cabbages, potatoes, tomatoes, **c**arrots, parsnips, onions, peas and beans in between the rows of citrus and passionfruit vines and on small particularly favourable locations, for local supply and marketing outside the area. These secondary enterprises are reported to have cropped heavily during this early period. ¹²

b) Settlement

In addition to the basis being laid for the special agricultural and afforestation landscape, a settlement pattern was also emerging during this early developmental phase. Though many settlers utilized a variety of dwelling forms, including canvas tents, by 1929 a number of permanent residences were in the process of being constructed. Jamas Greig (ex Manchuria) had built a home with massive stone pillars to the west of the main road; Captain Voelcker (ex Indian army) had called tenders for the Shropshire Farm; Edward Little (ex China) was in the process of planning Kingston, while the huge stone gateways at the crossroads of Hone Heke and Main Road had already been built. Daniel Ferguson (ex China) had built a pagoda house with distinctive gates of the rising sun guarded by two dogs of Fo, beasts of Chinese mythology. Edward Little had had constructed a building 40 feet square, which was later to become known as the Red Barn. Here passionfruit from the settlement orchards was at first packed and stored. Experiments relating to its processing were carried out here during 1929-32 primarily by Mr Little. ¹³

The village of Kerikeri, consisting of the Homestead, a small store at the corner of Wellington and Main Roads, tended to develop

in a linear pattern. At variance with the proposed Alderton Garden City of Kerikeri, the settlement aligned itself along the main road leading through the citrus lands.

Related to the embryonic urban developments and scattered rural settlement pattern, was reading construction. In March 1930 the Kerikeri settlement received a government grant of £5,000 for roading purposes. A metal road extended from the Homestead gates to the water front while the road towards the northern main highway had been graded and was ready for metalling by May 1930.

Subsidiary Companies

Allied to the North Auckland Land Development Corporation as parent company, three settlement-inspired private concerns were established within the first two years of development. In 1929 the Alderton Utility Company was established to harness the waterpower from the Kerikeri Falls and reticulated electricity to the settlerresidents. The power house, designed by Mr L. Mandenc, was automatic, requiring but a weekly visit for general checking purposes. The turbine was imported from England and hardwood power poles from Australia. The total cost of the plant was £4,000, the "... cheapest works ever put up in New Zealand; in view of the fact that all the plant was of the most up-to-date nature." ¹⁴ The electric current was first turned on on 11 July, 1930 and Kerikeri became the first township north of Whangarei to supply electric power to its residents. Through the Minister of Public Works the small settlement was approached by Russell, Waimate North, Kaikohe and Okaihau for permission to use the Kerikeri electricity supply. ¹⁵ By June 1930 over 20 miles of reticulation lines had been established. A flat

rate was initially charged to avoid the introduction of meters, the keeping of accounts and incurring of unnecessary overhead expenditure. The rate was based on number of rooms per house, number of persons residing there over the age of 16 years and quantity and size of used appliances. ¹⁶

The Alderton Fertiliser Company was also established in 1929, to crush shell deposits from Shelly Beach in order to provide shell lime for the settlers' and company's lands. ¹⁷

In 1930 a passionfruit marketing company S.O.C.R.O. (Southern Cross) was formed by all settlers with producing vines. All settlers with vines having reached the bearing stage were assessed for shares in the company at a rate of £25 of shares for every five acres of orchards. All fruit was initially roughly graded at the orchard by the various growers. The best quality fruit was then sent to the Red Barn for regrading and packing. All growers were called upon to assist. Each fruit was wrapped in paper printed with a special design after grading for size and quality. These were then packed in cartons and two dozen of these then packed into large containers suitably printed with the special Kerikeri trademark. The fruit was then transported and marketed. Enquiries concerning Kerikeri grown fruit were received from various areas and cities throughout New Zealand. Demand soon outran supply. Wellington city ordered a supply of one ton per week in March 1930. Dunedin and Christchurch followed with similar orders.

As well as selling whole fruit, S.O.C.R.O. undertook the processing of passionfruit juice. During the early stage of developments, processing took place in three locations - at the

passionfruit factory at Kerikeri, at the Vacuum Bottling Company at Hawera and at a cordial company in Auckland. Juice processed by the Kerikeri factory was stored at the Red Barn. ¹⁸ Marketing of the fruit proved an instantaneous success with,

Nothing like this as regards passionfruit ' having been previously seen in New Zealand. It commanded an immediate market. The Kerikeri settlers got as high as 27/- for a container, that is $1/1\frac{1}{2}$ per dozen, when ordinary market prices were about half this price.

In July 1930, total passionfruit received was 39,5471bs, of which 10,2261bs was delivered to the Kerikeri factory, 16,8371bs was sent to the Red Barn packing shed while the remaining 12,4841bs was delivered to the Hawera Company for vacuum bottling.

As early as December 1929 trial shipments of Hawera bottled Kerikeri passionfruit juice to Shanghai, China were undertaken by Edward Little. By April 1930 further experimental shipments by individual settlers were extended to Tientsin, China, England, Canada, United States of America, Scotland and Denmark. $^{\rm 20}$ In November 1932 a community inspired trial shipment of whole passionfruit left for England on the 'S.S. Kent'. A report of the fruit handling agents, Messrs Poupart to the New Zealand High Commissioner in London, advised that "The fruit, on the whole, was of excellent quality, good flavour and contained more edible matter than any ... seen: before." ²¹ Nineteen cases of fruit were handled by Messrs Poupart and prices realised were as follows : 6 cases @ £1, 3 @ 18/-, 3 @ 10/-, one \otimes 8/-, one \otimes 6/- and the remaining five cases, unsold, were destroyed. This experimental shipment was an important event in the passionfruit industry in New Zealand. In all, nine different methods of packing were utilized : a variable combination

of fruit stems charred/ stems not charred; wax paper wrapperd/ oil paper wrappers amd granulated cork packs/ sawdust packs.

In addition to these notable trial shipments and experiments, throughout the early phase of development, numerous settlers carried out individual experimentations with passionfruit pulp preservation, juice bottling in addition to the manufacture of jams. ²² Individual settlers also experimented with **different** cultivation methods. e.g. Captain Emanuel and son did not allow cultivation of the ground between the rows of their trees and vines and consequently the grass grew as high as the plants themselves. At least two types of passionfruit vine trellis were tried out by the settler-growers. The first was of wood and staples but proved insufficient to support the weight of the vines, while the second, of chicken wire, was much more successful.

S.O.C.R.O. was however short lived. Passionfruit Plantations Ltd., an 'outside' development company, succeeded it the following year. A large factory was built in Wellington Road to pack and cure the passionfruit produced by the settler-growers. In 1932 Kerikeri Growers as the formal collective voice of growers was established.

Within six years, Kerikeri was producing citrus, ²³ passionfruit, shelter belt and afforestation trees on a large scale, as well as various types of potatoes, peas, strawberries, tobacco, tung oil trees and tanarillos in certain selected smaller areas. Kerikeri had already acquired a name for itself in New Zealand and overseas as a specialist subtropical fruit and early vegetable producer. Closer settlement with a distinctively wooded citrus

landscape had been achieved. An embryonic village and an architectural individuality were arising. Electricity reticulation and roading developments, as two yardsticks of progress, had been established to serve the growing community. The population of the area had risen from about 35 in 1927 to approximately 300 in 1933.

A tendency however of small scale operations is their inability to withstand large financial pressures. In 1933 the North Auckland Land Development Corporation went into receivership, in which position it remained until eventually withdrawn from the official register of companies in 1952.

Process of Spatial Patterning

This investigation rests upon the premise of the paramount importance of the individual decision maker, particularly singly, or in group, in the formation of spatial patterns and areal 'personalite'. It is proposed to view the above noted agricultural and settlement developments in the light of the process of their evolution - to seek an explanation of their prescence.

We shall better understand the agriculture . and other elements of the 'total geography' of an area if we study what the actual decisions were, how they were made, and how they have operated.

For convenience and in order to more fully appreciate the variables involved, the process of spatial patterning and 'personalite' formation has been divided into three sections - a) decisions by George Alderton, b) decisions taken by the North Auckland Land Development Corporation, and, c) decisions taken by the early settlers. Each of these decision making groups will be analysed in turn. ²⁵

1. Decision making by George Edwin Alderton

In view of observations recorded in Chapter 111, Alderton is

accorded a location in the behavioural matrix towards the lower right hand quadrant. He was a key communicator or innovator. It is proposed to view the actual decision making process of Alderton in the light of those elements outlined in Chapter 11 that unite to form the behavioural matrix. All the elements are naturally interrelated. For clarity they are, however, individually presented and analysed.

Information accumulation

Alderton's fund of both private and public information was indeed vast. Not only was he intimately involved in local affairs in Whangarei in particular, but also in regional and national affairs. His sponsoring by the New Zealand government on three occasions, bears witness to the possibility of his gathering large amounts of specific, accurate and quality information. On return from his overseas tours, Aldorton published much literature concerning citrus and subtropical fruit growing as well as advertising the 'group' method of settlement. ²⁶ In addition he was frequently in close contact with other interested writers and publications of a similar vein. Both his range and stockpile of public information was indeed remarkable. His accumulation of private information on the other hand, was dependent upon a lifelong association and friendship with fruit growers in Whangarei and other parts of Northland.

During his 1883 tour, Alderton accumulated additional specific material pertaining to the physical requirements of citrus and subtropical fruit farming as practised in Australia. The importance of adequate planning and the desirability for land settlement and development by a second party (such as a land development concern) was demonstrated to him at Renmark and Mildura. An appreciation

of the feasibility of combining afforestation trees (such as Eucalyptus Australian hardwoods) as shelter belts to protect young and maturing citrus plants as well as to create the necessary tropical temperatures by boxing in the plants, also derives from his Australian tour. ²⁷

In 1886 Alderton visited California. At Riverside he was exposed to the exemplary influence of a land company under the initial stimulus of an innovative individual (the Southern California Colony Association and Judge J.W. North) upon the formation of a citrus growing region. The group settlement idea, without the need for individual expertise in all aspects of fruit farming, was amply demonstrated to him. Once more he saw gum trees growing as shelter belts to protect young plants, as well as simultaneously being considered a future source of wealth as power poles.

Experience gained from both his overseas tours led Alderton to appreciate the possibility of combining the best in town and country, of providing the agricultural producer with an economic (supervision by a body of experts and advisors forming an integral part of a land development concern) and at the same time a beautiful parklike environment in which to work and reside. Los Angeles in the mid 1880s demonstrated the possible coexistence of the 'beautiful' and the 'economic'. Alderton fervently believed that this could be reproduced in Northland. ⁸ Kerikeri to him symbolised a future potential miniature California.

As further example of the Wealth and range of information accumulation by George Alderton, reference to the thoughts and ideas of Ebenezar Howard is relevant. Welwyn Garden City, based an Howard's

ideas, was established in 1920, a result of an awareness and desire to create for man an essentially 'human environment' in which to work and live. The dissemination of these ideas after World War One, was universal. Kerikeri, to Alderton, appeared as a possible 'garden city', each citrus plantation as a 'miniature park'. ²⁹ Provision was to be made for recreation and social amenities in order to provide a balanced habitable environment for a man and his family.

Visual impressions

A second component of the behavioural matrix is the compounding factor of visual impressions received by Alderton over a period of 50 years. This element was dependent upon his geographical location. Though born in England, Alderton spent most of his life in Northland, New Zealand and particularly in Whangarei, Auckland and Kerikeri, where latter he died in 1942. It is not surprising that it was towards boosting this particular part of New Zealand that he directed his attention and energies. Alderton's 'field of visual impressions' was considerable. As a resident of Northland, he was keenly aware of the need to develop the area's potential.

The economic depression of the late 1920s-early 1930s era which brought with it serious consequences for Northland and New Zealand, was a further important factor that was added to Alderton's information stockpile and imprinted itself upon his field of visual impressions. This phenonemon created in Alderton a stress situation which he constantly strove to reduce. The writing and publishing of his focal concept of 'income homes' whereby a man may grow his food needs and, in addition, earn an income, was promulgated by this feeling.

Individual aspiration level

A third element in the decision making process of George Edwin Alderton, is his aspiration level. As seen in Chapter 11, this is a function of past successes. Though it is possible to experience success upon success as a result of low aspiration level, Alderton's list of past successes was indeed voluminous and being of a high achievement level was realistically based on the area as well as in terms of his own ability. One may note at this stage the various railway and roading undertakings, the newspaper foundings, the overseas government sponsored tours and the related publications and reports that eventuated in the behaviour pattern of Alderton. A circular and cumulative spiralling upward pattern of successes was established as early as 1874 in the personality matrix of George Edwin Alderton.

Special personality traits

Related to aspiration level, are numerous vagaries of personality. From past behavioural exploits it is considered that Alderton held **a** basically optimistic outlook on life, was possessed of self confidence, persistence, resourcefulness and sufficient energy to enter willingly and optimistically into new decision making ventures. A 'dream goal' perceived by Alderton was to transform a part of Northland into a Dominion showplace in order to partially reduce the anxiety he felt regarding its wasted potential.

