

CHANGING ECOLOGIC ADAPTATION IN A NEWFOUNDLAND
FISHING COMMUNITY

CENTRE FOR NEWFOUNDLAND STUDIES

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CHANGING ECOLOGIC ADAPTATION
IN A NEWFOUNDLAND FISHING
COMMUNITY

by



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Submitted in partial fulfillment of the requirements for
the Degree of Master of Arts, Memorial University of
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ABSTRACT

Changing ecologic adaptation in Grand Bruit, an isolated Newfoundland fishing outport is analyzed from a holistic and historic viewpoint. Such changing adaptation is explained in terms of changing limitations and opportunities, that is stresses, in the ecosystem composed of the outport society and culture and its biophysical environment.

Changes in the use of subsistence activities versus activities involving exchange for cash, and changes in consumption pattern are presented. Several adaptative strategies (mobility, cognition, the preservation of food, the use of energy and time, generalization, specialization, and the notion of property and rights to resources) are discussed, and changes in these described.

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TABLE OF CONTENTS

	Page
ABSTRACT	ii
ACKNOWLEDGEMENTS	iii
TABLE OF CONTENTS	iv
LIST OF TABLES	viii
 LIST OF MAPS AND FIGURES	 x
 Chapter	
I INTRODUCTION	1
General Discussion Holistic and Historic Viewpoint	1
The Ecologic Viewpoint	4
Change	7
Adaptation	10
 II GENERAL DESCRIPTION OF LIMITATIONS, OPPORTUNITIES AND CORRESPONDING ADAPTATIONS IN GRANT BRUIT AREA	 14
Limitations in the Physical Sphere	17
Limitations and Resources in the Biological Sphere	23
Economic Resources and Limitations	28
General Economic Adaptation on the South West Coast	28
Economic Resources, Other than Fish, From the Environment	30
Fish: The Prime Economic Resource of the South West Coast	31
Limitations Inherent in the Fishing Economic Niche	37
Limitations Due to Marketing Practices	39
The Salt Fish Industry	39
The Inshore and Offshore Fisheries	44
Transfer Payments	45
Wage Work	48
The Concept of Marginality	49
Other Limitations	49
 III ANALYSIS OF THE CHANGES IN ADAPTATION IN GRAND BRUIT	 51
Levels of Adaptation	51
Subsistence Production	60
Hunting and Gathering	60
Berry-picking	60
The Use of Wild Plants Other than Berries	66
The Use of Marine Invertebrates	67
The Hunting of Land Animals	69

TABLE OF CONTENTS (cont.)

Chapter		Page
	The Hunting of Birds	73
	The Subsistence Use of Fish	78
	The Use of Wood	82
	Gathering Items which "Drive Ashore".	85
	The Use of Domesticated Plants and	
	Animals	86
	Domesticated Plants	86
	Domesticated Animals	96
	Sources of Fertilizer and Feed	100
	"Rearing" Wild Birds	102
	Production and Labour for Cash	103
	Conversion of Resources of Land and Sea	
	into Cash	104
	Transfer Payments	108
	Wage Work	111
	Changes Within the Fishing Adaptation	114
	Decline of Subsistence in Grand Bruit.	120
	Factors in the Decline of Subsistence in	
	Grand Bruit	121
	Decline of Subsistence in Newfoundland	128
	The Importance of Cash	129
	Wage Work	130
	Transfer Payments	132
	Fluctuating Fish Prices	133
	Conclusion	134
	Consumption Patterns	134
	Consumption of Food	135
	Goods Available	135
	Storage of Food	142
	Dependency on Store	142
	Taste	143
	Variety	144
	Changes in Quality of Diet	144
	Consumption of Non-Food Items	145
	Sources of Goods	145
	Items Bought	146
	Theoretical Discussion: Consumption	149
IV	DISCUSSION: ADAPTATION STRATEGIES TO THE	
	RESOURCE BASE OF GRAND BRUIT.	156
	Mobility	156
	Daily Movements	156
	Transhumance	157
	Weekly Migration	161
	Seasonal Migration	162
	Temporary Migration	169

TABLE OF CONTENTS (cont.)

Chapter	Page
Permanent Migration	169
Theoretical Discussion Mobility	170
Settlement Pattern	172
Changing Settlement Pattern	172
Temporary Migration	185
Permanent Migration	197
Resettlement	200
Reasons Cited For and Against Resettle- ment	200
The Resettlement of West Point	201
Mass Migration as a Trend.	202
Theoretical Discussion - Settlement Pattern	204
Factors in the Increasing Concentration of Population	204
Reasons for Resettlement Cited by Newfoundland Studies	206
Cognition: Knowledge and Changing Aspirations	211
Discussion: Concept of Cognition	211
Changing Cognition	213
Cognition in Grand Bruit	215
Isolation: A Factor Limiting Cognition	215
Aspirations Regarding Education	218
Aspirations Regarding Recreation	222
Aspirations Regarding "Conveniences".	223
Needs for Companionship and Security.	224
Aspirations Regarding Prestige and Wealth	225
Views of Grand Bruit and Other Communities.	227
Views of Other Communities	227
Views of Past, Present, and Future	232
Knowledge	234
Knowledge in Grand Bruit	235
The Preservation of Food.	243
Techniques of Preservation	243
Additional Techniques in Grand Bruit	244
Changing Patterns	246
The Use of Energy and Time	248
Social Organization	248
Mechanical Technology	252
Changing Expenditure of Energy and Time.	253
Generalization	261
Generalization in Grand Bruit,	261
Theoretical Discussion	262
Specialization	263
Specialization in Grand Bruit	263
Theoretical Discussion	267
Notions of Property	269

TABLE OF CONTENTS (cont.)

Chapter		Page
V	SUMMARY AND CONCLUSION	271
	Presentation of Data	271
	Conclusions	272
	Limitations and Stresses	273
	Responses to Stresses	276
	APPENDIX (A)	279
	APPENDIX (B)	282
	BIBLIOGRAPHY	297

LIST OF TABLES

Table		Page
1	Marine Resources of the South West Coast . . .	35
2	Percentage Income (I) and Employment (E) on the South Coast	46
3	Historic Events and their Consequences	52
4	Calendar of "Events" in the Biophysical Environment as Described by Grand Bruiters. .	53
5	Calendar of Events Affecting Subsistence Adaptations and the Selling of Resources (other than fish) of the Biophysical Environ- ment	54
6	Calendar of Events Affecting the Fish Adaptation	55
7	Uses of Wild Plants	63
8	Uses of Marine Invertebrates	68
9	The Use of Fish Species	79
10	Data from Newfoundland Census on Subsistence Production	87
11	Strategies Presently Adopted by Each Household	93
12	Fertilizer used for Various Crops	101
13	Changes in Trapping by Grand Bruiters	107
14	Wage Work Offered by Merchants	113
15	Changes in Fishing Technology	115
16	Changes in the Marketing of Fish	116
17	Sequences of Interconnected Events as Viewed By Grand Bruiters	122
18	Diet for Period: May to September	136
19	List of Items Bought at Ron's and from Catalogue and Elsewhere During Summer 1970. .	147
20	Examples of Transhumance Related by Grand Bruiters	158
21	Recent Seasonal Moves - Wage Work on Lake Boats	165
22	Population of Some South West Coast Communities	174
23	Permanent Moves - Women	189
24	Data on Migration at Marriage	191
25	Present Location and Occupation of Unmarried Daughters of Couples Living in Grand Bruit. .	196
26	Permanent Moves of Nuclear Families Involving Appearance or Disappearance of Communities. .	199
27	Grand Bruiters' Views of Other Communities . .	228
28	List of Work Done by Men (Summer 1970)	249
29	List of Work Done by Women (Summer 1970) . . .	250
30	List of Work Done by Children (Summer 1970). .	251
31	Resources Expended for the Satisfaction of Felt-Needs (Summer 1970)	254

LIST OF TABLES (cont.)

Table		Page
32	Changes in Work Done by Women	257
33	List of Work and Other Time-Consuming Activities of Old-Age Pensioners	260
34	Sharing Patterns (Summer 1970)	265

LIST OF MAPS AND FIGURES

Map	Page
1 Geography of Grand Bruit Area	18
2 Geology of Grand Bruit Area	20
3 Resources Used by Grand Bruiters.	24
4 Cod Stocks and Ocean Currents	33
5 Grand Bruit Houses and Gardens.	90

Figure

1 Selye's Model of the "General Adaptation Syndrome".	16
2 Population Pyramid for Grand Bruit: 1884-1970 . .	.110
3 Duration of Existence of South West Coast Communities178
4 Maximum Population of South West Coast Communities (A)179
5 Maximum Population of South West Coast Communities (B)180
6 Number of Communities Between Baziel and Lower Burgeo at Each Census Date182
7 Number of Appearances and Disappearances of Communities at Each Census Date183
8 Distance of Migration on Marriage193

CHAPTER I

INTRODUCTION

Grand Bruit is a community of ninety people on the South West Coast of Newfoundland. It is an outport, never exceeding 250 in population, from which men have engaged in the inshore fishery through the approximately 150 years of its existence. It is not connected by road, and access is by water, there being a regular steamer service to it and other outports on the South West Coast. The nearest community is nine miles west along the coast. I wish to examine changes in the over-all adaptation of the people in this community through its history. This is intended to be an exercise in the use of a certain orientation by which to perceive order in the data. This orientation is "holistic", ecological, and historical; and involves the concepts of "adaptation", "change", and "stress".

General Discussion: Holistic and Historic Viewpoint

In order to fully understand changes in the ecological adaptation of a community, it is necessary to take a "holistic" viewpoint. Several arguments favour such an orientation. Redfield (1956:156-158) points out:

The investigator who is interested in a limited problem of general relationships, a problem of some human uniformity, finds in the small community a place to study that general question in its full

context of social reality.... It offers the investigator opportunity to see how, in a multitude of variously composed arrangements for taking care of all that people require and much of what they desire, the generic relationships really occur. ...[For] the little community is one of a few prominent human wholes known directly, and even without much effort to analyze or classify, it provides that kind of understanding which is provided by coming to know a person, a history of a people, or a literature.... Of all the conspicuous enduring forms in which humanity occurs, the self-contained community is the most nearly self-sufficient and the most nearly comprehensible in itself alone.... One seeks to understand the relationships of some of the parts to one another within that whole. One is interested in the small community as an analyzed system" (Redfield: 1956:156-158).

This dissertation involves a study of a "whole" in terms of adaptation. Thompson (1961 - 125) argues that the "human group has tended to organize and integrate its habits of feeling, thought, and behaviour systematically with the world of nature in such a way as to play a basically positive and logical role in the multi-dimensional process of attaining and maintaining a balanced, healthy adjustment of the whole community". She describes the adaptation in Fiji as near-climax, since the people have been in the same environment for a long period of time, and maintains that therefore this integration has occurred to a large extent. For example, the system of competitive gift-giving which prevents the development of economic monopoly could not operate effectively unless it was "counterbalanced by a psychocultural arrangement

which functions to regulate and limit the size of the population in relation to the resources made available by the technology" (Thompson: 1961:123-124)

The historical or long-view approach is an integral part of the holistic viewpoint. Postan maintained that "microscopic problems of historical research can and should be made macroscopic -- capable of reflecting worlds larger than themselves. It is in this reflected flicker of truth, the revelation of the general in the particular, that the contribution of the historical method to social science will be found" (quoted by Redfield: 1956:103). For example, Thompson (1950:255), by taking the long-view, could perceive progress toward a near-climax and could perceive past states of balance: "The analysis indicates...that the dynamic, total ecological structure of a community emerges only if processes whose time-span is relatively long are taken into account" (Thompson: 1950:265). Darling (1951:319), discussing human ecology, maintains "we can never neglect history, for we are studying process; I would say, therefore, that a cross-sectional social survey is not ecological unless it studies origins and successions, in other words, process". Referring to a particular case, the people of the Highlands of Scotland, he says, "an assessment of these five and a half million acres cannot disregard history, which is in fact natural history, where man is one of the animal species behaving positively or negatively,

bringing about consequences which he did not imagine at the time and tends not to recognize now" (Darling:1955:153). He further maintains that social, natural, and political history are interdependent.

The Ecologic Viewpoint

As this study is an ecological one, it is necessary to clarify the nature of "ecology". Bates (1952:701) maintains that ecology is a "pervasive point of view rather than ... a special subject matter" in which the "organism is regarded as a whole unit functioning in its environmental context".

Several ecological approaches are not useful or relevant to my study. Firstly, in "environmental determinism", environmental forms are said to "dictate cultural ones, and therefore cultural phenomena can be explained and should be predictable to a large extent by reference to their contemporary environments" (Vayda and Rappaport: 1968:479). "Possibilism" maintains that "only the absence of traits...could be predicted from characteristics of the environment" (Vayda and Rappaport: 1968:479) and that environment "makes possible" several alternative adaptive strategies. However, culture-area and comparative studies made in the early 1900's refuted crude environmental determinism (Vayda and Rappaport: 1968:483), and revealed the importance of influences other than environmental factors on culture. These included the diffusion of

cultural traits and the specific history of an area (Vayda and Rappaport: 1968:483).

Steward in the 1950's developed another ecological approach. His approach involved the premise that the degree and kind of interrelation between environment and culture are not the same in all aspects of culture. The "culture core" includes those aspects of the culture in which functional ties with the natural setting are most explicit (Vayda and Rappaport: 1968-485). He "regards the relationship of man, the organism, to environment as separate from the relationship of culture, the 'super-organism', to environment, and views the elucidation of biological and of cultural phenomena as different objectives of ecological research, each requiring its own concepts and methods, each to be kept, generally, distinct from the other" (Vayda and Rappaport: 1968 :483). He de-emphasizes the role of historical influences on adaptation and asserts that cultural diffusion has been over-emphasized (Vayda and Rappaport: 1968:484). Steward's method consists of analyzing the "relation between environment and exploitative or productive technology", the "behaviour pattern involved in the exploitation of a particular area by means of a particular technology", and the "extent to which the behaviour patterns entailed in exploiting the environment affect other aspects of culture" (Vayda and Rappaport: 1968-484). Vayda and Rappaport (1968:485-486) pointed out several defects in

Steward's approach: his procedure does not test the significance of the correlation he draws between cultural traits and ecologic adaptations, he does not prove that the ecological adaptations are "causative" and the cultural traits are dependent variables, and he does not prove the "inevitability" of the traits.

Other writers have described the "ecological approach" in other ways. Freilich (1967 : 36) regards the "ecological" approach as incorporating a "systems approach". Vayda (1969:113) says one can regard particular cultural practices as functioning as parts of systems that also include environmental phenomena. Freilich (1967:37) regards space as a critical variable in social systems; space will be seen to be important in the discussion of the Grand Bruit data on the dispersed nature of resources. Ethnoecology, such as that developed by Frake, arrives at a description of cultural behaviour by a formulation of what one must know in order to respond in a culturally appropriate manner in a given socio-ecological context" (Vayda and Rappaport: 1968:499). These concepts of ecology are all used in portions of this thesis.

The approach used in this thesis incorporates more than the "cultural ecology" of Steward. Rather, a more holistic approach is used in which cultural-historical factors, and diffusion also are seen to play a role in changing

adaptation. Also both cultural and biological phenomena are discussed and their influence on each other described.

Change

Change, the central concern of this thesis, is ubiquitous and is not pathologic, being either recurring, or non-repetitive and directional (Chance: 1968:12). Rather it is an aspect of the process of balancing characteristic of an ecologic system.

The analysis of such change requires the use of certain concepts. Murdock (1956:249) maintains that, by saying culture is learned, one is saying that drives or acquired motivation result in action and if this action results in success, habits are formed, whereas if it results in failure, it is replaced by other behaviour. There are habits of thought, that is collective ideas (such as practical knowledge and values), and habits of action, that is, customs. Culture comprises the habits or tendencies to act, and not the actions themselves (Murdock: 1956:249).

Actual behaviour is largely determined by habits, but is also affected by the physiological and emotional state of the individual, the intensity of his drives, and particular external circumstances. Whenever social behaviour deviates from cultural habits persistently in any direction, there results a modification in social expectations and later in

customs, beliefs, and rules. Such changes in social behaviour normally then have "origin in some significant alteration in the life conditions of a society". (Murdock: 1956:249) "Any event which changes the situations under which collective behaviour occurs, so that habitual actions are discouraged and new responses are favoured, may lead to cultural innovations." Examples of such events are increases or decreases in population, changes in the geographical environment, migration, contact with other cultures, and natural and sociological catastrophes such as floods, crop failures, epidemics, wars, economic depression, discoveries, and biographical events. (Murdock: 1956:249-250)

Chance (1968:13) pursues the theory of change further, saying that the impingement of biophysical, social, and cultural events on the individual result in environmental "stresses", and then in man's adaptation to these stresses. Ruff (1970) presents a useful analysis of the impingement of environmental stresses on a system as discussed later.

Murdock (1956:250) describes the process of change. He states that first one individual innovates, for example, by introducing a trait borrowed from another culture. "An innovation originates through the ordinary psychological mechanism of learning, and differs from purely individual habits only in the fact that it comes to be socially shared" (Murdock: 1956).

Next, "social acceptance" begins with the adoption of the

new habit by a small number of individuals" (Murdock: 1956:258). From this point it may be spread until it becomes part of the sub-culture of a family, clan, local community, or other sub-group" (Murdock: 1956:258). "The learning mechanism involved in social acceptance is imitation" and the prestige of the innovator and of the group who are the first to imitate him is important in social acceptance.

"Every innovation that has been socially accepted enters... into competition for survival", and innovations are selectively eliminated by being "competitively tested in the experience of those who practice them." (Murdock: 1956:258)

Finally, "the shared habits that constitute a culture not only fluctuate in their degree of social acceptance, and compete for survival, but they also become progressively adapted to one another so that they tend to form an integrated whole and exhibit a strain toward consistency". (Murdock: 1956:259). "Every innovation alters in some respect the situations under which certain other forms of habitual behaviour occur, and leads to adaptive changes in the latter" (Murdock: 1956:259). Murdock maintains that "perfect equilibrium is never achieved or even approached" (Murdock: 1956:260). While the system is adjusting to one innovation, other ones have appeared and "set in motion new processes of integration" (Murdock: 1956:260). "What we always encounter is a strain toward internal adaptation, never its full realization"

(Murdock: 1956:260). An example of such integration was described by Thompson (1950:256). The introduction of man and exotic species of flora and fauna to Fiji resulted in a new ecological arrangement and the development of a culture which integrated the human group with other species of the natural community in the environmental context.

Adaptation

In order to understand change in ecologic adaptation, it is necessary to understand what adaptation is. Chance (1968:11-32) maintains that adaptation on the part of man follows an environmental stress on a cultural system. Examples of techniques of adaptation are advanced technology, which reduces stresses stemming from the physical environment; and attempts to define territories, or the formation of behavioural patterns of dominance and submission, which reduce social environmental stresses.

Murdock (1956:260) maintains that "culture change is always adaptive and usually progressive". However, Vayda (1969:117) points out that a change in the setting of a system without a change in the system can make that system maladaptive, and one must not assume that the systematic interaction of cultural and environmental variables always works to the material advantage of human populations. Thompson's (1961: 106:127) description of the integration of a

culture with its environment in Fiji, discussed above, is an example of adaptive integration. Likewise, Thompson (1950:) observed that the close adjustment of the Hopi community to their natural environment at the time of discovery was apparently the "end result of a long period of development and experimentation". She concluded that "isolated human communities also tend in the course of time to integrate themselves organically with the total environment, but they also tend to integrate logically and aesthetically -- that is, symbolically with it" (Thompson: 1950)

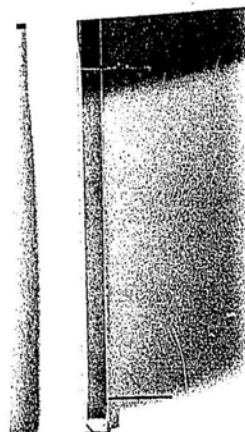
The concept of climax is relevant to the idea of change and progressive integration. Firey (1960) 24-25) maintains that human intervention can fix a biotic community at some stage below climax and that this anthropogenic climax defines a subset of optimum resource processes (events which recur in time and involve somewhat the same combination of human and biophysical factors). For example, Thompson (1950) in her study of Hopi "culture-in-environment", said it was a near-climax type, being characterized by a high degree of organization and symbolic integration within the total environment.

But what exactly does "adapted" mean? Cohen maintains that "adaptation in man refers to fitness for reproduction and survival" (Cohen: 1968:42) and that adaptation is a "process by which he makes effective use for productive ends of

the energy potentials in his habitat" (Cohen: 1968:42). He describes different levels of adaptation referring to quantitative increases "in the ability to sustain and perpetuate life" (Cohen: 1968:42) discussed later. Adaptation requires the integration of all aspects of culture. Cohen maintains that "people must organize their social relationships and activities, and even their thought processes in ways that will make their productive activities effective; otherwise their societies will not survive" (Cohen: 1968:46). Gayton (1946) provides an example of such integration among the Yokuts of the San Joaquin Valley, where features of the environment not essential to basic subsistence were "caught up into the ceremonial, social, and religious superstructure", and had "some dynamic force as cultural integrators in the functional sense" (Gayton: 1946:265). Cohen refers to homeostatic changes that occur within a society which "result in a better 'fit' or articulation between the group's technology and its constitutions, ideologies, and customary behaviour" (Cohen: 1968:57). Such adjustments "equip a society for better exploitation of the energy potentials it has harnessed within the limits of its level of cultural evolution" and are other than major alterations in the relationship of societies to their habitats that result in different levels of adaptation, from foraging to industrialism (Cohen: 1968:57).

Cohen (1968:47) describes the unit of adaptation as the "largest and most inclusive group that makes and implements decisions with respect to the exploitation of energy potentials in the habitat". Peasants (discussed later) respond "to units that are very close to [them], such as the local community, and to those that are very distant, such as the central state" (Cohen: 1968:48).

In conclusion, this study is ecological in a sense broader than that described by Steward since it involves the historical and holistic approach described by Redfield (1956) and Thompson (1950,1961) This study is an analysis of stresses and the resulting changes to ensure adaptation, as understood by Chance (1968) and Ruff (1970) and Murdock (1956) in a small Newfoundland community.



CHAPTER II

GENERAL DESCRIPTION OF LIMITATIONS, OPPORTUNITIES, AND
CORRESPONDING ADAPTATIONS IN GRAND BRUIT AREA

Since the object of this analysis is to understand cultural and ecological change in Grand Bruit in a holistic manner, it would defeat the purpose to discuss processes within the ecologic, economic, social, and cultural spheres separately. This would obscure the linkages between these spheres. Likewise, it is fruitless, as the data will show, to separate a hypothetical "traditional" adaptation from succeeding "stages". Therefore, the process of change will be described in terms of a few ecological concepts, incorporating various factors from all spheres at each stage of the presentation of the argument.

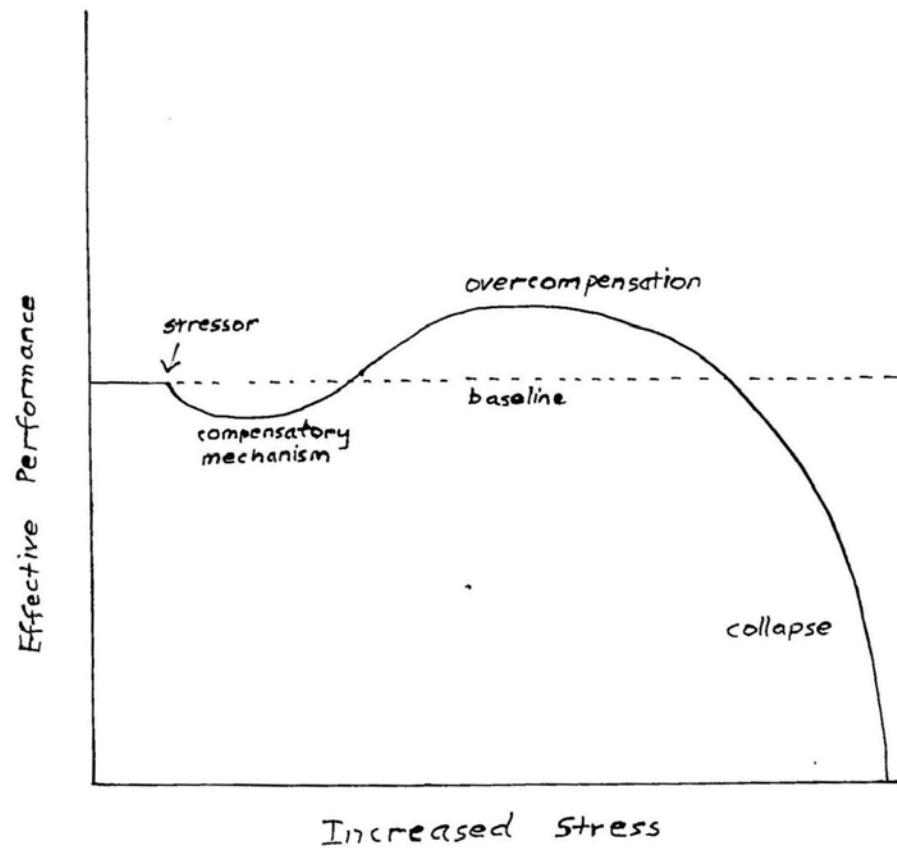
In order to appreciate the situation more fully, it is necessary to put certain ecological concepts into perspective. The terms "stress", "limitation", and "resource" are really terms describing facets of the same reality. It appears that "limitation" and "opportunity" are terms describing a static situation, being the negative and positive sides of the same concept. That is, lack or scarcity or difficulty of access to a resource constitutes a limitation, while the availability of a resource constitutes a potential opportunity. "Stress" will be used in this discussion, when

the time dimension is considered, to describe the imposition of new limitations or opportunities on the ecologic situation of a people. "Stress" in this discussion will not have the negative implications commonly associated with it. The imposition of a new limitation or the opening up of a new alternative resource or 'opportunity' in a system which had attained a measure of balance constitutes a "stress". Insofar as that system must now establish a new equilibrium or balance. It is self-evident that some limitations or opportunities change more slowly through time than others although even such apparently stable ones as physical factors and climatic trends do change.

Ruff (1970:19-26) analyses the effects of stress on any system. He says one can conceptualize the process of adaptation to extreme environmental conditions by viewing "each individual or group as a system with inputs and outputs of energy and information.... Each system maintains in equilibrium the variables associated with its continued existence. These variables are confined within limited ranges by feedback mechanisms. Inputs which force them beyond their normal range produce stress within the system. Adjustments made to restore equilibrium constitute the process of adaptation, which involves reorganization of the system to prevent failure of subsystems required for survival". (Ruff: 1970:20). Ruff (1970:21) used Selye's model (see Figure 1.) of the

FIGURE 1

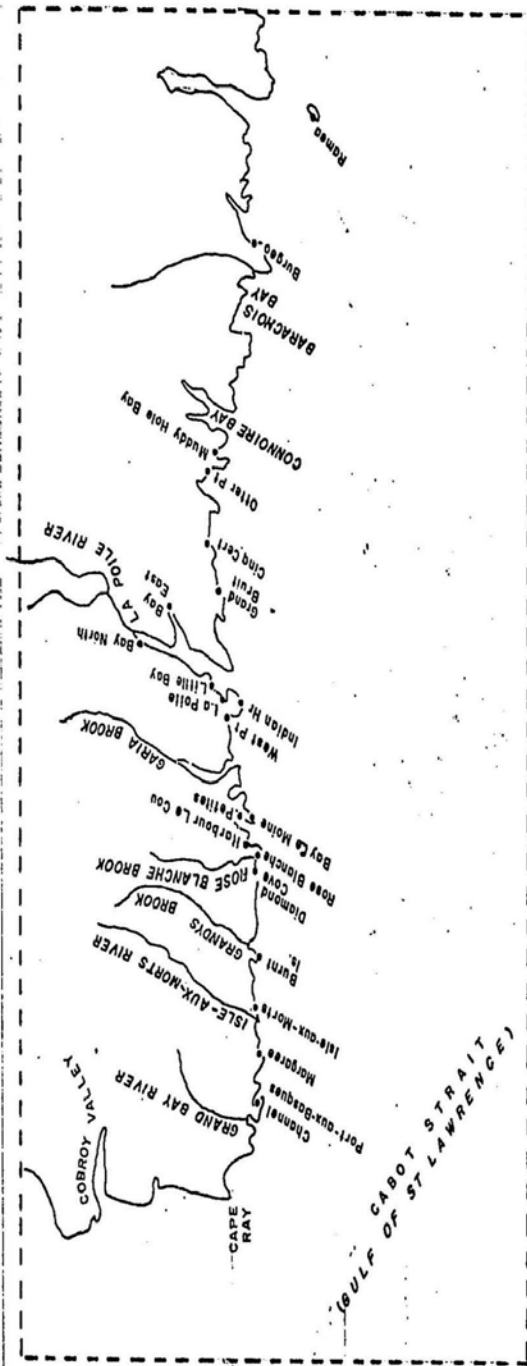
SELYE'S MODEL OF THE "GENERAL ADAPTATION SYNDROME"



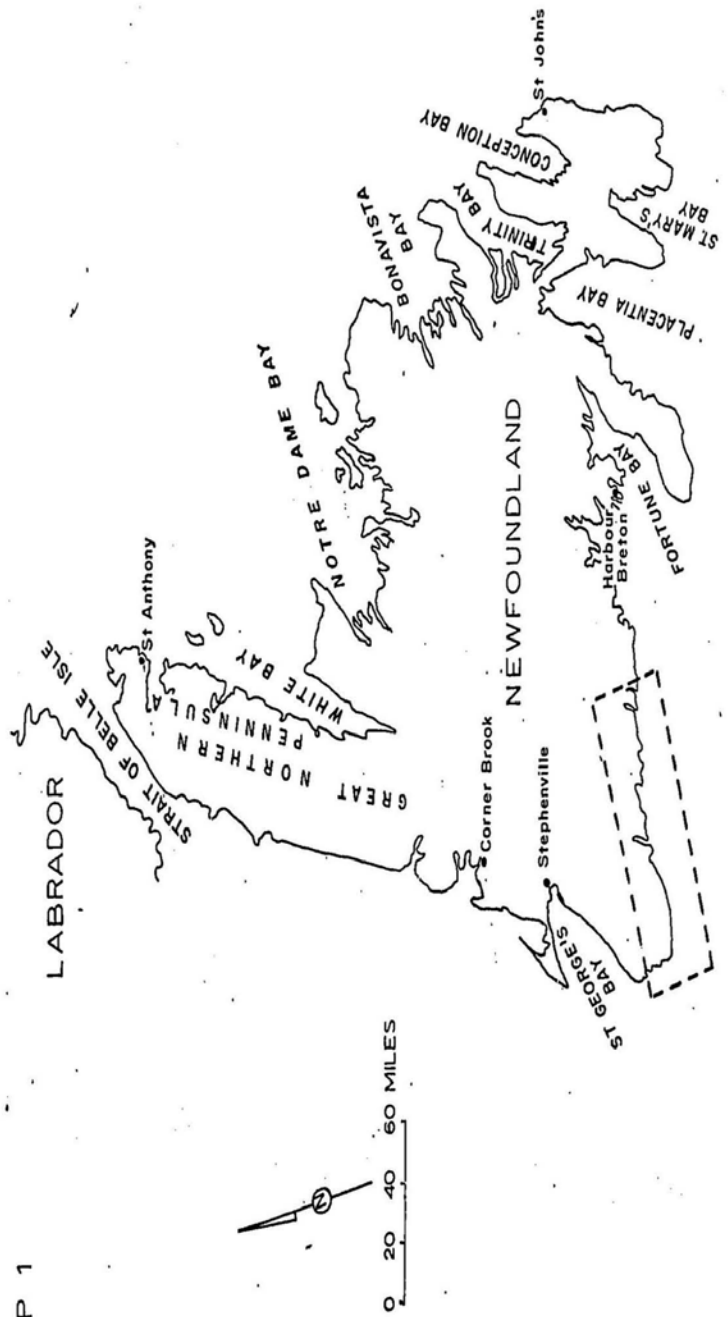
"general adaptation syndrome". According to this model, a compensatory response follows overloads or underloads of information and this may lead to improved functioning as long as the system can tolerate the re-organization required for adaptation to the increased load. Selye maintains (quoted in Ruff 1970:21) that re-adjustment involved may be specific changes determined by the nature of environmental conditions, or a nonspecific response of the system to an emergency. Most of the changes in Grand Bruit adaptation have been of the first sort, although the present anxiety over the "emergency" of probable imminent extinction of the community due to socioeconomic and political factors might be an example of the second sort. If changes in the environment are not severe, compensatory responses are limited in scope, but if they are extreme, compensatory responses require a greater diversion of energy, are more disruptive, and these responses are maintained at greater cost.