Other factors to note include Alderton's demonstrated intelligence in the field of problem solving; his interests in the North and in citrus growing; his awareness of the need and possibility of achieving both of his abiding interests in Northland and his ability

to act decisively in the face of stress producing situations.

In Chapter 11 it was noted there exists a tendency for youth and increased entrepreneurial and decision making receptiveness and ability, and old age and resistence to be coupled. The decision making behaviour of Alderton however exemplifies the converse. George Alderton appears to have managed to retain the majority of his adaptiveness as he aged. He serves as an example of the **sum** of increase intricate elements that combine in the formation of an individual's cognitive style. Alderton was in his early 70s when he wrote <u>Income Homes That Grow in the Trees</u> and formulated the group settlement scheme for Kerikeri. This correlation however serves to considerably enhance his position in the model of the behavioural matrix. Ferhaps one should view age, not purely as chronological, but as relative to the ideas and perception of the particular individual at the time.

Group norms

A fourth factor is the influence of group norms upon individual decision making ability and probability. As an originator of numerous developmental undertakings and as mouthpiece of a growing community for many years, Alderton was viewed by his contemporaries as a decision maker with a high importance rating. His past successes in many and varied fields, considerably augmented confidence placed in him.

The early developments at Kerikeri - the basic group orientation of the entire settlement, the establishment of citrus, subtropical fruit and early vegetable growing, the afforestation schemes and the arrival and settlement of a group of former British overseas

professional men and their families - can be seen to have distinct evolutionary links with the position and path of movement of George Alderton on the model of the behavioural matrix. Alderton was of focal importance. Through his perception of a problem or want and his expressed desire to fulfil that want, Alderton may be viewed as a catalyst, entraining an awakening or mutation in perception regarding Northland and citrus farming in New Zealand. (Table 1)

2. Decision making by the North Auckland Land Development Corporation

A second influence, a group influence, was the guiding body of directors and advisors who constituted the North Auckland Land Development Corporation. In addition to promising adequate returns on investments for share 1. .ders, the corporate ideas of the company and those of George Alderton concur on the major points of the Alderton Scheme. As one of the six company directors, Alderton was the principle instigator of its formation. Each of the company directors would have had his own particular location within the behavioural matrix . ³⁰ Mutual influences upon the behaviour of all six directors and upon the behaviour of Alderton doubtless occurred. The influences of the settlers who responded to the company's advertising campaign are also of note. It is not of focal interest however to attempt individual director locations within the matrix.

In this section it is proposed to appreciate not only those elements whose aggregate outcome was the decision to form a land development concern, but also, to analyze those factors crucial to the subsequent decision acts taken by the company as they affected spatial patterning and 'personalite' formation.

TABLE 1

ALDERTON'S DECISION MAKING PROCESS IN RELATION TO SPATIAL PATTERNING AT KERIKERI

Time	Developmental stage	Nature of information	Historical facts of past behaviours of Alderton
1874	Awareness of an incomplete pattern	Private	Arrived in North 1874. Perception of fact that area lacked progress as regards transport routes, resources and advantages of mass media channels.
	Interest in solving the problem	Private and public	Established various newspapers in the North between 1874-97. Deputations to government concerning the imbalance in national developments. Two overseas groupsoned tours between
1883			1884-86. Various publications resulted between 1884-1925. Established first commercial
1925	Evaluation of developmental concept	Private and public	vineyard and orangery in Whangarei. Dissemination by Alderton of his publications, ideas and ideals nationally and overseas. Encouraged by response received.
1927	<u>Trial</u>	Public	Founding of Kerikeri Syndicate Ltd. Area proved agriculturally. Group dissemination of material concerning his scheme for development.
	Adoption of the basic concepts as formulated by Alderton	Public	Establishment of North Auckland Land Development Corporation in 1927 to promote the area at Kerikeri.

Kerikeri Syndicate Limited

In Chapter 11 the existence of various stages in the act of decision making were suggested. The first two stages, 'interest' and 'awareness' were conceived initially and individually in thought and in in publication by George Alderton himself. At the stage of 'evaluation' the interest and awareness of five others had been attracted and retained. Kerikeri Syndicate Ltd., represented this third stage - a joining together of individuals in the form of a group to more successfully carry out the developmental aims proposed by Alderton. Stage four, 'trial', was depicted by the attempts of Kerikeri Syndicate Ltd between 1925-27 to prove the Kerikeri area as suitable agriculturally, to indicate the benefits to be gained from co-operation and group settlement and thirdly, to establish the fact that limited farming knowledge need not necessarily be equated as a restrictive factor in the development of an area that substantial change had hitherto bypassed. ³¹

The North Auckland Land Development Corporation

The particular aims and methods for development had been expressed by Alderton two years prior to the company's establishment. Practicality advised the formation of a company to facilitate the 'on the ground' working out of details. The successes in the three main aspects of the trials and experiments in addition to the interest shown by possible settlers both in New Zealand and overseas, led to the formation of a land development concern, in December 1927. ³²

Information accumulation

In order to view the principles of development proposed by the Corporation in their proper perspective, it is necessary to appreciate







certain national and international conditions pertaining at the time. These form part of the information accumulation and visual impressions of the company.

The depression of the late 1920s-early 1930s era was a traumatic economic and social experience to New Zealand and overseas nations. In New Zealand dramatic drops in exports, national income and prices received for farm commodities and a sudden rise in food prices were recorded. The number of workers unemployed rose startlingly between December 1930 and June 1931 by which **time** 50,000 were receiving financial assistance. The peak of unemployment figures was reached in 1933 with 80,000 men out of work. The urge to take up land and to produce one's own food, became expedient and extremely desirable. In an attempt to ameliorate the labour condition, various land development schemes were devised under the direction of a government Land Development Board established in 1929. Settlement of the land with limited capital outlay became possible. In Northland alone, 160 former unemployed men were established on crown land in this way in 1929. ³³

In addition to government undertakings there also arose a number of private land development schemes for the express purpose of providing the unemployed with an income and a livelihood. Some were successful though there are examples of bogus deals. ³⁴ In view of the prevailing high food prices and the desire to take up land and bring it into economic production, Northland represented "New Zealand's outstanding opportunity only awaiting recognition." ³⁵ The North Auckland Land Development Corporation was yet another of the privately operated and engineered land development concerns.

A second circumstance pertaining at the time, forming part of the

information accumulation of the Corporation, was the tense situation existing overseas, particularly in China and India. British stationed personnel found themselves in an inenviable situation. In China between 1927-29 there existed a state of civil war with the Chinese displaying a rising sense of nationalism simultaneously in friction with the advance in Manchuria of Russian communism and Japanese militarism. Generally speaking throughout the East, Britishers were seeking a place to retire, preferably in one of the English speaking former colonics, free from political troubles and one that provided an attractive pest frec climate. Kerikeri's many attractions - situated in a politically stable English speaking country with an equable pest free climate - were at this stage disseminated by newspaper articles, by the fortuitous publication of Alderton's Income Homes That Grow in the Trees (1925) as well as the issuing of the company's Prospectus (December, 1927) and the four associated circulars that followed (Circular A.n.d; Circular B. September, 1928; Circular C. July, 1929 and Circular D. June, 1930).

The death of George Riddell in 1927 and the decision to offer for sale the Riddell Estate at Kerikeri, Bay of Islands, is a third important event to be considered. The estate covered just over 6,000 acres. A rectangular portion of the estate, five miles in length by one and a half miles in width, located on the riverine spurs, was known to be composed of a highly rich iron and aluminium oxidic basalt with the potential for development as first class citrus land.

A dissemination of knowledge from Great Britain concerning the environmental planning and structuring premises of Ebenezar Howard occurred in the late 1920s. This timely broadcasting of information

may be seen as a partial outcome of the aftermath of the First World War and the landscape desecration that had occurred. Written material concerning Howard's ideas undoubtedly reached New Zealand at this time. An awareness and need to appreciate the aesthetic aspects of environmental planning and the desire to provide man with a comprehensively designed and balanced milieu, were stressed.

Developmental proposals

The events noted above form the more salient background factors that comprised the information accumulation and visual impressions of the North Auckland Land Development Corporation.

Income homes

In view of these occurrences, it was appreciated by the company that there existed a need not only to provide an immediate but also a future income producing home for people of little agricultural knowledge and of limited but sufficient capital. It was thus proposed to establish citrus growing (to take advantage of Northland's subtropical climate), passionfruit (grown between the rows of citrus to provide resident and absentee owners with an immediate income) and early vegetable crops to provide resident settlers with an additional source of ready income as well as to provide settlers with their own food requirements. The afforestation scheme was designed with two aims in mind - a) to box in and provide shelter for the young citrus and intercalary crops, and, b) to provide a future source of income as fence posts and mine props (after seven to eight years growth) and as telegraph poles (after approximately 17 years growth). The company consequently undertook the establishment of sections of five acres of citrus and passionfruit and enclosed each

with approximately four acres of Australian hardwood shelter belts.

Expert guidance

A second aim of the company was to remain as a guiding body of experts for an indefinite period of time, in order to instruct those settlers inexperienced in agriculture and oversee the entire group settlement development. This system thus belied the need for the settler to carry out the initial rough pioneering work and enabled overseas and absentee owners to have their properties prepared and planted before entering into complete possession. A number of groups of workers, each under the direction of a supervisor attended to systematically hoeing around and spraying each tree and vine planted in the settlement. With the agreement of the selector, all the heavy cultivation, spraying and clearing could be contracted for with the company's staff. (Appendix 4). This plan thus obviated the need for each settler to install heavy equipment used only infrequently.

Productivity and beautification

A third purpose was to develop the area as simultaneously economically productive and aesthetically beautiful. Alderton personally and the company, were aware of the fact that within a radius of six miles of Kerikeri, there existed at least six waterfalls. The falls (Kerikeri, Rainbow, Double), cascades, pools and generally attractive river banks were to be preserved by a system of restricting access, for the benefit of residents as well as possible future tourists. For those settlers not wishing to become agricultural small-holders, Kerikeri as a 'garden city' was envisaged. The city was to be located on the site once occupied by Kororipo Pa and was to cover approximately 600 acres. According to George Alderton, each citrus plantation was to appear as a miniature park with the garden city of Kerikeri centrally situated.

Tenure

To provide for individual differences as landuse preferences and tenure arrangements, two types of tenurial agreement were devised. For those settlers selecting absentee tenure, the company undertook to plant, establish and maintain a property for a period of five years. At any stage the selector could resume control of his section, assuming residential tenure.

A group settlement

A final principle of development specifically utilized by the company was the basic aim to establish s group settlement. The benefits of co-operation were to do away with any wastage and avoid the often haphazardness of some earlier settlement undertakings.

Each of the principles of development outlined above had its own corresponding spatial context. Each had its evolutionary link with the perception by George Alderton in particular and by the North Auckland Land Development Corporation in general.

Circular and cumulative movement

The principle of circular and cumulative movement, with an overlay of a spiralling upward (denoting success) or downward direction (denoting failure) has been noted in Chapter 11. This broad principle may be viewed as relevant in an analysis of the decision making process as it has affected spatial patterning at Kerikeri. The company as originally conceived was to undertake the planting, maintaining and guiding of citrus, passionfruit and

afforestation tree culture for section owners who so desired as well as to establish company plantations, a demonstration and a nursery block. These aims were carried out in essence, ultimately becoming imprinted upon the cultural landscape of the area. In the Prospectus and four circulars that were subsequently issued over a period of three years, further more specific and detailed subsidiary aims were outlined. The desire to reticulate electricity for the settlers, the wish to utilize lime deposits as a fertiliser for the orchards and the ambitious scheme to establish a 'garden city' for those not wishing to farm, are three examples. Spurred on by initial successes in land sales and interest shown, the Corporation was instrumental in establishing electricity for the Kerikeri residents. The other two ambitions were however not realised, consequent upon other related conditions and events to be examined later, for " ... an organisation is 'solvent' - and will continue in existence - only as the contributions are sufficient to provide inducements in large enough measure to draw forth these contributions." 36

3. Decision making by the settler growers

A third influence, again a group one, is represented by the arrival during this initial period of development, of successive waves of settlers from mainly overseas ex-colonial locations. It is beyond the practical scope and focal interest of this investigation however to analyze all the factors that determined individual settler locations within the behavioural matrix - to appreciate the multitude of individual motives for emigration and settlement at Kerikeri in particular. The settlers who responded to the advertising efforts of the group settlement scheme by Alderton and

the company , who bought sections off the map (Map 4) in their various countries of origin, are consequently viewed as a group. They are collectively accorded an upper left hand quadrant location in the matrix model as regards citrus and subtropical fruit farming. The appearance of certain 'opinion leaders' within the group is also observed. It is proposed to follow the pattern of explanation of the decision making process adopted for analysis of the previous two influences and to view in a behavioural light, the spatial outcomes.