Limitations in the Physical Sphere

Limitations in the physical sphere tend to be relatively permanent. Geographically, (see Map 1.) Grand Bruit is on a straight coast, the straight shore-lines probably being related to major fault zones of the earth's crust. (Putnam: 1952:44). This results in the first limitation: the paucity of good harbours, which as will be evident later,



MAP 1



has influenced the settlement pattern. Inland from Grand Bruit is highland which is part of the "central plateau", an old erosion surface tilted to the north-east, resulting in the presence of short rapid rivers. (Putnam: 1952:45) These rivers constitute a resource as will be seen later. The rugged coastal landscape quickly rises to a rugged plateau with an elevation of over 500 feet, (Report of the South Coast Commission: 1957:33), and three or four miles inland from the coast are the Grand Bruit Highlands of one thousand foot elevation.

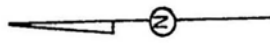
Geologically (see Map 2), the Grand Bruit area is underlain by "granites, gneisses, and their associated rocksNearly all of these are characteristically resistant to normal erosion". (Report of the South Coast Commission; 1957:7). This is a third factor important in a discussion of limitations and resources, as the loss of the shallow mantle of soil through erosion results in exposure of the bare bedrock.

Surface material and soil constitute limitations as the barren rock of the coastal area of the South West Coast is unfavorable to agriculture. There is no agricultural soil as such in the Grand Bruit area; all the soil in the area is rated class seven, the poorest class, except for the three flats in Cinq Certs River (see Map 3), where there is a shallow organic layer underlain by coarse gravel and

Map 2



- ROCK TYPES
- Sedimentary
 - Volcanic
 - Granitic



0 20 40 MILES

cobblestones (personal communication, Mr. K. Beanlands, Provincial Department of Mines, Agriculture, and Resources).

Only in some areas of the South Coast, especially in the valleys at the head of larger bays such as La Poile Bay and Bay d'Espoir, (Report of the South Coast Commission: 1957:8), is the glacial debris sufficiently deep to permit the formation of rough soils. The plateau inland from the South Coast is largely covered with glacial sands, clays, and gravels. "For the most part this plateau is poorly drained, with numerous ponds and peat bogs interspersed with small hummocks of glacial materials. When the drainage is good, the soil is fair and forest growth is plentiful, as appears in the area northeast of the head of Bay d'Espoir."

Climate imposes limitations in many ways: the length of growing season affects subsistence gardening, storms and fog and rough sea conditions unsuitable for fishing affect the economic fishing adaptation, and weather in many subtle ways affects the behaviour of the biota. Putnam (1952:46-48) describes Newfoundland summers as short and humid, and winters as cold and snowy. The Grand Bruit area has milder winters and colder summers than the rest of the island because of its southern position and the effect of offshore waters which modify air temperatures. The summers are cool because of "exposure to the prevailing southeasterly winds off the sea and the attendant fog of early summer". The

mean January temperature is approximately 20°F and the mean July temperature is 55°F in the Grand Bruit area. (Report of the South Coast Commission: 1957:10-11). Accordingly, the growing season (number of days the mean temperature is above 43°F) is less than one-hundred-and-fifty days, thus limiting the kinds of crops that can be grown. Precipitation is abundant, averaging 50 to 55 inches (only 15% of this is snow) over half of which runs off as excess moisture in the stream systems. Fog is an important factor in all parts of Newfoundland, the coast being foggy especially in June and July because warm air from the south mixes with air which has been chilled by the Labrador current. (Putnam: 1952:48). Fog is important since it limits the number of days fishermen can check their nets. Finally, all Newfoundland is affected by extremely variable weather conditions because of the cyclonic storms which every few days leave the continent by way of the Gulf of St. Lawrence. These are more frequent during the winter months and are often accompanied by very high winds. (Putnam: 1952:47).

The lack of forest also permits wind to have a greater influence on man and his crops and animals than it would in a forested area. In Grand Bruit, wind has had limiting effects similar to those noted in the Highlands (Darling: 1955:182), for example, by causing the breakage of stems of potatoes, and by limiting domestication to hardy species such

as sheep which do not need much shelter.

Limitations and Resources in Biological Sphere

The biota constitute resources and limitations which change much more rapidly than the physical environment and hence have imposed stresses from time to time on the people in the ecosystem throughout the short history of Grand Bruit. Physical factors, on the other hand, change so slowly that they have constituted limitations but not imposed stresses.

Newfoundland is in the boreal forest region; the short cool summers and long cold winters being unsuitable for most deciduous trees. However, because of environmental factors mentioned above, the conifers are distributed sparsely; the rest of the land being occupied by barrens, bogs, ponds, and moss-covered upland regions (see Map 3).

Darling (1955:159), maintains that the "primary and fundamental question in any enquiry into the ecology of land use must be to ask what was, and what would be, the climax vegetation of the area under discussion". From informants' descriptions it appears that the climax in the area around Grand Bruit was coniferous scrub, the present patches of "boughs" being alder (Myrica gale), juniper (Juniperus communis), black spruce (Picea mariana), and balsam fir (Abies balsamca) (see Appendix B). Because of exposure, the climax vegetation probably consisted of the low scrub trees ("boughs") now

present in the area around Grand Bruit. This type of low matted vegetation consisting of short trees with thick boles is suitable only for firewood and "knees" for boat-building (personal communication, Mr. K. Beanlands, Provincial Department of Mines, Agriculture, and Resources). Only in sheltered river valleys such as the La Poile and Cinq Cerfs river valleys did the climax vegetation consist of stands of taller trees, 20-30 feet in height.

In the Grand Bruit area, once the climax scrub forest is burned off, there is an invasion of ericaceous shrubs such as Vaccinium (the blueberry) and low plants such as Kalmia (lambkill). If such an area is kept in this primary stage of succession for more than a hundred years, changes occur in the character of the soil resulting in the formation of a thick "mor" layer, an acidic layer of organic material, on top of the mineral soil. This acid leaches into the mineral soil and affects it, thus degrading the site. Once the "mor" layer has formed, it is impossible for spruce and fir to regenerate (personal communication, Mr. K. Beanlands, Provincial Department of Mines, Agriculture, and Resources). According to informants' statements, this condition has persisted in parts of the Grand Bruit area for almost a hundred years.

For this study it is unnecessary to make a complete inventory of the biota present, -- but an inventory (see

Appendix B) of the species recognized and named by the Grand Bruiters is useful, as this constitutes the sum of their biotic resources (as the discussion on cognition will show). However, it does not adequately describe the resource base as these resources are unevenly distributed, differentially available, known, and exploited (of Dansereau: 1966:448). It is possible that other species, unknown and unnamed by the Grand Bruiters, could be used and this represents a limitation (deriving from the people's knowledge and cognition rather than from biologic fact). It is quite possible I have omitted a few species known to them, and it is definitely true that there are differences among the Grand Bruiters themselves in the extent of their knowledge of their environment.

It is recognized (for example, Firey: 1960:27) that, because of cultural differences, different people inhabiting the same or similar habitats may make use of different groups of resources in the habitat. At a given point in time, culture "fixes people's perception and manipulation of natural phenomena" (Firey: 1960:27), and therefore, different populations in the same habitat may have different resources. "It is only insofar as habitat has been made valuable by culturally available beliefs and techniques of a people that it contains any resources at all" (Firey: 1960:27). Likewise, one can only get people to adopt resource complexes which are not valued if they are reinterpreted in terms of the people's own

system of activities. (Firey: 1960:28-29). Barth (1956:1082) provides an example of this in that the Swat state appears to Kohistanis as a single natural area and to Pathans as two natural areas, and therefore the militarily inferior Kohistanis could retain part of their former territory as it was not perceived as possessing useful resources by the Pathans.

Accordingly, Appendix B provides an idea of the biologic resources actually available to Grand Bruiters in the sense that they are valued by them.

Many ecologic limitations are inherent in the behaviour and ecology of the species themselves, that is, such factors as abundance, dispersal, access to man, migration patterns, seasonal behaviour, weather preferences, and ease of utilization or storing. These have changed over the one hundred-and-fifty year period studied and therefore have constituted "stresses". This will become apparent when the data is discussed. Here again, culture plays an important role.

Likewise, as the data will show, it was found that the Grand Bruiters have extensive "knowledge", much of which is not objectively accurate, of food chains, ecosystems, seasonal behaviour, and other factors. To the extent that they have and use this knowledge, it increases their potential to use the biologic resources of their environment. However, it is also important to recognize, as Vayda and Rappaport (1968:487-488) pointed out, that aspects of culture may affect people's

ecologic adjustments to the environment without their being aware of it.

Map 3 summarizes the distribution of biologic resources as known to, and described by Grand Bruiters. This map indicates the resources as they are viewed by the people and does not necessarily indicate all the resources present.

Economic Resources and Limitations

Economic resources are very likely to fluctuate in abundance, availability, and value due to a variety of causes. These cannot be understood without a brief discussion of the general economic adaptation of the South West Coast. The factors influencing this adaptation were diverse and largely historical, and will not be discussed to any great extent here.

General Economic Adaptation on the South West Coast

The primary reason for settlement on the South West Coast was the presence of stocks of fish. Here, as in the rest of Newfoundland, many harbours were visited by summer fishermen from the earliest years of the seventeenth century. Later, merchants from the Channel Islands and the West Country of England settled in the harbours of Fortune Bay and Hermitage Bay, setting up businesses there. English-speaking people moved westward along this coast during the nineteenth century in order to obtain and sell bait for the French and

American fisheries. (Report of the South Coast Commission, 1957:13-15). Merchants in these harbours outfitted the fishermen on credit, to be charged against their catch each fall at the time for "settling up".

Although some authorities, (for example, Wolf: 1966) confine the term "peasant" to rural cultivators, it appears easiest to describe the traditional Newfoundland fishing adaptations in terms of peasant economics and culture. The traditional economics of the South West Coast fits Wolf's definition: a peasant, "runs a household, not a business concern" (Wolf: 1966:2) and "surpluses are transferred to a dominant group of rulers that uses the surpluses both to underwrite its own standard of living and to distribute the remainder to groups in society that do not [fish] but must be fed for their specific goods and services in turn". Wolf (1966:4) states that the peasant is "subject to asymmetrical power relations which [make] a permanent charge on his production", (1966:9) and this charge is called "rent". The Grand Bruit fisherman neither owns nor pays rent for his land (he has squatters rights) but under the credit system he received his "outfit" (gear necessary for the following fishing season), from the merchant on credit, and the fish he caught during the season constituted payment for this. This created a dependence, analogous it seems, to that involved in rent-paying. Firth (1946:5-7) for example argues that his Malay

fishermen should be considered to be peasants because they are involved in a relatively simple non-mechanical technology, the productive units are small-scale, and there is substantial production for subsistence as well as for market. For these reasons also, one may describe the traditional Grand Bruit economic adaptation as a peasant type.

Economic Resources, other than Fish, in the Environment

"Economic resources" here and through the rest of the dissertation refer to items which may be produced for exchange, and are largely confined to the fisheries, (Report of the South Coast Commission: 1957:79). There are several areas of forest but few stands are concentrated enough to allow commercial exploitation. The only coniferous stand of any importance on the Western portion of the South Coast is that around Bay du Nord River flowing into La Poile Bay. This is "poorly situated" from the economic point of view and the river "would be very rough to drive", (Report of the South Coast Commission: 1957:85). Here, "resource" is defined by economic considerations. The economic adaptation to forest resources of the South Coast consists of a "small amount of logging and sawmilling in a number of areas on the coast". (Report of the South Coast Commission: 1957:92). Other uses of wood are not "economic" in the sense being considered here.

Likewise, agricultural land of good enough quality and extent for farming for exchange is limited to two areas

(Winterland and the Burin Peninsula) far to the east of the area under consideration.

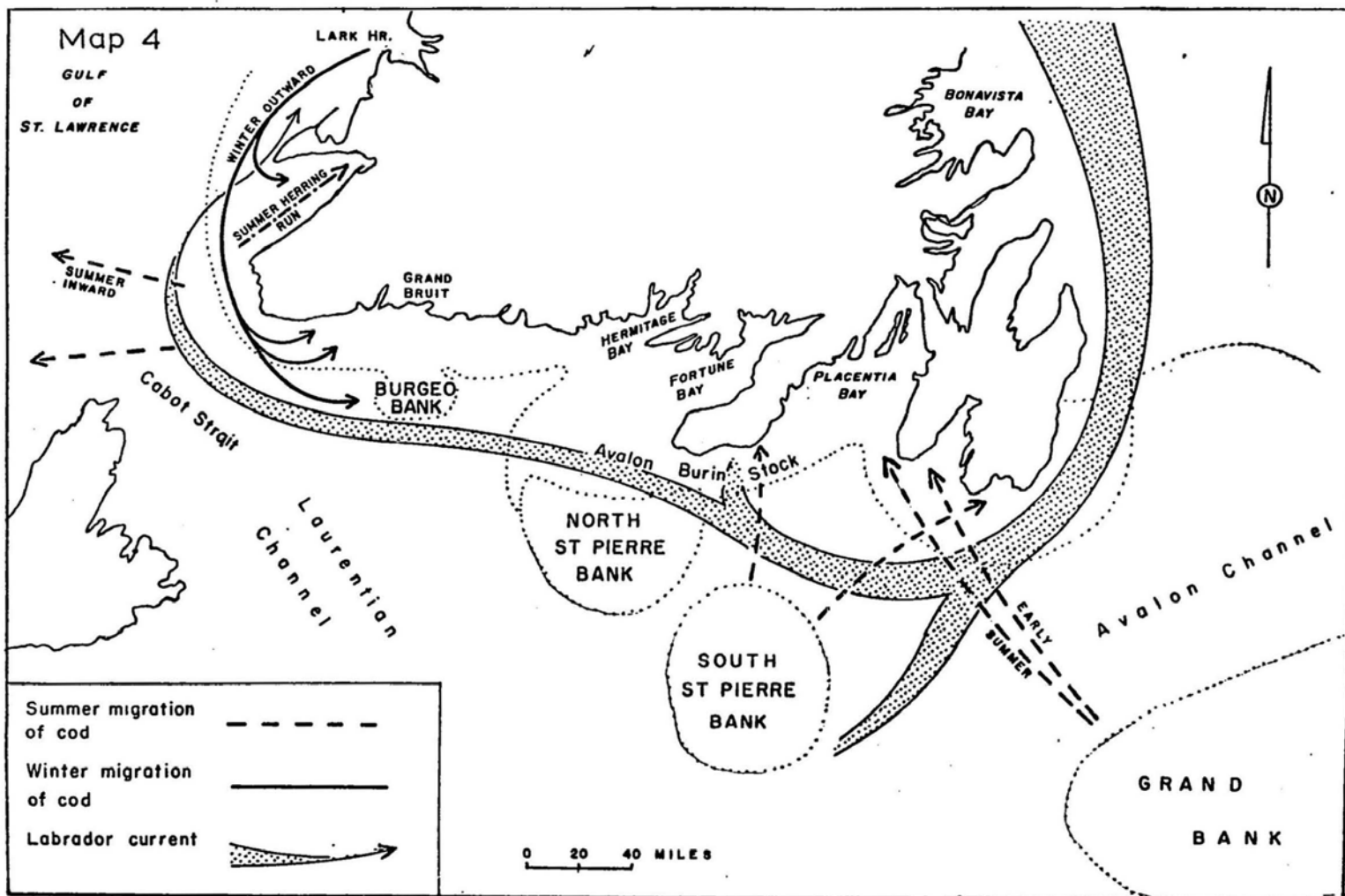
The shortage of winter fodder and high cost of imported feeds limits the further "economic" development of sheep raising. The Southern Newfoundland Conference (1956) recommended the development of sheep and cattle raising around Rose Blanch and the development of cold storage facilities for the meat. However, this recommendation has not been acted upon.

Fish: the Prime Economic Resource of the South West Coast

The economic resource of most importance is the fishery. Of the twelve potentially economic marine species of fish (that is, used economically by Newfoundlanders elsewhere in the island), only three, and of these, one in particular (cod) have for various reasons been important economic resources on the South West Coast. Because of the scattered settlement pattern and historical factors such as the slowness of the government to introduce modern fish processing methods, fish have until recently mostly been salted, (Report of the Atlantic Salt Fish Commission: 1964:107). This meant that fishermen could land only those species which could be preserved by salting; that is, cod (Gadus morhua), herring (Clupea harengus), mackerel (Scomber scombrus), turbot (Reinhardtius hippoglossoides), and salmon (Salmo salar), or species which because of their

high value can be marketed fresh, such as salmon and lobster (Homarus americanus). No other species, for example, flounder or by-products such as tongues could be marketed. (Report of the Atlantic Salt Fish Commission: 1964:108-109).

Cod are present all along the coast but "only the most favourable fishing grounds are suitable for exploitation" for reasonable economic returns, although many have been and still are exploited (Report of the South Coast Commission: 1957:79). The distribution and migration patterns of cod in the Grand Bruit area affect the economic adaptation to the use of this resource. The cod of the Burgeo bank stock spend the summer in the inshore water of the western half of the South Coast of Newfoundland, intermingling with cod from the West Newfoundland and Avalong-Burin stock, and the West Newfoundland stock spends the winter and spring between 60 and 130 fathoms off the South West Coast, never going east of the western quarter of the South Coast in the winter and spring, (Templeman: 1962). As cod prefer temperatures between 0°C and 4°C in shallow water, and between 0°C and 7°C in deeper water, the wind and water current patterns affect the migration patterns of the cod. The South Coast west of Fortune Bay is affected very little by the coldest water of the Labrador current (see Map 4) since this current warms as it flows westward along the South Coast. The cod move inshore in the late spring and early summer when the surface waters warm up,



following an important food species, the capelin (Mallotus villosus), (Report of the South Coast Commission: 1957:80). However, the prevailing southerly and southwesterly winds of summer blow the warm surface water onshore and force the underlying colder water further offshore so that the inshore water is usually too warm during the summer for the cod to come into the shallow areas and be caught in quantity with handlines and traps. The current flowing into the Gulf of St. Lawrence and the northerly winds blowing offshore keep the western part of the south coast ice free, permitting fishermen to go to the fishing grounds. During the winter and early spring there are large quantities of cod off this coast mainly at 60 to 120 fathoms. Some of these are resident cod while others migrate from the Gulf of St. Lawrence at the approach of winter and return in April. The corresponding adaptation is the "winter codfishery" in the Port-aux-Basques and Rose Blanche areas. Grand Bruiters only utilize this winter fishery to a small extent. The adaptation to this large economic resource has been the formation of a "large number of small communities" (Report of the South Coast Commission: 1957:80), in every suitable harbour on the South West Coast; an adaptation which has itself introduced certain potentially limiting factors such as isolation and small community size discussed later.

Table 1 indicates the other marine resources of economic

TABLE 1
MARINE RESOURCES ON SOUTH WEST COAST

Resource	Limitation (Abundance and Distribution)	Economic Adaptation
Grey sole	in quantity in deep water on South Coast	by-product of haddock fishery
Haddock	in minor quantities in inshore areas	of little significance to inshore fishery; fluctuating fishery on St. Pierre Bank
Hake	deep water in a few localities	not used
Halibut	deep water in a few localities; offshore mostly	small quantities caught on inshore gear; also a near-offshore fishery in Rose Blanche area
Herring	recent increase in abundance	herring seiners from other parts of Canada
Lobster	young blown inshore by prevailing winds and settle at heads of bays	important supplementary source of income for fishermen in some areas
Red Fish	deep water from Port-aux-Basques to Burin Peninsula in quantity	expansion of fishing might reduce local stocks because not highly migratory
Salmon	abundant	important supplementary source of income for fishermen in some areas
Scallop	present in Placentia and Fortune Bays	not used

Resource	Limitation (Abundance and Distribution)	Economic Adaptation
Shrimp	may be some concentrations in deep water	not used
Swordfish	plentiful on South West edge of the Grand Bank	some taken in Port-aux-Basques, Rose Blanche area
Turbot	deep waters of Hermitage, Fortune, Placentia Bays; high fat content and little demand for the fresh frozen product; outlets for salted turbot limited	resource not exploited to fullest capacity

Note:

Information in this table derived from Templeman (1966), Report of the South West Commission (1957), and informants.

potential and the limitations (for example, abundance), and the corresponding economic adaptation on the South West Coast for each of these resources. Species other than salmon and lobster do not occur in sufficient quantities on the South West Coast to be important.

Limitations Inherent in the Fishing Economic Niche

This survey of economic resources shows why Grand Bruit people have traditionally been fishermen in one sector of their economic adaptation, although they are also agriculturalists and hunters for subsistence. This particular economic niche has its own limitations, as described by Firth for example (1946:2-3) in his discussion of Malay peasants who were fishermen rather than agriculturalists: An agriculturalist's yield is seasonal, and therefore he can plan in advance and decide what he will retain for his own use and what he will sell. A fisherman's yield is in daily increments and therefore more short-term planning is required, as will be seen later when the data on diet is presented. Also marginal workers, whose primary economic activities are elsewhere can "fill a gap in another task" with fishing. (Firth: 1946:2-3) This permits Grand Bruiters to have the generalized adaptation described later, involving subsistence activities and various other types of labour for cash. An agriculturalist requires more space for storage whereas a fisherman requires more labour and outlay in equipment if he

wishes to store his product. This factor is important in the Grand Bruit salt-fish adaptation: the family must either spend a large amount of time drying fish or sell it fresh to avoid this labour. For agriculturalists, the main crop can also serve as a staple whereas people generally do not live mainly on fish and require another food item as a staple. Thus, there is a necessity of exchange activity and/or additional subsistence activities (Firth: 1946:2-3). Both strategies are employed in Brand Bruit. A person can be a full-time agriculturalist without being associated with an exchange economy; this is not so for fishermen. The productive unit in agriculture can be the entire family at all stages, whereas, because of tradition and physical necessity, only men go to sea, and women and children help only with supportive (for example, drying) processes on shore. Finally, "investment in land has a permanency not found in fishing enterprises". More risk is involved in fishing, as boats and gear are more liable to sudden damage and loss. (Firth: 1946:2-3) This limitation has resulted, in Newfoundland, in a persistence in many areas of the credit system. "The fisherman thus seemed to calculate the value of the merchant sharing the risk of the fishery to be greater than the value to be gained by outfitting themselves" (Wadel: 1969:17).

Limitations Due to Marketing Practices

Limits and opportunities with respect to economic resources are not only due to the accessibility of fish resources to fishermen as shown in Table 1, but also to the presence of merchants, markets, bait supplies, collecting services, and a favourable price. These limitations have fluctuated greatly over the years due to economic and historic factors, producing stresses which have caused continual shifting in the adaptation of Grand Bruisers.

The Salt Fish Industry

Traditionally in Newfoundland, fish has been marketed in the salted form. The curing was done by individual households or by women hired by the fish merchants for the job, for sale to relatively poor countries, which were dependent on agricultural exports to finance salt fish imports (Report of the Atlantic Salt Fish Commission: 1964:38). Reasons for this dependence on salting are probably geographic and historical: the scattered settlement pattern, and the slowness of the government on introducing modern fish processing methods. This resulted in limitations for economic development: in the salt fishery, the fishermen must process their own catch, thus reducing time spent fishing, and they must maintain shore installations, reducing capital available for investment in better boats. (Report of the Atlantic Salt

Fish Commission: 1964:108).

The time, skill, and care required for the salt fish industry is considerable; the fish are throated, gutted, beheaded, trimmed and split, and then left in "salt bulk" (piled with salt sprinkled on each fish, there being different "weights" of salt) for ten days to four weeks. (MacPherson: 1935: 23-29). Next the fish are "made" on "open work platforms" or "flakes". That is, the sun's rays are allowed to evaporate the water which the osmotic pressure of the salt has drawn from inside the cells (MacPherson: 1935:37-38). The fish are washed and "pressed" by stacking in a pile, and spread to dry on the flakes. Each night they are gathered into piles or "faggots" and protected with a cover - the weight of the pile allowing inside juice to come to the surface. Satisfactory results require "working" the fish, that is, "piling and repiling to press out the juices and to produce an even surface".

This processing technique not only requires considerable care, skill, time and effort, but is also highly dependent on suitable weather conditions: "Sunburnt fish are fish in which the protein of the flesh has been coagulated by heat, occurring on days when it is warm and humid" with no cooling breeze, resulting in little evaporation and therefore no cooling so that the temperature of the fish rises to a degree sufficient to result in coagulation of the protein.

(MacPherson: 1935:43). "'Slimy' fish are fish that have started to decompose, owing to the fact that the water on the surface is not dried off quickly enough", due to prolonged bad drying weather and "insufficiency of salt for the length of time without further air drying". (MacPherson: 1935:38). "Dun" is dust-like fungus which causes putrefactive decomposition, first appearing as white spots. This fungus is favoured by a temperature of 25°C, a certain amount of moisture, and a nourishing medium, preferably slightly decomposed, containing 10% salt. (MacPherson: 1935:43).

A brief history of salt fish marketing is given in the Report of the Atlantic Salt Fish Commission (1964:36-41): for the last twenty years of the nineteenth century attempts were made to exclude the French, Americans, and Canadians from the Newfoundland fishery and to increase the catch, and one result of this was a decline in quality and lower prices. A depression followed the bank crash of 1894. Retail trade spread more to the outports. Prices rose during World War I, but prices fell by 50% after the War, and many businesses failed despite attempts to regulate exports by the setting up of the Cod Fish Exportation Board. (Report of the Atlantic Salt Fish Commission: 1964:37). Meanwhile, competition on the fishing banks increased from the French, Icelanders, and Norwegians who were processing their fish in centralized plants where quality could be controlled and where the use of

tongues and roes helped reduce overhead costs. In Newfoundland, since each fisherman caught and cured his own fish, "quality control and the use of by-products other than oil were impossible, and the conservative attitude and lack of capital in the industry tended to perpetuate the status quo". (Report of the Atlantic Salt Fish Commission: 1964:37). Because of market difficulties in Europe after 1920 and during the depression, Newfoundland entered the West Indian market.

Difficulties in marketing increased as the growth of industrialization in food production, new methods of fish catching, processing, distributing and marketing were developed elsewhere in the world, and international trade became more sophisticated. The salt fish industry did not adjust to these changing conditions but rather tried to produce more salted fish rather than fish processed in other ways which would be more in demand on the world market.

Not until the beginning of World War II and the resulting increase in demand for food did the frozen fish industry begin to expand. However, a bait freezer had been located in Rose Blanche since 1918, and the Commission Government built a plant in La Poile Bay, and started the Bait Service in the mid-1930's. By 1945, eighteen freezing plants were in operation, many of these being operated by companies in the salt fish export business on the South West Coast. Light salted fish production has declined more rapidly than heavy salted production

and the amount of fish landed at plants for sale fresh has risen. (Report of the South Coast Commission: 1957:102-105). The South Coast Commission found in the mid 1950's (1956:107) that "with the appearance of frozen fish plants at Isle-aux-Morts, Ramea, Burgeo, and Galtois, the salt fish producer gradually disappeared" and the fishermen "allowed their premises to fall into disrepair to the point where they are now almost non-existent". Therefore, if a fish plant discontinues collecting "for any reason, for example, a lack of adequate supply from the inshore fishermen or bad weather conditions, the fishermen usually stop fishing". (Report of the South Coast Commission: 1957:107).

The Atlantic Salt Fish Commission (1957:102-103) compared the fishermen's return for fresh fish frozen at fish plants and light salted fish cured by the fishermen, and concluded that the fishermen in 1963 got 2.6-3.1¢ for his salt fish. This they said was "roughly equivalent to what he would have received if his fish had been utilized for freezing". However, the fisherman receives an additional amount (0.4¢ per pound or 10-12% of his return for the sale of his product) for salting fish, which he would not receive if it were filleted and frozen and which is not reflected in the price of salted fish. However, the salt fishery is labour intensive at the household level, and this is probably a factor in its decline, as indicated by the comments of

informants discussed later.

The Inshore and Offshore Fisheries

The cod resource is utilized by two fisheries in Newfoundland, the offshore and the inshore fishery. The rise of the fresh fish industry has limited the extent to which fishermen can use the inshore resource. Fish must either be delivered to the plant or collected from the fisherman, but because of the settlement pattern in scattered communities along the coast, the lack of adequate transportation and communications, delivery to the plants is difficult and collection is expensive. The resulting uncertainty of supplies from the inshore fishery and the limited fishing season, except in the Rose Blanche area where the fishery is year-round, has resulted in the plants maintaining fleets of draggers to bring in fish. The inshore fishery provides only one-fifth of the total fish landings at fresh and frozen fish plants on the South Coast. However, there is considerably more landing by inshore fishermen at plants in the Port-aux-Basques and Rose Blanche area because of the winter fishery than on the rest of the South Coast. (Report of the South Coast Commission: 1957:105). The collection of fish necessitated by the settlement pattern is disadvantageous both to the fisherman and to the plant operators and there is a difference of half a cent a pound in the price paid at the plant and at

the point of collection. The South Coast Commission (1957: 98-101) concluded that most inshore fishermen of the South West Coast were in a greater plight than that of inshore fishermen elsewhere in Newfoundland. They attributed the low income of fishermen in this area to low productivity, poor fishing grounds in some areas, relatively poor prices, the short fishing season, inadequate boats and gear, lack of a continuous supply of bait, and widely dispersed settlements.

The South Coast Commission (1957: 96-97) found that the inshore fishery on the South Coast represents 20% of the total number of people employed (see Table 2) but only 10% of the total income, and that average earnings in 1956 were only \$600, which had to pay for labour, the cost of fishing, and provide a return for investment in equipment, gear, premises and boats. (Report of the South Coast Commission: 1957:98). They discovered an out migration, especially of young people, because of the low incomes, and said that "indications are that the decline" in investment in gear, equipment, premises, and boats "has been a little more rapid on the South Coast" than the 14% average decline for Newfoundland in the previous three years.

Transfer Payments

Aside from the fisheries, the other economic resources of any importance are "transfer payments", wage work in other communities, and local shore work. Transfer payments consist

TABLE 2

PERCENTAGE INCOME (I) AND EMPLOYMENT (E) ON THE SOUTH COAST

Type of Employment	Percent South Coast		Percent Grand Bruit District		Average Earnings Grand Bruit Dist. (Dollars)
	E	I	E	I	
Local shore work	30	32	55	54	1,462
Local deep sea fishery	3	4	6	3	793
Local inshore fishery	21	11	26	15	893
Mainland fishery	5	5	2	3	1,270
Other jobs away	25	5	8	13	1,366
Welfare (pensions, relief, etc.)	19	8	8	2	445
Family allowances	-	13	-	10	110

Note:

Data for this table taken from Report of the South Coast
Commision: 1957, pp. 94, 97.

of cash provided by the government, some of which (family allowances and Canada Pension Plan) are administered by the Federal government, and became the rights of Newfoundlanders with Newfoundland's entry into Confederation in 1949. Others were instituted after 1949: youth allowances for 16 and 17 year olds in school in 1964, Old Age Security in 1952, Guaranteed Income Supplement in 1967, (personal communication, Federal Department of Health and Welfare), and the "fishing seasonal benefits" scheme, part of the unemployment insurance benefits, in 1957. The latter provides benefits to fishermen between December 1st and March 15th, which vary according to the weight of fish caught during a minimum of fifteen weeks during the rest of the year, regardless of whether a fisherman obtained an alternative job. The Salt Assistance Programme was begun in 1955 (personal communication, Unemployment Insurance Commission), paying 50% of the cost for materials involved in salt fish production. Finally, social assistance, under the jurisdiction of the provincial government, includes widows' allowances, able-bodied relief, and relief for unemployables.

The South Coast Commission (1957:96) discovered that one-fifth of the total income was from family allowances and welfare, excluding Unemployment Insurance, and that these payments made it easier for fishermen to live in marginal areas and "retarded natural economic development". They discovered

that 19%, "almost as many as were engaged in the local inshore fisheries", were in receipt of welfare payments (see Table 2). They stated that Unemployment Insurance benefits were "substantial in many districts".

Wage Work

The South Coast Commission found that 30% (see Table 2) of employment on the South Coast was in "local shore" work, including fish plant work, road repair, construction, various service occupations, and the professions.

Finally, the South Coast Commission (1957:95) found that one-third of total income (see Table 2) was earned away from home, and emphasized the "extra costs of transport and the expenses of maintaining two establishments" as disadvantages to this economic adaptation. Opportunities for work away have fluctuated with historical events. McAllister (1965: 6) pointed out that in 1941, the United States, the United Kingdom, and Canada began military base construction on a "grand scale" in Argentia, Stephenville, St. John's, and Goose Bay, and that investments by these governments in defense installations continued long after World War II because of the cold war. These bases provided jobs for many Newfoundlanders, including those on the South Coast. Large numbers of Newfoundlanders went overseas to fight in the two World Wars. Since Confederation, the opportunity has arisen to work seasonally on boats on the Great Lakes.

The Concept of Marginality

Some authors have described environments possessing many limitations, as does the Grand Bruit environment, as "marginal". Included in this concept is a "harsh environment" and severe "ecological pressure" (Balikci: 1968:82). However, it has been noted (Washburn: 1968:84) that there "can be a real struggle for existence in some extremely marginal areas, while ... [others are] not living marginally and [do not] harvest all the food they might" (Washburn: 1968:84). Turnbull (1968:134) does not regard an adaptation as marginal unless there is famine. Birdsell regards "marginal" as a pseudoconcept, saying that areas considered marginal yet occupied by hunters are "marginal for agriculturalists, but not for hunters". (Birdsell: 1968:245).

Likewise, one can say that the Grand Bruit environment is marginal from the point of view of agriculturalists or city-dwellers but not from the point of view of Grand Bruiters, since their adaptive strategies permit them to extract a comfortable livelihood from it.

Other Limitations

The limitations discussed so far are in the physical, biological and economic spheres. Changes in Grand Bruit adaptation resulting from stresses in these spheres will be discussed in Chapter 3. However, cultural factors including

cognition, knowledge, and felt-needs are also very important limitations and sources of stresses, and will be discussed in Chapter 4 in terms of adaptive strategies. Likewise, isolation and the smallness of the population, discussed in Chapter 3 in the section on consumption, and in Chapter 4 in the section on cognition, are also limitations since they limit the availability of goods for purchase and the influx of ideas.

CHAPTER III

ANALYSIS OF THE CHANGES IN ADAPTATION IN GRAND BRUIT

The main source for the analysis and discussion of Grand Bruit adaptation is information provided by Grand Bruiter themselves. Accordingly, the information may be distorted from objective reality, but as this study is intended to enable one to understand change from the "inside", any distortion occurring is pertinent to this understanding and is especially useful when it can be identified as such.

Levels of Adaptation

In studying changing adaptation in historical perspective, one's first question is what crucial events resulted in changes, and what were the adaptative strategies in each of the several intervening "periods". It is tempting to try to compare a "traditional" adaptation and culture with ensuing "phases". Informants indicated seven "events" which had specific consequences; Table 3 indicates the consequences which were linked by Grand Bruiter with each of these. Very little insight into adaptative patterns and changes can be gained from this table. This is because most changes were not confined to one point in time and space, but rather were gradual processes. Tables 4, 5 and 6, indicate all the events in the ecologic, subsistence, and economic spheres which Grand Bruiter could pinpoint within five years. These tables

TABLE 3

HISTORIC EVENTS AND THEIR CONSEQUENCES

Year	Event	Result Mentioned by Grand Bruiters
~ 1870	First steamer ("Curlew") called at Grand Bruit	Grand Bruiters could sell seal oil to Bowrings in St. John's
~ 1890	First merchant (White) arrived in Grand Bruit	First school was built in Grand Bruit. Jobs were available for elderly Grand Bruiters. Soap was available in the store.
~ 1914-1918	World War I	Fishermen received cash because of favourable fish prices resulting in net gain.
1929	Tidal Wave originating on the Burin Pensinsula	Weather became warmer so that there was insufficient snow to "haul wood over" and the harbour did not freeze over, permitting people to fish in the winter (This explanation may not be objectively true).
1929-1939	Economic Depression	Difficulty in selling fish. Difficulty in obtaining shoes and clothes although subsistence activities prevented starvation and provided wool.
1949	Confederation with Canada	Transfer payments provided cash permitting the purchasing of food formerly locally produced. Children became "uncontrollable" as a result of youth allowance set aside for them. People could order from catalogues of Canadian stores without paying duty. Work on boats on the Great Lakes became available to Newfoundlanders.
1953	Cessation of the Credit System	More Cash was available to fishermen's families

TABLE 4

CALENDAR OF "EVENTS IN THE BIOPHYSICAL ENVIRONMENT AS
DESCRIBED BY GRAND BRUITERS

Number of Years Ago	"Event"
25 - 30	Bunker oil began to appear.
~20	There was a decline in abundance of sea birds including "turrs" (<u>murres</u> , <u>Uria aalge</u>) due to bunker oil. Harbour seals (<u>Phoca vitulina</u>) no longer seen around Grand Bruit.
~15	Sea birds became "scarce".
~10 - 12	Fox farming was begun in Prince Edward Island, followed by a decline in price paid for fox pelts, in a rise in fox (<u>Vulpes fulva deletrix</u>) population, and hence in a decline in Arctic hare (<u>Lepus arcticus bangsii</u>) population.
~7 - 8	Decline in abundance of dogfish (<u>Squalus acanthias</u>)
3	Great decline in abundance of "turrs" (<u>murres</u> , <u>uria aalge</u>)
2 - 4	Increase in abundance in herring (<u>Clupea harengus</u>) resulting in an increase in abundance of cod (<u>Gadus morhua</u>)
2	First appearance of mink (<u>Mustela vison</u>). The presence of draggers scared sea-birds away.

TABLE 5

CALENDAR OF EVENTS AFFECTING SUBSISTENCE ADAPTATION AND THE
SELLING OF RESOURCES (OTHER THAN FISH) OF THE BIOPHYSICAL
ENVIRONMENT

Number of Years Ago	"Event"
40 - 50	Grand Bruiters built pens for gulls in the "landwash".
70 - 40	Grand Bruiters kept cows.
36	The bottling technique was learned.
23	The few remaining trees were removed by a man burning over an area forming "Burnt Ground".
20 - 25	Men brought young "bluey gulls" (<u>Larus argentatus</u>) out of the country in baskets.
~20	Most Grand Bruiters stopped salting herring, going into the country, and using seal moccassins.
15 - 20	All Grand Bruit households kept sheep.
~15	Decline in price offered for muskrat pelts.
~10 - 12	Decline in price offered for fox pelts.
8 - 10	Availability of twine which drives "ashore" for flakes
5 - 10	Small increase in price of all fur pelts.

TABLE 6

CALENDAR OF EVENTS AFFECTING THE FISHING ADAPTATION

Date	"Event"
~1885	First merchant arrived - changes in marketing of fish
1914-1918	World War I - good prices for fish
1929-1939	"Economic depression" low prices for fish
1949	Confederation with Canada - mainland buyers created favourable price for fresh salmon and lobster
1955	Cessation of "credit system" in Grand Bruit
1969	Herring seiners began fishing in the Grand Bruit area - difficulty for Grand Bruit fishermen in getting bait.

show no clear succession of phases or periods but rather indicate a variety of stresses from diverse sources impinging on various aspects of the cultural adaptation (ecologic, economic and cultural) at various unconnected points in time.

It is therefore, more appropriate to look at each group of resources and see how adaptations to the use of these have changed. Grand Bruisers use several biologic resources but the use of all of these is not necessarily equivalent in terms of energy yielded per unit of effort. White's theory (1949: 367), of cultural evolution is based on the equation $E \times T \rightarrow C$ (energy times technology yields culture). Culture, for White, is an elaborate thermodynamic system. Cohen (1968:41) maintains that adaptation is "the process by which [man] makes effective use for productive ends of the energy potential in his habitat". Therefore there are lower and higher levels of adaptation correlated with the efficiency of use of environmental energy potentials. Therefore, the more developed the technology the greater the degree of adaptation. He includes in technology, institutions and social relations relating to the use of energy. (Cohen: 1968:46). Although it might be questioned that greater efficiency of energy use results in better adaptation, it is beyond question that some technologies result in more efficient energy use than others. Cohen maintains that increased adaptation means increased freedom from the limitations of the physical environment.

His argument could be extended and modified since it is evident that the environment is the provider of resources as well as the source of limitations and that at higher adaptative levels, the economic and technologic spheres act as habitats with their own limitations as well as acting as providers of resources. Nevertheless, Cohen's criteria for increased freedom from the limitations of the physical habitat are good indicators of efficiency of energy use. As efficiency increases, the diet shows fewer seasonal variations in composition, substitutions in diet are easier to make when any given food resource becomes unavailable, the reliance on domesticates rather than animals and plants in their natural habitat increases, knowledge of cause and effect in nature increases, and freedom from seasonal variation in cultural behaviour increases.

Cohen (1968:48-52) develops a taxonomy of cultural adaptations based on increasing efficiency of energy use. The Grand Bruiters use aspects of several of these: hunting and gathering (the lowest level; involving muscular energy almost exclusively, but with the aid of the gun, a large source of energy), horticulture (involving reliance primarily on muscular energy but being responsible for the presence of food on which a society subsists), pastoralism (based on the mutual dependence of man and domesticated animals requiring that the animals be grazed, and protected), and industrialism

(involving the use of machines in energy conversion and involving a unique social organization).

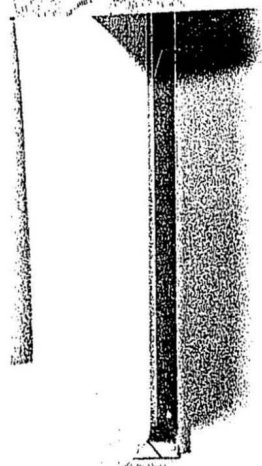
Peasant societies respond to two units of adaptation, the "unit of adaptation" being the largest and most inclusive group that makes and implements decisions with respect to the exploitation of energy potentials in the habitat. (Cohen: 1968:47) They "respond to units that are very close to them such as the local community, and to those very distant such as the central state". (Cohen: 1968:48). The first three adaptations of the Grand Bruisers (hunting and gathering, horticulture and pastoralism) are on the local community level, and the fourth (industrialism) is a consequence of being a part-society, in a larger industrial state (c.f. Redfield: 1956:23).

Grand Bruisers likewise use energy sources which vary from very weak (the human body) to very powerful (fossil fuels). In order, from the least to the most effective these are: the human body, tools, fire, water, wind, domestication of plants and animals, and fossil fuels (coal, oil and gas), the last one being due to their articulation with an industrial economy (c.f. Meggers: 1960:303).

Likewise Grand Bruisers use several levels of economic adaptation. As economies evolve (Lee: 1966:49), an individual's productive activity becomes farther removed from his source of food because of domestication; the development of market and

money; and the harnessing of fuels. In an elementary economy, the relationship between production and consumption is immediate in time and space, there is "minimal surplus accumulation, minimal production of capital goods, continuous food-getting activities, and self-sufficiency in foods". (Lee: 1966:49). Grand Bruiters live in what a city dweller would call a marginal environment, but their economy is far from elementary, as will be seen later, because of involvement with domestication, preservation techniques, and the industrial economy, the latter in recent years resulting in availability of marketed goods and fuels other than wood.

Grand Bruit adaptation can be divided into subsistence production (production without intervening acts of market exchange) and cash economy (production for market exchange). Brox describes the qualities of cash versus subsistence items; cash is convertible (can be enjoyed in any form as far as the household has access to the consumer market), can be stored for later consumption, can be easily transferred spatially, and can be converted into durable consumer goods or rights to resources (Brox; 1969:17). Subsistence items on the other hand, can be stored only at considerable cost or risk, and can only be converted through kinship or neighbourhood ties at considerable loss (Brox: 1969:17).



Subsistence Production

Hunting and Gathering

Excluding species sold because of a link with the industrial economy, hunting and gathering for food in Grand Bruit has involved eight species of wild plant, six species of marine invertebrate, four species of land mammal, fifteen species of bird, and seventeen species of fish and marine mammal. These numbers refer to the species named by Grand Bruisers; actually more biologic species may be used because often several species are lumped under one name (see Appendix B). Gathering of wood for fuel, marine algae for fertilizer, and plants for medicinal purposes has also been done in the "old days". (see below).

Berry-Picking

Berry-picking appears to have remained at a fairly constant intensity throughout the period studied. Grand Bruisers have exerted a degree of control over the biotic environment by influencing ecological succession on the barrens by burning patches of land, so that various species of berry would appear during recolonization. Darling (1955:170) describes such burning as a process which keeps the land in a pioneer state of succession, thus impoverishing the variety of flora and reducing plant associations to a few dominants, including in this case berries utilized by Grand Bruisers.

During the first year after burning, the blueberry (Vaccinium angustifolium) shoots grow to ten inches, and the next year they bear fruit. The crop of the following years decreases from 60% of the crop of the first year to 10% after ten years (personal communication, Provincial Department of Mines, Agriculture and Resources). Grand Bruiters maintained that several species of berries appeared in succession, whereas authorities in the Provincial Department of Mines, Agriculture, and Resources (personal communication), maintained that blueberries are crowded out by competition from Kalmia or from small trees if the mor layer is not well developed. These authorities said that partridge berries grow on mineral soil in exposed areas where there is not a thick mor layer, but that there may be a few partridge berries (Vaccinium vitus-idaea) in the succession after burning for blueberries.

The practice was to burn an area of the barrens in the spring before the snow had completely melted; this area was then called the "burned ground" of whoever initiated the burning, although that person had no exclusive rights to it. The "grounds" (barrens) would burn whereas the "woods" (wooded areas) would not because, according to informants, there was more snow and dampness in the woods.

An informant told me that "someone who is in the woods just decides to set a fire". People explained that this practice has been diminishing, since it is now illegal,

except during a short period in the spring, to set a fire without a licence. One may burn ground wherever one likes between December 15th, and April 15th, but after this date one must obtain a permit from the R.C.M.P. These rules have been in effect for at least twenty years (personal communication, Provincial Department of Mines, Agriculture, and Resources). The last fire, a small one, was set five years ago. Accordingly, informants say there are now good crops of blueberries, but they do not know how long these will remain abundant.

Table 7 indicates the present use of berries. Informants told me that they still attempt to pick enough berries for jam to last until the next berry season. They are eaten fresh, and the rest are bottled for use as jam on toast, and in pie-fillings. Elderly people who now spend the winter season with relatives on the "mainland" say they always have berries left over from one year until the next, which they give to friends and relatives.

Berries are picked by women, children and the elderly. The amount of time put into berry-picking is considerable (approximately two hours every day during the season, according to one informant), and this necessitates rising early in order to get the housework done. However, berry-picking was always regarded partly as a pleasurable event. One elderly man "goes off in a boat" and picks berries along the shore

TABLE 7
USES OF WILD PLANTS

Plant	Scientific Name	Use	Locality (if mentioned) (see Map 3)	Details
<u>Berries</u>				
Bakeapples	<u>Rubus chamaemorus</u>	Jam and pies	Salmon Net Cove; marshes and near hills	must 'rove' a lot to pick them. They are soft and settle out; now not enough to bother preserving
Blueberries	<u>Vaccinium angustifolium</u>	Jam and pies		Third berry to ripen
Ground hearts		Jam and pies		only enough for one or two pies
Marshberries	<u>Vaccinium macrocarpum</u>	Jam and Pies	Barachois Island near "holes" (pools of water) in marsh	berries of previous year can be picked as soon as the snow leaves
Partridge berries	<u>Vaccinium vitus-idaea</u>	Jam and pies	Harbour Island	Fourth berry to ripen
Raspberries	<u>Rubus adoratus</u>	as a main dish for supper occasionally	Western Arm	Second berry to ripen.

Plant	Scientific Name	Use	Locality (if mentioned) (see Map 3)	Details
Squashberries			Cinq Cerfs	
<u>Other Edible Plants</u>				
Crowsfoot (fern)	<u>Osmunda</u> sp	root eaten by children	lowlands just east of Grand Bruit	
Frankgum (gum from balsam fir)	<u>Abies balsamea</u>	chewed by children in past		Best a year or two after bark cut.
Spruce boughs or "buds" (cones)	<u>Picea mariana</u>	make "spruce beer" in past		
<u>Medicinal Uses</u>				
Sarsaparilla	<u>Aralia</u> sp	for colds		
"Turpentine buds" (cone of balsam fir)	<u>Abies balsamea</u>	for "chaps" on hands		
yew bush root	<u>Taxus canadensis</u>	for colds		
<u>Aesthetic</u>				
mayflower	<u>Epigaea repens</u>		Western Arm	in May only
wild rose	<u>Rosa</u> sp		Western Arm	

since he likes to have "time to myself" and does not like to spend his leisure hours in the store as the other men do. Often a whole family would go berry-picking on a Sunday for an excursion and a picnic. Berry-picking, however, was not regarded as pure pleasure. One woman's husband suggested they go berry-picking after supper and she said she didn't want to because she was tired of it, having been berry-picking for the last two days. She went on to tell me that they (bake-apples) are hard to pick since "you have to rove so much" (they do not grow densely but rather are scattered throughout the bog).

It appears that berry-picking has not declined or increased throughout the history of Grand Bruit except in response to fluctuating crop size. However, in "late years" several people in Grand Bruit must do without because of age or sickness; these people are now without relatives in the village because their families have left, and therefore have to buy from others and this they consider too expensive. Sharing appears to be limited to close kin and friends.

Berries appear to be utilized fully within a few miles of the community, the distance considered reasonable for walking or going by boat. As early as July 13th when the bake-apples (Rubus chamaemorus) (the first berry to ripen) were not yet "soft" (ripe), people were estimating how many of each species there would be in particular areas. As Table 7

shows, the knowledge of area and season of ripening is extensive; people are aware of the order in which different species ripen although they realize that variable weather hastens or delays each individual season.

Berries are recognized to be a limited resource. An informant, in speaking of marshberries (Vaccinium macrocarpum) said that they are not ripe enough if picked too soon but that the problem is that people pick them too soon. "With all the berries you must pick them when others pick them or else you will get none".

The Use of Wild Plants Other Than Berries

Other species of plant used are also shown in Table 7. The use of "mayflowers" (Epigea repens) and wild rose (Rosa sp) for "aesthetic" purposes has remained high, probably because the gathering and the use to which they are put are both pleasurable. Women will go for a walk to pick mayflowers when they have a few spare hours in the month of May, and children will devote play hours to mayflower picking.

Medicinal uses appear to have been minimal and limited to the "old days", and to have been learned by cultural diffusion from the Mic Mac Indians, who lived on the coast until recently. Probably, declining folk medical practice related to increased modern medical care, for there was even a nurse resident in Grant Bruit for several years.

Crowsfoot (Osmunda sp) and Frankgum (gum obtained from coniferous trees) appear to be used primarily by children and teenagers. One child told me he does not chew frankgum now because it is hard to find trees. (His parents told me they chewed it a lot when they were his age). After approximately age four children play by "roving" around the countryside, and looking in "holes" and coves. Frequently, or whenever possible, as part of this play activity, they gather any edible species of plant or animal, which they eat themselves. So far these uses appear to be little changed, probably because the life of children is largely as it was traditionally; as yet there is no influence from television, movies or other alternative diversions. In fact, informants maintain that children spend more time in coves and "over the hills" than they used to because they no longer play as large a role in the productive unit.

The Use of Marine Invertebrates

All the marine invertebrates which are utilized (see Table 8) are gathered almost exclusively by children and young unmarried teenagers. The only time they were gathered by adults during my stay was when a woman and her husband and her husband's aunt went to Cinq Cerfs for pleasure for a day and "picked" mussels (Mytilus edulis) and berries. Older informants told me they did this also when they were young and there was no indication that the resource or the exploitation

TABLE 8
USES OF MARINE INVERTEBRATES

Grand Bruit Name	Scientific Name	Use	Locality
Buttercup shell (limpet)	<u>Acmaea testudinalis</u>	eaten by children	in "holes" (tide- pools)
Clam	<u>Mya arenaria</u>	eaten by children Not as abundant as in the past	sand in Western arm (dig with stick) and on fishing gear.
Mussel	<u>Mytilus edulis</u>	eaten by children	on rocks along shore.
Renkles (common periwinkle)	<u>Littorina littorea</u>	eaten by children	on rocks along shore.
Large renkle (whelk)	<u>Buccinum undatum</u>	eaten by children in past	on fishing gear.

of it had declined or increased. Here again, the exploitation is by a certain age-group, which if anything, has acquired more leisure time and as of yet, no other ways to spend it.

The Hunting of Land Animals

Four land animals have been hunted for subsistence purposes. Of these, two, caribou (Rangifer caribou terranovae) and moose (Alces alces americana) appear to be utilized as much now as in the past. One informant said people "go about the same amount" for "meat" (caribou and moose) now as in the "old days" despite changes in their abundance and hence in the effort required. Caribou were once "scarce" as they were hunted by trappers who used the meat for bait. Therefore men (the fathers and uncles of informants who are now in their seventies) used to "go in far" (approximately forty miles) and had "camps" every fifteen miles or so. Now hunters need go only two to four miles inland during the winter when the caribou come "close to shore". In the summer, they are in the "wilderness" farther in and are not hunted. In North Bay, ten miles west of Grand Bruit, caribou were around the houses in the winter and at other times were killed five miles from shore.

Biologists at the Wildlife Division of the Provincial Department of Mines, Agriculture, and Resources (personal

communication), explained that they had made a concentrated effort to increase the caribou population in Newfoundland since the early 1960's. This they have done by trapping lynx at the caribou calving grounds, thus reducing calf mortality, and by issuing separate licences for hunting caribou and moose since 1958. As a result the caribou population has doubled or trebled since this time.

Moose have declined in number: one informant said there are not many moose at Cinq Cerfs now; "one to every fifteen" of "years ago". Moose are still abundant enough around Grand Bruit that women and children often see them (three times during the summer I spent there). In North Bay there are even more moose "right around the house".

One informant said that every two weeks, someone in Grand Bruit kills a moose and "shares it around" the whole community (not just the extended family). He said that people do little hunting during the hunting season since the young men are away on the Lake Boats but they do considerable amounts at other times.

A female moose which was shot on July 9th within a few hundred yards of Grand Bruit on Western Arm Hill was skinned by the three hunters with pen knives and cut between the second and third rib, forming two pieces. The hooves and head were cut off with an axe and the entrails and head put in a nearby mudhole. The heart and tongue were saved. Two trips by

handbar were made to get the meat to the village and the next day pieces of meat were being distributed to each household so that they could cook it fresh or bottle it.

The moose is not a species indigenous to Newfoundland; two moose were introduced to the island in 1874, and four in 1904. In 1935, an open season for hunting moose was initiated, only eighty licences being issued each year until 1944. Biologists at the Wildlife Division of the Provincial Department of Mines, Agriculture and Resources (personal communication) said there have been reports of decline in the moose population on the South West Coast due to starvation and low reproductive rates resulting from exhaustion by moose of their food species. The only predator of the moose is the wolf, which became extinct in 1911, and caribou do not compete with moose as the niches of these two animals overlap only slightly in summer when food is abundant. Moose eat woody foods such as the twigs and bark of fir and young spruce in the winter, and herbaceous material such as aquatic plants, grasses, and sedges in the summer. Caribou, on the other hand, eat lichens on trees in the winter and lichens on the open barrens in the summer.

Grand Bruit is in an area of low kill of moose (one killed per fourteen to twenty-three square miles) because of "limited accessibility and poor range". However, it is in the area of the highest hunter-success rates (percentage

hunters issued licences who kill moose) in Newfoundland (Pimlott: 1959:437). For example, the success rates in the area of Grand Bruit in 1968, 1969 and 1970 were 69%, 67%, and 69% respectively, as compared to an average rate of 30% for the mainland of Canada and 56% for Newfoundland (personal communication, biologists at Wildlife Division of the Provincial Department of Mines, Agriculture and Resources).

The other two species of land mammal hunted for food, rabbit (Lepus americanus struthopus) and arctic hare, (Lepus arcticus bangsii) have declined in abundance, and so has the hunting of them. People said there are only a few rabbits in "late years" and one informant maintained they go in cycles of approximately four years "probably because of some disease". Biologists at the Wildlife Division of the Provincial Department of Mines, Agriculture, and Resources maintained that rabbit populations undergo ten-year cycles of unknown cause (personal communication).

Grand Bruiters used to set rabbit snares in the woods. One fisherman, who is in his thirties and has a large family (seven boys) to feed, goes "in" approximately four miles during the winter by skidoo to take rabbits. Only a few people set rabbit snares now, because according to informants, there have been very few rabbits "in late years".

Arctic hares were once plentiful but now there are few or none, probably, according to an informant, because foxes destroy them whereas previously when the price of pelts was

high, foxes were kept down by trappers. People used to snare hares but do not bother now because they are so scarce. Biologists at the Wildlife Division of the Provincial Department of Mines, Agriculture, and Resources regard this explanation of the decline of arctic hares as a fallacy. They say the only cause of decline in rabbits and arctic hares relates to indirect influences on each other of these two species. The snowshoe hare ("rabbit") was introduced between 1864 and 1874 from Nova Scotia, and there has been a decline in the population of arctic hares over the last hundred years. Bergerud (1967:244) hypothesized that this decline is the result of increased predation on arctic hares by lynx, which have increased in abundance since the introduction of the snowshoe hare.

The Hunting of Birds

Of the fifteen "species" of birds recognized by Grand Bruiters and used by them for subsistence purposes, only eight appear to be used extensively now, and these are found in considerably smaller numbers than in the past.

Informants say that in the last twenty years, there have been very few sea-birds, and attribute this to the presence of bunker oil. Last year there were fewer still, according to informants. Birds were once an important source of food and object of sport. A middle-aged woman said there "used to be nothing" her husband liked better than to shoot birds. They

lived in North Bay which is at the head of a fjord, where there were not sea-ducks because it was fresh water, and he used to come to Grand Bruit to shoot birds. Dogs were used to retrieve the birds; men went by boat to the islands or shot them from the shore if the birds got close enough. Informants said that at one time they could get forty to fifty birds in one boatload (a "day's work"); these they would share, not sell, with the poor and sick. Men wore white clothes when they went overland in the winter time so that the birds would not see them against the snow. (Birds are shot all year round but particularly in the fall and winter).

Now men go by boat and look for sea-birds but their success is limited and many young men are away on the Lake Boats during the best season (the fall). Sea-ducks have been few in the last twenty years; there used to be a lot of sea-ducks at Shooting Point (see Map 3), but now they stay outside the islands because of oil pollution, and the men go out to the rocks to shoot them whereas the birds used to come "inside" in a storm. One informant saw only one flock of ducks go south last spring. All the men who are in Grand Bruit in the fall do duck hunting by boat then. Fifty years ago there were thousands of "turres" (murres, Uria aalge) according to one informant, and in a south-east storm he would see "hundreds together". He has seen "hardly one" in the last twenty years and the number seen declined even farther three years

ago. Informants now see loons (Garia immer) only very rarely.

Biologists at the Wildlife Division of the Provincial Department of Mines, Agriculture, and Resources confirmed (personal communication) that oil spills, such as the one off St. Pierre last year, have killed eider ducks (Somateria mollissima), murres and other salt water ducks. As there are major shipping lanes off the South East Coast of Newfoundland, and oil travels with the prevailing south-easterly winds of winter, any bilge oil (oil which collects from the engines of a boat and is spilled when the bilges are pumped) and bunker oil (refined fuel oil which is spilled by accident only) which has been spilled, has affected the sea-bird population of the South West Coast. Murres and eider-ducks which winter on the South Coast and off the Grand Banks are particularly affected (personal communication, Dr. R. Warner).