Information accumulation

Private and public information relating to the Alderton group settlement scheme was, from 1925 onwards, broadcast both overseas and nationally. The <u>North China Daily Mail</u> and the <u>North China Daily News</u> form major sources of many accounts of the principles of development of the Corporation and of the ideas and visions of George Alderton. In addition they record with interest the initial attempts at citrus and subtropical fruit farming at Kerikeri. When Alderton wrote and published <u>Income Homes That Grow in the Trees</u> in 1925 he received over 400 letters from interested overseas people – an indication of the availability and extensive distribution of information relative to the scheme.

Visual impressions

The visual impressions of these intending settlers were culled from the politically unstable environment of China in particular. Riots and open street battles and the presence of other hazards (pests such as snakes and insects and **di**seases such as malaria and the plague) were rife. Visitors from India and China and other overseas locations were, as expected, greatly enamoured with the

scenic, peaceful attractions of Kerikeri and surrounding area with its unpolluted waters and complete absence of all vermin, snakes, and wild animals. As a group, there existed a desire to escape the pressures and tensions of not only politically unstable areas, but also those of city life - to take part in the 'back to the land' movement that was evident during this period. Another populational element of New Zealanders, ruined in business or farming by the onset and progression of the depression, saw in the Kerikeri scheme, the possibility of starting afresh.

Opinion leaders

A third element to note is the importance of numerous opinion leaders or key communicators of information, in the encouragement of others to decision making and ultimately to the imprinting of certain significant spatial patterns at Kerikeri. Lazarfeld, Berelson and Gaudet first presented their 'Two step flow hypothesis' in 1948. The hypothesis involves a movement of ideas and attitudes from their original source directly, rapidly and initially to segments of the population most advanced on the behavioural matrix and thence through " a screening process to the rest of the population. (Fig. 9).



Fig. 9

The Two Step Flow Hypothesis

Though the hypothesis is overtly simplified, the model does help elucidate a very important factor instigating decision making - that

of the opinion leader.

Of the numerous early opinion leaders, Edward Little is one who aptly demonstrates this effect. At various times a businessman, Trade Commissioner for Australia in China, associated with Brunner-Monde in Shanghai, China, Methodist missionary in China, and always optimist and idealist, Little became interested in the scheme at Kerikeri at the start of developments. On 17 December, 1927 at Russell, Bay of Islands, and during a New Zealand tour with his wife, Little met another person interested in the scheme.

A perusal of some of Little's journals, diaries (<u>New Zealand</u> <u>Tour 1927-29</u>), his <u>Kerikeri Notes</u> and <u>Circular C</u>³⁷has confirmed that he was possessed of both large quantities and detailed qualities of information relating to settlement development and citrus growing. Having been associated with the largest chemical firm in the world at the time, Edward Little was au fait with fertilisers and the properties of soils. It was under the stimulus of Little that a soil sample from Kerikeri was sent to China and handed to I.C.I.(China) Ltd., for chemical and mechanical analysis. ³⁸ An abiding interest and hobby of Little was horticulture and he had a considerable knowledge of citrus growing. His visual impressions gained from a visit to Kerikeri, during which time he bought 400 acres of land in the scheme, are conveyed on his persuasive writings. In all his publications, Little compared conditions existing in China and those at Kerikeri.

Like Alderton, Edward Little may be seen to have had good abilityto-use and possessed large accurate quantities of information. He may be viewed as occupying a position in the lower right hand quadrant of the behavioural matrix. As Alderton's agent in China for several years, Little became one of the earliest and most influential settlers. It was Edward Little who sold properties off the company map to intending settlers in China, who undertook to broadcast information concerning the scheme generally, the aims of S.O.C.R.O. and the electricity project. Through Little, information and opinions concerning the scheme passed, to be recorded and later disseminated in his <u>Kerikeri Notes</u>. Before the <u>Notes</u> were broadcast to acquaintances with the request to pass on the information to any other interested persons, a certain element of screening doubtless occurred. Most of the reports have been found to be exclusively favourable to the scheme at Kerikeri.

During one of Little's many return visits to China in this early developmental phase, the Shanghai Club of those intending to settle and farm at Kerikeri was established. Little disseminated not only official material concerning the scheme, but also supplemented this with his own opinions. For many eventual settlers, the deciding factor was the faith and credibility they had placed in Edward Little as an accurate observer and decision maker of high repute.

Other important figures to **note** not classed as opinion leaders in the full sense, though forming 'influentials' include Mr R.T. Waters (ex Tientsin) ³⁹, Miss F.M. Knight (corresponding secretary of the Overseas Club, Tientsin) ⁴⁰ and Mr J.A. Cresswell (ex Shanghai). All of these individuals prepared and sent to China many favourable reports and encouraging letters regarding the scheme at Kerikeri to their friends and acquaintances. A number of settlers such as Mr E. Cowell (ex Tientsin), Mr and Mrs A.W. Nash (ex Tientsin) and Mr W.J.

Lyness (ex Shanghai) spent some time at Kerikeri watching progress being made on their own and their friends' and associates' properties, before returning home with reports and photographs. This assisted in the decision making of those persons still a little sceptical. ⁴¹

Group norms and the 'neighbourhood effect'

Two other behavioural elements to note include group norms and the neighbourhood effect. There exists a remarkable convergence of ex-Shanghai and ex-Tientsin settlers who settled in Kerikeri during this early phase of development. Of the 47 section holders, 16 of whom were resident, in November 1929, 29 were from China, three from India, ten from New Zealand amd one each from Australia, United Kingdom, Japan, Malaya and the Middle East.

Having established the more important behavioural factors and forces that promoted the decision to migrate and to Kerikeri in particular, it is proposed to analyze some of the more significant decision acts of particular settlers (where historical records permit) and of the settler group, in forming two chosen elements of the early spatial pattern of the area.

The moment a geographer begins to describe an area ... he becomes selective for it is not possible to describe everything and in the very act of selection demonstrates a conscious or unconscious theory or hypothesis concerning what is significant.

For the purposes of this investigation, flora and house style have been selected.

Reminiscent imitation

Powell has observed a desired tendency for people individually and in groups to create some of the more desired elements existing in their previous homeland. 43 This tendency, the writer of this
study, has termed 'reminiscent or sentimental imitation'. Though often of minute scale and intensity, elements of this nature can frequently form very significant features of a spatial pattern.

In the early stages of European settlement at Kerikeri, the missionaries established specifically European agricultural crops and livestock and in additon planted hawthorn berries, hazelmuts, walnuts, trefoil and ash and acorn seeds. ⁴⁴ In 1842 James Kemp imported from England and planted at Kerikeri, seeds of cocksfoot, timothy, italian rye, meadow foxtail, crested dogstail, sheep fescue and tall fescue, tall and yellow oat grass, several poas and three different varieties of clover. Again, in the era of the Manako Estate, gorse (grown as hedgerows in England) was planted as animal feed as well as hedges. All of these individual plantings have had their spatial expressions which have endured over time, though changed in both form and extent.

A tendency towards reminiscent and sentimental imitation is also noted during the early phase of development under study. In view of the source areas of the various settlers involved, the two chosen elements to be examined, were of a decidedly exotic nature.

a) Flora

An 'aesthetic sense' was shown by some of the very early settlers. Individual plantings of numerous ornamental trees such as belts of crimson flowering gums, lines of palms and hedges of bamboo were features of this early formative phase. To one settler, Mr Daniel Ferguson, formerly a civil engineer with the Hankow Railway in China, is owed the decision to create floristically a 'little China' at Kerikeri. At the end of Pa Road, he had landscaped an oriental

garden and filled it with numerous species of traditionally Chinese and other oriental plants. Some of the plants brought out by Ferguson and planted at Kerikeri included Japanese anemonies, moss roses, a Chinese silk tree, mulberries, custard apples, bougainvillia, fragipani, avocado pears, four different coloured crepe myrtles and fragrantly scented ginger trees. The garden was landscaped with the addition of small pools to give an air of peacefulness and tranquility.

The individual decision to establish such a particular and distinctive spatial expression was a characteristic of many of the settlers. For many, the desire for a restful, safe and beautiful, yet succintly reminiscent environment in which to retire, was of considerable importance.

Mr Edward Little is yet another example of the importance of individual decision making influencing minute spatial patterning. The distinctive Little palms from China were planted along the driveway to Kingston, during this early developmental phase. Kingston was encircled by a broad belt of flowering trees - scarlet gums, golden wattles and wisterias - which formed a rainbow of colours. In addition to an 80 acre afforested block from the house to the Inlet, Little had planted redwoods and gums to form an imposing forest, central in the Kerikeri scheme. The grounds of Kingston were filled with a collection of oriental and flowering schrubs gleaned from his gardens in Shanghai. Seventy two different plant seeds, amongst which was kikuyu grass seed, from China, Japan, Egypt and Turkey, were presented for planting by Little to the settlement scheme.

The chinko trees from China planted by Dr James Greig

(ex Manchuria) is a further example of an individual imprinting upon the cultural landscape at Kerikeri.

Though often small in physical dimensions, such imprintings are highly significant in a study of the human element and decision making process underlying a total cultural landscape.

b) House style

House style at Kerikeri during the early phase of development, also forms a striking example of the importance of reminiscent or sentimental imitation. The desire to create a house style suggestive of one's former homeland is exemplified again by Mr Ferguson of Pa Road. Here he had constructed two distinctive pagoda houses with gates of the rising sun and dogs of Fo guarding the entrance ways. This architectural individuality was vernacularly imitative of China.

The home of Dr Greig, built to the west of the main road on a hill overlooking the Inlet, is a further example. With its massive pillars hewn from stone, the house was reminiscent of Greig's former politically unstable Manchuria.

Spiralling upward success

Related to the existence of a circular and cumulative progression of spiralling upward successes (concerning the formation of the various subsidiary and allied companies of the Corporation) the group of early settler-growers soon perceived the need for the establishment of some co-operative and organized marketing authority not only to sell, but also to advertise Kerikeri grown produce, in particular the passionfruit. The decision to establish S.O.C.R.O. undoubtedly arose out of the company's inability to properly organize marketing coupled with a learning process involving a growing familiarization by the settlers

of the special needs and requirements of passionfruit growing. The setting in motion of a matrix shift on a regional scale may thus be seen to have taken place during the latter phase of this early formative period.

Viewed in a behavioural light, the process leading to the establishment of Passionfruit Plantations Ltd., and the processing factory, was simultaneously imitative of the initial plan as laid down by the Corporation and Alderton four years earlier. ⁴⁵ Its inauguration was set in motion by the perception of an unsatisfactory pattern (the perceived inability of the settlers and S.O.C.R.O. to function economically and efficiently) and belief in the knowledge and ability to cope with such a situation.

Earlier it was observed that two of the proposed aims of the Corporation (the establishment of Kerikeri 'garden city' and the practical functioning of the Alderton Fertiliser Company) did not come to pass. In view of the spiralling downward movement of failures towards the latter part of this early period, including the collapse of S.O.C.R.O., of Passionfruit Plantations Ltd., the next year and the financial difficulties of the Corporation itself, it is not surprising to note that these two proposed developments did not occur.

This chapter has attempted to portray some of the numerous influences upon and the resultant process of decision making behind the evolution of some of the more notable elements in the history of spatial patterning at Kerikeri. Not all events or resultant spatial patterns have been examined. Those that have been analyzed were selected to portray some of the important behavioural postulates upon which this investigation rests.

FOOTNOTES

¹ Planting of lupins served two purposes. They were used to protect young citrus and passionfruit vines before the shelter belts became fully established and afforded protection against the winter winds. Secondly, in the spring the lupins were ploughed in, adding humus to the soil.

² Passionfruit planted in the demonstration clock on ²⁴ October, 1927, yielded the first ripe fruit on 24 August, 1928 when the first case was sent to Auckland for marketing.

³ Washington navel oranges on <u>citronelle</u> stock took approximately 15-20 years to become fully mature bearing trees.

⁴ n.a. 1928. <u>Alderton Group Settlement Scheme - Close of Planting</u> Season. 1.

⁵ Sections in the Uplands Block were planted with strips of different varieties of citrus stock including Washington navel oranges, Valencia oranges, mixed Mediterranean sweet oranees, Ruby blood oranges and Lisbon and Eureka lemons. A typical settler's property was that of Mr and Mrs H.S. Benner, planted October 1929. Here is an example of the remarkable variety of citrus types planted in the early phase of development. Of the specified 500 citrus trees per five acres planted, 50 were Eureka lemons, 50 were Lisbon Lemons, 170 were Washington navel oranges, 170 were Valencia oranges, 20 were Mediterranean sweet oranges, ten were Joppa oranges, 20 were Emperor mandarins, ten were Beauty of the glan oranges, three were Scarlet mandarins, three were Jacob's special and four were Poorman oranges.

⁶ Little, E.S. 1929. <u>Kerikeri Notes</u>. 1.
⁷ Ibid. 1.

⁸ Gum trees growing at Kerikeri are recorded as having grown ten feet in 20 months. Little, E.S. 1929. <u>Circular C</u>. 19.

⁹ <u>Pers. correspondence</u> between Messrs E.S. Little and H.S. Benner. 27/12/29.