The biologists at the Wildlife Division also said that it is possible to "shoot out" the local population of eider ducks, as they generally come back year after year to the same local breeding area.

Informants complained that there are hardly any birds except "fish hawks" (ospreys, pandion halaetus) at Cinq Cerfs (a fresh water river), now. They say there are now very few black ducks (once seen in flocks of approximately two hundred) and "shellbirds" (mergansers) are not seen at all. Canada geese (Branta canadensis) once spent from April until October

eating the goose grass near Barachois Island. There used to be from 100 to 150 in a flock, and they would feed at low tide. Men would make a day's expedition to hunt these geese, building a shelter with blocks of ice and looking out through a hole in the ice. Now, according to an informant, Canada geese "can get in right away" because the winters are not "hard"; that is, they do not stop at Cinq Cerfs during their annual migration.

Biologists at the Wildlife Division (personal communication) explained that Newfoundland is not directly in the path of the migration (Atlantic fly-way) of Canada geese, black ducks (Anas rubripes) and mergansers (Mergus merganser). They also pointed out that Canada geese and black ducks require forested rather than open country, and that with the removal of forest, there is no longer suitable habitat for them in the Grand Bruit area. They said that it is also quite possible that the Grand Bruiters had shot out the entire local breeding population of black ducks.

"Partridge" (ptarmigan, Lagopus lagopus) a land bird, have declined in number according to informants (Forty years ago there were thousands). As the men are home from the lake boats during the winter when they are in season, they are still hunted extensively on all suitable days by the available men. However, because the game wardens now have skidoos and helicopters, and can easily spot a person on the barrens, the

hunters now stay close to Grand Bruit in the wooded areas. One elderly man said he still goes for a day into the "blue hills" partridge hunting (Last year he only got three one day he was "in"). He still also goes to Cinq Cerfs (a "short walk", approximately five miles).

Biologists at the Wildlife Division (personal communication) maintained that in Newfoundland the overall population size of ptarmigan has increased in the last several years as part of a ten-year cycle; for example, studies in La Poile have shown such an increase, and a sudden decline in population is expected soon. However, a fact which is of significance to their use by Grand Bruiters is that every few years, ptarmigan come "out" to within four miles of the coast because of snow conditions further inland.

During the summer of 1970, men "went out" in boats along the coast several times after birds--they shot eiders, loons, and almost got a "spraw-foot" (grebe, Podilymbus podiceps podiceps). "Turrs" (murres) were eaten when they got caught in salmon nets, often as many as ten being caught at one time. "Pigeon's" (guillemot's, Cepphus grylle) eggs, "stearin's" (tern's, Sterna hirundo) eggs, and gull's (Larus argentatus) eggs were eaten also this summer. These were found on rocks and islands by men out "in boat". "Pigeons" (guillemots) are still present all year round and are shot. Gulls are also still present but are not used anymore; people no longer like

their taste. People used to put fish hooks in cod livers on rocks, for example at Duck Island, and catch gulls, this way getting as many as four at a time.

In conclusion, the use of birds has declined because of the decline in the resource and the fact that men are away during much of the open season. Changing value placed on time and effort were never mentioned as stresses. Here, as in the case of berry-picking, it appears that pleasure ("sport") is an important factor contributing to the continued use of this resource.

The Subsistence Use of Fish

Fish is, and always has been, a major subsistence item. One informant maintained that people still get "half their food" from the land and sea, and went on to explain that one could get trout (Salvelinus fontinalis) from the freshwater streams and salmon (Salmo salor) in the summer, and cod (Gadus morhua), haddock (Melanogrammus aeglefinus), and halibut (Hippoglossus hippoglossus) in the fall. Several other species are still used to a limited extent. (see Table 9). Table 9 indicates that for some "fish" (cod, capelin, (Mallotus villosus) seal (Pagophilus groenlandicus), turbot (Reinhardtius hippoglossoides) and porpoise (Phocaena phocaena) the extent of use is related to abundance. However, the use of others is not dependent on their abundance: flounder (Hippoglossoides platessoides) and lumpfish (Cyclopterus lumpus)

TABLE 9

THE USE OF FISH SPECIES

<u>Fish</u>	<u>Scientific Name</u>	<u>Abundance</u>	<u>Use</u>	<u>Preservation</u>
Brim	<u>Sebastes mentella</u>	Very abundant now, not so in past	Occasionally eat	nil?
Capelin	<u>Mallotus villosus</u>	Once very abundant no longer appears along coastline in June	Once eaten to a great extent "taste good"	past: dried some and pickled some
Cod	<u>Gadus morhua</u>	used to be "a lot" more years ago" became abundant again 3-4 years ago	Often jig a few for dinner or save one for next day's meal when en- gaged in commercial fishery	past: "everyone" had flakes. Each household salted 100 lbs. for use in winter also salted "codsheads" and cod tongues for winter. Now: salt ~20 cod for use in winter
Eel	<u>Anguilla rostrata</u>		A resident of Cinq Cerfs trapped eels in a baited box involving a cone of canvas	past: pickled or salted for own use.
Flounder	<u>Hippoglossoides</u> <u>platessoides</u>		Some people eat it; others "not like" to. nil	

Fish	Scientific Name	Abundance	Use	Preservation
Haddock	<u>Melanogrammus aeglefinus</u>	Past: abundant Now: "One can hardly get a haddock now" to eat; now all we get is that old brim" - catch haddock on cod gear	"Taste better" than cod "fatter" than cod eaten when caught	nil?
Halibut	<u>Hippoglossus hippoglossus</u>		used a lot 40-50 years ago.	Past: 40-50 years ago salted two barrels for winter
Herring	<u>Clupea harengus harengus</u>	Only abundant in last 2-4 years - informants maintained draggers drove them in	Past: used a lot; roasted in oven. Now: Not used much since objectionable smell - a couple of meals each winter	Past: until 20 years ago; each household salted 2 barrels for winter. Now: not many households still salt them for winter
Lump	<u>Cyclopterus lumpus</u>		A few people eat them - most not since: "look horrible" male "all fat" female "all sperm"	nil
Mackerel	<u>Scomber scombrus</u>		Eaten occasionally	Past: salted for winter

Fish	Scientific Name	Abundance	Use	Preservation
Salmon	<u>Salmo salar</u>	Declined	Toward end of fishing season for salmon set net to catch salmon for bottling and eating	Past: salted for winter. Now: can some for winter and to send to relatives. Sometimes salt 30-40 lbs. for winter use (a barrel or two)
Seal	<u>Phoca vitulina</u> and <u>Pagophilus groenlandicus</u>	Stopped frequenting Grand Bruit 25-30 years ago - until a few years ago still frequented Cinq Cerfs getting caught in cod nets put there for bait	Eaten by some and not others since regarded by latter as "too fat" use fat to bake "seal buns"	
Tomcod			Eaten when caught by children with poles in harbour.	
Turbot	<u>Reinhardtius hippoglossoides</u>	Only in the "spring of the year" caught only by night on cod gear.	Must leave cod gear overnight to catch them	Salted whenever could obtain it
Porpoise	<u>Phocaena phocoena</u>	Past: a few present Now: not get many	"delicious" "better than moose"	
Mud trout	<u>Salvelinus fontinalis</u>	Quite abundant in fresh water streams	Children with poles everyday they can during first part of summer - supplements diet also "go and get a meal when rivers freeze up first" fishing through ice.	

are not used much regardless of their abundance, the herring (Clupea harengus) population has increased but their use has decreased because people now object to their strong smell when cooking.

The preservation of fish for later use (by drying, salting, and bottling) has decreased (see Table 9) probably because the stress to keep food in reserve for the winter has lessened with more available cash and food in the stores.

The Use of Wood

The cutting of wood for use in the stove has declined for several reasons. Firstly, alternate sources of fuel have appeared: coal is now available to people as they have the cash to buy it, and informants claim "landwash wood" has appeared in greater abundance in "late years". Secondly, the effort required to cut wood has increased due to proximate depletion of the resource.

Informants maintain that when the first settlers arrived in Grand Bruit in the mid-1800's, the area was probably all wooded including Grebe's Head. This forest was probably the scrub spruce and fir described above. Informants maintained there were some scrub trees standing until the late 1940's but that they disappeared partly because one man burned a large area to produce berries twenty-three years ago, and partly because wood was used for fuel and for building boats and houses.

During the depression, many people could not afford coal, and some people had to go in the woods everyday of the winter, especially if they had large families. On all "dirty" (poor weather) days when the water was too rough for fishing, the men would go "over the hills" into the woods. Today very few people cut their own and handslides are used rarely. One elderly man still cuts two or three cords of wood for each winter. During the summer of 1970, he had three cords of fir and spruce and half a cord of landwash wood stacked by his house. He is the only one who puts this much effort into the collection of wood for fuel; the others collect mostly landwash wood which requires less time and effort. People still cut some "boughs" in September, October and November, and some in the spring at Rôti Brook, Cinq Cerfs, and Simm's Cove (see Map 3) or anywhere a half to one mile in from the shore, or one or two miles inland at Gull Pond or Round Pond; and drag it out by handslide. It is now mostly obtained near the landwash (shore) and taken back to Grand Bruit by boat. Last year men cut some boughs on Harbour Island and in the "arm" (see Map 3). There are very few chain saws in Grand Bruit, most people using axes to cut the "boughs" or "landwash wood" obtained for fuel.

People cited laziness as one reason for not cutting more boughs now. They mentioned that landwash wood (the gathering of which requires less effort) was not as abundant in the past as it is now. They say that more "drives into" certain islands

than others. For example, they said there is a lot at Muddy Hole Point partly because no-one is living nearby in the winter, and at Couteau Point because of the tide and wind conditions. Aside from men making special boat trips for landwash wood, it was collected incidental to other activities such as picnics or walks.

The cutting and sawing of wood for building (requiring logs made from tall trees rather than "boughs" obtained from scrub trees) has decreased due to the use of other sources of it, (most of which are "economic" in that they are part of a cash economy). Seventy to eighty years ago people cut it in the spring and fall and hauled it by handslide to the "landwash" (shoreline). One elderly informant remembered seeing twenty handslides coming across the ice of "Big Pond". They described this work as "horses' work" and sometimes used dogs to pull the slides. As the wood was too gummy when it was cut, they left it by the shore until the next March or April and then got it out by boat. One man had a camp at Cinq Cerfs Brook roughly three miles in from the coast and floated the logs down the river and thence carried them by boat to Grand Bruit in the slack season, late July and August. During the winter, when they could do little else due to the bad weather, they cut lumber with "pit saws". However, fifty years ago they started getting lumber from a sawmill situated at Grey River. Other explanations for buying it were the local

depletion of the resource resulting in the necessity to travel further inland for it, and the fact that the people who built were getting older. Now one can only find wood in a few areas: roughly ten miles inland along Cinq Cerfs River, Rôti Brook, and Barachois Island. Twenty-five years ago people stopped sawing their lumber, but rather, if they cut any, took it to North Bay for sawing. Roughly twenty years ago the people of Grand Bruit stopped logging.

People no longer cut wood for houses and boats at all, and until three years ago, when North Bay resettled, obtained it from North Bay and still obtain it from a sawmill in Burgeo. They also no longer need "longers" for flakes as eight or ten years ago enough "drag-net" (net used by boats dragging for fish) began to "drive ashore" for this purpose.

Gathering Items which "Drive Ashore"

Finally, the hunting and gathering portion of Grand Bruit adaptation includes picking up useful items drifting in the ocean or washed up on shore whenever people are walking, or out in a boat. One such item is "drag-net", which they use to make flakes, and make enclosures for hens or small gardens. Other items include straw matting used on the floor of one of the shops, miscellaneous items, such as, for example, a plastic dish for soap, and fishing gear such as a "stabber" for spear-
ing bait, and "lobster cars" (wooden boxes for keeping live

lobsters out in the ocean until they are collected).

The Use of Domesticated Plants and Animals

The use of domesticated plants and animals has also played a large role in Grand Bruit adaptation, but this portion of the adaptation appears to have fallen off more drastically than the hunting and gathering portion.

Domesticated Plants

Of twelve domesticated plants (see Appendix B), only two, potato and rhubarb (see Table 10) are still cultivated. As Map 5, (drawn from information provided by informants) indicates, all the usable land in the immediate area of Grand Bruit was used for gardens; informants said, "every inch" was gardens thirty years ago. Islands and shoreline within five miles of Grand Bruit were also used extensively. The use of air photos by Mr. K. Beanlands (personal communication) showed the over-all extent of gardens (see Map 3). Although the soil is class 7, the poorest rating for agriculture, the census (see Table 2) indicated that there have been up to nineteen acres of land in use (including use for gardens, hay, and pastureage), there being at least ten in use between 1901 and 1935. People cleared off the plant cover (mostly Kalmia and ericaceous plants) for these gardens and prepared the land by hand. They also filled a pond (Little Pond, see Map 3) to increase garden space (see Table

TABLE 10

DATA FROM NEWFOUNDLAND CENSUS ON SUBSISTENCE PRODUCTION

Item	1836	1857	1869	1874	1884	1891	1901	1911	1921	1935	1945
<u>Domesticated Plants</u>											
Potatoes (barrels)	0	12			11	21	98	125	144	716 bu.	520 bu.
sold										3	
Turnip		0				14	1	0	0	90 0	0
sold											
Cabbage (lbs)							5410	4100	100	5065 0	0
sold											
Other vegetables bushels		0								3 0	0
sold											
Hay reared (tons)	0	0	0			3	9	7	26	11	0
<u>Animals and Their Products</u>											
Sheep	0		0	6	3	40	80	102	127	26	131
Sheep killed							29	13	17		
Wool (lbs)						6	179	232	310		343
Milk Cows	0	0	0				9	4	3		
Cattle Killed								0	1		

Item	1836	1857	1869	1874	1884	1891	1901	1911	1921	1935	1945
Butter made (lbs)		0					540	455	250		
Other horned cattle							2	1	2		
poultry hens chickens						11	110	184	156	155 116	159 162
Eggs (dozen)								592	525	549	1475
Swine	0	0	0	1	1	5	0	2	0		1
Swine killed for food		0						3	0		
Goats				1							88
<u>Land in Use</u>											
Holdings (acres						3	19	10	11	11	5
Improved land		1				3	11	6	9	11	5
Unimproved land											0
Land (acres used for:											
gardens			0	0		3	5	5	9		
potatoes										4	5
turnip										1	0
cabbage										1	0
pasture						0	6	0	0	0	0
hay										5	0
unused						0	0	1	0		
barns and outhouses		5	1	7	1	22	35	40	59	50	

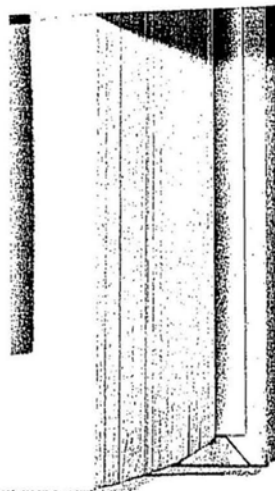
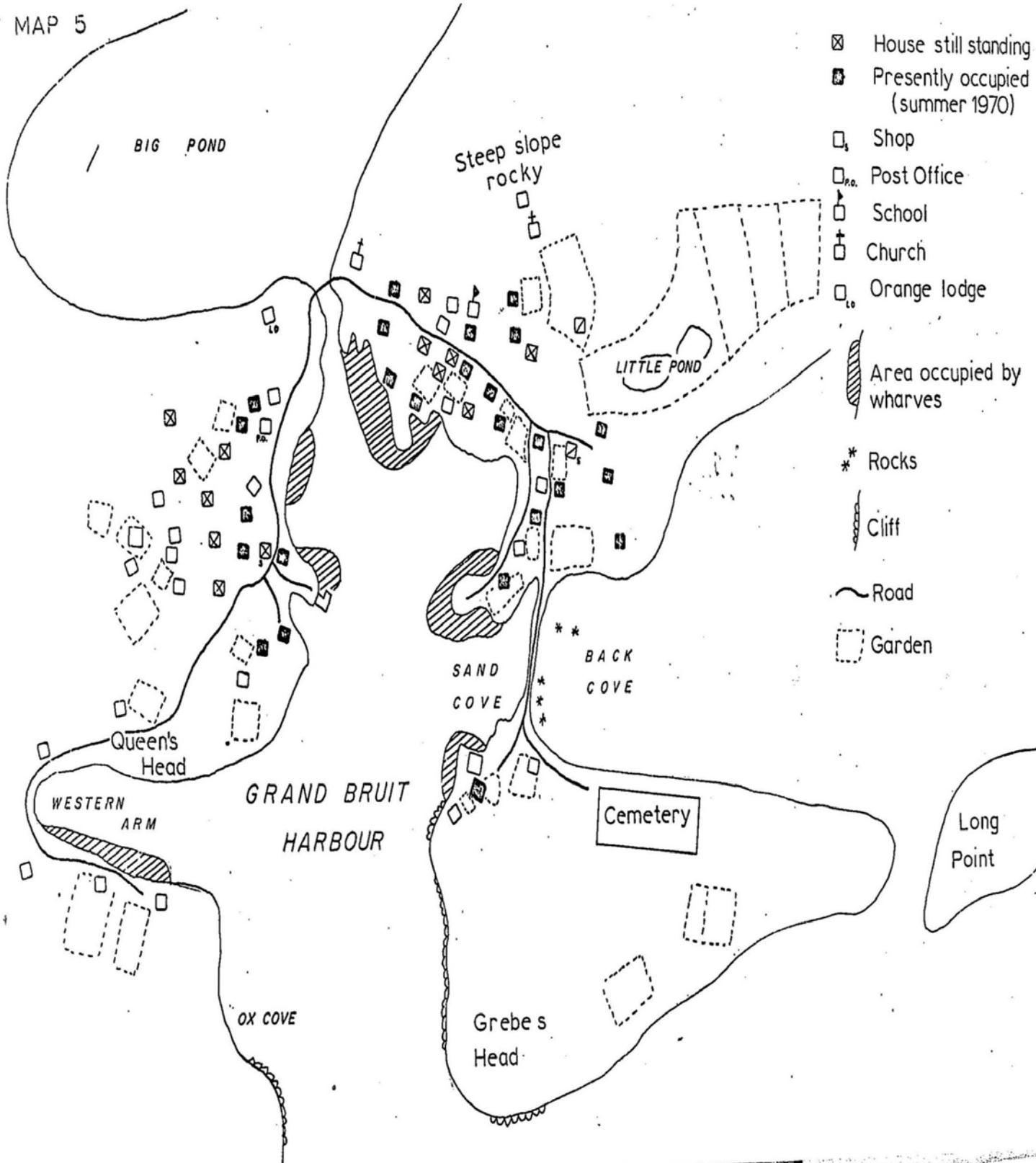
10 indicating acres of improved land).

Now the land shown in Maps 3 and 5 as gardens has largely reverted back to grassland and marshes and some of the soil is eroding away.

From the census data (see Table 12), which may not be entirely accurate, it appears that potatoes were the first vegetable to be grown, being started in the 1850's, and that turnips were begun in the 1880's and cabbage soon after that. The peak production of potatoes and cabbages occurred from 1901 to 1935, the period of peak population for Grand Bruit (see Table 10). It appears that this intensive production was begun once Grand Bruit was established as a thriving and viable community, the population having passed one hundred-and-fifty, and transhumance (discussed later) having ceased.

The Census data, and the comments of informants, indicate that production of potatoes remained high long after the production of cabbage and turnip had ceased, and that the latter ceased before Confederation. Informants explained that only the people with big families had gardens on islands, and that, as their families diminished in size due to the outmigration of their children, they gave up the gardens on the islands. An informant maintained that no one was forced to leave for lack of garden land. (People had to travel "down" east) four or five miles in order to grow turnips because their cultivation required sandy soil.

Apparently everyone grew potatoes, cabbage, beets, onions



turnips; some other vegetables such as carrots, lettuce, parsnips, pumpkins and radishes were also grown by most people. Each family had one or two gardens, and both men and women worked in them. An elderly man said that after supper the women would help "dig and hill" and that "it was their glory".

In contrast to the hunting and gathering portion of Grand Bruit adaptation, the decline in the use of domesticated plants was not due to a decrease in natural resources. Erosion was mentioned, but not as a factor contributing to the decline of gardening. The factors mentioned were various, and included: advancing age of the population due to outmigration of the younger people. The moving of one's children away so that one did not need so many vegetables, and Confederation with the resultant increase in available cash so that people could buy their vegetables. Other factors mentioned were more idiosyncratic, including for example, the fact that a husband began fishing in Cinq Cerfs, and because he was away all week he did not want to have to set potatoes when he was in Grand Bruit; or that a husband began fishing for salmon and packing it seven years ago and therefore was too busy to do gardening also; or that the fence around a garden was falling apart; or that the garden was "on the other side of the arm", the family having moved to this side (see Map 3) and that therefore it was too much work to carry manure; the opinion that

the ground is too "grown over" now to "bother" setting potatoes, that one young husband refused to help his wife; and that a woman forgot to order seed for carrots this year.

From these explanations, it appears that the important underlying reasons for the cessation of gardening were the moving away of young people so that the people left did not have large families to feed, the availability of cash to buy vegetables, and the increasing age of the people left in Grand Bruit. Of the five young couples in Grand Bruit, only one considered setting gardens, and in fact this couple only set one as the husband refused to help. As these young couples have very few children (see Table 11) and adequate cash incomes they see no need to set gardens.

It appears from the data presented that the imposition of a new stress on the system, in the form of the opportunity to use cash, or the removal of the necessity to feed a large family, did not immediately result in a decline in the gardening adaptation. Rather, when a further stress occurred, such as the natural regeneration of the ericaceous cover, or of swamp, the falling of fences into disrepair, or the opportunity to use one's time in an alternative form of production, these stresses were the deciding factors. The order in which the various domesticated plant species were given up also indicates that in the absence of a stress "pushing" the people into cultivation, the first vegetables to be given

TABLE 11
STRATEGIES PRESENTLY ADOPTED BY EACH HOUSEHOLD

Dependents at Home	Sources of Cash for Exchange										Subsistence Production				
	Lobster Fishery	Salmon Fishery	Cod Fishery	Pack Salmon	Sell Gasoline	Post Office	Carry mail to and from steamer	Guide sports	Build boats	Lake boats	Old Age Pension	Hens	Sheep	Rhubarb	Potatoes
<u>Middle Aged Parents</u>															
seven young children	x	x	x	x	x	x									
three young children, one adult son who fishes with father	x	x	x?									x	x	x	
two young children, two teenaged children away at school	x	x	x?												
father's father, two young child- ren, one teen- ager away at school	x	x	x									x		x	
two young children	x	x	x	x	x		x					x	x		x
two young children	x	x										x			
one young child and son who fishes with father	x	x											x		

Figure 1

(a) **Flowchart illustrating the selection process for the study.**

(b) **Flowchart illustrating the selection process for the study.**

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Dependents At Home	Sources of Cash for Exchange	Subsistence Production
	Lobster Fishery	
	Salmon Fishery	
	Cod Fishery	
	Pack Salmon	
	Sell Gasoline	
	Post Office	
	Carry mail to and from steamer	
	Guide Sports	
	Build boats	
	Lake boats	
	Old Age Pension	
	Hens	
	Sheep	
	Rhubarb	
	Potatoes	

up are those requiring the most time and effort; thus consumption of time and work involved are stresses which influence the people in a direction opposite that of stresses favouring gardening.

It is evident that the Grand Bruiters never had an excess of time and their soil was poor, but when there was no alternative source of vegetables they had to produce their own.

Domesticated Animals

Of the six domesticated animals, only three, the pig, cow and hen were used primarily for food. Sheep were used to provide wool, though a few were killed for food each fall to maintain a constant herd size; dogs were used to retrieve birds while men were hunting and to pull handslides when men cut wood. Presently, there are eight families who keep hens (see Table 11) out of a total of nineteen households not headed by old-age pensioners, and only three who keep sheep. People stopped keeping cows forty years ago, and sheep about five years ago. Dogs are plentiful but are not used, according to informants, because they are now too wild and would merely scare the birds away. This they attribute to children "tormenting" them, a result they say of increased spare time for the children, who once had their days occupied with household tasks. When asked what function these dogs have now, informants said "I suppose they are pets".

Informants said cows were introduced seventy years ago, there once being ten or eleven in Grand Bruit, and they were kept until forty years ago. They fed far "in" on the highlands. Reasons cited for not continuing to keep them were diverse: they went far "in" over the hills and "got lost in the fog", a cow ate three times as much as one sheep, the people who kept cows were getting too old to look after them and the young people did not bother, and their upkeep involved too much work. The people who had cows were all members of three generations, those of my seventy-year informants, their fathers, and their grandfathers. It appears this was an innovation which was accepted by a small proportion of the community (cf. Murdock: 1956:250), tried out for a short while, in this case thirty years, and then abandoned. Apparently, the number of stresses it introduced (the time and effort exerted) outweighed the benefits and efforts were not made to adjust the situation to a more adaptive one, for example by building fences to keep the cows from getting lost.

Sheep gained acceptance by the entire community and did not begin to decline until a stress was introduced, in the form of a new opportunity because of the availability of cash and of clothes sold in stores. Census data (see Table 10), show that sheep were introduced around 1870, and that there were large numbers from 1891 until after 1945. Informants maintained that all households kept nine or ten sheep until

fifteen or twenty years ago, and that each fall they would kill some old and young ones to eat during the winter. They kept enough lambs each fall to keep the flock the same size each year. Sheep were "carried" by boat to the islands during the summer or driven down the coast eastward to graze. Sheep required considerable effort in terms of cutting hay by the men, and processing the wool by women. The women all complained that wool is a lot of work; they obtained nine or ten fleeces each year and carded it (with hand "cards" or with a carding machine), spun it, and knit it into clothing. Women used to knit from supper time until bed time, being able to complete one sleeve of a "guernsey" (fisherman's sweater) or one sock in this time. They made guernseys, socks and "drawers" for their husbands and children.

Reasons given by informants for giving up sheep included: the amount of work involved especially with the wool, the fact that the young people no longer wear worsted, that the people were getting too old to look after sheep, that the people went away during the winter to visit relatives and could not leave the sheep in Grand Bruit, that one's family had moved away or one's husband had died leaving no one to "do it for", and that lambs died from eating "Kalmia" which they found in the spring after the snow left, or in the fall. People did not give up sheep all at once, and one young couple maintain they will have sheep until they

die. From these data, it appears that the stress exerted to give up sheep in combination with the stresses of time expended in husbandry and feed required, was not as strong as that for cows, and hence the change in adaptation was more gradual.

The decline in the keeping of hens is even less rapid. They were introduced before 1911 (see Table 10), and their numbers did not decrease until after 1945. Roughly half of the households not headed by old-age pensioners still keep them. People said they were not declining as rapidly because one only needed to feed them "scratch" (corn and oat seed) which could be bought, and table scraps.

Hens were not kept for their meat; most people did not have a taste for chicken, and when they killed the roosters some "threw them away" (in the harbor), whereas others ate them. Now chicken bought at the store is a favourite Sunday dinner, and people "like it a lot". When asked the reason for this change in taste, an informant said, "I don't know why, just change, I suppose". Eggs were once not available in the shops in Grand Bruit. In fact, people sold them to the fish merchant for 12-15¢ a dozen. The price of eggs declined when a poultry farm was started in Burgeo ten or twelve years ago, and about the same time the local fish merchant began importing them from Nova Scotia and Burgeo to sell in his shop. The availability of eggs in the stores

of Grand Bruit was the only reason cited for the decline in number of hens kept. Here the stress which caused a shift in the balance of the system was the presence of the opportunity to buy eggs.

Pigs were introduced as early as 1874 (see Table 10) but appear to have been kept by only one or two families. Informants cited the work involved and their smell as reasons for giving them up.

Sources of Fertilizer and Feed

Horticulture requires the use of environmental resources for fertilizer, and pastoralism requires the use of environmental resources for feed. Changes in the abundance of these secondary resources create stresses in these adaptations. The kelp, dung, "codsheads", and cod stomachs used as fertilizer (see Table 12) were always abundantly available. Kelp is plentiful along the coastline, and must be transported to the village by boat. Codsheads and stomachs are the by-products of another ("economic") adaptation and are therefore abundant as long as this adaptation persists. The availability of these secondary resources appears not to have been a factor in the decline of the use of domesticated plants, although the work involved in the harvesting of these secondary resources appears to have been a factor in this decline.

Feed for pigs included potato peelings and corn meal and "what's left over in the house". People fed and still feed

TABLE 12
FERTILIZER USED FOR VARIOUS CROPS

Crop	Fertilizer
Beets	"Kelep"
Cabbage	"Codheads" and cod stomachs
Onions	"Kelep"
Potatoes	"Kelep" (two boatloads per garden) (3 kinds) sheep dung
Rhubarb	Hen manure sheep dung "Kelep"

dogs on scraps. In the past, these included small potatoes, seal carcasses, and the guts and other discarded parts of fish. People used to salt dogfish to feed to dogs rather than for human consumption.

However, feed for sheep and cows during the winter was almost entirely hay, a limited resource. During the summer, however, sheep grazed freely along the coastline, on islands, and "over the hills"; the men cut the hay in the flats at Cinq Cerfs and brought it to Grand Bruit by boat. Table 10 indicates that up to five acres were used for hay, and that up to twenty-six tons of it were cut each year, the peak production being between 1901 and 1945. The women spread it on the rocks to dry and turned it over with a pitch fork to dry both sides, and women and children carried it into the barn. Grosses Flat at Cinq Cerfs used to be completely cut down since everyone had sheep and therefore those arriving later had to go to Birchy Flat, further up the river. Today, there is plenty of hay in the area (see Map 5), formerly occupied by gardens, so that the time and effort are considerably decreased for those still keeping sheep.

"Rearing" Wild Birds

Another adaptation, which is not as efficient a use of environmental energy as domestication, but represents a degree of control slightly higher than that in hunting and gathering, was tried for a few years twenty or twenty-five years ago.

This consisted of bringing the young, which hatched in June, of the bluey gull (herring gull, Larus argentatus) out from the "blue hills" in baskets and keeping them in pens in the "landwash", feeding them with fish in order to fatten them up to eat. Likewise, an elderly informant remembered bringing back young geese from twenty miles inland and fattening them up to kill at Christmas. This adaptation was not as efficient a utilization of energy by man as domestication, as the birds were not bred but rather, the next year another trip would have to be made in order to get more young birds in the wild. In one instance, the geese laid and the eggs hatched. This appears to have been a short-lived adaptation which disappeared when other economic sources (cash allowing people to buy goods in the stores of Grand Bruit) became available. Now people have no taste for gulls and say they would not eat them unless there was a shortage of alternative food items.