¹⁰ North Auckland Land Development Corporation. n.d. Circular D. 3.

¹¹ A small tung oil nursery was established at Kerikeri which supplied the Kaikohe plantations with plant stocks. Tung is indigenous to the Yangste-Kiang River basin. The oil extracted was used in the manufacture of paints and veneers.

 12 North Auckland Land Development Corporation. n.d. Circular D. 3.

¹³ Mr Little carried out various chemical experiments relating to the vacuum bottling of passionfruit juice at Kingston, Kerikeri.

¹⁴ North Auckland Land Development Corporation. 1930. Circular C. 2.

¹⁵ Kerikeri however retained all its own electricity supply. In May 1940 the Bay of Islands Electric Power Board purchased the assets of the Alderton Utility Company Ltd. The Board continued to operate the generating plant and used the overhead lines erected by the Utility Company as part of its distribution system. Some of the original lines are still in use today. The Kerikeri generating plant finally closed down on 2 April, 1966. <u>Pers. comm</u>. Manager, Bay of Islands Electric Power Board.

 16 Costs of electricity supply per annum : House : 1-5 rooms £1/10/-

Over 5 rooms, $\pounds 1/10/-$ for the first five rooms and 10/- for each additional room. People staying in the house : Permanent residents 15/- per head for each over 16 years. This included all employees. Appliances : stoves, radiators and grillers $\pounds 1/5/-$ per kilowatt. Iron each 30/-. Hot water supply $\pounds 1$ per 100 watts used. Milking plants $\pounds 5$ per horse power motor used plus $\pounds 1$ per milking cow. Example : A has a house with seven rooms with three permanent inhabitants. Appliances include stove 5 k,w,. radiator 2 k.w., hot water supply 400 w., iron. Total cost per annum was $\pounds 25$.

¹⁷ Chemical and mechanical soil analyses from I.C.I. (China) Ltd and from the Agricultural Research and Advisory Department, Nitram Ltd (London), revealed a lime deficiency at Kerikeri. It was suggested by I.C.I. that one to two tons of lime per acre would be sufficient for fruit-tree growing.

¹⁸ By March 1930, 1,100 gallons of passionfruit juice (about two thirds of the total crop produced) were stored at the Red Barn.

¹⁹ Little, E.S. 1930. <u>Kerikeri Notes</u>. 3.

²⁰ Shipments were as follows: Moore, L; Tientsin (five cases of passionfruit juice) Kirkland and Rose Ltd; Vancouver (five cases of passionfruit juice) Army and Navy Stores; London (five cases) Hawkings, W.J; Shanghai (five cases) S.O.C.R.O. Ltd; Kerikeri (two cases) McCaig, W.N; Glasgow (five cases) Graae, B; Copenhagen (five cases) Whittall and Company; Constantinople (five cases) Coursey, de, H; Buenos Aires (five cases) Wagner, E; Seattle (three cases) Hutchinson, A; Brisbane (one case) Macfarlane and Company; Christchurch (two cases).

²¹ Sutherland, R. and Callaghan, F.R. 1932. <u>Transport and</u> Marketing of New Zealand Passionfruit in London. 2.

²² Little, E.S. 1930. <u>op. cit</u>. 4.

 23 Some of the lemon trees planted at the start of development were beginning to mature by 1930. Oranges however took at least 15-20 years to come into full bearing.

²⁴ Olmstead, C.W. 1956. American orchard and vineyard regions. Ec. Geog. 32: 203.

²⁵ It is acknowledged that such a division creates an element of unfortunate but inevitable abstractness.

²⁶ Two of Alderton's larger scale studies include : <u>Treatise And Handbook on Orange Culture</u>. 1884; <u>Income Homes That</u> <u>Grow in the Trees</u>. 1925..

²⁷ At Parramatta, New South Wales, Alderton visited Mr Pye's citrus plantation where gums were grown as shelter belts for this purpose.

²⁸ Alderton, G.E. 1925. Income Homes That Grow in the Trees. 4

29 Ibid. 16.

³⁰ The North Auckland Land Development Corporation consisted of six directors : Hutchinson, A.J. (Company manager, Auckland); Alderton, G.E. (Land agent, Auckland); Duncan, K.D. (Merchant, Wellington); Edkins, B.H.H. (Retired grazier, Wellington); Emanuel, A.E. (Retired master mariner, Auckland); Wilson, O.J. (Company director, Wellington). In addition to the formal directorate, the Corporation comprised an overseas commitee of settlers who had agreed to furnish other overseas people with information they may require concerning the settlement and local conditions. The committee was composed of Little, E.S. (ex Shanghai). Voelcker, F.W. (ex Pachmarhi, India); Greig, J (ex Kirin, Manchuria) and Emanuel, A.E. (ex China).

³¹ Summary of a report (1926) by Mr A.A.Wright (first settler to take up a section at Kerikeri) regarding the agricultural productivity of the area : Planted danthonia paddock (April, 1925); grossed £100 per acre from five acres (November, 1925). Planted early potatoes under the supervision of Mr J. Bilkey - an average of six tons per acre and up to $7\frac{1}{2}$ tons (May/ June and October/ November 1925). This was a national record. In 1926 co-operated with two new neighbours in the purchasing of work horses and implements. Planted six acres of potatoes (April- June, 1926); crop was marketed in August/ November, 1926 in Auckland, Wellington and Christchurch. Planted 55 sweet orange trees, 30 grapefruit and 15 lemon trees in spring 1926. Sowed two pounds of Mr Bilkey's onion seed - plants all strong. Minor experiments carried out by Mr Wright showed the area could grow maize for poultry, peanuts, Eucalyptus, passionfruit and many varieties of subtropical fruits, flowers and vegetables. Department of Agriculture manurial trials (1926) were carried out at Pukekohe, Taupiri and Kerikeri. Each area planted one acre of potatoes. At Kerikeri (on Mr Wright's property) £98 was grossed with small expenses; at Pukekohe £50 was grossed with very high expenses; at Taupiri there was a loss. Kerikeri grew $4\frac{1}{2}$ tons per acre (May/ October); Pukekohe grew $4\frac{1}{2}$ tons per acre (a few weeks later); Taupiri grew 6 tons (over a month later then Kerikeri). It was thus proved that the Kerikeri area was admirably suited to the production of very early vegetables. As well as these specifically landuse orientated trials, the Kerikeri Syndicate undertook the publication of many reports and descriptive and explanatory phamphlets which were distributed in New Zealand and overseas. Meetings and discussions were held and correspondence links with interested parties overseas were established. These links later led to the appearance of certain opinion leaders who directly influenced numerous overseas stationed personnel to select Kerikeri as their retirement home.

³² Alderton received over 400 letters from people interested in his proposals within a year of the publishing of <u>Income Homes</u> <u>That Grow in the Trees</u>.

³³ At this stage in New Zealand's development, the pumice lands of the central North Island were opened up by means of both agricultural and afforestation schemes.

³⁴ A bogus settlement was recorded north of Keriekri at Takou. Selectors were promised established citrus farms on the payment of a certain capital outlay. Many travelled to New Zealand to find that their land was entirely in bracken and gorse. <u>Pers. comm</u>. Mrs F. Kiernander, Takapuna, Auckland.

³⁷ Statement by Mr Jessep, Deputy Chairman of the Government Unemployment Board. 9/12/32. Northern Advocate. ³⁶ March, J.G. and Simon, H.A. 1958. Organisations. 54.

³⁷ Kerikeri Notes provided a general coverage of progress during the early developmental phase - planting, building, roading, electricity supply, and social events. In addition they indicated to prospective settlers needs as regards clothing, household assistance and buying of food stuffs as well as describing important background statistical and detailed environmental material concerning climate, soil and landtype. Kerikeri Notes was broadcast by Edward Little personally and was in no way an official pronouncement or organ of the Corporation of which he was Chairman. The Notes undertook to answer queries submitted by the settlers as well as establishing the settlement scheme's general validity and discounting reports of neglect of absentee owners' properties. Circular C comprised general notes on the location of Kerikeri, the advantages of settling there, a resume of progress till July 1929 and included Mr L. Mandeno's report on the possibilities of electricity reticulation.

³⁸ Little, E.S. 1929. <u>Circular C</u>. 13.

³⁹ A report concerning the general validity of the Alderton group settlement scheme by Mr R.T. Waters appeared in Edward Little's <u>Circular C. 1929. 16-17</u>. This report arose out of a visit by Mr Waters from Tientsin, China to Kerikeri on 30 October, 1928 to view the settlement developments for himself since he had received conflicting accounts concerning it.

⁴⁰ Miss Knight, asked by friends to visit the Alderton settlement during her visit to New Zealand, conveyed her personal impressions in various articles in the <u>North China Daily Mail</u> on her return to China. These articles were subsequently printed in Circular C.

⁴¹ In addition to the personal opinions and impressions of early settlers, interested people were also aware of the official New Zealand government view of the Kerikeri settlement. The Department of Agriculture representative in Auckland at the time, cautioned many prospective settlers as regards the Kerikeri scheme, suggesting to many, that settlement at Napier and Hawkes Bay was perhaps preferable and more assured of success.

⁴² Burton, I. 1963. The quantitative revolution and theoretical geography. <u>Can. Geog.</u> 7: 156.

⁴³ Powell, S.C. 1963. <u>Puritan Village : Formation of a New</u> England Town.

⁴⁴ Planted by the Rev. John Butler, July 1821.

⁴⁵ Passionfruit Plantations Limited published a <u>Prospectus</u>, organized a group of directors and advisory staff, expounded the advantages of growing passionfruit at Kerikeri and built a factory to process the fruit. In addition, a group settlement of absentee and residential section owners and a system whereby an 'income home' could be **secured**, was proposed and a planned township suggested.

Chapter V

LATER DEVELOPMENTS 1934-50

A second or intermediate phase of spatial patterning and formation of 'personalite' occupies the period 1934-50. This phase is hypothetically represented by a more logistic or 's' curve in the labeled matrix, with the majority of decision makers located in middle range positions in respect of their ability-to-use and information accumulation axes, together forming a composite attribute score. Despite this median tendency, there continued to exist however decision makers at both extremes of the matrix, representing those restricting or resisting development ('laggards') and those actively promoting it ('innovators').

Before presenting a process orientated explanation, a brief elucidation of some of the major spatial developments that occurred at Kerikeri during this phase of development will be undertaken.

Agricultural Developments

Significant major landuse changes characterised the second phase of development. In 1937 a citrus processing and packing factory, built with a government loan of £7,000 and a grant of £500 was constructed next to the passionfruit factory in Wellington Road. While citrus growing continued to spread from the core areas of the Wellington and Uplands blocks, there occurred the dramatic disappearance of passionfruit farming from the agricultural landscape of Kerikeri. Passionfruit growing nevertheless had advanced by 1934

to the Riverview block, with sections sized from six to six and a half acres being offered for sale. A passionfruit landscape there replaced the previous pattern dominated by wattle, ti tree, gorse and scrub. In the mid 1930s the cumulative effect of negligence and bad weeding practices resulted in a considerable loss of bearing vines. ¹ Another passionfruit processing company, Pashon Products Ltd., was consequently short lived.

Citrus canker appeared in 1937 on one property in the Uplands block. This orchard and at least ten others were consequently <u>parepoled</u>. With the government Lemon Marketing Regulations (1940), citrus fruit, regardless of quality was purchased at a standard fixed price of 2d per dozen. The Kerikeri Citrus Society henceforth ceased to function as a trading and marketing organization.

During the 1940s there occurred a trend to tamarillo growing. A notable citrus rootstock change from <u>citronelle</u> or rough lemon to <u>trifoliata</u> stock occurred in the mid 1940s following a very severe drought. Many of the original older trees were uprooted and entirely new orchards established. In 1938 <u>hakea saligna</u>, a native plant of Queensland, was discovered by one pf the settlers, growing to the west of the settlement lands. This bushy plant was subsequently experimented with as a hedge on the property of Edward Little and later, adopted throughout the area as the most suitable citrus shelter belt. The hedges distinctively subdivided orchard areas into acre or two acre blocks. The previous focal position held by the Eucalyptus shelter belts was consequently undermined and in 1945 many of the original Alderton gums were axed to make way for plantings of <u>hakea saligna</u>.





Experiments with bamboo as a shelter belt plant were also carried out. Poplars were also suggested though not implemented. As well as trials of shelter belt plants, small experimental plantings of macadamia nuts, pecan nuts, pumme los, Satsuma mandarins, White's sapote oranges, avocado pears and ujji citrus stock were carried out during the second developmental phase.

Urban and Social Structuring

Prior to this period, Kerikeri consisted of the Homestead, a small corner store and a post office opposite the Stone Store. The early phase of development at Kerikeri had brought an entirely new township into being, about one mile inland with the old Riddell Homestead focal. The mid 1930s-40s witnessed a notable urban and social structuring. There occurred a proliferation of groups, clubs and societies : a small privately owned and operated factory in Shepherd's Road to crystallize and glaze citrus peel and other subtropical fruits and bottle fruit juice was established and exported produce to the United Kingdom (1949); the Kerikeri Settlers' Association (1935); Kerikeri Recreational Reserve Society (1936); Kerikeri Players (1936); Kerikeri Elephant Club (1936); Kerikeri Cruising Club (1935); Kerikeri Citrus Society (1934)² as well as other societies catering for all types of sports - golf at Gaisford's farm, 1936; football and tennis. In addition more passive recreational pursuits were catered for. In 1936 two of the ex China settlers had constructed the Cathay Theatre originally designed as a social centre for the growing community. Prior to this time the nearest theatre had been at Ohaiwai, nine miles distant.

The village of Kerikeri Central began to expand, serving the



1
ORIGINS OF SOME SELECTORS 1936
China China Other colonial areas New Zealand One Mile

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growing needs of the settlers. ³ In 1936 there existed a butcher, bakery, a tea rooms, a garage, a new post office and a large store on the corner of Wellington and Main Road.

Social activities and gatherings were highly important and were held at Captain Vernon's tea garden by the Stone Store and Inlet, at Captain Voelcker's Shropshire Farm, at the old disused passionfruit factory in Wellington Road (bought by the Settlers' Association for the use by residents for dances, socials, fetes, plays and meetings) and at the Cathay **Theatre** (with a seating capacity of 330). In 1936 the <u>Kerikeri Gazette</u>, a four page monthly was launched. ⁴ The aim of the newspaper was to record the social and agricultural activities of Kerikeri in order to,

... foster and advertise the growth of one of New Zealand's most valuable secondary industries, and to give prospective settlers some insight into the sporting and social amenities of the little colony.

Having briefly established the more relevant spatial changes landusc emphases and associations, citrus amd subtropical fruit marketing arrangements and processing concerns and settlement structur ing coupled with social service developments - a process orientated explanatory analysis of these changes follows. This process will be viewed under two broad headings : a) agricultural landuse, and, b) settlement and social development.

Process of Agricultural Patterning

The second phase of development is characterised by much disorderly imitative and cumulative development. In Chapter 11 it was observed that major or lesser parametric shocks form a very important element in the decision making process as it has influenced spatial

patterning.

Parametric shocks

Parametric shocks of greater or lesser dimensions embrace at least nine distinct forms in the evolution of spatial patterning at Kerikeri. They include the effect of negligence and ignorance that affected passionfruit growing in the mid 1930s; the appearance of citrus canker in 1937; the discovery of <u>hakea saligna</u> in 1938; the 1940 government Lemon Price Regulations; fifthly the advent and effect of World War Two; a severe drought in 1946; the demonstrated inability of <u>citronelle</u> and sweet orange root stock to withstand adverse climatic conditions; the establishment of Fruit Distributors in 1949; and finally, recent technological and research breakthroughs that have influenced the citrus industry throughout New Zealand.

The cumulative effect of these parametric shocks in the evolution of agricultural patterning at Kerikeri was the creation of an atmosphere of disorder. There occurred a short term retreat as regards decision maker frequency and decision making acts within the regional behavioural matrix. Many 'actor deaths' occurred, especially with those occupying cells in the top left hand quadrant, due to the onset of the first parametric shock. A stress situation was produced in the minds of many settlers - conflict associated with the ideas and ideals expressed in the Corporation <u>Prospectus</u> and the reassuring encouragement of opinion leaders and the actual situational realities experienced. Anxiety concerning future outcomes and frustration with present realities, disrupted existing goals and hopes. Lewin et al have noted that sometimes "... the stronger the failure the greater the per cent of lowering the level of aspiration." ⁶ In

the case of Kerikeri , the impact of the first shock alone was sufficient magnitude to motivate certain growers to sell their properties and leave the area entirely. ⁷ The closure of the passionfruit factory, the 'death' of Kerikeri Growers and Pashon Products Limited are some occurrences related to the cumulatively spiralling downward trend set in motion by this first parametric shock. The disorderliness associated with the 'dying off' of older less adaptable decision.makers and the 'birth' of new ones, was however of short term significance. Passionfruit growing did nevertheless dissappear completely from the agricultural landscape of Kerikeri. Over time, an increased retionalisation as regards landuse pattern emerged.

A second parametric shock, the appearance of citrus canker, also substantially affected the agricultural landscape. Approximately 5,000 original citrus trees were pulled from the ground, while other trees affected by the canker, were <u>barepoled</u>.⁸

The discovery of <u>hakea saligna</u> in 1938 had a most important repercussion on spatial patterning at Kerikeri. The perceived advantages by growers of a closer, more protective shelter belt hedge plant were rapidly appreciated. The decision making process in this particular case appears to have involved a distinct demonstration and neighbourhood effect. Initially grown on a trial basis on the property of Edward Little, <u>hakea saligna</u> eventually came to typify the citrus landscape at Kerikeri. The original Alderton gums had little practical usefulness as timber supplies and many were consequently permanently removed from the spatial pattern.

A fourth parametric shock was the establishment of the government

standard prices for lemons in 1940. One observed outcome was that the Nerikeri Citrus Society ceased its marketing and trading authority. Another effect was that an Internal Marketing Division packing shed was constructed at Kerikeri. With no extra paid for fancy grades of fruit, and no guaranteed price operating for oranges or mandarins, there occurred a short term decline in citrus production. ⁹ An upward trend was apparent after the establishment of Fruitgrowers Federation in 1949. ¹⁰

The advent of the Second World War led to considerable shortages of foreign fruit supplies. Tamarillo growing was initiated on a large scale at Kerikeri - the outcome of the perceiving of a solution to a problem by government and grower alike.

In 1946 there occurred a parametric shock of major significance a severe drought in the area. <u>Citronelle</u> rootstock was exposed as intolerant of any exceptional climatic conditions. There occurred an awakening or mutation in perception by existing growers and potential growers, of the hardwork involved in citrus farming. A desire by growers for the establishment of an experimental block at Kerikeri, for root stock tests and use of improved citrus varieties and other subtropical fruit varieties was recorded in September 1944. ¹¹ In addition, growers expressed the hope that eventually investigations into soil fertility, soil management and moisture would be carried out at Kerikeri. A realisation of the need for the provision of additional water for citrus and subtropical fruit growing occurred. Many growers, unable to meet these new and actual demands, left the district and many changes in property ownership occurred.

The Kerikeri citrus group settlement had been founded upon a

basis of Washington navel and Valencia oranges and Lisbon and Eureka lemons, rooted on <u>citronelle</u> and sweet orange stock imported from New South Wales, Australia. Since rootstock has a deciding influence not only upon tree growth but also on tree productivity and fruit quality, this particular parametric shock undermined the entire foundation of the agriculture of the area. ¹²

A final parametric shock includes the various technological and research breakthroughs since World War Two. The combined outcome of scientific changes has had its spatial expression, entraining an elimination of some uneconomic holdings.

Cumulative nature of developments

A second element to note in a behavioural explanation of spatial patterning and formation of 'personalite', is the cumulative nature of the developments in agriculture. Two distinct though overlapping circularly and cumulative movements are perceived. The first, relevant to the period 1934-37 involved a spiralling upward movement. In 1934 expansion of passionfruit culture into Riverview occurred, while Pashon Products was concurrently established to process the fruit. The Kerikeri Citrus Society was founded in 1934. Simultaneously the settler growers verbally expressed the wish for a deep' water wharf to be established at Kerikeri to ship the fruit. A citrus factory was set up by the Internal Marketing Division in 1937. A second movement, in a spiralling downward direction, was associated with the rapid succession of the nine parametric shocks outlined above and their noted spatial outcomes.

Neighbourhood effect

A third element to note in a investigation of the decision

making process and how it has affected the evolution of the cultural landscape at Kerikeri, is exemplified by the innovation of <u>hakea</u> <u>saligna</u> as a shelter belt plant. A native of Queensland, this bushy luxuriant plant was found growing by one of the Kerikeri settlers on an area of land to the west of the settlement. ¹³ Through trial of its shelter belt possibilities initially on one property, and then dissemination by means of the neighbourhood or demonstration effect, Kerikeri's citrus landscape was further embellished. This particular example also denoted the often extremely important element of chance or the accidental in the formation of significant geographic patterns.

Process of Settlement and Social Structuring

The second phase of developments relating to settlement and social activities is broadly characterised by increases in both size and function.

Cumulative developments

There exists an interesting and highly significant dichotomy between the agricultural events and the events to be analysed in this section , in respect of their cumulative nature and their upward or downward spiralling movement.

The village of Kerikeri Central grew rapidly in this intermediate phase of development. A circular and cumulative upward spiralling motion is apparent with a proliferation of small service stores and facilities and establishments for both social and recreational activities. ¹⁴ This direction of movement may be viewed as having had its origins with a desire that runs throughout the history of Kerikeri, for the establishment of a group or community based

settlement. ¹⁵ This included a wish for the benefit of greater range of facilities offered by the city but which did not detrimentally overshadow the rural surroundings - the Aldertonian desire for a working synthesis of town and country life. A further upward spiralling path of movement is observed in the proliferation of numerous clubs and societies during this phase.

Multi-decisional locational actors

In accordance with the behavioural postulates that have been suggested so far, this upward movement was indicative of a gaining of confidence resulting from learning from past experiences in the initial attempts at citrus farming, and an increased willingness to make decisions, as well as rising aspirations in terms of the area of the population and increases in information accumulation.

The intrusion of new decision makers seen as models to emulate is a further important element to note. Original settlers and the newer populational elements (mainly New Zealand settlers since the mid 1930s) developed into multi-decisional locational actors, making decisions that not only involved their income (the citrus varieties to be used and the means of marketing and shipping to be employed) but also concernned other pertinent matters affecting their total life and their families' at Kerikeri (provision of social, entertainment and recreational facilities). Demonstration of this tendency occurred in 1936 when the settlers combined to subscribe £80 to purchase the Recreational Reserve for the benefit of the whole community. When the Corporation, under financial pressure, decided to subdivide the area as orchard land, the settlers formed the Kerikeri Recreational Reserve (Inc.).

This chapter has presented some of the more crucial events that have transformed the process of spatial patterning and formation of 'personalite' at Kerikeri during a second phase of developments. It has not been possible to observe all events and all outcomes. Those selected help demonstrate the importance of some of the behavioural postulates upon which this entire investigation is founded.

FOOTNOTES

¹ Passionfruit vines at Kerikeri bore well for the second and third years. Ignorance of the special needs of passionfruit culture had a serious effect over time. Continual digging around the trees eventually severely damaged the root complexes. Passionfruit typically should **have been** planted on mounds where adequate drainage would have been ensured. Plantings at Kerikeri often took place in low lying hollows which ultimately had a detrimental effect upon growth.

² By means of the Kerikeri Citrus Society, a levy of 6d per planted tree and 3d per case of fruit produced, was levied on member growers in payment for packing and processing by the citrus factory.

³ Kerikeri Central is distinguished from Kerikeri proper which is centred upon the Stone Store and head of the Inlet.

⁴ The <u>Kerikeri Gazette</u> was edited by Mr Mortain-Green. It comprised only eight publications and included items of local, social and practical interest. The newspaper was a medium for instructive advice to growers in the settlement scheme through 'citron' and 'billowen'.

⁵ <u>Kerikeri Gazette</u>.1936. 1: 1.

⁶ Lewin et al. 1944. Level of aspiration. In Hunt, J. McV. (Editor). <u>Personality and the Behaviour Disorders</u>. 337.

 7 This act of decision making however, should not necessarily be equated as a lowering of aspirations. It may have seemed the expedient thing to do for many growers who then aspired to different things.

⁸ <u>Barepoling</u> involved a severe cutting back of any diseased trees with a consequent loss of crop for three to four years. At least 11 orchards located mainly in the Uplands block at Kerikeri were dealt with in this way. <u>Minutes of Citrus Growers</u>. 24/2/38.

⁹ This reflected a continued lack of faith in the locally grown product by official departments.

 $^{10}\ {\rm A}$ guaranteed price system effected the establishment of an

element of confidence in the local industry.

¹¹ <u>Minutes of the Citrus Society</u>. 13/9/44.

¹² <u>Poncirus trifoliata</u> ('tristock') so termed because of a triple branching from one point, was first used to any great extent at Kerikeri in 1947. It had however been suggested for use as early as 1937 by nurseryman. Hayward Wright of Auckland. <u>Tristock</u> replaced <u>citronelle</u> and sweet orange rootstocks. Webber and Batchelor (Webber, H.J. and Batchelor, L.D. 1948. <u>The Citrus Industry</u>. 2: 134.)classify the <u>trifoliata</u> orange as "the most ideal rootstock of loose skinned oranges in the temperate regions where no killing by frost takes place."

Budding of navel oranges onto tristock has at Kerikeri, led to the production of high quality fruit. The advantages over other rootstocks are many. Tristock is deciduous, is more frost resistent and more tolerant of heavy wet soils and soils with clay underlain, is not as susceptible to <u>phythophthora</u> root rot and can withstand drought much better; the fruit resulting on tristock does not dry out as quickly as that on other rootstock varieties and holds its palatability longer; the fruit tends to be smaller, finer, sweeter and thinner skinned as well as being juicier, more highly colcured with a more consistent overall quality; production per acre is much larger and tree maintenance is much easier since with tristock smaller tree sizes eventuate. Kerikeri today has the largest plantings of citrus trees rooted on tristock in New Zealand.