Production and Labour for Cash

So far, subsistence production has been analyzed. Brox (1969:7) discusses the economizing strategies open to out-porters. Although subsistence items have the disadvantage of being non-convertible, and perishable unless locally exchanged, they "have a cash value equal to their price on the market", as well as their preferred value. He argues that the obvious economizing strategy for the outport household

then, is to "utilize the subsistence opportunities, and to limit the use of cash to those goods and services that the household finds it unprofitable to produce. Subsistence items are generally produced by combining production factors that have no, or very unprofitable alternative use, and the opportunities for cash income are strictly limited". "As soon as labour is easily converted into cash, this changes, as it becomes more profitable to use time to provide this convertible value rather than small quantities of subsistence items".

Conversion of Resources of Land and Sea into Cash

In Grand Bruit, the conversion of resources of the land and sea has always provided households with a small amount of cash. Not until 1955, when the credit system ceased operating, did the fisheries become an important source of cash.

In 1876, Bowring Brothers in St. John's were awarded the first contract to operate mail service around Newfoundland with two steamships. The following year, the "Curlew" was running between St. George's and St. John's (Keir: 1962:139), and stopped regularly once a month at Grand Bruit. This permitted people to sell seal oil to Bowring's in St. John's. (A steady fire was maintained under forty gallon pots to "render out" the oil which was then ladled out into forty-five gallon casques.) At this time four brothers had two seal nets in Back Cove (see Map 4).

Seals also provided cash in three other ways: Grand

Bruiters sold seal skins to people from Otters Point and La Roche for moccasins, and several years ago the government offered a bounty of \$10 for adult and \$5 for immature harbour (bay, Phoca itulina) seals in Cinq Cerfs because they destroyed the salmon there. One elderly informant remembered shooting one in upper salmon pool and another in lower salmon pool (see Map 4). People also sold seal carcasses to a fox farm in Burgeo.

Every fall, when sheep were slaughtered, (the herd size being kept at a constant level), one or two carcasses were kept for meat and the rest sold to Burgeo and Ramea.

Eggs were sold to the fish merchant in Grand Bruit at 12-15¢ a dozen to be shipped to Burgeo, and later to people on the steamer for 14-15¢ a dozen, until ten or twelve years ago when a poultry farm was started in Burgeo, and eggs became available in Grand Bruit stores.

Some Grand Bruit families could acquire cash by selling wild birds they had shot to other people in Grand Bruit.

Trapping has at times been an important source of cash. Informants said that until the Hudson's Bay Company price dropped ten or twelve years ago (for example, fifteen years ago, the price of muskrat dropped from \$1 to 20¢ each), everyone "did a little" trapping in bad weather "in" six or seven miles from the coast. One elderly man said he trapped a lot during the winter because he had ten children to feed.

He and his brother-in-law spent thirty-seven "winters" "in the country". He said "a couple of men from each community", for example, Bay d'East and Bay St. Georges would spend a couple of weeks (the longest he spent was twenty-one days) during the open season (between September and December) at King George V Lake, fifty miles inland from Grand Bruit; camps were established at about ten mile intervals. They would trap muskrat, otter, and fox, sending the pelts to the Hudson's Bay Company by mail, though they occasionally sold some pelts and live animals to people on the steamer. Once this informant received \$1,550 for one live silver fox. Another informant said that certain families were good trappers and that others didn't care for it "or didn't know how".

After the price of fur dropped, no one bothered but five to ten years ago the price rose a little and some men now trap, going inland five or six miles. Today only three or four young men trap; they set traps around the "landwash" and travel to them by boat, or they set them just "in" a little. From Table 13, it appears that trapping intensity followed fur price trends rather than the size of the animal population. The reason cited for stopping trapping ten to twelve years ago was the decline in price, for doing a little trapping five to ten years ago was the rise in price, and for doing so little now is the generally low price. No other factors were mentioned by informants. The availability of

TABLE 13
CHANGES IN TRAPPING BY GRAND BRUITERS

Animal	Changes Abundance	Changes Price	Changes Trapping
Beaver	Rare 30 years ago now more common		Now trap "a little bit"
Fox	Always abund- ant	price decline 1950's since fox farming in PEI	Used to send pelts to Hudson's Bay in St. John's. Now only trap a few live foxes since only they fetch a good price
Muskrat		Price dropped 10-12 years ago. Rose slightly 5-10 years ago	People stopped trap- ping them 10-12 years ago and a few began again 5-10 years ago
Otter			Always trapped some
Weasel			In the past trapped "a scattered one" now not at all.

animals appears not to be limiting. Rights were by "usufruct": one could trap anywhere but if someone was already using an area others had to respect his prior rights to it; however, if he left this area for a year, someone else could take it and the first man would not get the area back whilst it was actually used by the other person.

Transfer Payments

In 1949, Confederation opened up several sources of cash. Perlin notes that "Newfoundland had nothing at the time (of Confederation) that could be conceivably compared with the social services of Canada. There were no family allowances. Old age pensions were paid to persons of seventy years and over on the basis of a means test and at the rate of \$75 per year. There was no unemployment insurance (Perlin: 1959:54). Therefore, the transfer payments available at Confederation had a large effect (due to the contrast with the small amount of cash available to households before Confederation as well as to the dual economy which involved subsistence production and production for exchange, enabling small amounts of cash to "go a long way").

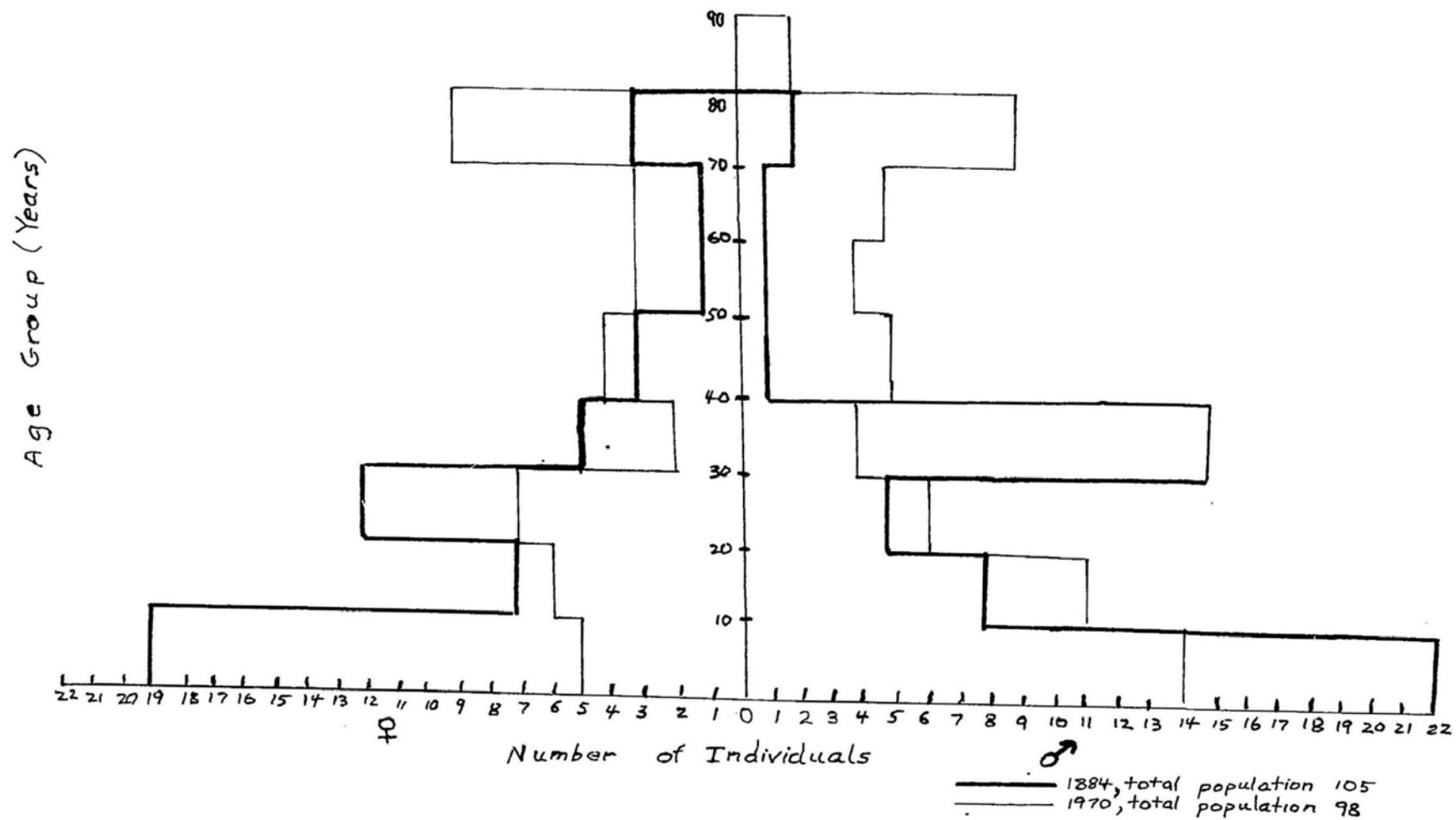
Before Confederation, a couple of families in Grand Bruit whose household heads were sick lived very poorly on the "dole" (\$12.50 to \$18 for three months), living according to informants, on "flour, molasses, and tea". Now only one Grand Bruiter is

on welfare by reason of sickness. However, the people who do not utilize the seasonal wage work resource (see Table 21) do benefit from unemployment stamps. "Stamps" have probably been a factor in the small amount of cod fishing done; informants say people obtain roughly \$900 during the salmon season and \$300 during the lobster season and then fish for enough cod for stamps. Rebates for gasoline for boat engines, nets, and salt, and for the payment of medical bills are welcomed. The old age pension makes an important contribution to overall economic adaptation in Grand Bruit because of the large proportion of old people (see Figure 2). Men stop fishing when they reach the age of sixty-five and do little more than chop wood and "pass the time" at the shop or outside their store houses (see Table 33). Also, elderly women do not work as housekeepers for elderly men as they used to do because, they say, they "get their pension".

Family allowance, according to Grand Bruiters, has resulted in the children becoming uncontrollable. The family allowance is set aside in a separate place for each child and given to the child whenever he asks for a dime or quarter to spend at the shop. They all go to the shop three or four times a day and buy coke and chips and bars each time. An informant told me that the parents in other places, such as Burgeo, set aside this money for clothes, food, and education. She said before family allowances were issued in 1949, the

FIGURE 2

POPULATION PYRAMID FOR GRAND BRUIT: 1884-1970



children did not speak back to their parents. All mothers complained of this "brazeness" of children since Confederation. Although it is difficult to differentiate this from the natural tendency of people to think the old days were better in all respects, it appears credible as the children certainly did "get their way", and speak back to their parents to a considerable extent.

Wage Work

Throughout the history of Grand Bruit, wage work has been a source of cash. However, its importance has fluctuated greatly and often been restricted with respect to age and sex. As early as 1905-1912, young boys went away to work on boats. Young unmarried girls, until approximately 1950, went to other villages to work as "servant girls"; one winter several young men cut wood at Corner Brook, and since Confederation, several young men have worked seasonally on the "Lake Boats" (freighters on the Great Lakes). For the last several years, three or four men have acted as "guides" for "sports" (sportsmen). Today one job is available as postmaster, temporary construction work for several men was available for a few months during summer of 1970 when the power plant for electricity was installed, and two jobs will be available for "operators" to keep this generator running and these latter two jobs are now being eagerly sought.

The various merchants who operated in Grand Bruit have offered some opportunities for wage labour (see Table 14). The arrival of White¹ around 1890, resulted in a stopping of transhumance discussed below because of the availability of winter work, especially for elderly Grand Bruiteurs who could do carpentry work on his stores, pack lobster, make tins, and build boats. In 1918, when White stopped buying fresh salmon, there were jobs for two Grand Bruiteurs collecting salmon from Grey Brothers in Port-aux-Basques, and twenty-five men were paid to obtain ice from the Big Pond for packing salmon. During the 1920's and 1930's, men were hired by Brown and Joe Green to wash fish and women to "make" (cure) it. The women had to rise at 5 a.m. in order to spread the fish, and "pack it" (put it in piles on the flake) at night, as well as getting all their housework done. For this they earned fifteen cents a quintal. Only a few women "didn't bother" to earn money making fish. Bob Green sold fish salt bulk and therefore employed no one to dry the fish. However, he did employ two or three men to serve as crew on the freighter he used to transport supplies for his store from Blacks in Petites. Today two men are hired by Red to collect salmon from fishermen to be collected by Red's "smack" (collecting vessel).

1. Pseudonyms are used for people mentioned throughout this thesis.

TABLE 14
WAGE WORK OFFERED BY MERCHANTS

Year	Merchant	Employment	
		People Employed	Task
1880-?	White	Several men, primarily elderly.	carpentry work on stores; pack- ing lobster; making tins; building boats
1918-?	Grey Brothers of Port-aux- Basques	Two men	collecting salmon
		25 men	cutting ice from Big Pond for packing salmon
1932-?	Green	women men	"making" fish; washing fish (some fishermen salted their own fish)
	Green 's son	2-3 men	serving as crew on freighter which brought goods from Petites
1950-1971	Red	2 men	collecting salmon

Changes Within the Fishing Adaptation

Changes in the fishing adaptation, traditionally the primary economic adaptation, have affected the use of other economic resources. Tables 15 and 16 summarize the changes in technology and marketing respectively, as described by Grand Bruiters. Changes in fishing technology created changes in the adaptative pattern. For example, the trawl skiffs (two mast boats with a one-cylinder engine used after 1914) were suitable for living on board whereas the two-spar boats (small boats with only a sail used before 1914) were not. This permitted the men to go as far as the West Shore or Labrador for a month at a time and bring back fish which they salted in the hold. This resulted in more mobility in the form of seasonal migration. Informants explained that there was a shift to the use of small boats since the owners of skiffs were too old and the young people were not interested in fishing because of the low income gained from it. This change in adaptation is probably also explainable by the opening up of another resource, namely wage labour on the Great Lake boats.

The recent rise in salmon and lobster prices has resulted in a renewed interest in fishing; thus young men now cut their Lake Boat season short and forego the security of knowing a job on a boat awaits them the next year, in order to take advantage of the salmon and lobster resource. The

TABLE 15
CHANGES IN FISHING TECHNOLOGY

Year	Technology	Details of Adaptation
1890-1914	handlines, paddles and sail; two-spar boats	two men in a boat. Anchor at 80-90 fathoms and stay out all night
1914-1950	trawl-skiffs (two-mast boats with one cylinder engines).	used four or five 40 fathom lines with herring, mackerel and squid as bait; fished at 100 fathoms, five miles off.
	Trawl-lines	caught more fish than with handlines, 15-20 qtls per day. Once were 13 skiffs in Grand Bruit. Fishermen dried some, put it in salt bulk, or sold it to to dry. June-August, some men went to fish at Labrador. or Glace Bay salting their fish in the holds and bring-it back to wash it and dry it.
1950-1960	Motor boats (small boats) Trawl lines	stopped using skiffs since owners too old and young people not interested in fishing because of low-incomes
1963-present	speed boats (15 h.p. engine) trawl-lines	some young men worked seasonally on the Lake Boats and returned to Grand Bruit for the salmon season
1969-1970	Trawls, handlines, and jigger	the presence of herring seiners has resulted in difficulty in obtaining bait and therefore fishermen jig cod, if get no bait in herring net.

TABLE 16
CHANGES IN THE MARKETING OF FISH

Year	Historic Event	Cod	Salmon	Lobster
1880-90	White arrived		White bought pickled salmon	White bought lobster to pack in his factory
1914-18	World War I	Boom dry fishery 13.50/ql This was the only period before 1953 when fishermen received cash		
1918			White stopped buying fresh salmon in Grand Bruit. Grey Bros. of Port-aux-Basques sent collecting smack	
1929-39	Economic depression	75¢/100 lb.	4¢/lb	4¢/lobster
1936-49	Commission of Government	\$3/100 lb.	15-20¢/lb. since buyers on Mainland of Canada	15-20¢/lb. people stopped packing lobster because of high prices for fresh lobster since buyers on Mainland of Canada
1949	Confederation with Canada	\$3/100 lb.		
1955-65	Cessation of Credit System	\$15/100 lb.	90¢/lb.	85¢/lb.
1970		4½¢/lb fresh 20¢/lb dried	90¢/lb.	90¢/lb.

decline in abundance of bait fish (herring and mackerel) during the summer, probably, according to informants, due to the presence of herring seiners, has resulted in a partial shift from trawl fishing and handlining to jigging. The migration pattern, which has resulted in an aging population in Grand Bruit, probably explains local non-participation in the winter cod fishery. Men said that most people in Grand Bruit are fifty or sixty years old and "open boats are alright for young fellows but not old ones". In La Poile, only ten miles to the west, the household heads are much younger and engage in a year-round fishery from small open boats setting gillnets "near the landwash".

Likewise, changes in fish prices and in the availability of a ready market have contributed in large measure to changes in the proportion of the three main economic fish caught. Informants said that 1914 was the "boom time" for the dry cod fishery, and that cod almost exclusively was caught during the 1930's. Many fishermen sold their cod the day they caught it to the merchant, and he hired men to wash it and women to dry it. Other fishermen salted their catch themselves, and, if three men fished together, their wives dried the fish together.

Around 1950, people stopped salting fish because of the growth of fish plants as described in Chapter 2.

In 1945, the three or four men with licences for packing lobster (approximately this number of men had been doing this

since the 1930's) stopped because they got more money selling it fresh.

Whereas only three or four fishermen kept salmon gear in the "old days", since the mid-1950's everyone does. Relevant factors in this change are probably the rise in prices since 1949, due to mainland buyers, and the advent of speed boats which shortened the length of time required to get to the salmon nets from one and half hours to half an hour. Now people sell halibut fresh at fifty cents a pound when they are caught in cod trawl gear or on handlines.

Before the arrival of the Whites (see Table 6), Grand Bruisers sold their fish in La Poile, and probably, according to informants, sold pickled salmon to traders from Fortune Bay. The Whites, however, bought cod in Grand Bruit, and also bought fresh salmon until 1918, and bought lobster, which they packed in their factory. This ease in marketing of fish was probably a factor in the cessation of transhumance discussed later, around this time. Joe Brown of Burgeo built a home for his manager at Grand Bruit in 1894. Brown owned foreign-going schooners to take dry fish to Portugal. He bought packed lobster from the three or four Grand Bruisers who owned lobster "factories", sheds for boiling and canning lobster. The manager, Joe Green, for whom he had built a home, bought his business when Brown went bankrupt in the 1920's. Joe Green specialized in the dry cod fishery and maintained a

fleet of schooners for the trade with Portugal. He bought no lobster or fresh salmon.

Red, of Port-aux-Basques, started fish plants, replacing the former cold storage plants at Port-aux-Basques, Rose Blanche, and Burnt Island. This resulted in a shift in fishing adaption from the seasonal fishery on the "west shore" to selling fish fresh to a collecting "smack" sent by Red to each fishing community. Last year he did not send his smack for cod, and people in Grand Bruit are now beginning to salt their catch once again.

During the summer of 1970, the refusal of Red to send his smack to collect cod from the few men who still cod fish from Grand Bruit during the late summer resulted in a new stress. It is uneconomical from Red's point of view to send a collecting smack for only a few fishermen in each of a few communities since he gets most of his fish from the offshore fishery. People in Grand Bruit remark that ten miles each way to La Poile is too far to take their fish. However, fishermen who salted their catch during August 1970, had great difficulty due to "sunburn", "dun", maggots, and "fly spit". Red encouraged drying by selling Grand Bruiters bags of salt.

One fisherman said he would not do something "alongside someone" unless both were "of the same mind", and that his wife would find drying fish too much work. Women also objected to getting the smell of fish on their hands. A further

reason cited against drying fish is that June and July are the worst months for drying since the warm foggy days cause the fish to get "slimey". The best months are August and September but by this time a couple of months suitable for cod fishing have passed. Informants said they did not know what they would do when they got "settled away"; that is, finished drying and repairing their salmon gear.

Just as the use of domesticated plants and animals relies on the secondary resources of fertilizer and feed, so fishing relies on the availability of bait. In the past, squid was used and people went squid-jigging at sundown, and if they got none then, at dawn. If they still did not get any, they put out herring nets. Now that squid are scarce, nets are put out for mackerel and herring. However, the presence of herring seiners in the last two years has resulted in fishermen getting only a few herring and mackerel. Therefore, people are shifting from trawl gear to the jigger. Lobster bait consists of herring, and flatfish which are speared, and salmon heads, and appears not to be limiting.

Decline of Subsistence in Grand Bruit

From this analysis, it is evident that changing adaptation does not fit nicely into a pattern of changes due to specific events separated by several different "phases" of adaptation. It also appears that changes originate from

various spheres, economic, ecological and cultural (including cognition, felt needs, and knowledge discussed later) and that they form sequences of interrelated events often involving more than one sphere. It is possible to describe seven types of sequences, classified according to the first known source of change. (It is theoretically possible that there is no first cause but that one could trace causes back ad infinitum until the whole world ecosystem was included in a network of interrelated events.) These sequences are summarized in Table 17 with examples of each type.

Factors in Decline of Subsistence in Grand Bruit

Several more specific conclusions can be made from the data on subsistence and cash adaptations presented above.

The data presented showed that some subsistence activities have not declined except in response to stresses in the form of minor changes in the abundance of the resource. These activities include berry-picking, the collection of marine invertebrates, and the hunting of moose and caribou. The reasons provided by the data for the continuance of these activities were the pleasure-element (in the case of berry-picking and hunting moose and caribou), and the limiting of the activity to children (in the case of the use of marine invertebrates and items such as "crowsfoot" and "frankgum").

Elsewhere in Newfoundland, subsistence activities are still highly valued for the pleasure-element. Dyke (1968:49)

TABLE 17

SEQUENCES OF INTERCONNECTED EVENTS AS VIEWED BY GRAND BRUITERS

Source	Man's Use of Environment	Environment	Result for Man
1) <u>External Economic</u>			
Draggers present in Grand Bruit area		→ drive herring toward shore →↑ cod present	more cod available
		→ Scare birds →↓birds	→ fewer birds available
Poultry farm in PEI	→Eggs cheaper →Fewer people keep hens		
Sawmill in Burgeo	→ Low prices → not cut lumber for houses		
Fur farming in PEI	→ Low prices → stop trapping	→ Caribou↑ → Foxes ↑→ Rabbits ↓	→ men need not go far in → only a few men set snares
2) <u>External Political</u>			
Confederation with Canada	→ Lake Boats → Men not available in duck, moose season →↑ Price for salmon, lobster → Fish for these → Availability cash → stop sheep, gardens, wood, etc.	→ Hay ↑	→Children uncontrollable →"torment" dogs; →dogs too "wild" for hunting

Source	Man's Use of Environment	Environment	Result for Man
3) <u>Events in Industrial Part-Society</u>			
Presence of wardens with "skidoos" and helicopters	→ Men not go far inland to get partridge		
Changes in regulations regarding setting of fires	→ Burn barrens ↓	→ ↓ Berries	→ Fewer berries available
Shorter caribou season	→ Not freeze caribou in winter		→ Now bottle it
Water pipe installed			→ Less work for women obtaining water
Bounty for seals	→ Trap seals		→ Source of cash
4) <u>External Environment</u>			
Presence of bunker oil		→ Birds ↓ (Birds stay "outside" islands)	→ Men go not go "gunning" by land
5) <u>Introduced Technology</u>			
Chain saw			→ ↓ Work cut wood
6) <u>Cultural Values</u>			
Value placed on time	→ Keep sheep ↓ Cut wood ↓		

Source	Man's Use of Environment	Environment	Result for Man
Changes in diet preference	→↓Eat "turrs" and gulls →↑Eat chicken etc.		
Size families ↓	→↓Use environment eg. trapping, gardens		
7) <u>Use of Environment</u>			
	↓Sheep	→↑Hay →↑ Flies	→ Unpleasant berry-picking
		→↑Hay	→↓Effort to get hay
	↑Cut wood (past)	→↑Trees	→ Go farther for wood or buy it
	↑Use resource x	→↓x	→↓Use resource x

maintains "wild fruits and berries have not declined much in importance to fishing households mainly because they are available, annually, in abundance and their collection is considered somewhat as a sport". Likewise "the hunt may be explained more often as sport than in relation to the family's need (Dyke: 1968:50).

Dyke (1968:54) emphasized the importance of subsistence in the outport economy; it allows the household to save or reinvest part of the cash it receives, and also provides items superior in nutrient value. It can be correlated with isolation (discussed later) and the degree of dependence of a community on the inshore fishery (Dyke: 1968:34). Copes (1961:99) maintained, "as long as the bulk of the population depended on the fisheries for a rather meagre cash income, fishermen found farming essential in providing a subsistence supplement to their earnings". Dyke (1968:28) maintains that "to the rural Newfoundlander, as to others engaged in it, subsistence means a certain amount of security, although the security value of subsistence may have decreased with the increase in availability of transfer payments". All of these advantages of subsistence were also mentioned by Grand Bruiters, especially when they discussed the "old days".

However, the data presented showed that the bulk of subsistence activities have declined in Grand Bruit. Included are: burning the barrens to obtain berries, snaring rabbits, hunting birds, cutting wood, and the use of domesticated plants

and animals.

Several stresses responsible for this decline were presented in the data: Firstly, changing laws enforced by the industrial part-society, such as new regulations concerning moose hunting and the burning of the barrens, have resulted in alterations in the subsistence pattern. The depletion of a resource, such as of wood and some fish, by the people of Grand Bruit is a second factor. Thirdly, demographic factors have played a large role; the decline in family size due to decreased fertility and to out-migration of dependents has resulted in decreased need for rabbits, gardens, and sheep. Likewise, the aging population, due to the out-migration of young people, has resulted in an increasing number of Grand Bruiters being too old or unwell to engage in many subsistence activities.

Fourthly, the recent availability of alternate sources of goods and food items constitute stresses which have resulted in a decline in subsistence activities. In several cases, the opening up of another opportunity in another sphere has resulted in a decline in the subsistence sphere. For example, the opportunity to use cash resulting from the availability of wage work, the introduction of transfer payments, and the cessation of the "credit system" has resulted in the partial decline of the use of fish, domesticated plants, sheep, eggs, wood for building, and of semi-domestication, in favour of

store-bought food, and bought wool, coal, and lumber. In some cases, the alternate source is in the same sphere, the biophysical environment, as the previous source. For example, "landwash wood" has replaced wood cut "over the hills", and "drag-net" has replaced "longers" for flakes cut "over the hills".

Fifthly, the opening up of alternate uses of time has also been a stress influential in declining subsistence production. For example, the introduction of the adaptation of seasonal migration for wage work has resulted in the men being absent from Grand Bruit during the best season (the fall) for shooting birds, and a resultant decline in the use of birds. Also, the decision to take advantage of high lobster and salmon prices has resulted in a decline in subsistence gardening in some cases. Likewise, the practice of seasonal migration of elderly people to visit their children on the mainland (discussed later) has resulted in a decline in the keeping of sheep.

A sixth important reason for declining subsistence activity is the changing value placed by Grand Bruiters on work and time. People now express the feeling that many subsistence activities, such as the use of domesticated plants and animals, are "too much work" and take "too much time". Wadel (1969:54) notes similar reasons for the decline of subsistence on the North East coast. "The women do not want to be bothered with

animals and gardens, and in addition, it is common to hear from the husband, "I don't want my woman to have to work like in the old days". "One way of looking at this change is to say that the first luxury the outport household 'bought' with an increase in the cash income was leisure for the wife. Increased leisure might be placed on the same level as other consumption goods" (Wadel: 1969:54).

Seventhly, changing tastes also constitute stresses. For example, people now deplore the smell of pigs or of herring being cooked, and women do not want the smell of fish on their hands resulting from the practice of drying fish. Likewise, changing tastes have resulted in the decline in the use of gulls and herring for food, and of worsted for clothes.

Finally, in one case, the decline in a subsistence activity appears not to have been due to an external stress but rather to the intrinsic unsuitability of the activity to the over-all Grand Bruit adaptation. This case is the decline in use of cows.

Decline of Subsistence in Newfoundland

The pattern of decline of subsistence seen in the Grand Bruit data is present all over Newfoundland. Dyke (1968:33) presented census material for the period from 1911 to 1945 showing that the "importance of subsistence economy in the context of the provincial economy has been declining since the turn of the century; when most households were engaged in

subsistence production". Likewise, Copes (1961:97), using census material from 1857 to 1956, concluded agricultural production reached its peak during the first two decades of the twentieth century and has declined steadily since the days of World War I. The total amount of improved land in use is about one-quarter of what it was fifty years ago. The number of cattle has declined by 60%, pigs numerically reduced to less than one-fourteenth of the total at the turn of the century, and "there has been a marked reduction in the number of horses, ponies, sheep, and poultry, though the proportional decline here has not been so severe as in the case of cattle and pigs". Dyke noted that the greatest decline in subsistence production was during and after World War II (Dyke: 1968:33).

The Importance of Cash

Newfoundland studies generally explain the decline of subsistence in terms of the introduction of alternate resources, in the form of cash. Dyke (1968:53) explains the function of cash in the rural Newfoundland household:

Cash, unlike most items which constitute income of kind, can be saved indefinitely, without fear of spoiling, for family use when needed. Its chief function is the purchasing of articles which are not produced locally through subsistence activities, eg. flour, sugar and tea, and for the payment of church dues, school fees, medical bills and similar expenses. It may also be used to generate new income both in cash and in kind, eg. it might be used to purchase

new tools and equipment which will enable production to increase in the following years (Dyke: 1968:53).

Wadel (1969:43) concludes the outport household "saves some \$1,500 annually by living in the outport, making an outport income of \$3,000 equivalent to an urban income of \$4,500" because of subsistence activities and the lack of rent. Dyke (1968:50), in his survey of nine households in rural Newfoundland, discovered that "the per capita income varied considerably among the households", but that the total household incomes were similar and that cash income from fishing ranged from 14% to 43%, from transfer payments from 8.6% to 50.8%, and from subsistence from 30% to 44%.

Wage Work

Copes (1961:99) described the decline of agriculture "as a symptom of the gradual transformation of the Province's economy in the last sixty years". Dyke explained the drastic decline during World War II as a result of the "wage employment associated with the construction and maintenance of military bases in the Province and the increasing market demand for Newfoundland fish and fishery products during the War" (Dyke: 1968:33). Likewise, Copes stressed the importance of the mines and pulp and paper mills which were established before World War II and drew workers who then "had neither the need nor the opportunity to engage in part-time farming" (Copes: 1961:99).

Wadel maintained that today, "probably a majority of the inshore fishermen find some paid employment in another occupation during the year" (Wadel: 1969:47) and that wage-work is "attractive to many fishermen even at relatively low wages when it can be combined with fishing" (Wadel: 1969:48).