¹³ Kerikeri aerodrome is today located on this site.

¹⁴ The village of Kerikeri tended to cluster around the focal location of Kendall's corner store at the intersection of Inlet (Wellington) and Main Raods.

¹⁵ Originally a group of settlers looking for a retirement home, then a group of settler-growers seeking an income producing .home.

SECTION THREE

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Chapter V1

MODERN KERIKERI AND THE INFLUENCE OF G.E. ALDERTON

Kerikeri today is an amalgam resulting from its interestingly unique past. Section Three presents an analysis of the 'personalite' of the area in respect of two chosen elements - a) landuse and b) population composition, attitude and associated settlement structure. A second aim of this section is to seek a synthesis of these elements in the light of some of the basic behavioural postulates that have been suggested. Finally, some of the additional parameters that have endured throughout the process of spatial patterning as well as the importance of certain feedback mechanisms are discussed.

Agricultural Landuse Emphases

Kerikeri is the most northerly citrus area in New Zealand. Twenty eight per cent of national citrus plantings are to be found here. ¹ Kerikeri ranks second in national citrus production and second in subtropical fruit culture. ² The area is the primary producer of the sweet grange, with 44% of the national crop produced here. Increases in orange, mandarin and seminole tangelo plantings in the recent past have occurred and Kerikeri is now the major focus for this particular tri-crop association. Kerikeri has also developed into a significant producer of tamarillos. These are grown between the rows of young and maturing citrus, between rows of original now sparsely bearing citrus trees and on sunny headlands. The tamarillo fulfils two main purposes. Its 'umbrella' shade effect protects the

growing citrus plants during which time it provides a cash crop while the citrus trees mature. A mature bearing citrus orchard takes from seven to 15 years to develop.

Kerikeri also grows feijeas (often grown as hedges along driveways and as garden shelter), gooseberries and has significant pockets of specialised vegetable culture. Various muts such as pecan, macadamia (often grown as productive shelter belts around citrus plantations) are also cultivated. Certain specialised citrus varieties such as seminole tangelos, ortiniques, Wheeny grapefruit and mandarins are also grown at Kerikeri at present. A small scale luxury crop is the production of avocado pears. (Tables 2 and 3)

The citrus lands, located along and back from the main road network, form a linear non-contiguous pattern which is in sharp contrast to the surrounding sheep and dairying landscapes. Due to progressive subdivision, the average size of orchards today is just over five acres. ⁴ Small orchard sizes are however notably decreasing with amalgamation of small units as well as expansion of others. ⁵ Several recent large scale developments are observed. ⁶ Orcharding at Kerikeri has developed into a fulltime occupation, undertaken by generally younger people and is highly mechanised and rationalised. ⁷ Fruit is sent of the local Citrus Marketing Authority packing shed in Inlet Road, ⁸ The plant now has a complete washing, waxing and drying equipment large enough to handle the entire orange crop from the area. Here fruit is graded, packed and from where it is transported and marketed both in New Zealand and overseas.

Small roadside stalls are a very characteristic feature of the citrus landscape today, forming a supplementary outlet for disposing

TABLE 2

PRODUCTION OF CITRUS AND SUBTROPICAL FRUITS IN COMMERCIAL ORCHARDS OF KERIKERI 1968 AND 1970

Type	Trees or plants		Production (bushels)	
	1970	1968	1970	1968
N.Z. Grapefruit	15,830	9,354	25,200	16,800
Wheeny Grapefruit	1,300	1,305	7,000	4,100
Standard Lemons	1,360	701	2,000	1,600
Meyer Lemons	1,980	2,030	6,200	7,350
Mandarins	43,380	32,484	19,800	10,200
Oranges	83,900	64,430	41,100	23,350
Tangelos	27,720	19,142	10,500	4,100
Totals	175,470	129,446	111,800	67,500
Total Acreage	752	574		
No. Growers	166	150	(tons)	
Chinese Gooseberry	2,940	2,804	66	90
Passionfruit	190	158	-	-
Tamarillo	124,480	77,314	651	485
Total Acreage	315	217		-575-
No. Growers	116	101		

TABLE 3

CITRUS TREES AND SUBTROPICAL FRUIT PLANTS PLANTED AND REMOVED 1968 AND 1970

Туре	Planted		Removed	
* *	1970	1968	1970	1968
N.Z. Grapefruit	2,180	4,430	100	40
Wheeny Grapefruit	-	-	-	-
Standard Lemons	590	60	=.	-
Meyer Lemons	-	-	50	-
Mandarins	4,730	6,650	300	190
Sweet Oranges	6,640	13,230	130	280
Tangelos	2,420	6,260	90	-
Totals	16,560	30,630	670	510
Chinese Gooseberries	350		10	
Passionfruit	-		-	
Tamarillos	30,280		8,330	

of surplus fruit to local residents and tourists alike. Since World War Two, but more especially during the last 15 years, there has been carried out extensive experimental work with individual irrigation schemes, ⁹ rootstocks, ¹⁰ budwood, plant diseases and orchard management techniques, ¹¹ all of which have influenced the distribution, nature, intensity, progression and rate of developments in citrus and subtropical fruit farming.

Urban and Social Structuring

A second chosen element forming part of the contemporary spatial pattern of Kerikeri is a recent proliferation of building in the immediate village area representing increases in urban function. An addendum of different population elements has been added to the stable base of early pioneering families, both ex colonial and New Zealand elements and their descendents. As evidence of the continuation of the social and recreational propensity of the Kerikeri population, a survey of clubs, societies and groups operating in the area was undertaken. ¹² Not only are the more conventional sports and agegrcup clubs represented, but also other interests such as pottery making, painting and handcrafts. The population of the area continues to exhibit a notable tendency towards segmentalisation into a wide variety of different groups.

The Kerikeri residents appear to be keenly aware of the scenic attractiveness of the immediate area in addition to the considerable historic significance. This awareness has been termed by the writer 'environmental appreciation'.

The features and tendencies noted above, form some of the salient

elements in an investigation of contemporary spatial pattern and 'personalite' of Kerikeri. It is now proposed to seek an explanation of their presence, their variable intensity and their interrelationships, with recourse to a behaviourally orientated study of process.

The Regional Behavioural Matrix

A hypothetical model of a regional behavioural matrix has been suggested for the two preceding developmental phases. The Kerikeri area in this third phase may be viewed as composed of an increased proportion of multi-decisional locational actors. Each has an individually enhanced location on the ability-to-use and the accumulation of information axes. As an entity, the area is seen to occupy a position further advanced on a regional matrix

Though the majority of decision makers in this third phase are contemporarily located in the lower righthand quadrant, there continue to exist an indefinite number of actors at varying locations in other quadrants. Some of these decision makers, representing those trapped in a state of inertia, have an associated lessened capacity or desire to either handle increases in information accumulation or to accumulate information. ¹³ Such extreme elements in the behavioural matrix form, nevertheless, significant influences in the regional decision making network. By resisting innovative change, they assist in the preservation of relict spatial patterns.

Influence of present decision makers on agricultural landuse patterns

The majority of decision makers however exhibit decision making behaviour that is leading to a gradual but observable rationalisation, optimalisation and ordering of the agricultural landscape. Decision makers of this nature in Kerikeri today, include the young fulltime, educated orchardists who realize the special needs of the area, who attend short courses at tertiary educational institutions, who participate in regional and national agricultural confernces, who seek the assistance of Department of Agriculture advisors and who are alert to not only local and regional agricultural affairs (such as changing conditions and emphases and research frontiers such as experimental citrus and root stock varieties) but also to those of national and international significance and who are receptive to the advantages of the economies of scale and who are atturnd to the constantly fluctuating vagaries of supply and demand. ¹⁴ They form a major group which is at present and which has the potential, to is fluence the association, intensity, progression and rate of agricultural spatial patterning in this area of Northland.

Some minor innovative decision acts stemming from this particular group of decision makers that influence and have influenced the nature of citrus and subtropical fruit farming at Kerikeri, include individual mechanical inventions which have reduced the work load and increased the efficiency of orcharding. ¹⁵ The planting of evergreen poplar and wattle shelter belts and the experimental growing of different market orientated or luxury fruit and vegetables are further examples of innovative acts that are influencing spatial patterning at Kerikeri at present. ¹⁶ In 1962 a small processing enterprise opened in Kerikeri to preserve fruit – crystallization of chinese gooseberries, tamarillos, paw paw, dessert oranges and vitamised orange compound and fruit vinegar. From this

small beginning, the <u>Keriripe</u> product was marketed in health food stores throughout New Zealand.

Relict features

The existence of relict features or associations in a cultural landscape pattern is an important factor to be appreciated by the student of geography. Study of relict geography helps promote the realisation "... that time and space are continuously and inextricably bound together." ¹⁷ One is immediately impressed by the general woodedness of the citrus lands of Kerikeri. More striking than the ubiquitous <u>hakea saligna</u> hedges, are the towering Eucalyptus trees in massive stands as well as forming straight, approximately chain wide borders to many prope. Ties. Though many of the Alderton gums were axed after the Second World War, there has been much re-growth. On a few sections in the former Wellington and Uplands blocks, original stands survive.

Yet other relict flora of the total geography of Kerikeri, representing past individual decision acts, include three tung oil trees, two in Hone Heke Road and the third located in Keripark gardens, the site of the original Kerikeri tung oil nursery. Other examples include the impressive driveway of Phoenix palms on the former property of Edward Little and the unusual chinko trees on the former estate of Dr James Grieg. Relict flora such as these examples, contribute significantly to the special geography of the area.

Further relict features are the pagoda houses in Pa Road. To the layman these structures may singularly represent simply interesting and exotic buildings. To the student interested in the act of decision making and process geography, they form symbols of a former developmental epoch and decision making occurrence.

Neighbourhood effect

In Chapter V, it was observed that due to one decision act by one settler and the subsequent operation of a neighbourhood and demonstration effect, the spatial pattern of Kerikeri over a period of years, was significantly embellished. ¹⁸ A similar effect may be seen to have occurred with the decision to construct small selfservice honesty fruit stalls. Originally tested by one grower in the mid 1930s, they now form a distinctive cultural pattern on routes leading through the citrus lands.

Settlement and social structuring

A second aspect of modern Kerikeri briefly noted earlier includes a gradual enlargement of the village area in both size and range of functions and the persistence of a group desire on the part of the area's population, for social and recreational passtimes. The existence of the wide range of groups to be found at Kerikeri was noted earlier. A notion of circular and cumulative movement is implied. Citrus and subtropical fruit farming has developed as a viable income producing occupation characterised by younger, more innovative growers. ¹⁹ Concomitant with this change there has occurred a structural change in population composition. ²⁰ Proliferation in the range and type of facilities offered by the village have consequently taken place.

Environmental appreciation

An areal tendency towards environmental appreciation with a desire to conserve the attractive scenic resources of the Kerikeri area is a further element that comprises part of the 'personalite' of the area
today. There are numerous examples of behaviour; and decision making acts that support this notion. Keripark, originally the Peacock Gardens established in 1965, was further landscaped and reopened in 1969; the Rainbow Pool was established in 1967 and the model Maori village on the site of Kororipo Pa was set up in 1969. A recent furore concerning the destruction of ten acres of Eucalyptus trees and the establishment of residences in their stead, and the destruction of the only pre-European pa left in New Zealand on the same site, roused the community spirit of the area, leading to the founding of the Society for the Preservation of Kerikeri in 1970.

Each decision act may be seen to have had related spatial expressions. Each phase of development analysed, possesses its own special emphases. Past decision acts of individuals and groups throughout the three phases are synthesised in modern Kerikeri.

The Influence of George Edwin Alderton

Evolution of spatial patterning and formation of a distinctive 'personalite' at Kerikeri have been "... the immediate consequences of human decisions" ²¹ taken by individuals and/or groups of individuals. The effectiveness of the decision maker as has been observed is a function of numerous interrelated factors - quality and quantity of available public and private information sources, visual impressions received, aspiration level, past experience, place in the life cycle, group norms, the influence of number and type and effectiveness of opinion leaders, geographic location of the decision maker and the component aggregate of his own unique cognitive style. The decision making process is not only permeated by such personal influences, but also by the operation of various forces - the element









of chance, the principle of circular and cumulative movement, the force and effect of parametric shocks of major or minor scales, imitation and uncertainty reduction.

The preceding chapters have illustrated this basic postulate in reference to Kerikeri's evolutionary geography. It is not proposed to restate per se the findings relative to modern Kerikeri. An analysis of the enduring effectiveness of George Alderton in a process explanation of the contemporary cultural geography of the area follows.