However, when the wages for non-local wage work are high, inshore fishermen tend to prefer this to local wage work if it can be combined with fishing (Wadel: 1969:48). Such non-local wage work is discussed more fully later.

The data presented for Grand Bruit indicate that wage work has always been of some importance on the South West Coast, and that there have always been a few sources of cash for people of certain situational factors, such as age and sex, to supplement the family income. These sources have fluctuated greatly over the years according to prices and availability of the particular resource obtained for sale, or wage work.

Other traditional societies which have relied greatly on subsistence activities have also experienced small inputs of cash such as those mentioned for Grand Bruit long before wage work was made available (eg. Hughes: 1960:192). However, not until the advent of wage labour did cash cause intense culture change (Hughes: 1960:225).

Moore (1965: 62) maintains that wage work plays an important role in the consequences of the impact of industry on

a traditional economy. He maintains that particularly young adults, especially young males, tend to join the labour market resulting in a decline in subsistence activity (Moore: 1965:62), and that in the process there will be "sectoral relocation" (that is, a shift from agricultural to non-agricultural activities) and specialization (Moore: 1965:65). All of these have occurred in Grand Bruit. The data given above with respect to subsistence have indicated a decline in subsistence, partly because of the availability of alternative sources of cash. Sectoral relocation in Grand Bruit consists of a shift from fishing to non-fishing jobs (see Table 11). Specialization has only occurred to a small extent and will be discussed later.

The use of temporary or seasonal employment as part of a generalized adaptation in which trapping and hunting and other activities also play a large role appears to be a frequently reported early stage in the modernization of a traditional, or economically marginal, society for example, among the Cree Indians, (La Rusic: 1968:34) and among the Alaskan Eskimo, (Hughes: 1960:184-214). Such employment requires migration, discussed later, which in turn is a major factor in culture change.

Transfer Payments

The importance of welfare benefits in Newfoundland outports has been studied to test the common belief that transfer

payments make up a large share of outport budgets. Wise (1963: 10) found that these constituted 37% of cash income. Brox (1969:21) argues, however, that able-bodied relief (1% of total cash income in Wise's material) is more important to certain individuals with "specific problems" than to the outport economy as a whole. Wise found that unemployment insurance benefits made up 19% of cash income, and can be regarded as part of the payment to the fisherman for his fish.

Hughes (1960:205), in a study of another economically marginal society where incomes were low, hypothesized that the great increase in dependence on unearned income is due to greater awareness (as opposed to need) of the benefits available.

Fluctuating Fish Prices

Newfoundland studies have also generally indicated that fluctuating fish prices have affected the over-all adaptation, as was the case in Grand Bruit. Dyke (1968:99) pointed out that the "revival of the export markets for fish" during World War II "put money into the hands of the fishermen". Wadel (1969:46) points out that the opening up of the market for fresh lobster and salmon did not seriously affect the cod fishery although many cod fishermen combine the two fisheries by quitting lobster fishing when the cod season begins. The data presented for Grand Bruit showed that market prices have affected economic strategy, affecting for example, the

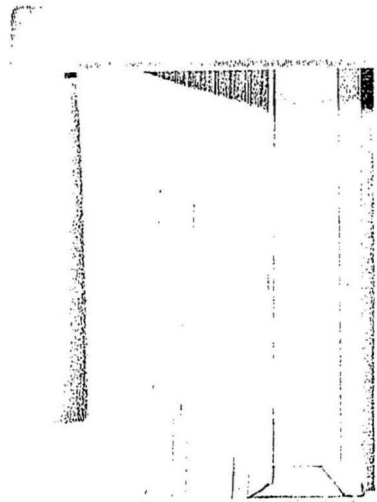
proportion of various marine species caught, the amount of fur-trapping done, and involvement in the packing of lobster and the dry fishery.

Conclusion

In conclusion, the findings for Grand Bruit regarding the decline of subsistence appear to be in agreement with those reported elsewhere in Newfoundland and in other regions experiencing the introduction of a cash economy. However, other Newfoundland studies focus only on the factors of the availability of cash in the form of wage employment, of transfer payments, and of fluctuating fish prices, whereas the Grand Bruit data indicated the importance of other stresses. The Grand Bruit data indicated that often an accumulation of small stresses or idiosyncratic conditions results in the decline of an activity, as long as a major stress, such as the availability of cash, is present.

Consumption Patterns

Cash by itself is not a usable resource but must be converted into things which satisfy the basic needs for food, shelter, warmth, and felt-needs for prestige or recreation and so on. Accordingly, consumption patterns are an integral part of the ecologic adaptation of any people who use cash to any extent.



Consumption of Food

Goods Available

Consumption is affected first by the actual resources (goods) available to the consumer. Changing adaptation patterns have resulted from an increase in goods sold by the stores in Grand Bruit. The availability of eggs has resulted in all the households headed by old-age pensioners, and half of the younger households, giving up the care of hens. The availability of butter in Ron's shop has resulted in a decline in the use of pork fat (also available at the shop) in baking pies and buns and other baked goods. Likewise, the availability of tinned goods, weiners, fresh chicken, pork chops, and beef has resulted in a decline in reliance on "wild meat" and fish and birds, although (see Table 18) these still account for almost half of the main courses eaten during the summer and probably more than half during other seasons.

The availability of cash has resulted in an increase in the consumption of several items although these were always available to a certain extent in the stores: these include candy, biscuits and cookies, vegetables (potatoes, turnips, cabbages, beets, and carrots), cheese, eggs, and apples.

The availability of food in the stores is in turn limited by several factors. There are now two stores in Grand Bruit (the local fish merchant, who kept a well-stocked general

TABLE 18

DIET FOR PERIOD: MAY TO SEPTEMBER
FOR ONE GRAND BRUIT HOUSEHOLD

Item	Number of Dinners (when two protein dishes were served each was assigned value of 0.5 meal)	Number of Suppers
<u>A Bought Items Fresh</u>		
Chicken	7	0
Chicken wings, or backs and necks	2.5	0.5
Chicken legs	1.5	0.5
Fried bologna	4	6.5
Ham	0	3
Lamb chops	1	0
Pork chops	4	3.5
Roast beef	1	0
Weiners	0	2.5
Total percentage of meals	26%	25%
<u>Salt</u>		
Riblets	2	0
Salt beef	9	0.5
Salt pork	1.5	1
Total percentage of meals	14.4%	2%
<u>Canned</u>		
Beans and weiners	0	6.5
Beef tongue	0	1
Corned beef	1	0.5

Item	Number of Dinners (when two protein dishes were served each was assigned value of 0.5 meal)	Number of Suppers
Gravy and meat balls	1.5	0
Macaroni and cheese	0	3
Luncheon meat	1	4
Soup	1.5	0.5
Spaghetti	0	7
Tomatoes	0	2.5
Total percentage of meals	3.7%	38%
<u>Miscellaneous</u>		
Bologne stew	1	0
Corned beef stew	1	1
Salt pork stew	2	0
Salad	0	0
Soup with salt meat	3	6
Total percentage of bought items	56.8%	75%
B <u>Subsistence Items</u>		
Caribou	1	0
Cod (fresh)	6.5	0.5
(dried)	5	0
Eggs	0	5
Duck (fresh)	3	1
(bottled)	1	0
Herring (fried)	0	1
Lobster	0	1

Item	Number of Dinners (when two protein dishes were served each was assigned value of 0.5 meal)	Number of Suppers
Loon	0.5	0
Moose	2	0
Salmon (fresh)	3	2.5
(preserved)	4	0
Shad	0	0.5
Trout	4.5	2
<u>Miscellaneous</u>		
Caribou stew	1	0
Fish cakes	0	1
Fish stew	1	1
Soup with moose	2	0
Total percentage subsistence items	43%	25%

store, left during the winter of 1970), one owned by an elderly retired fisherman who has had his store for fourteen years partly to "kill a lot of time", and one owned by a middle-aged man who is crippled and therefore unable to participate fully in the fishery. The old man is the object of considerable gossip due to his small stock and promises that whatever a person asks for will be on the next steamer, the rumour that he is in debt, his setting prices lower than at the other store in order to lure customers, his sloppy and unhygienic way of dealing with food, the fact that his family often buy food from the other store, and his trips to La Poile and Port-aux-Basques to buy small quantities of food, such as one sack of cabbages. The other store is larger, and well-stocked with staples, bars, chips, "pop", canned goods, a few clothes, some fishing gear, and general merchandise. (Nevertheless, a woman visiting Grant Bruit who had moved from Grand Bruit to Ramea complained one could not buy fresh meat or the ingredients necessary for banking there as often as she would like.) These two store-keepers did not appear to want to expand their businesses considerably, and even the younger man did not enlarge his stock much from year to year; this fact tended to limit the range and availability of food items in the stores.

Secondly, the steamer comes only twice a week (four times during the summer), and the freighter (a boat which brought

"freight", that is, food-stuffs for the two stores) comes only once every couple of weeks. Accordingly, perishables (fresh meat, eggs, and milk) are stocked for only a couple of days each week, and word of the newly-arrived freight spreads among the women, who congregate in the store and buy out the supply in a day or two. (Often the supply is sold out so rapidly that women who arrive at the store a little later get none.)

Accordingly, there were several days when women complained that Ron had "nothing" (that is, no fresh meat) except weiners and they didn't know what to cook. On such days they generally served canned tomatoes or eggs or macaroni (much to the disappointment of their husbands), and there was a month during which we all (except an elderly lady who had a refrigerator) lived on salt meat and subsistence items, there being no fresh meat to be purchased. (In Grand Bruit, non-perishables such as salt meat and canned goods are bought and stored in the pantries and "storehouses" of each household).

Thirdly, all the little stores on the western portion of the South West Coast buy from three or four major wholesale outlets in Port-aux-Basques, which get their produce from Nova Scotia, and accordingly, they must buy what the outlet is supplying (personal communication, R.G. Stiles).

Fourth, the cost of importing some products may be too high to be economical. For example, costs of delivery of milk to retail shops in outlying areas is too uneconomical for the dairies (Wadel: 1969:54).

Fifth, informants maintained that Ron's stock was limited because he had only two refrigerators (run by private generator).

Sixth, Ron's stock was limited by his conception of the food which should be bought. For example, one informant (who had spent winters with relatives on the mainland) wondered why he never had celery, tomatoes, and lettuce. It is very difficult, however, to determine the extent to which Ron's purchasing behaviour in turn is affected by consumption patterns.

Seventh, as the Report of the Newfoundland and Labrador Royal Commission on Food and Drug Prices (1968:20) pointed out, isolation results in higher cost in bringing food to the consumer, for example, because of the number of loadings and transhipments, delays, time in transit, loss, damage, climatic conditions, and pilferage. Some, but not all manufacturers, use a price structure which equalizes freight rates across Canada. Copes (1961:99) maintains that "Confederation brought lower prices for some food items through the elimination of excise taxes and the removal of the tariff on products imported from the Canadian Mainland".

A source of food other than that stocked regularly by the two store-keepers is the yearly visit of the steamer in the "fall of the year", with turnips, potatoes, and cabbage imported from the mainland. Ron orders these according to amounts requested by individual Grand Bruiters.

In the past, Brown had vessels which imported potatoes,

turnips, apples, carrots, beets, cheese, eggs, and frozen pig carcasses. Also some household heads went in their skiffs to the Codroy Valley if they did not "rear" enough potatoes for their family. For example, an eighty year old informant remembered "carrying up" two barrels of salt herring and getting potatoes for his family in return.

Storage of Food

The buying of food, and hence its consumption, is limited by the lack of refrigerators in the households (due to the lack of electricity). This probably explains the heavy reliance on salt meat and canned foods (see Table 18) as well as preserved (bottled or salted) subsistence items. This storage difficulty has resulted in shopping being a daily activity for the women or children sent by the women. The decision as to what to have for supper frequently is decided an hour before the meal.

Dependency on Store

Consumption of food is also affected by other changing factors, such as increasing awareness of dependency on store-bought food in Grand Bruit. One informant said that if it weren't for Ron, "the people" (Grand Bruiteres) would starve. Informants did say, though, that if there were a depression, the people need not starve as they could revert to their subsistence activities. Shopping was an important daily

activity and occupied a great deal of the time of the women (as they generally stopped for fifteen minutes or more on the daily trip to the store to exchange information and gossip with other women in the store).

Taste

Taste has always been an important factor in food consumption in Grand Bruit. For example, the unsightly external appearance of some fish (such as lumpfish (Cyclopterus lumpus), flounder (Hippoglossoides platessoides), dogfish (Squalus acanthius), sculpin (Myoxocephalus sp) and catfish (Anarchicas sp) has resulted in a rejection of these potential food items. Other examples are a preference for certain dishes such as boiled "codsheads", "boiled dinner" (salt beef cooked with turnips, cabbage, carrots, and potatoes in one pot), jam made from berries, homemade bread, and certain baked items such as white buns (made with pork and raisins), molasses buns, and pies. People can now afford (because of the availability of bought alternatives, to be more discriminating in their taste) and reject certain subsistence items for their undesirable taste: eg. gulls eggs are now regarded as too fishy, seal meat as too fatty, and gulls as undesirable.

Certain Grand Bruit tastes appear to be basic and unchanging. Grand Bruiters could not conceive of cooking without turnip and cabbage and wondered what people on the mainland

ate if not these. Thus, despite additions to the diet such as canned food and candy, the basic diet, as described by one informant is still the staple vegetables (potatoes, turnip, cabbage, carrots, and onions), and fish, wild meat, boiled dinner, and baked goods.

Variety

The desire for variety is an important factor in diet. For example, often a woman, planning her meals for the day, said she couldn't have fish (cod) or salmon again since she had served it yesterday. Likewise, there were several methods of cooking cod (fried with onion, baked with dressing, "cod hash" (cod boiled with potatoes and onions and then "mashed up" with pork fat), cod stew (cod cooked with potatoes and cabbage in one pot), and as Table 18 shows, there was considerable variety in the diet. A typical meal consisted of two main protein dishes (one left over from the day before), potatoes and turnips, several types of pie, cake, cookies, canned fruit, bread and jam, cheese, and tea.

Changes in Quality of Diet

Informants felt that their diet had deteriorated in quality. In the "old days" people ate "plain" or "hard" food (consisting of fish and potatoes and "meat from the hills", oatmeal, cornmeal, and cow's milk) whereas today they eat "fancy" and canned food and "sweet milk" (bought cans of evaporated milk).

They maintained that people, especially young people, were once healthier and stronger because of their diet whereas today the children are not strong and there is more sickness among them. Mothers complained that their children spent their money on "pop, bars, and chips" and felt powerless to prevent them from doing it. Table 18 shows that one-twentieth of dinners (the noon-meal) and one-third of suppers in one household between the beginning of May and the beginning of September 1971 involved canned goods as their main protein dish (in addition to one-sixth of the dinners and one-fortieth of the suppers centering around salt meat, a figure which probably has changed little over the years.)

Consumption of Non-Food Items

Consumption of non-food items appears to have changed more than that of food items. Changes are due to several factors: the availability of more cash to the people since the decline of the credit system in 1955, the lack of duty payable on goods ordered from the catalogues of Canadian department stores since Confederation, and changing felt-needs.

Sources of Goods

The availability non-food items in stores of Grand Bruit appears not to have increased over the years; for example, one informant said there were always a few dresses in the shop but no one could afford them.

Table 19 indicates the non-food items bought at Ron's and ordered from the catalogues. The items bought at Ron's all appear functional, and fairly accurately reflect his stock, whereas the items bought outside reflect rising felt-needs. For example, the high proportion of clothes bought and the buying of worsted reflect a willingness to spend cash rather than time in order to obtain warm clothes. Otherwise, bought items appear to be quite functional.

Trips to La Poile by the men, and trips to Ramea, Burgeo, or Port-aux-Basques by families or family-members are generally used as occasions to take advantage of the better stocked stores, especially for buying clothes. Likewise, the one woman who spent time in Halifax where her husband worked seasonally took advantage of the stores there to amass an extensive and impractical wardrobe.

Items bought

A few categories of non-food items deserve special mention. Firstly, clothes form a large proportion of expenditures. Much of women's gossip concerns other women's clothes. For example, once when one woman indicated another was making a print dress, a third woman present got quite flustered asking for details to ascertain that it would not be similar to the one she was making. The school teacher, who was the wife of the former fish merchant and who enjoyed the highest degree of prestige among the women, maintained partly by means

TABLE 19
LIST OF NON-FOOD ITEMS BOUGHT AT RON'S AND FROM CATALOGUE
AND ELSEWHERE DURING SUMMER 1970

Item	Approximate Frequency of Purchase
<u>Items Bought at Ron's</u>	
Batteries for radio	x
Broadcloth for "fancywork"	xx
Dishcloths	x
Dish detergent	x
Dishes	xx (Ron had new order in)
"Rubber sleeves" for fishing	x
Skirt	xx (Ron had new order in)
Slippers	x (Ron had new order in)
Tissues	x
Wax	x
<u>Items Bought from Catalogue</u>	
Bedroom suite	x (one household)
Clothes	
for baby	xx
for children	xx
for women	xxx
for men	x
Fishing rod for young boy	x
Part for boat engine	x
Pillows	x
Pots and Pans	x
"Working cotton" (for embroidery)	xx
"Worsted" (wool for knitting)	xx
<u>Items Bought in Little Bay</u>	
Beer	xxx
Paint	x
<u>Items Bought in Larger Centres (eg. Ramea, Halifax)</u>	
Clothes	xxx
Cosmetics	x
Kite	x

Item	Approximate Frquency of Purchase
<u>Items Bought from Merchant who Left Grand Bruit, Winter 1970</u>	
Chesterfield set Mattress	x xx

of a large and attractive wardrobe, was kept busy making clothes for payment for the women of the village. Teenagers strove for a particular look; they all saved money to buy a particular type of jacket which was then in style.

Secondly, some households are now buying chesterfield suites (converting the traditional inner room into a living room), and bathtubs and toilets (There were three bathroom sets in Grand Bruit in May 1970, and other households were considering acquiring them that fall).

The population of Grand Bruit today may be divided into two groups: people (especially older ones) who consider what they call the "old ways" (a hypothetical traditional adaptation) to be good and new changes as undesirable and even superficial, and people (primarily young ones) who have aspirations and want to live the "better life" even if this entails leaving Grand Bruit. This desire for better living has indeed been a factor in changing consumption patterns.

Theoretical Discussion: Consumption

Consumption is important in any study of change and stresses and is partly a function of values and cognition. Firth (1943:1) points out that consumption "has an important influence on the future trends of production".

The data for Grand Bruit indicated that consumption is partly determined by the availability of goods in the stores of Grand Bruit and in the catalogues, and by the ease of

transportation and storing of goods, and the prices of goods.

However, the data indicated that consumption is determined by much more than these factors. Consumption means the use of wealth, and wealth, by definition, is valued. Hence consumption is determined by cultural values as well as by cognition (which determines what environmental resources are used) and by availability of resources. For example, Rosemary Firth (1943:24) discovered that taste in food (for example, desire for variety and a pleasing texture, and for rice despite the opportunity to buy other food) played a considerable role in the consumption practices of Malay peasants. Thompson (1949:258) maintains that diet is the result of a complicated structure of attitudes, habits, and institutions, which functions to develop and reinforce the basic ecology of the area according to the needs of the population, and to relate and adjust the community as a whole to the total environment (Thompson: 1949:258).

Firstly, the availability of consumption items in stores is determined partially by consumer behaviour. Consumer trends are, in turn, determined by factors such as taste, habit (tradition), the desire to emulate the outside world, and curiosity. One can hypothesize a trial and error feedback mechanism whereby storekeepers bring in goods, and, if they sell well, they continue to stock their stores with them. Wadel (1969:54), for example, cites as one of his four reasons

for the decline in subsistence production, the changing consumption pattern related (not necessarily by one-way cause and effect) to more goods available in small shops, and attributes the "proliferation of small cash stores" to changing consumption patterns (Wadel: 1969:27).

A major factor which determines changing consumption patterns is cognition and "felt-needs". In changing situations, the latter are a combination of Erasmus' (1961:13) felt-needs (resulting from the interaction of cognition with the limitative causes inherent in every situation), and something less long-term and adaptive. The Grand Bruit data indicated the importance of taste in consumption. Other studies of consumption have also emphasized the importance of taste (for example, Firth: 1943: 24). The Grand Bruit data indicated that some food-tastes were enduring. Hughes maintains that "food tastes are deep-seated and resist for some time the disruptive effects of a different diet". For example, even some of the young Eskimos, who had been sent outside to hospitals for extended treatment, reported one of the things they missed most was "'our food' ...despite the fact that in the village they often disparage it". Firth (1943:59) also found such deep-seated tastes. "Rice is evidently liked for its own sake, and those with a higher standard of living, enabling them to buy [potatoes and bread], do not do so except as an occasional extra."

The Grand Bruit data indicated that variety was an important aspect of taste in food. Other studies of consumption have also discovered this to be an important factor. For example, Hughes (1960:167) found a "preference for change and variety of foods taken from both the white and Eskimo larders". Firth (1943:24) also maintained that "variety is the main principle of Malay cooking".

The less long-term and adaptive aspect of consumption mentioned above is also based on cognition, that is, the distillation of experience. But this experience is not the self-balancing long-term sort. Rather people experience awareness of other values present in the "outside world" and act (that is, buy products) on the basis of this "knowledge"; that is, the knowledge that "they", the "higher" people, live a "better" life and this life consists of a particular life-style and consumption pattern. This process is the familiar one of emulative spending and is related to the concept of "standard of living".

Davis (1945:1-15), an economist, distinguishes between level and standard of consumption and of living. Level is what is actually experienced and standard is the level urgently desired and striven for, success resulting in gratification, and failure in frustration. This is far from the steady-state traditionally maintained by and considered right by Grand Bruisers.

Some of the changes in consumption patterns observed by Hoyt (1956:12-22) after the introduction of a money economy are seen in the patterns in Grand Bruit over the last twenty years. She states that the first purchases made by the consumer are apt to be items which have customarily been enjoyed, or "new choices which do not much disturb the old consumption patterns" (Hoyt: 1956:14); examples include those easily incorporated additions such as new sweets or something which can function outside the existing pattern without much immediate effect on it, such as a bus trip. In Grand Bruit, the high proportion of food money spent on "coke, bars, and chips" represents expenditure on easily incorporated additions. Hoyt (1956:14) mentions that other first choices include goods which make "immediate appeal to the sensory tastes which are nearly universal", goods and services associated with prestige, and "targets" (items which are relatively important and can stand by themselves and are not necessarily bound in with other cultural changes because of their obvious usefulness or associations with prestige). In Grand Bruit, clothes and furniture and bathroom sets appear to be prestige items.

The deterioration of diet mentioned by Grand Bruiters has been observed in other areas where the degree of exposure to cash economy is rapidly increasing.

Hoyt (1956:19) maintains that the whole pattern of consumption may be disturbed by "over-all conditions which increase or decrease available resources,...or which (particularly in the case of standard of living) introduce new concepts of the values of life". One tendency is so common as to have been described as a law: Engel's Law states that with an increase in real income there is a decrease in the proportion spent on food.

Hoyt maintains "the weight of evidence indicates that in areas that have come under the influence of a modern money economy, diets are poorer than they are in more primitive areas" (1956:16). Darling (1955:299) provides an example of this from the Highlands of Scotland. He says that improved communication and a decline of the old way are breaking down the diet of a few staples and that the loss of one or two of these (barley bread, oatmeal, potatoes, vegetables, fish, milk, and eggs) upsets the fine balance of diet, and then a greater variety which would include vegetables becomes necessary.

A similar situation was found by Hughes (1960:167) among the Eskimos of St. Lawrence Island. They realized that the "white food" of which they ate a considerable amount did "not have the energy content of the Eskimo meal" (they said it was too soft, they still felt hungry after eating it, and that it resulted in toothache). Nevertheless (Hughes: 1960:168), they consumed great quantities of soft drinks and candy after

the arrival of the supply ship. Canned milk, coffee, tea, canned fruit, biscuits, and tobacco were also eagerly awaited on the supply boat. Firth (1943:102) also discovered large proportions of weekly household money spent, by the Malay peasants, on "relatively inessential things like snacks and tobacco and coffee", and doubted that a rise in income would result in the purchase of more fresh vegetables, meat or eggs.

Hoyt (1956:19) maintains that if change is slow, no serious problems will arise due to consumption pattern changes, whereas if change is rapid, the people are apt to spend all their new-found money on sensory and emulative spending before other alternatives come into the picture. From the data for Grand Bruit given above, it appears that most changes have been in the form of additions and the total balance of consumption has not been upset to the point of becoming maladaptive, except in the case of children's health (the alleged deterioration of health not being susceptible of proof). One can speculate that in Grand Bruit, the slowness of change (for example, the lack of considerable increase in the stock in the two stores and in availability of many packaged items) has resulted in a fairly healthy balance being retained.

CHAPTER IV

DISCUSSION: ADAPTATION STRATEGIES TO THE RESOURCE
BASE OF GRAND BRUIT

So far, one has the vague notion of a holistic interlocking network of cause and effect based on limitations and resources, and changes in these. It is important to seek some over-all pattern in the mass of interconnected data without, one hopes, distorting it to fit certain preconceived concepts of adaptation.

From the data, seven strategies appear to emerge. These include mobility, cognition, the preservation of food, the use of energy and time, generalization, specialization, and the notion of property and rights to resources.

Mobility

Daily Movements

"Mobility" is a strategy necessary for the exploitation of dispersed resources, be they fauna, flora, or wage labour. As Map 3 indicates, the hunting and gathering adaptation results in intensive movement within approximately a five-mile radius of Grand Bruit in search of berries, wood, birds, furs, hay, moose, and caribou. Because of the distance involved, several hours must be set aside for these activities, and items of material technology (boats, handslides drawn by dogs as described later), must be used to aid in transportation.

The exploitation of the fur resource at King George V Lake required that men stay away for two weeks at a time.

Transhumance

Before the 1880's, the generation of the grandfathers of my middle-aged informants, people adapted to the dispersal of resources by "transhumance". Several informants (see Table 20) described moving to a "winter's house". The average distance travelled was ten miles. They built "Indian style" winter houses with an open fireplace and a hole in the roof to serve as a chimney. In case of illness, one to three families, preferably at least two families lived in one locality. The stated reason when my informants could remember what their grandfathers told them, was always to obtain "deer" (caribou) and rabbits, and obtain firewood in the winter as winters were colder then and no coal was available. Accordingly wooded sheltered areas far "in" from the coastline along a bay or inlet were chosen. A topographic map shows the coast line to be highly indented, and shows the lack of wooded areas along most of the coast. Accordingly, this adaptation consisted of movement of the people to the resources; wooded areas for fuel and game and inlets for shelter from winter storms. One can speculate (although I have inadequate evidence to prove it) that transhumance might explain the origin of some communities. For example, North Bay which is first recorded in the census in 1891 is so far inland along La Poile Bay that the

TABLE 20

EXAMPLES OF TRANSHUMANCE RELATED BY GRAND BRUITERS

Migrant	Location of Winter House	Distance from Grand Bruit (miles)	Stated Reason	Details
gen 4 2 unrelated families	Baie de Nord	15		each built a house there and stayed one winter
gen 4 "old people"	Baie d'East and Cod's Head Cove	15 12	To get firewood in the winter - winters were colder then and there was no coal	reverted to Indian style houses with open fireplace and hole in roof to serve as chimney. Two families of Indians in North Bay lived like this and had their own settlement
gen 4 several unrelated families	Connoire Bay "different places"	12	for fuel and meat	
"old people"	"all sorts of queer places" eg. Culottes, Otters Point	7 9		One to three families in each place, generally two families lived near in case of illness. The houses were smaller than the summer houses

158

Migrant	Location of Winter House	Distance from Grand Bruit (miles)	Stated Reason	Details
gen 5	Roti	6		
	Couteau	9		
gen 5	Big Roti	6	To get deer (venison), rabbits and wood	Several winters houses were there.
gen 4	Cinq Cerfs	5	for fuel	
		average: 10		

Note:

Generation one ("gen 1") refers to adolescents and children and gen 2 to their middle-aged parents. Accordingly, gen 4 represents a middle-aged man's grandfather.

water is fresh and freezes in the winter, and fishing is difficult, involving travelling "out" to saltier water and being limited to the summer months because of the ice. Informants told me that the people settling in North Bay gradually learned the art of boat building by trial and error. It is possible that fishermen moved to their winter houses there and gradually decided to make their living from the abundant woods there rather than moving back "out" to fish.

Transhumance is the only seasonal move which could be classified as entirely ecological (cf. Peterson's "primitive" move, Peterson: 1958:259). According to Peterson (1958:259), primitive moves result from an ecologic push and are usually conservative, that is performed in order to maintain the traditional adaptation of the society, and along the lines of least resistance. Transhumance is conservative insofar as it enabled Newfoundlanders to continue their subsistence adaptation, that is, cutting wood for fuel, and hunting and trapping animals for food. However, it eliminated the fishing adaptation during the winter, and in some cases, for example, North Bay, resulted in a complete change in adaptation from fishing to year-round boat-building and lumbering. The fact that the men in North Bay learned the skill of boat-building by trial and error is reminiscent of Peterson's (1958:260) comment that "primitive" migration, although motivated by conservative desires may result in a change in the culture.

In this particular case, change occurred in the technological and economic sphere, due to environmental restriction on the old way of life, that is, fishing. North Bay, being the one area of concentration of wood supply and skilled carpenters, became the supply-centre of boats (mainly schooners and skiffs) for the entire South West Coast from Port-aux-Basques to Baie d'Espoir.

Weekly Migration

Mobility has been the adaptive strategy for the dispersed nature of fish stocks. Most men find a salmon berth and a place for their lobster traps within a half-hour speed boat journey from Grand Bruit. However, some men spend five days a week at a "fishing camp" on islands more than half an hour away by speed-boat from Grand Bruit, this being considered too far to go twice a day to check salmon nets and lobster traps. One such camp was on Mother Arden's Island, built by the current users' grandfather's brother and another on Barachois Island where a fisherman stays with his fishing partner five days a week during the salmon season. The men generally bring their wives to the camp for a day after the salmon season is over to houseclean the camp.

Seasonal Migration

Seasonal migration is the most obvious adaptation for making use of resources in two or more different localities. and has always been an aspect of adaptation in Grand Bruit. One can hypothesize that the greater the lure of the resource, the greater the distance of seasonal migration. For example, Grand Bruiters emphasize the considerably larger sum of money earned on the lake boats than obtained by fishing off Grand Bruit. Here, even though the migration is not permanent, Stouffer's theory (Jansen: 1969:61) seems to apply: "The number of persons going to a given distance is directly proportional to the number of opportunities at that distance and inversely proportional to the number of intervening opportunities". However, it may be qualified in that it is also directly proportional to the attractiveness to the people of the opportunity. In the "old days" (in this case, the 1910's and 1920's), young men migrated to the "West Shore" for two months each winter, without their families. They went to Isle-aux-Morts, Burnt Islands, Harbour Le Cou, and Port-aux-Basques, wherever crew was needed to serve as sharemen on skiffs fishing on the Rose Blanche Banks (see Map 4) and around Cape Ray and "down in the Gulf" as far as Codroy and St. Georges (personal communication, R.G. Stiles) Informants said the fish were "handier" (closer to shore) and more abundant than in areas further east. One man said that

some men went during this same period in their skiffs, during the summer, to Sydney and Glace Bay, to participate in the summer fishery there.

A third dispersed resource is wage labour opportunities. This has been a relevant factor in the seasonal migration of men since the mid 1800's. The father and grandfather of a 73 year old informant spent several summers in Cinq Cerfs, five miles east of Grand Bruit, as game warden for \$30 per season. The grandfather was the first warden there. Today a middle-aged man holds the same job at Cinq Cerfs and has had it for the last several years. He leaves his family in Grand Bruit while he spends five days a week in a "camp" (cabin) supplied by the Department of Fisheries for a couple of summer months.

Another opportunity for seasonal wage labour, working in summer camps near Corner Brook, was tried and discarded by Grand Bruit men. In 1924, approximately twelve young men from Grand Bruit spent a winter cutting wood for \$40 per month. They considered this to be good pay but did not enjoy the living conditions (tar paper shacks). Only one returned the following winter although others were urged to return.

With Confederation, another opportunity for seasonal migration of greater distance, in search of wage work was opened up. Young men were receptive to such opportunities since, as one informant explained, the owners of skiffs were too old and the young people not interested in fishing because of the low

income. The son of the fish merchant was the first to spend a summer on the "Lake Boats" (freighters on the Great Lakes). After this, all the other young men, except two (one who was physically weakened by tuberculosis and one who went away to the Burin Peninsula to learn telegraphy) spent several summers on the Lake Boats. Even though men can be guaranteed a place on the boats if they appear in April, when the boats begin to run, after a previous year of work on the boats, the men (see Table 21) generally wait until July. This shortened season of work on the boats preferred by the men is due to their desire to make use of resources in two geographically distant areas. They make use of this wage-source from July until December and return to Grand Bruit to make use of other resources, namely, lobsters and salmon for sale to the fish merchant in Port-aux-Basques, a house with no mortgage or rent payments, and a few birds for food in the winter. The generous wages (as expressed by several informants) were sufficient to lure people on long seasonal migrations but yet attractions in their home village kept them from making a permanent move. Men undertaking this seasonal migration tended to be age 20 to 30 if married, but could be older if unmarried. Table 21 shows that four men went on the Lake Boats while married. Of these, two have small children, one has no children, and one stopped going on the Boats when his oldest son was four. The fathers of older children all have other sources of cash.

TABLE 21

RECENT SEASONAL MOVES - WAGE WORK ON LAKE BOATS

Age When Migrated	Marriage Status When Migrated	Month of Departure	Month of Return	Details
45	S	July	November	He did not salmon fish this summer
30	M	One woman urged him to go down to Thorold, Ont, immediately in order to be certain of getting a job		This year he refused to return. He managed to get some wage labour in Grand Bruit building the power plant for electricity
22	S	July	December	He has fished with his father up to and including this summer's salmon season. Now he is working instead on the Lake Boats.
20	S	?	?	Stopped migrating 4 years ago and got married and settled down in Grand Bruit
20	S	April	July 15	He does not salmon fish in the summer
20	M	end July	December	He also salmon fishes in summer

Age When Migrated	Marriage Status When Migrated	Month of Departure	Month of Return	Details
20	M	mid July	Spring	He works on the Imperial Oil boats but as he dislikes being away at different times from others, he will work on the Lake Boats next year. His wife lives with his sister in Halifax when he is away. He works the full season and salmon fishes during his "holidays".

People expressed that the seasonal migration of men was very hard on their wives and that men would only spend a few years doing this before permanently settling in Grand Bruit or elsewhere.

A second example of present day seasonal migration for cash is for guiding "sports" (sportsmen), that is, taking American and mainland vacationers on hunting and fishing trips: for moose and caribou to camps at Cinq Cerfs (five miles east of Grand Bruit) and North Bay (fifteen miles west of Grand Bruit), and for salmon to a camp at Cinq Cerfs. This involves considerable investment of capital especially for tractors to haul the carcass out from the "wilderness". Accordingly, one man has specialized in this. He has bought two tractors, built two camps (one in North Bay and one in Cinq Cerfs) and fitted his longliner with bunks for "sports" to sleep in on days when an early start is essential. Two or three others generally accompany him to North Bay or Cinq Cerfs. They guide "sports" for a couple of months in the fall from September until October when the weather conditions become uncomfortable for the "sports" who are accustomed to city living. This adaptation allows these guides to salmon and lobster fish from May until July and to cod fish in the spring and make a few small boats in the winter for sale to other Grand Bruiters.

A fourth resource, pertinent to old people, has become dispersed only recently. Because of the increasing trend of permanent moves especially of the younger people, old people still in Grand Bruit are left without a family who can look after them and give them affection. Consequently, each year approximately ten of the twenty-eight retired elderly people of Grand Bruit move seasonally to this dispersed resource by spending winters with their sons and daughters in Ontario or Nova Scotia or elsewhere in Newfoundland. Medical attention is also a factor in these moves as a nurse no longer resides in Grand Bruit. These people say that Grand Bruit is their home and they are most comfortable there, but that the steamer service is too irregular in winter (often delayed several days or a week) to get them to a doctor in Burgeo or Port-aux-Basques. Also, the weather is often unsuitable for a helicopter to land with a doctor, and the community phone is a "ship to shore" phone and is often not working in bad weather.

They say their children urge them to come and their children do not understand why they don't move permanently to the mainland. All the elderly people value their independence and their "contentedness" during the summer in Grand Bruit too highly to warrant making a permanent move to their children's homes. They do express, however, the fear that in a few years Grand Bruit will be so "low" (small in population), or they

will be so physically dependent on the care of others that they will have to make a permanent move.

Temporary Migration

Another large class of migrations is the movement of individual men (married or unmarried) and of unmarried girls to other places in search of work. These moves generally last from one to ten years and may or may not result in marriage in the new locale, making the move permanent. I have chosen to call these moves "temporary" as the individual expects to return to Grand Bruit unless he gets married in the new place and settled down there. At the time of his move he cannot predict his marriage and therefore he would view his move as temporary. For cases in which the girl or household head returns, he or she is utilizing the cash resources of another place and bringing it back to Grand Bruit. Here the migrant is making use of the resources of two places sequentially rather than simultaneously. As these moves are relevant in determining where households are located, they will be discussed in the section on settlement pattern.

Permanent Migration

A final class of migrations will be called "permanent" moves. These moves, in which the migrant does not expect to return involves; a more definite decision in favour of the attractions of one place over those of another, than do the temporary moves

described above. These also will be discussed in connection with settlement pattern.

Theoretical Discussion Mobility

The data presented on mobility indicated that non-permanent migration has been a stable adaptation, throughout the history of Grand Bruit, to the use of dispersed resources.

Moore (1965:78) notes that "the migratory labour system in Africa links the typical subsistence agriculture of the native village with the demands for unskilled labour in mines, factories, farms, and households". This is the same function as has traditionally been that of non-permanent migration on the South West Coast as described above, and not until the last twenty years has mobility been disruptive.

The data for Grand Bruit indicated that mobility has not suddenly increased from an initial zero level as the result of the impact of industrialization as was the case for the data discussed by Moore (1965:76-80). Rather, mobility has always been a part of Grand Bruit culture. Nevertheless, the trends described by Moore have occurred to some extent in Grand Bruit since there has been a great increase in the last twenty or so years in the degree of contact of this peasant part-society with the industrialized larger society, with an accompanying increase in mobility. Moore maintains (1965:76) that the "human mechanism that makes changing occupation structure possible" is mobility. He says (Moore: 1965:76) that

the presence of raw materials, power, and capital rather than labour supply generally determines the location of productive enterprises. Migration in response to differences in economic activities and opportunities is, accordingly, a nearly universal characteristic of industrialization". He notes a trend of urbanization, as also noted for Grand Bruit. This he attributes to the services and amenities offered and to the quest for economic opportunities even if these are not abundantly available.

Only recently has the pull of opportunity been sufficient to cause an imbalance resulting in the decline of the subsistence adaptation, as was described in Chapter 3, and in the nonviability of Grand Bruit as a community and its probable eventual disappearance due to outmigration as will be discussed below. Moore describes such an imbalance in Africa (1965:78): "It appears that the migratory labour system in Africa is transitional; the subsistence economy is being slowly eroded by increasing intrusion of monetary exchange, and the native workers will probably not always be content with their marginal status and income".

Wadel (1969:64) notes a similar tendency toward imbalance in Newfoundland. He points out that non-local employment is often a stage in the gradual transition of a household from one outport to another, generally more urban, location. Reasons for this slow transition include kinship obligations, for

example to aging parents, and the fact that a man can have a place to return to until he secures necessary skills or a permanent job in the new location.

Settlement Pattern

Related to the strategy of movement is the concept of settlement pattern. Movement can be viewed as a response to stresses which favour a different settlement pattern from the existing one. For example, in the case of transhumance, the exploitation of fish, in the summer, favoured several families living together in a cove with a good harbour, since this concentration of population made it easier for fishermen to sell their fish either to a resident merchant, or to a boat sent to collect fish. However, in the winter, the exploitation of dispersed and limited land resources such as wood, caribou, and rabbits favoured a settlement pattern in which one to three, preferably at least two, families lived in one locality at the head of an inlet where shelter and land resources were more readily available.

Changing Settlement Patterns

After approximately 1880, the settlement pattern consisted of the year-round stationing of nuclear households in all the good harbours along the South West Coast, although individual members of these households still moved seasonally or temporarily as mentioned above. The South Coast Commission,

(Report of the South Coast Commission: 1957:16), stated that by 1839 "every habitable cove contained many residents".

A chart (see Table 22) which summarizes Newfoundland census data from 1839 to 1945 for 48 communities stretched along the coastline roughly 25 miles on either side of Grand Bruit, shows a remarkable amount of "fluidity" of population. Of these communities, 31 or 65% existed for less than 70 years, and 20 or 42% existed less than 30 years. Figure 3 shows graphically the preponderance of short-lived communities. Thirty-four communities, or 71% never became larger than 200 people, while 19 or 50% were never larger than 20 people. Figures 4 and 5, in which maximum population is plotted against number of communities, show a large majority of communities had a maximum of less than 50 people. In Figure 4, the number of communities drops fairly steadily to zero at the population size of 250. The three communities of maximum populations of 304, 800, and 1,039 stand out as anomalies. Figure 5 shows a large peak at 10 to 20 people and then a downward slope (if one could draw a curve for such discontinuous data) to almost zero at 50 people, and a small peak at 60 to 70 people sloping down again to almost zero.

These figures indicate that most communities were short-lived and very small. Only a few grew to any size and lasted more than about 70 years. Of the eleven communities which existed for at least 90 years, eight reached relatively large

TABLE 22

POPULATION OF SOME SOUTH WEST COAST COMMUNITIES

Community	Population in Each Year of Census										
	1836	1857	1869	1874	1884	1891	1901	1911	1921	1935	1945
Baziel	-	25	27	(30)	27	25	8	16	19	20	-
Moon's Face	-	(23)	-	-	-	-	-	-	-	-	-
Rose Blanche	61	191	452	453	495	488	554	681	(800)	537	627
Caines Island	-	-	-	-	-	-	-	-	-	(75)	45
Diamond Cove	-	-	-	-	-	-	-	-	-	(146)	126
Harbour Le Cou	-	100	181	197	(222)	186	174	194	202	(222)	207
Petites	-	170	(304)	213	216	162	112	154	208	212	187
Seal Islands	15	39	53	(78)	73	27	22	-	-	-	-
Indian Island	(6)	-	-	-	-	-	-	-	-	-	-
Garia Bay	15	129	(195)	55	53	5	8	-	-	-	-
Fish Head Cove	-	-	-	-	16	(24)	-	-	-	-	-
Little La Poile	-	-	-	-	(13)	-	-	-	-	-	-
Western Point	-	102	(156)	154	141	118	81	87	116	91	118
Indian Harbour	-	(22)	21	19	20	14	9	4	9	7	5

174

Community	Population in Each Year of Census										
	1836	1857	1869	1874	1884	1891	1901	1911	1921	1935	1945
La Plante	-	60	(108)	65	56	41	41	32	17	6	-
Ireland's Eye	-	-	-	-	-	3	4	7	5	6	(9)
La Poile	102	(126)	63	44	58	50	15	14	9	7	6
Little Harbour	-	50	114	88	120	126	139	122	135	136	(168)
Barachois Lafosse	-	-	-	-	-	(11)	-	-	-	-	-
North West Cove	-	10	-	-	(21)	18	17	18	11	-	-
North Bay	-	-	-	-	-	8	10	21	27	(51)	41
Dolman's Cove	-	-	-	-	-	-	-	-	(9)	-	-
East Bay	-	-	-	-	16	13	(42)	26	25	13	13
Bevan Cove	-	-	-	-	-	(29)	-	-	-	-	-
North East Arm	-	-	(11)	-	-	-	-	-	-	-	-
Round Harbour	-	-	-	-	-	-	(6)	-	-	-	-
East Point	-	57	(66)	57	(66)	26	-	-	-	-	-
Brown's Harbour	-	-	-	-	-	-	(21)	-	-	-	-
Frenchman's Cove	-	9	(20)	-	-	-	-	-	-	-	-
Roti	-	(15)	-	-	-	-	-	-	-	-	-
<u>Grand Bruit</u>	12	51	84	62	105	117	166	184	220	(248)	239

175

Community	Population in Each Year of Census										
	1836	1857	1869	1874	1884	1891	1901	1911	1921	1935	1945
Rock Harbour (w)	-	(16)	-	-	-	-	-	-	-	-	-
Cinq Cerfs	-	26	30	21	(34)	30	26	3	-	-	-
Coutteau	15	(19)	-	-	-	-	-	-	-	-	-
Hatter's Point	-	25	42	41	50	(64)	-	-	-	-	-
Knife Point	-	-	-	-	-	-	(6)	-	-	-	-
Muddy Hole (W)	-	-	-	-	9	(17)	4	-	-	-	-
Otter's Point	-	-	-	-	-	-	62	(101)	99	71	49
Grandy's Brook	-	26	(31)	23	12	13	-	-	-	-	-
Great Barachois	-	-	(12)	-	-	-	-	-	-	-	-
Wreck Island	11	16	17	8	(19)	-	-	-	-	-	-
Conncre Bay	-	-	-	-	-	-	(15)	-	-	-	-
Sculpin Point	-	-	-	-	-	-	(7)	-	-	-	-
Hunts Island	-	-	-	-	179	188	188	(244)	175	178	132
Upper Burgeo (W)	-	111	89	126	(141)	54	52	-	-	-	-
Wolf Bay	-	(35)	30	26	25	-	-	-	-	-	-

176

Community	Population in Each Year of Census										
	1836	1857	1869	1874	1884	1891	1901	1911	1921	1935	1945
King's Harbour	-	(16)	-	-	-	-	-	-	-	-	-
Lower Burgeo (E)	180	605	620	704	681	894	946	(1039)	993	823	750
Total Number of Communities	9	27	23	20	26	27	27	18	18	18	16

Note:

The maximum population of each community is circled.
Source: Newfoundland Census: 1836-1945.

FIGURE 3

DURATION OF EXISTENCE OF SOUTH WEST COAST COMMUNITIES

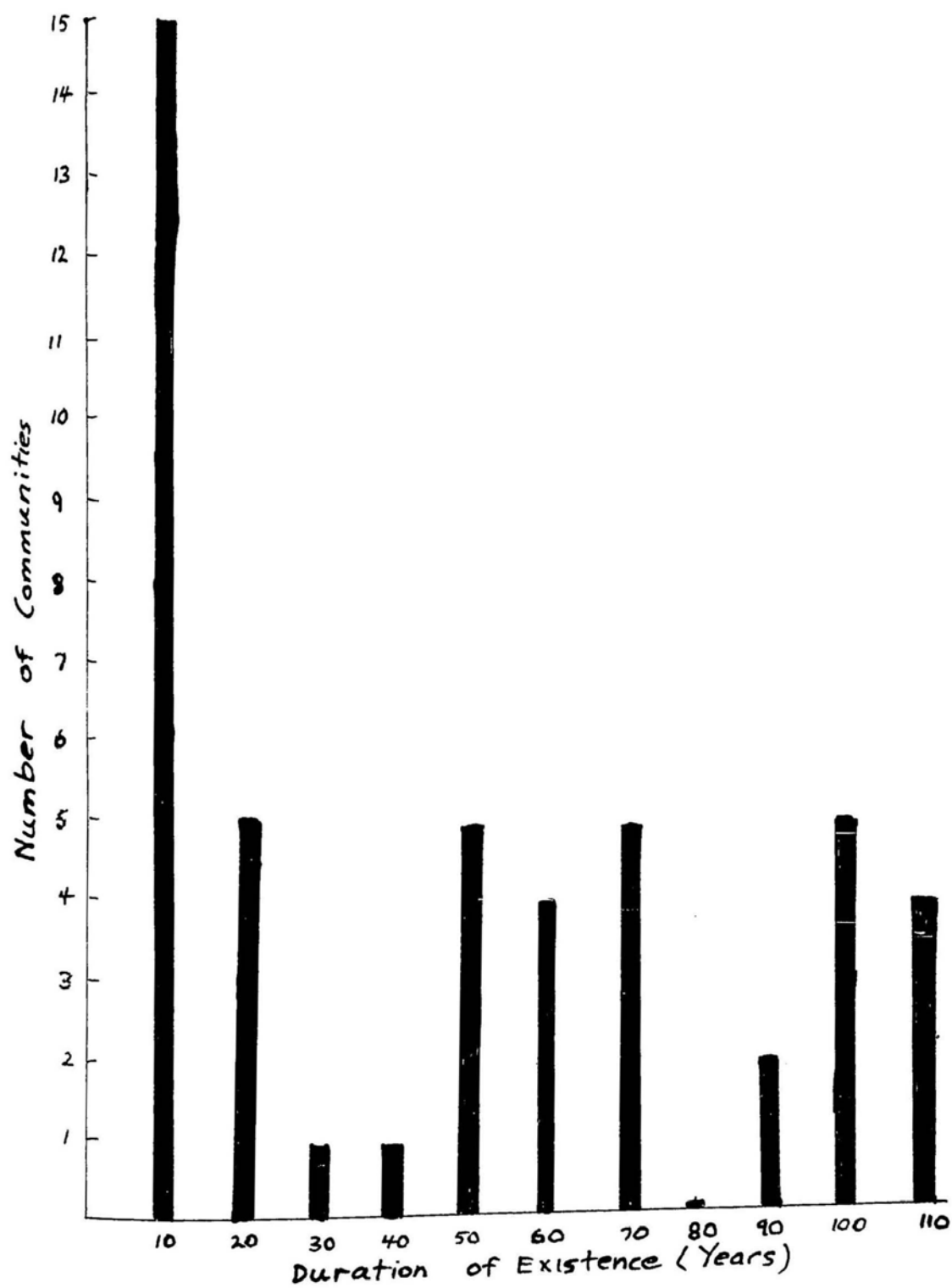


FIGURE 4

MAXIMUM POPULATION OF SOUTH WEST COAST COMMUNITIES (A)

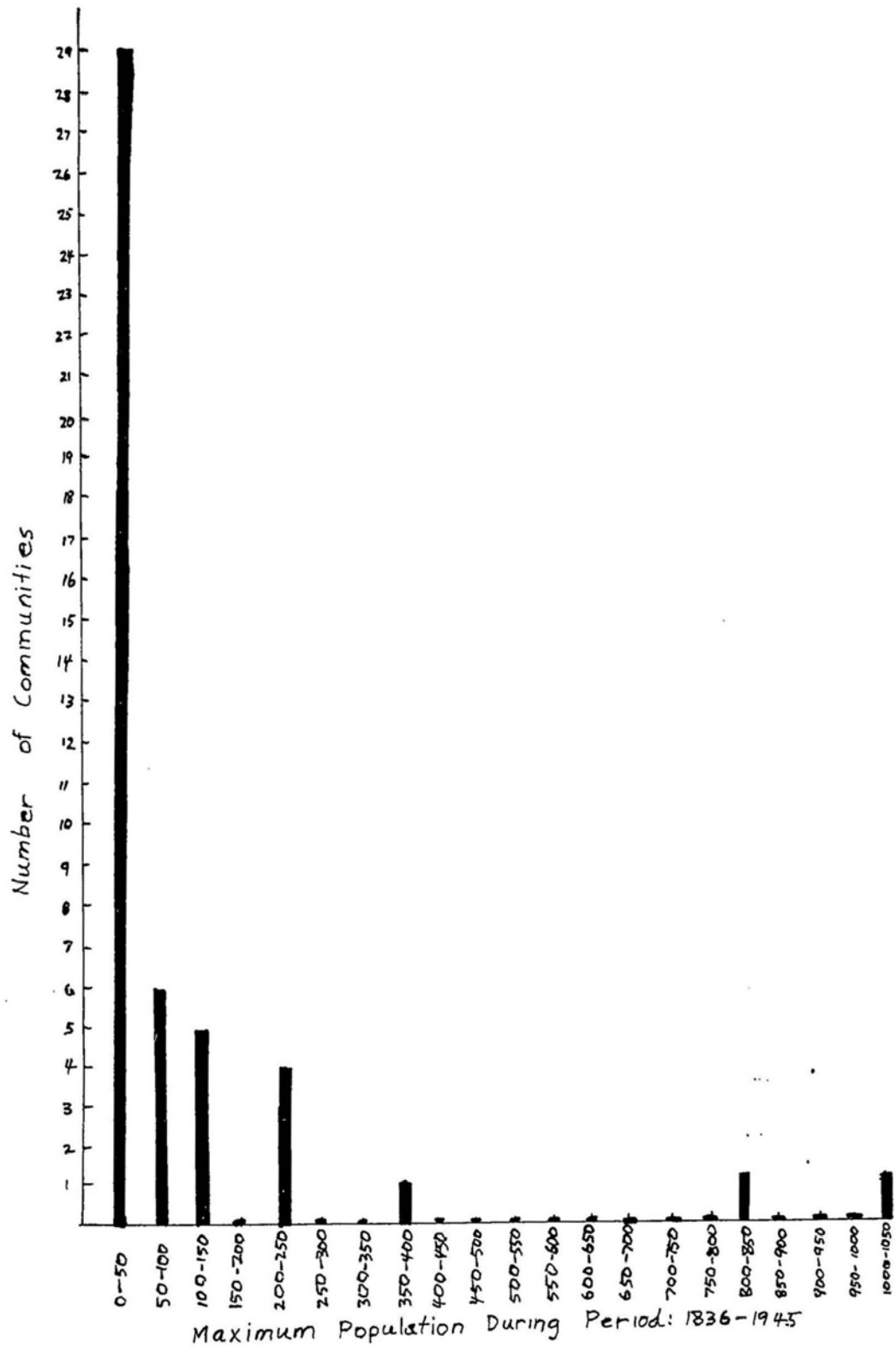
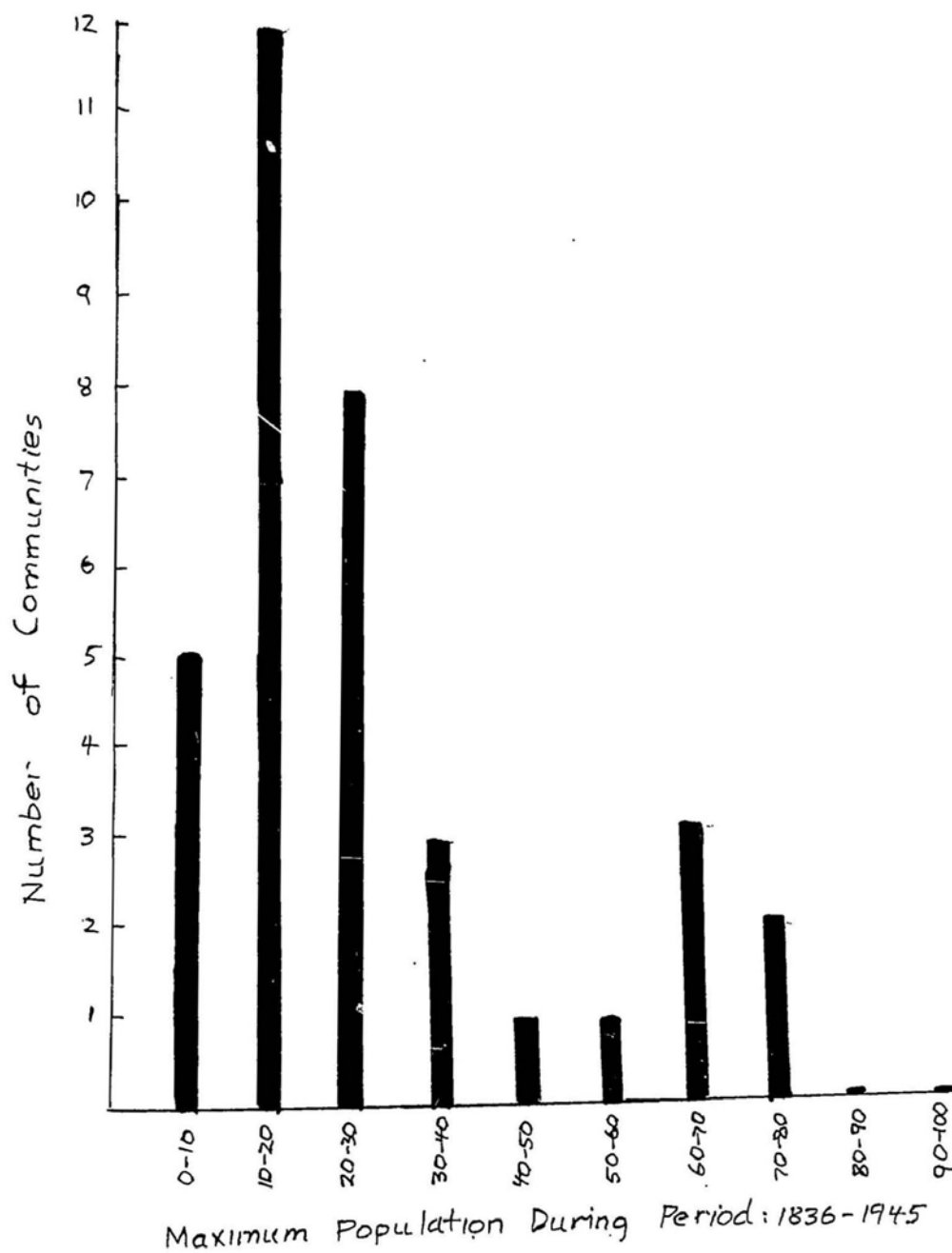


FIGURE 5

MAXIMUM POPULATION OF SOUTH WEST COAST COMMUNITIES (B)



size from west to east, Rose Blanche, 800; Harbour Le Cou, 222; Petites, 304; Western Point, 156; La Plante, 108; Little Harbour, 168; Grand Bruit, 248; and Lower Burgeo, 1,039. However only six of these, viz Rose Blanche, Harbour Le Cou, Petites, Little Harbour, Grand Bruit and Burgeo, showed a steady increase in population of at least two-fold, while two remained the same size, and three decreased in size. Table 22 shows that of 26 fairly long-lived communities, ten show a steady rise, 3 show a steady fall, and 13 show a rise followed by a fall in population. Of the ten showing a steady rise in population, four cease being represented in the census before 1945. This again indicates that relatively few, about six, communities, appear to gain steadily in population whereas others rise and then fall and gradually disappear, or rise and completely disappear. There are six communities (Harbour Le Cou, Petities, Little Harbour, Grand Bruit, Burgeo and Rose Blanche) which have lasted at least 100 years, have gained in population, and have not disappeared. The others are short-lived with fluctuating population size.