Selected aspects of Alderton's influence

Alderton originally and primarily, then the North Auckland Land Development Corporation and the ex colonial population who initially responded to Alderton's group settlement scheme and later subsequent settlers, have all contributed to the formation of the 'personalite' of Kerikeri. It must be acknowledged however, that without the initial stimulus of Alderton's mind and pen, developments in this area might not have assumed the form they did at the particular time or even later.

Citrus growing is now an established fact at Kerikeri. Though varieties and different root stocks have substantially altered, the details of planting, it is significant to note that Kerikeri alone has become Northland's only citrus producer. Its importance is notably increasing. Still evident in the citrus landscape today, despite the large scale developments noted earlier, are the small uniform oblong or often rectangular shaped orchards which have their origins in the subdivision plan as suggested by George Alderton in 1929.²² The principle of growing intercalary fruit and vegetable crops, one of the focal points of the original scheme, still survives in the growing

of tamarillos. More recently there has been a trend towards the growing of early and specialised market-orientated vegetable crops, an avenue originally keenly appreciated by Alderton after trials, as being extremely suited to the area around Kerikeri.

Vestiges of the original splendour of the Alderton inspired landscape are also visible in other elements of landuse. The Alderton gums still form a striking feature of the landscape, many of them towering to over 60 feet. Though the majority have been, and continue to be axed, to make way for expansion in housing and agriculture, the gums still dominate the setting of the village and surrounding area. ²³

The Alderton era also pervades modern Kerik**r**ri in elements of personalite' not visible to the casual observer. The intangible domain of attitude is equally important to a study of human geography as is landuse or population composition : attitude as it prevails upon current perception and decision making practices and as it influences spatial patterning. Kerikeri was settled originally by mainly retired and semi-retired , pensioned, ex colonial people and their families. The Alderton scheme and the 'income homes' were basically designed for this particular population group. As has been indicated, settlers arrived from China, India and Malaya especially. Elements of these origins is still evident in Kerikeri today. Their presgence gives the area an intangible colour or cosmopolitanism which is reflected particularly in attitude and interests.

Interests of the pioneer population included many and varied aspects. Of crucial importance were the need and desire for social contacts. This importance reflected not only the settlers' varied

background origins, but also their perception of the physical isolation of the area they were settling at the time. In addition, from a study of the writings of George Alderton, one must appreciate that he was keenly aware of the need to provide man with a balanced environment. Alderton was attuned to the social and recreational needs of the prospective settler. Clubs and societies, many of which were founded in the early developmental phase, still play an important part in shaping the 'personalite' of the Kerikeri area. Perhaps no other rural settlement in New Zealand can exhibit such diversity of interest and belief as can Kerikeri.

Though the North Auckland Land Development Corporation in principle set out to provide the settler with a ready made income producing home, Alderton was aware of the need to allow for individual effort and experimentation. The extent to which the contemporary existence of a distinctive individualism at Kerikeri reflects this early attitude, or is an outcome of geographical location, it is impossible to judge. Yet, a strong community spirit endures in the area today. A sense of belonging to Kerikeri prevails as it did in the early phase of development. The settler growers then basically considered themselves a group. Under the stimulus of the writings of Alderton, Kerikeri was discovered and settled. The area still exhibits this trend. Originally, **professional men and their** families settled in Kerikeri. Today, people of an educated and often travelled background continue to do so.

Kerikeri exemplifies how man may bring striking and forceful macro changes to an area that has lain almost untouched since European arrival. The region also serves to demonstrate how, through

individual decision making , man may significantly alter its micro geography. Perhaps no other area in New Zealand has been formed by more conscious individual effort than Kerikeri. Of the early pioneers several serve to exemplify this crucial factor of individual effort.

Edward Little, one of the early settlers, influenced by the ideas and ideals of George Alderton, soon became a forceful advocate of settlement and citrus and subtropical fruit farming here. It was Little who actively boosted the settlement in its early years of development as well as doing much to substantially alter the vegetative flora of the Kerikeri area,

The garden of the pagoda houses of Mr D. Ferguson, another early pioneer, attracted to the area by Alderton's scheme, is today filled with numerous examples of oriental flora. The chinko trees planted by Dr J. Greig, another Alderton settler, are still to be found in Kerikeri.

All features in the present landscape are relict features, survivals from some past period. Constant reference to past events is necessary to understand how they came to occupy their present positions, but not all past events are equally important.

George Edwin Alderton's influence upon the present total geography of Kerikeri, may be seen to embrace two facets. Firstly, many of the features of the present spatial landscape may be viewed as functions of the initial phase of development, brought about by the efforts primarily of one man. Alderton's influence in this respect may be viewed not only as having a direct effect upon spatial patterning (as set out in detail in his scheme proposals), but also as having an indirect effect. Through certain opinion leaders, Alderton projected his influence. This effect, mediated through influential individuals,

has had a cumulative effect.

The original 'stage' was however set directly by the early implementation of the ideas expressed verbally and written, of George Alderton. Upon this stage, further developments have been carried out. Due directly to factors which place Alderton in his position on the model of the behavioural matrix and his recognition, by action, to the need for development in Northland, a mutation in perception or a regional matrix shift, was released. An associated sequential process of increasingly rationalised spatial patterning has ultimately occurred.

George Edwin Alderton's importance may be viewed as focal to not only immediately subsequent, but also contemporary spatial patterning and formation of 'personalite' at Kerikeri.

Aspects of the Behavioural Matrix and Other Parameters

The behavioural matrix has been employed throughout this study as a conceptual tool, to help elucidate some of the lesser appreciated but equally important factors necessary to observe in geographical investigations. Reference to written journals, accounts, letters and verbal conversations with settlers and observers has been relied upon, in order to present an accurate yet real life view of how and why developments at Kerikeri assumed the form they did. Through a study of the process involved in decision making, aspects of individual, group and regional matrix locations and shifts and, observation of the effect upon decision making of such shifts and shocks of major or minor scales and including the longterm influence of information stockpiling, have been appreciated.

Disadvantages of the model

The model as developed initially by Alan Pred possesses several disadvantages that must be appreciated. It has been impossible, given present resources, time and gaps in information available, to quantify the various gradations of knowledge accumulation and striving for optimal utilization of this knowledge - in order to place the decision maker in respect of the 'x' and 'y' axes accurately within the behavioural matrix. Definition and quantification of 'perfect knowledge' and 'pefect ability to use' this knowledge, have also not been possible. The model has thus been drawn necessarily lucidly with an elimination of variables not of focal interest.

Despite these shortcomings the use of the model is warranted for, With weakly developed geographic theory and a highly complex multi-variate subject matter, it is inevitable that the modelconcept should play a part in geographic explanation.

The temporary use of a model in geographical studies, according to David Harvey should not be overlooked "... in a world which demands some kind of answer to a whole range of complex socio-economic problems",²⁶ and since "... without theory of some kind the explanation and cognitive description of geographic events is inconceivable." ²⁷

This investigation has rested upon the premise that decision makers are essentially 'boundedly rational beings'. A factor not considered has been the possibility that some actors may have made decisions not aiming at optimalisation, even though their location within the behavioural matrix may logically indicate their inherent propensity to do so. ²⁸

Division of developmental sequence into phases

With the practical necessity to subdivide development into phases to more clearly appreciate the variables involved and the forces at work, which tends to achieve an undesirable static or stage notion of development, a division of this nature tends to distort the fact of their simultaneous cohabitation over time. In reality there exist many other parameters which propel the developmental process at varying rates, intensities and emphases at different times. Developmental pace is thus related to **increasing** experience which is correlated to advancing positions on the behavioural matrix of decision makers. Vidal de la Blache has succintly expressed this inherent real world complexity,

... the present distribution ... is merely temporary, a result of complex causes in a constant state of flux ... The present distribution is only a stage, not even a stable one, in an evolution whose progress we cannot altogether understand. Some of its causes are permanent, some no longer active, others are just beginning to function.

Other situational and environmental factors and variables basic to a process orientated investigation, include the physical bases (landtype, aspect, soil, climate) of the Kerikeri region, as well as economic influences upon individual behaviour and history and conditions pertaining in other citrus and subtropical fruit growing areas in New Zealand. In reality all these influences combine as well as feedback with those already observed in this study.

Intrinsically complex processes are at work in the production of a spatial pattern and formation of a distinctive 'personalité'.

FOOTNOTES

¹ In New Zealand there are 2,700 acres of citrus on commercial orchards. Fifty per cent of this total is planted in the Bay of Plenty, 28% at Kerikeri and the remainder at Auckland and Gisborne.

² Kerikeri grows 55% national orange crop, 57% mandarin crop, 65% seminole tangelos, 28% tamarillos grown and 8% chinese gooseberries grown. Department of Industries and Commerce. 1966. <u>Economic Survey of</u> Northland. 141-43.

³ The Auckland citrus area specialises in grapefruit, lemons; Bay of Plenty specializes in lemons,garpefruit and mandarins; the Gisborne region concentrates on lemon and orange growing.

4	Orchard size	Frequency	(November	1969)
	1-5 acres	107		
	6-10	32	5 B	
	11-15	5		
	16-20	7		
	21-25	21		
	26-100	1		

Unpublished Statistics. 1969. Department of Agriculture, Horticulture Division. Whangarei.

It must be appreciated that in relation to the currently high prices received for subtropical produce, it is possible for growers with small units to obtain economic returns. The adoption of closer citrus planting distances dependent upon improved and dwarf root stocks, has assisted in the retention . of the distinctive pattern of small orchard units.

⁵ The largest single area of citrus stock is located at Kerikeri. (Sunshine Citrus Nursery). Kerikist Orchards, New Zealand's largest citrus orchard was formed in 1964 by a group of seven men responding to the principles of the economies of scale - irrigation of a large area being more economic than on small units, a pool system for machinery seen to be most practical. The orchard now has its own nursery which in 1966 contained 13,000 young tamarillo trees. At present Kerikist Orchards have 80 acres planted in citrus and tamarillos and a further 180 acres has been cleared ready for planting. The potential developmental size is 300 acres.

In 1956 two brothers bought 75 acres of gorse and bracken land to the west of Kerikeri. By discing and crushing, this virgin area has been formed into two large citrus and tamarillo orchards. One of the orchards, Keriwest, today is 43 acres and has 33 acres intensively planted. The other orchard is 29 acres with 26 acres planted. Other large scale orchard developments include Redwood Gardens in Springbank Road (31 acres, mainly tamarillos), Toulouse Tamarillo and Citrus Nursery in Inlet Road (20 acres interplanted).

⁶ This trend is progressing as a remarkably rapid rate as the statistics below indicate.

Orchard size	Frequency Ma	y 1969	November	1969
1-5 acres	113		107	
6-10	39		32	
,11–15	5		5	
16-20	4		7	
21-25	1		1	
26-100	1		21	

Unpublished Statistics. Department of Agriculture, Horticulture Division. Whangarei.

⁷ Department of Industries and Commerce. <u>op.cit</u>. 143. "In 1962 18% of growers (at Kerikeri) were under 30 years of age". Nobbs, G. 1963. Citrus History of New Zealand. 53.

⁸ Set up by the Citrus Marketing Authority Regulations. Fruit is sold to Fruit Distributors Limited at agreed prices. Other varieties of fruits, other than oranges and lemons and subtropical produce is sold either by sucction or by growers direct to buyers.

⁹ An oustanding example of individual experimenting with an immigation scheme is afforded by the Riley Brothers of Keriwest Orchards. In 1961 a manmade lake was constructed on this property to hold 129,000 gallons of water, sufficient to irrigate the 40 acres of orchards for six months.

¹⁰ Kerikeri was the first citrus area in New Zealand to use this variety of root stock to any great extent. In contrast to planting distances for <u>citronelle</u> stock (a 22 foot square), with <u>poncirus</u> <u>trifoliata</u> it is possible to plant in an area half this size. <u>Citronelle</u> and rough lemon root stocks have thus been replaced by Island sweet orange stock for grapefruit and lemon trees while <u>poncirus trifoliata</u> now forms the **root** stock for orange and mandarin growing at Kerikeri. The increased use of dwarf stock replacing the older,tall, sprawling Valencia groves on sweet orange or <u>citronelle</u> root stocks, has made for easier harvesting, without the need for special equipment. <u>Triyercitrange</u> root stock, a specially ecologically bred stock for Kerikeri is also being experimented with an a small scale at present.

¹¹ In 1959 in Inlet Road the New Zealand Fruitgrowers Federation established a citrus tree nursery as a result of requests by Kerikeri growers to the Citrus Council for better citrus trees. Much thought and hard work was put into the production of first class stock. <u>Trifoliata</u> seed from Australia and sweet orange seed for lemons from the Cook Islands were sown in well prepared beds. In 1951 an Agriculture Department Horticultural Trial area $(1\frac{1}{2} \text{ acres})$ was established at Kerikeri in Mill Road. Here, plantings of the <u>seminole tangelo</u> were first carried out by the Department of Agriculture. In 1962 the Manutaki Citrus Trial area (3 acres) was also set up.

¹² Clubs and societies represented at Kerikeri (1 September, 1971). a) Religious and philosophical bodies : Anglican, Catholic, Methodist, Christian Science, Baptist, Seventh Day Adventist, Jehova's Witness, Zen Buddhist, Scientologist, Anthroposophist, Theosophist, Sunday School, Bible Class, colony of approximately 20 vegetarians live in Inlet Road.

b) Outdoor sports clubs : football, squash, bowls, tennis, hockey, golf, badminton, basketball, sailing, pony club, swordfish club, aero club.

c) Indoor sports clubs : yoga, keep fit, bridge, photographic.
 d) Local body groups : Lions, Rotary, Buffaloes, Oddfellows, Masons, Returned Servicemen's Association, Ratepaters, Chamber of Commerce, Volunteer Firebrigade.

e) Arts groups : Kerikeri Players and Musical Society, Coffee Club (also a dram: group), Kerikeri Arts Foundation sponsored by the Auckland Civic Trust.

f) Childrens' groups : ballet, scottish country dancing, square dancing, guides, brownies, busy bees, scouts, cubs.

g) Women's groups : Women's Institute, Women's Division Federated Farmers, Red Cross, Plunket Society, Young Wives Club, Play Centre Association.

h) Agricultural groups : Young Farmers, Tamarillo Society, Kerikeri Citrus and Subtropical Fruitgrowers' Society,

i) Political groups : representatives from National, Labour and Social Credit parties.

j) Interest groups : two Gardening Societies, Beautifying Society, Bird Watching Society, Preservation Society, also numerous individual painters, writers and potters.

k) Other groups : Old Folks' Club, Scientific Society.

1) Representatives : Bay of Islands Publicity Society, Tourist Association and Department of Agriculture.

¹³ This ability is dependent upon the individual's cognitive style including the variables of place in the life cycle, sex, personality traits and background, educational attainment and aspiration level.

¹⁴ New Zealand Grapefruit/Seminole Tangelo Symposium held 15/4/71, organised by the Horticulture Division, Department of Agriculture, Whangarei and the Kerikeri Citrus and Subtopical Frutigrowers' Society.

¹⁵ A mechanical grass cutter, the Lanark Mower, for cutting between and under citrus trees without damaging the trunks, was designed by a Kerikeri resident. A weed spraying device with a specially devised guard so that windy weather does not disrupt orchard routine, was also invented by a local resident. Yet another grower has devised his own swing arm mower and weed control sprayer.

Keriwest Orchards.

¹⁶ On a property in Riverview, a citrus grower is at present experimenting with 9 different varieties of avocado pears as regards their individual market possibilities.

¹⁷ Watson, J.W. 196 . Relict geography in an urban community. In Miller, R. and Watson, J.W. (Editors). <u>Geographical Essays in</u> <u>Memory of A.G. Ogilvie.</u> 143.

¹⁸ The discovery and planting of <u>hakea saligna</u> hedges.

¹⁹ This may be contrasted with the initial phase of developments when growers were distinctively retired or semi-retired people who considered citrus farming as an interesting but essentially part-time hobby.

²⁰ There has developed a regional polarisation in population elements - early citrus settlers on the cne hand and younger citrus farmers and their families on the other. This has been a direct outcome of progressive rationalisation of citrus farming. Younger population elements have required additional educational facilities for their families. Kerikeri District High School was established in 1954.

²¹ Harvey, D.W. 1969. Behavioural postulates and the construction of theory in human geography. <u>Geog. Polonica</u>. 18: 34.

²² The Alderton scheme originally proposed orchards of approximately five acres.

²³ Many Eucalyptus trees while providing high back shelter, have been found to rob the soil in the vicinity of nutrients and moisture. They have consequently proven unsatisfactory coupled with subtropical fruit farming.

²⁴ Prince, H.C. 1969. Progress in historical geography. In Cooke, R.U. and Johnston, J.H. Trends in Geography. 113.

²⁵ Harvey, D.W. 1969. <u>Explanation in Geography</u>. 167.

26 Ibid. 167.

27 Ibid. 167.

²⁸ These comments refer only to citrus and subtropical fruit farmers and their decisions concerning their income alone.

29 Vidal de la Blache. As quoted in Pred, A. 1969. <u>Behaviour</u> and Location. 2: 92.

CONCLUSION

This investigation has sought to understand intricacies involved in spatial location, spatial patterning and 'personalite' formation in a micro study area, by means of a behaviourally biassed approach. The cultural landscape of Kerikeri, as has been demonstrated, is the complex composite result of a number of purposeful decision making actions.

Through the decision making behaviour of primarily one individual, not only has a distinctive spatial pattern been evolved at Kerikeri, but also an areal 'personalite'. The decision making process of the many individuals involved throughout the three phases of development, has been seen to have influenced agricultural landuse, settlement and social structuring.

Human geographical study must in its essence be behaviourally based. Viewing the visible, and appreciating the intangible results of human decisions, the geographer must logically make reference to psychological theory. An approach of this nature has implications not only for research of an historical or evolutionary orientation, but also for study in the sphere of planning.

Throughout this investigation, an appreciation of real life situations and the often non-quantifiable 'human element' has been aimed at. Geography it must be realised must never " ... become so mechanistic that it loses its soul ... so lost in theory that it forgets the practices [and the individual builders] of the earth

... so exclusive that it can only accept those who speak its private language." 1

Patterns are important to geographical study. Process must be focal.

¹ Cooke, R.U. and Johnston, J.H. 1969. <u>Trends in Geography</u>. 9.



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APPENDIX 2

GLOSSARY OF BOTANICAL TERMS

Common name :

Avocado pear Chinese gooseberry Citrange

Citron Citrus carker Eucalyptus Feijoa Grapefruit Hakea Kumquat Lenon (standard) Lime Macadamia New Zealand grapefruit

Orange (sweet) Orange (sour) Passionfruit Pecan Pomelo Tamarillo Tangelo (seminole)

Trifoliata orange (tristock) Tobacco Tung oil Wattle Wheeny grapefruit Botanical name :

persea americana actinidia chinensis hybrid of citrus simensis and citrus trifoliata citrus medica xanthomonas citri eucalyptus viminalis feijoa sellowiana citrus paradisi hakea saligna citrus fortunella citrus limon citrus aurantifolia macadamia ternifolia also known as Poorman orange citrus sinensis citrus aurantium passiflora adulis carya oliviformis citrus decumana cyphomandra crassifolia hybrid of citrus paradisi and citrus reticulata poncirus trifoliata nicotiana tabacum aleurites fordii lopantha albitzza wheeny grapefruit from Wheeny Creek, Kurrajong, northern New South Wales, Australia. Discovered and named by Mr R.J. Benton, Government citrus specialist, Australia.



Citrus Varieties

Fig 10.

APPENDIX 4

PLANTING INSTRUCTIONS ALDERTON GROUP SETTLEMENT,

KERIKERI, N.Z.

(full name)

of being the (address and occupation)

Owner of Section No of the Block, Alderton Group Settlement, Kerikeri, N.Z., desire to have the same planted, fenced, and supervised by the North Auckland Land Development Corporation Limited in accordance with the Specifications Schedule set out below and I agree to the following terms and conditions and to pay for the work at the price and at the times stated in the said Schedule.

TERMS :

1) The Plantations shall be under the sole control Management and management of the Corporation free from any interference by me for the period of five years from the date hereof. BUT I shall be at liberty to resume management at any time upon my paying to the Corporation the balance of all expenditure or liabilities incurred by the Corporation hereunder and the proportion of supervision fee whereupon all obligations of the Corporation hereunder shall cease.

2) Should any part of the plantation come into bearing while under the control of the Corporttion, I authorise the Corporation to gather, pack and market the produce (either by itself or after pooling with other produce) on my account in such manner and at such prices as the Corporation thinks best. As recompense for its services in this connection, the Corporation shall be entitled to retain 10% of the gross proceeds of such produce after deducting the costs of gathering, packing and marketing the same. The Corporation shall also be entitled to the produce from any crops except passionfruit planted between the rows of citrus trees for the better cultivation of the same.

3) Payments in arrear shall carry interest at the rate Interest of £8 per centum per annum.

Responsibility

4) The Corporation will take reasonable care in

1:55"

period

Resumption

Marketing

carrying out the work, but will not be responsible for loss or damage caused by any act or circumstance beyond the reasonable control of the Corporation.

SPECIFICATION SCHEDULE OF WORK DESIRED

Price

Shelter belts :	acres	
CONTRACTOR OF A CONTRACTOR OF A CONTRACTOR	Chiefly Australian Hardwoods	
	800-1.100 trees planted to the	
	acre	
	Price includes maintenance for	
	five vears	
	(£ per year)	Ē
Citrus :	ana acres	272
with an even a " with	Selected lemon and orange trees	
	100 trees planted to the acre	
	Price includes maintenance for	
	five wears	
	(f per verr)	£
Passionfruit .	vinac	~
I GOOLONII I GILL 6	Planted intermediately with citrus	
	tread and cupplied with wine trellices	
	Price includes maintenance for	
	file manues maintenance for	
	(f rears)	C
Puncing .	(L per year)	£
rencing :	occoso chains	
	Sufficient stock-proof fences on	C
	Doundaries	£
Manure, Carting		0
and Sundries :		£
Supervision :	Fee payable to the Corporation for	-
	five years at £ per annum	£
Rates :	Rates payable by owner as assessed	
	by Local Body	0
	Approximately £5 per year	£

Total £

The above total sum of £ ... is payable as follows :a) One half on the giving of these instructions.
b) The remaining half by four equal instalments on
1 January in each year.

Date :

..... Owner

Witness :

...........

APPENDIX 5

ESTIMATED COSTS AND ANTICIPATED RECEIPTS FROM A MODEL PLANTATION

Land .	20	6.0	-00
Flanting etc :	Shelter belts one chain	£,	500
	wide on three sides and		
	five years maintenance	£	50
Citrus :	500 citrus trees (per 5		
	acres) planted, cultivate	эd	
	and maintained for five		
	years	£2	205
Passionfruit :	400 plants and trellises	£	70
Fencing :	Top and bottom	£	25
Manure :	Two tons	£,	15
Carting :		£	30
Supervision fee :	£20 per annum for five		
	years	£1	100
Rates :	£5 per annum	£	25

Grand total

£1,020

Of this total, £100 was to be paid on signing the contract (Appendix 4), £250 when the trees were planted, and, £175 during the second, third, fourth and fifth years.

b) Estimated receipts

		Estima	ted net p	rofits
Y	'ear 2	Year 3	Year 4	Year 5
One acre passionfruit	£50	£100	£100	£100
100 lemon trees	-	£ 50	£100	£100
50 Poorman oranges	-	23 73	£ 50	£ 75
100 grapefruit	-	-	£ 75	£100
250 navel oranges	-	-	£125	£250
500 trees (total)	£50	£150	£450	£675

Source : Circular A. 3.

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SELECT BIBLIOGRAPHY

Alderton, G.E. 1884. <u>Treatise and Handbook of Orange-Culture</u> in Auckland, New Zealand.

- Alderton, G.E. (Editor). 1897. The Resources of New Zealand. 1: No 1.
- Alderton, G.E. 1925. Income Homes That Grow in the Trees.
- Alderton Group Settlement Scheme. 1927. Prospectus.
- Alderton Group Settlement Scheme. n.d. Planting Instructions.
- Alderton Group Settlement Scheme. 1928. Close of Planting Season.
- Alderton Utility Company. 1930. Circular A.
- Benner, H.S. and Little, E.S. 1927-30. Correspondence.
- Cederman, J.A. 1953. Fruit growing at Kerikeri. N.Z. J of Agric. 86: 147-54.
- Citrus Commitee, N.Z. Institute of Horticulture. 1934. <u>A</u> General Survey of the New Zealand Citrus Industry 1921-34.
- Citrus Growers of Kerikeri. 1933-49. Minutes of Meetings of Citrus Growers.
- Harvey, D.W. 1970. Behavioural postulates and the construction of theory in human geography. Geog. Polonica. 18.
- Kerikeri 150th Anniversary Organisation Limited. 1969. Kerikeri 1819-1969.
- Kerikeri Gazette. 1936. Nos 1-8.
- Little, E.S. 1928. N.Z. Tour 1927-28.
- Little, E.S. 1929. Income Homes.
- Little, E.S. 1930. Electricity Company Notes.
- Little, E.S. 1930. Kerikeri Notes (March September).
- N.Z. Herald contained many relevant items between 1928-40.

North Auckland Land Development Corporation. n.d. <u>Circular A</u>.
North Auckland Land Development Corporation. 1928. <u>Circular B</u>.
North Auckland Land Development Corporation. 1930. <u>Circular D</u>.
North Auckland Land Development Corporation. n.d. <u>The Ideal</u> <u>Group Settlement</u>.
<u>Northern Advocate</u>. Contained many relevant items between 1932-38.

Northern News. Contained many relevant items during 1937.

Orchardist of New Zealand. Contained many relevant articles 1933-42.

Pickmere, N.P. 1969. A Lamp Shines in Kerikeri : The Story of Kerikeri 1819-1939.

Pred, A. 1967. Behaviour and Location. 1.

Pred, A. 1969. Behaviour and Location. 2.