Figure 6 shows that the peak in number of communities occurred around the turn of the century, and that the number fell off rapidly after that. Figure 7 shows the number of appearances and disappearances of communities at each census date. It indicates considerable formation of new communities between 1874 and 1911, and disappearance of communities between

FIGURE 6

NUMBER OF COMMUNITIES BETWEEN BAZIEL AND LOWER BURGO
AT EACH CENSUS DATE

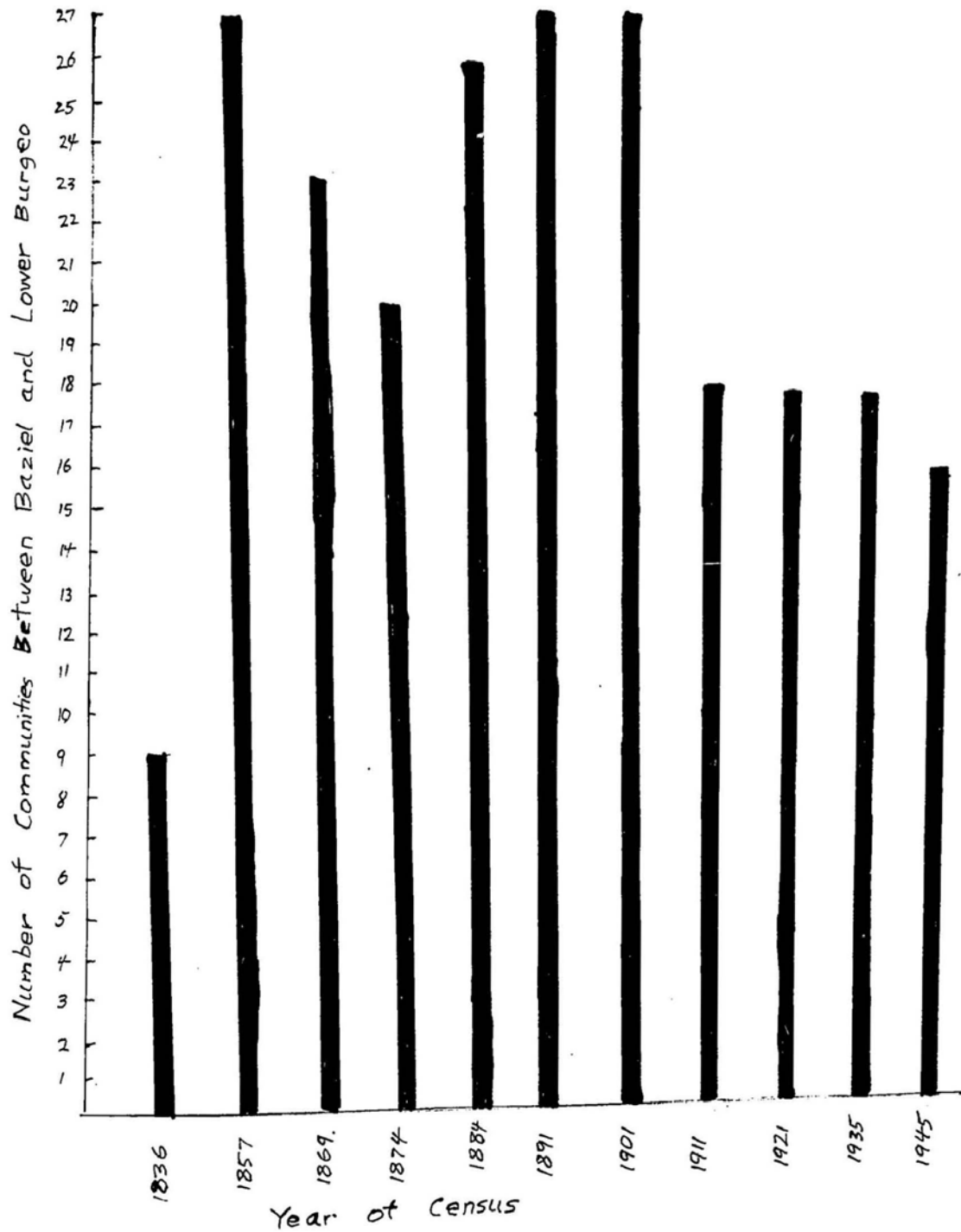
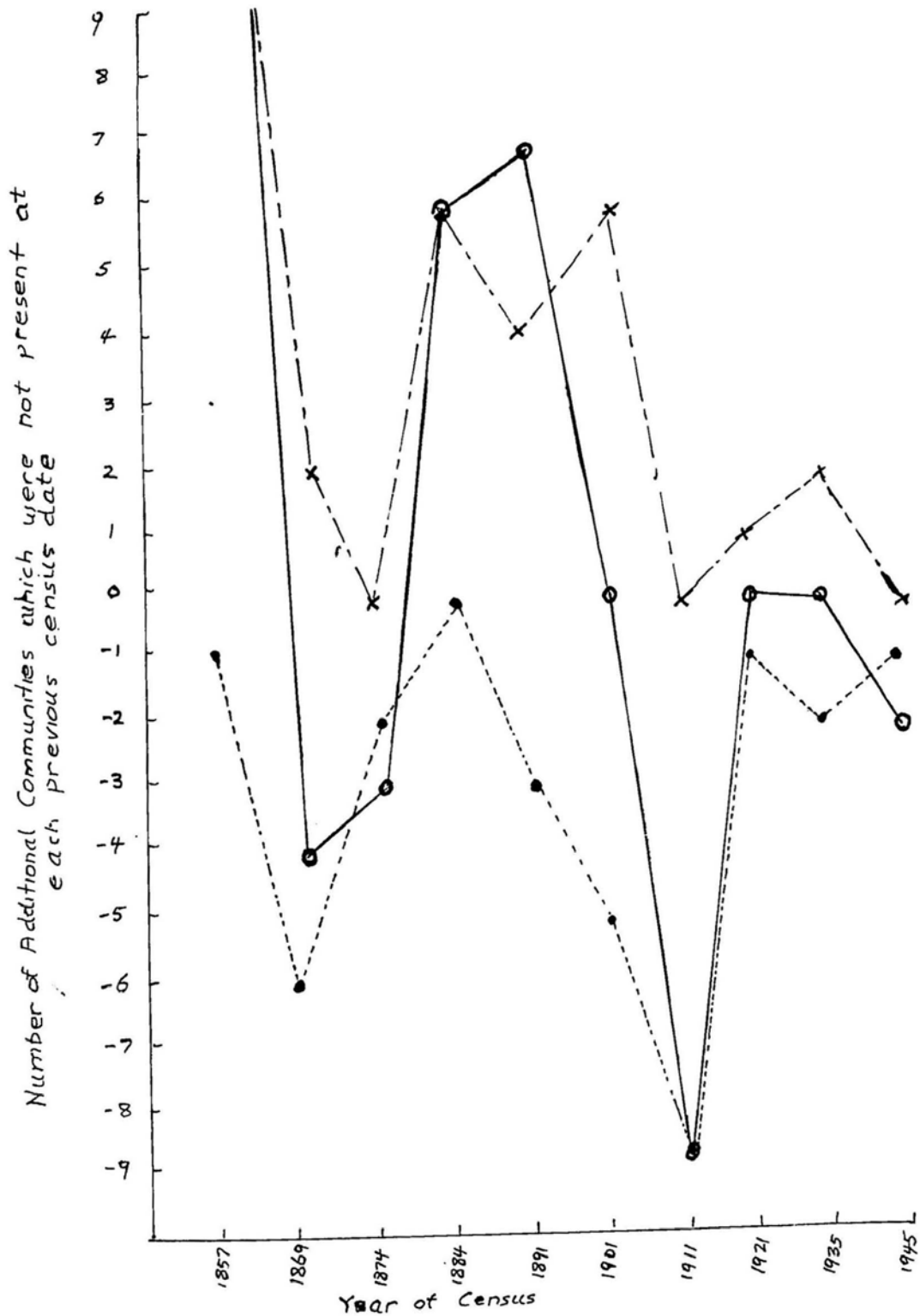


FIGURE 7

NUMBER OF APPEARANCES AND DISAPPEARANCES OF COMMUNITIES
AT EACH CENSUS DATE



1884 and 1921, with less change before and after these dates. These data indicate considerable migration and experimentation with new localities, and the seeming inability of communities to get established. They indicate that communities thrive for a short while, then decrease and die, or even if they do show a steady increase in population, in most cases they suddenly disappear anyway. Only six hardy communities have survived and grown until the last Newfoundland census date. Also it appears from Figures 6 and 7 that the period of greatest experimentation was between 1874 and 1921. These patterns lead one to speculate not that there is an upper limit to the viable size of a community but that resources or opportunities are limiting, and that only six communities out of 48 gain the thrust to survive while the others die because of migration to more successful sites. One can hypothesize that this pattern is due to the geographic dispersion of resources and opportunities as opposed to their concentration in Grand Bruit, or any other centre. Furthermore one can hypothesize that some change in resource distribution, or in the people's definition of resources or opportunities occurred around the turn of the century.

The findings of the South Coast Commission (Report of the South Coast Commission: 1957:21-29), paralleled those just described. They found that twenty-one settlements of the one-hundred-and-eighty settlements recognized along the

South Coast contained half the population, and that there has been a numerical decline of the smaller settlements (Report of the South Coast Commission: 1957:22). Presently, the "largest communities are growing and the smallest ones are declining, while medium-sized settlements show a mixed pattern and their growth or decline varies with the district in which they are located" (Report of the South Coast Commission: 1957:24). The statistics they presented indicated "a growing concentration of population", and illustrated "the increasing importance of the larger centres". (Report of the South Coast Commission: 1957:24).

In order to understand these population trends, it is necessary to examine the frequency of and motives for permanent migration.

Temporary Migration

Temporary migration should also be considered here as it is often converted into permanent migration by marriage in the new locality. The earliest example of temporary migration related to me occurred during the years 1905-1912 though earlier cases may have existed. An elderly informant said he went away at the age of fifteen to work as a cook on a boat. He stayed away seven years taking several jobs in Port-aux-Basques and Stephenville, as cook, on a schooner fishing "on the Labrador", and on coastal boats. He said

that in 1910 at age 20 he joined a schooner at Sydney carrying shingles to New York City. He returned to Grand Bruit and married a girl from Grand Bruit. Another old man worked on a schooner taking a load of shingles to Boston and New York City. An informant told me that about fifty years ago, many people left Grand Bruit for Isle-aux-Morts to find work, and then got married and stayed there. World War II opened up sources of employment in Stephenville and Argentia as mentioned earlier. One man worked in Stephenville and Argentia from the ages of 27 to 34 and returned to Grand Bruit and married a Grand Bruit girl. Other men worked in these places when they were older than this. There was more demand for workers than could be supplied.

Temporary work outside Grand Bruit was, and still is, very important for young unmarried girls. In the past, at the ages of 17 or 18 they would spend one or two years as "servant girls" in such places as North Sydney, Burgeo, Glace Bay and Petites. The examples I was told about occurred in the period from 1920 to 1957. Elderly women told me this enabled the girls to obtain some money to spend on themselves for clothes during a period when fishermen's families saw very little cash. One woman said all girls used to go away to work and she commented on the small wage they received. Old widowed women also worked as housekeepers for old widowers for "companionship" often resulting in marriage. Old people

explained that they do this no longer as they get their pensions now.

A look at the marriage records (United Church records, Burgeo-La Poile District, housed at Petites) reveals the significance of the moves of young single men and girls for employment, in the choosing of mates from other than the home village and the consequent conversion of temporary into permanent migrations. The records reveal that 48 out of the 82 marriages occurring in Grand Bruit were between spouses who were both from Grand Bruit, and that in each of 34 marriages, one spouse was from outside Grand Bruit. Incidentally, this fact, and the fact that Grand Bruit has always been composed of at least five distinct family lines, explains the lack of inbreeding in Grand Bruit over the past 150 years. Out of 36 marriages involving the movement of one spouse to another village (another two marriages did not occur in Grand Bruit), 33 involved the movement of the girl from her place of birth to that of her husband, while only three involved the movement of the man. This indicates that patrilocality is the general rule. Of the eleven marriages in which the records indicate the girl's occupation, eight show that she was a "domestic" or servant girl and three that she was a teacher. Two teachers married fishermen and one married a merchant. The domestics married fishermen and one lumberman and one boat-builder, the latter two being from North Bay, a community which specialized

in these trades. These data confirm the statement by informants, that there was a trend for girls to go away to work as domestics and if they "found a man" to settle down in the new place. Likewise, young teachers coming to Grand Bruit were always viewed by Grand Bruit women as potential wives for their sons. Just last year the women in the community complained that the married middle-aged teacher in the community kept staying year after year. They wanted a young girl teacher to marry one of their sons. Young men coming as teachers were also regarded as very eligible husbands for Grand Bruit girls. An elderly lady told me that the daughter of one of her contemporaries married a teacher in Grand Bruit and that it "was a good move as her son is a lawyer now".

Table 23 summarizes several other examples of moves of girls to other places revealing some of the expressed motives and thoughts. Here again marriage followed temporary moves for work. In a couple of instances, family circumstances caused the move which was made permanent by marriage. A young girl moved to Grand Bruit to look after her sick grandmother and there met her future husband. Another moved with her mother to Grand Bruit as her father had died; she and her mother found domestic work and both got married in Grand Bruit, the mother to the widower for whom she was working.

A look at the distance travelled (Table 24 and Figure 8) during the period 1850-1950 shows that a large majority of

TABLE 23

PERMANENT MOVES - WOMEN

Approximate Date	Approximate Age	From	To	Reason and Outcome
1910	20 (3 daughters of one woman)	Grand Bruit	Other South-West coast communities	To work as housekeeper; they met and married men in these communities
1920	20	Isle-aux-Morts	Grand Bruit	She met her husband in Isle-aux-Morts and he gave her a choice as to where to live. She chose Grand Bruit as there was "nothing" in Isle-aux-Morts.
1920	20	Grand Bruit	Burgeo	She was working as housekeeper for a merchant in Grand Bruit and met and married a man from Burgeo.
1940	12 and 20	Bay d'East	Grand Bruit	She moved to Grand Bruit and lived with relatives in order to go to school as there was none in Bay d'East. After returning to Bay d'East met a Grand Bruiter and moved to Grand Bruit to marry him.
1945	40 and 17 (mother and daughter)	Deer Island	Grand Bruit	When her husband died, the mother moved to keep house for a widowed Grand Bruiter and eventually married him. The daughter did housework in Grand Bruit and married a Grand Bruiter.

Approximate Date	Approximate Age	From	To	Reason and Outcome
1947	25	Fortune Bay Burgeo	Burgeo Grand Bruit	To Work To teach; she met and married a Grand Bruiter.
1947	47	La Poile	Grand Bruit	She was widowed and moved to marry a widower in Grand Bruit.
1950	20	Burin Penninsula	Grand Bruit	To teach; she met and married a man from Grand Bruit,

TABLE 24
DATA ON MIGRATION AT MARRIAGE

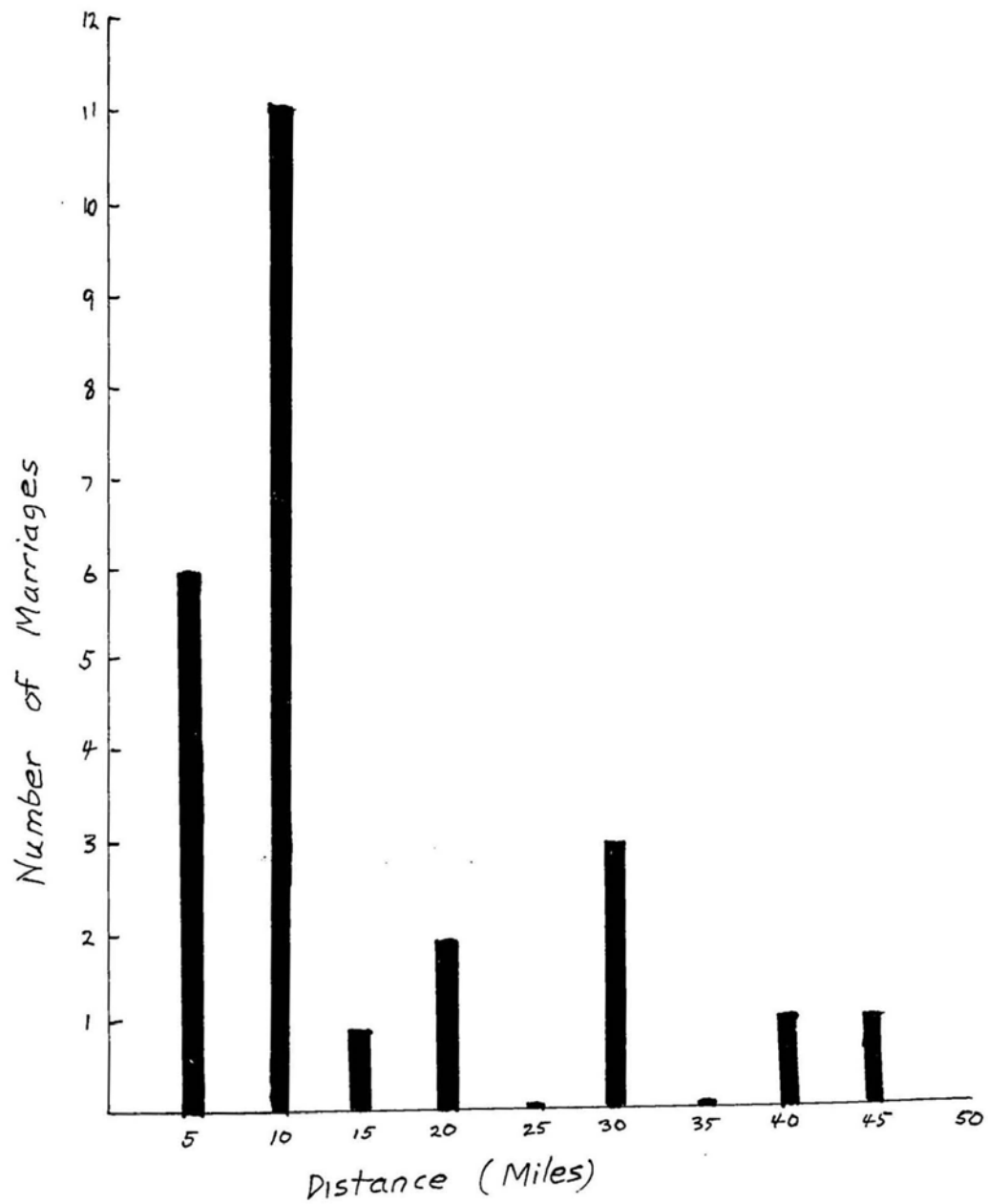
Distance (Miles)	Date	Home of Non-Grand Bruit Spouse	Direction from Grand Bruit
135	1900	Garnish	E
	1950		
42	1882	Channel	W
40	1914	Deer Island	E
30	1925	Burnt Islands	W
30	1898	Burgeo	E
	1902		
20	1912	Petites	W
	1919		
15	1947	North Bay	W
10	1904	La Poile	W
	1909	West Point	W
	1947	Little Bay West	W
9	1873	Otters Point	E
	1878		
	1889		
	1898		
	1911		
	1919		
	1920		
	1925		

Distance (Miles)	Date	Home of Non-Grand Bruit Spouse	Direction from Grand Bruit
5	1877	Cinq Cerfs	E
	1877		
	1879		
	1885		
5	1889	Frenchman's Cove	W
	1900		
	1901		

Note:

Data obtained from Anglican church records, housed in Petites, of marriages held in Grand Bruit.

FIGURE 8
DISTANCE OF MIGRATION ON MARRIAGE



moves were very short distances (five to ten miles) and that the bulk of the remainder averaged roughly thirty miles in either direction. There appears to be no preference for eight east or west contrary to the impression given me by two informants (a minister and an elderly woman) that there is more connection with Port-aux-Basques than Burgeo. Today both these major centres roughly forty miles on either side of Grand Bruit have roughly equivalent "pulling" influence on Grand Bruiteurs. Actually this informant's family tended to be oriented toward Port-aux-Basques whereas other families looked toward Ramea. These data indicate that temporary migration, especially of girls resulting in marriage, and a permanent move was extensive but short in distance. This would have the effect of minimizing inbreeding without bringing in exotic ideas and aspirations, and of homogenizing the culture of the South West Coast.

In "late years" the distance of migration has vastly increased as have aspirations. One informant told me that roughly eight years ago ten people went to Port-aux-Basques because they got married and set up households there, and one went to Grand Bay, one to Corner Brook, and one to Isle-aux-Morts. This is considerably greater than the ten miles indicated for the period 1850-1950. Today informants point out that their sons and daughters are in Halifax, Maine, or Ontario.

Until about 1950, opportunities for housework were fairly

evenly scattered along the coastline in the households of merchants and elderly people in the small settlements. Opportunities for fishing were distributed in the western section of South West Coast ("West Shore"). However, as the people's definition of an "opportunity" changed, the pattern of distribution of "opportunities" changed and greater distances had to be travelled. As girls decided that they wanted hospital, restaurant, or store work they had to go greater distances: to Burgeo which has a hospital; or to Burgeo, Port-aux-Basques, or Ramea, or St. John's for stores and restaurants. Similarly, as men decided that the cash income from fishing was not enough they had to go to Ontario to seek work on the Lake Boats. This bears out Stouffer's theory that "the number of persons going a given distance is directly proportional to the number of opportunities at that distance and inversely proportional to the number of intervening opportunities". (Jansen:1969:61).

Today, only grades one to eight are taught in Grand Bruit and this creates a second reason for the outmigration of young people. Of the thirteen unmarried girls, over age thirteen, (see Table 25) six are going to school in Ramea, Burgeo or Port-aux-Basques, four are working in the Burgeo hospital, two are in St. John's (one working in a restaurant and one at Memorial University) and one is in Ontario working in a hospital, only one girl is living year-round in Grand Bruit.

TABLE 25

PRESENT LOCATION AND OCCUPATION OF UNMARRIED DAUGHTERS
OF COUPLES LIVING IN GRAND BRUIT

Age	Location	Occupation
13	Port-aux-Basques	High school
13	Grand Bruit	Grade School
16	Ramea	High School
17	St. John's	Waitress
17	Port-aux-Basques	High School
17	Burgeo	High School
17	Ramea	High School
19	Burgeo	Maid in Hospital
19	Burgeo	Maid in Hospital
19	St. John's - last year Ramea - next year	Memorial University Teacher
20	Burgeo	Nurse's Assistant
20	Burgeo	Maid in Hospital
23	Ontario	Training in Guidance in Mental Hospital

It appears that the trend today is to stay in school until approximately the age of 17 and then get a job in a hospital or restaurant or store in as "big" a place as possible, be it Burgeo, or St. John's, or a place in Ontario. As of last year, children have had to go away to school in Port-aux-Basques, Ramea, or Burgeo for grades nine to eleven. One as young as thirteen years old went away last year and boarded with an aunt. This year two families with thirteen-year old children entering grade nine kept their children home rather than imposing on a relative or risking that the child be homesick or "cannot be controlled" in Burgeo or Ramea. People say that it is unfortunate but necessary that 15 and 16 year olds must go away to "get their learning". This recent pattern of the early moving away of teenagers (girls to school and year-round work, and boys to school and seasonal lake boat work) is an added factor in the traditional cultural pattern of outmigration resulting in marriage in another village.

A third reason for the increasing trend of outmigration of young people is their feeling (discussed later) that Grand Bruit lacks the "social life" and recreation-opportunities which a larger place would offer them.

Permanent Migration

Permanent moves have throughout the history of Grand Bruit been part of the adjustment of people to dispersed resources.

Table 26 shows the information which informants gave me about moves involving the disappearance of communities. Informants could give specific information on only six communities which completely resettled and some of whose inhabitants moved to Grand Bruit. All of these occurred around the turn of the century as indicated by informants and by the census data (Table 24). Of these, two were cited as moving in order to send their children to school (Frenchman's Cove and Brown's Harbor). They told me of two other communities having no school (Round Harbour and East Bay). Of these, one (Round Harbour) moved for another reason and East Bay survived until 1945. Family reasons were given in two cases: one man left Couteau Point to be with his parents and the only family head in Round Harbour left because his wife died. Poor harbour facilities were given as the reason for the move of three families to Grand Bruit, and the rest (several families) to Otters Point, from Cinq Cerfs, five miles east of Grand Bruit: the harbour was too small and too shallow and during a north-east wind it was too rough for boats, requiring their being hauled up on shore. Informants did not know why people left Duck Island at Otters Point for Burgeo. Informants' comments indicated that during a hypothetical settling period (from the first settlers until the turn of the century) people settled in all the sheltered areas they could find with reasonable harbour facilities. Later, around the turn of the century,

TABLE 26

PERMANENT MOVES OF NUCLEAR FAMILIES INVOLVING APPEARANCE
OR DISAPPEARANCE OF COMMUNITIES

Number of Nuclear Families	From	To	Reason Given
4	Frenchman's Cove	Grand Bruit	To send children to school
3	Cinq Cerfs	Grand Bruit	Harbour too small and shallow and too rough for boats during a north-east wind
Remainder of families in Cinq Cerfs	Cinq Cerfs	Otters Point	
1	Couteau Point	Grand Bruit	To be with relatives
1	Brown's Harbor	Burnt Islands	To send children to school
1	Brown's Harbor	Grand Bruit ("the arm")	To send children to school
20 - 30	Duck Island at Otter's Point	Burgeo	
1 man	Round Harbour	Grand Bruit	His wife died, his was the only nuclear family in Round Harbour

their needs or aspirations increased. They began searching for places with better harbours and with schools, or in which kinfolk lived. It was no longer adequate to live in a cove with one or no other families.

Resettlement

Today permanent moves have become a major issue. Resettlement was discussed with much anxiety in Grand Bruit by everyone; those fearing it and those favouring it.

Reasons Cited For and Against Resettlement

The reasons given for resettlement include educational opportunities, the fact the Grand Bruit is "going down" anyway, and the desire for a "better" life style (all discussed elsewhere). The reasons given against resettlement by most of the people now left in Grand Bruit, included being able to speak in their dialect without compromising one's social acceptance, that Grand Bruit has "good water" (a safer water supply than Burgeo or Port-aux-Basques), that people are "making a living" and if they left they would not be able to come back (as their vacated houses would belong to the government), and the belief that the way of life is secure and known (one is "content" in Grand Bruit as it is "home"). A very articulate middle-aged informant said resettlement is "foolishness", that he supposed it was alright for people who "wanted to better themselves" but that most

are "content with secure living". Most people still living in Grand Bruit resented the fact that "they" or "Joey" (the Premier) wanted people "out of it", and one elderly lady complained bitterly that people "down easter" (east of Grand Bruit on the South Coast), had left "lovely homes" on the resettlement programme and that Joey should not try to get people out of their homes since he himself has a big home. People also said the money offered by the government to aid people moving under the resettlement plan was "bait" to get people out of the "small places" and also maintained that the government "got people out of it" by increasing isolation by decreasing steamer service, not sending teachers, and removing the post offices, without which most people would not stay.

The Resettlement of West Point

There was much concern among Grand Bruiters over the resettlement during the summer of 1970 of West Point. On July 12th, a man from West Point visiting relatives in Grand Bruit said he was moving since he felt the teacher might not be able to stay since there were too few children to warrant having a teacher. He said the young families were moving first and the old ones were left, but "I guess they'll have to get out of it too". A minister who visited West Point on August 17th said it was in a state of confusion, and that people were moving because others were and that he could not discover who made the initial decision. He said one man made ten

different decisions while talking with the minister. By August 31st, everyone had left West Point, the teacher having returned to find no one there. She was a Mennonite volunteer and had promised to return even if there was only one child to teach. She maintained that a rumour started that she was not returning despite her assertion that she was. Acting on this rumour, the merchant left and the others followed. In August, Grand Bruisers told me, West Pointers had not found permanent jobs and were taking "odd jobs", for example, painting, and said that some of them might not get homes until October or November. Grand Bruisers felt that it was silly to leave West Point since they had fishing grounds (it was said that they caught twice as many fish as did La Poile, a neighbouring thriving fishing community.), and they would not find jobs. For example, mechanization had resulted in the "laying off" of several men working "on the wharf" in Port-aux-Basques. They said it is a "shame" since especially "young couples had worked to build up homes etc.", and that it was "silly to get on a steamer and not know where you are going".

Mass Migration as a Trend

Figure 2, compiled from census data, shows graphically what informants told me about the present and past population structure of Grand Bruit. The population structure in 1884

(total 102 people) is compared with that in May 1970 (total 98 people). This Figure indicates the present comparative lack of people of childbearing age and the preponderance of older people; it also reflects the heavier outmigration of girls than boys. Several teenage boys are now fishing with their fathers whereas girls of this age are mostly working in Burgeo. The complicating factors of mortality and fertility make this figure not merely an indication of migration. There was probably a higher mortality rate in 1884 as indicated by the narrowing of the pyramid above age 40. Fertility was also much higher then than now, as expressed by informants and as shown in the zero to ten years age group. People expressed that thirty years ago a family of thirteen children was typical whereas now the typical family size is between two and five children.

Migration is increasingly becoming what Peterson (1958: 263) calls "mass migration". By this he means that "migration has become a style, an established pattern, an example of collective behaviour. Once it is well begun, the growth of such a movement is semi-automatic: so long as there are people to emigrate, the principle cause of emigration is prior emigration". He goes on to say that once emigration has been set as a social pattern, individual motivation is insignificant as the individual is in an "unstable state of equilibrium, in which only a small impulse in either direction decides his

course" (Peterson: 1958:263) This latter point was described by the United Church minister who maintained that Grand Bruiters were in a state of anxiety and that any small rumor would trigger an exodus. In fact, during the three months I was there, two rumours directly concerned with resettlement circulated and caused a great deal of anxiety.

Theoretical Discussion: Settlement Pattern

Dyke (1968:57) maintains that:

"The main variables determining the population of and distance between settlements in rural Newfoundland have been the utilizable natural resources of the area. The distance between communities has been partially governed by the distance from the community in which resources might be exploited on foot and/or in small boats, and the size of population sustained by a community has usually been determined by the amount of shareable resources in that accessible area. The fact that the marine resources have traditionally been the most important in Newfoundland explains why most of the resource-based settlements are coastal. That the population of a resource-based settlement has ceased to increase does not indicate that it will decline. Instead, it indicates that the population of that particular settlement has reached an equilibrium with the available resources."

The data presented on mobility and settlement pattern, including data on transhumance and its cessation, and on the gradual change in community age, appear to confirm this statement, as discussed above.

Factors in the Increasing Concentration of Population

However, the data also indicated a trend in the last

twenty years of more rapid concentration of population, there having been gradual concentration before this. Several factors are relevant in this increasing concentration of population. Firstly, since the inauguration of the resettlement programme in 1953, families can resettle with minimum cost as the government offers financial assistance to those moving. Secondly, aspirations regarding appropriate life-styles and prestigious careers which do not include fishing, have risen, so that people increasingly regard "big places" as superior for entertainment, educational opportunities, and socio-economic mobility. Thirdly, there is much anxiety about decreasing services (post office, school teachers, and steamer services) provided by the government, and government assistance in relocating is cited as evidence that the government wants the people "out of it".

Such anxiety has been noted for other Newfoundland communities. Iverson and Matthews note:

"The decision to abandon one's community is anxiety-laden, as well it might be. There are few experiences more upsetting than the destruction, physical, social, and psychological, of one's way of life. It should come as no surprise, therefore, that the decision to vacate Tack's Beach was accompanied by uncertainty, animosity, and dismay-magnified by rumour. As one ex-resident said when the time came to decide whether they would stay or leave, 'the people were at each other's throats'." (Iverson and Matthews: 1968:59)

Darling (1955:59), describing the ecological picture of the declining population of the Highlands of Scotland, also maintains that a "rapid decrease in population without

complete evacuation involves a people in psychological troubles which both further the course of decline and foster a certain hopelessness which is not understood by the neighbouring people of different culture in a different environment".

Reasons for Resettlement Cited by Newfoundland Studies

Other Newfoundland studies have indicated various reasons for households resettling. Some concrete reasons include: difficulty in getting a teacher, decreased mail-service and the loss of the merchant. Iverson and Matthews (1968:62-63) noted that:

"Generally, the loss of a teacher is enough to convince a community (or at least the families with young children) that it must move before winter.... The pressure to resettle becomes acute as the season grows late and when any one of several things happens: when the community cannot find a teacher, when the mail-service is discontinued, when the merchant closes his store and moves away, and when a critical proportion of the population has left."

All of these factors were mentioned by Grand Bruiters.

The Grand Bruit data indicated that job opportunities played a role in resettlement. Wadel (1969:43) concluded that the process of outmigration is selective, and that "variations in income among outport households might give insight into this selection process, not given by considering the average incomes". Brox (1969:75) maintains that rising aspirations regarding living standards (discussed above) do not necessarily result in resettlement "An individual's wish to get a car or a freezer does not automatically imply that

he wants to get to the city.... If the new things that he happens to learn to appreciate can be financed by increased earnings, then this evaluational change will not have any influence on settlement pattern". (Brox: 1969:75). For example, in Norway there are as many freezers and fancy stoves per family among rural fishermen as among unskilled worker families in towns (Brox: 1969:75).

The importance of the young in resettlement has been emphasized in Newfoundland studies. Iverson and Matthews (1968:63) stated that the young, "those able-bodied and under forty years of age....are the true pioneers of resettlement". This was also true in Grand Bruit where young couples left to send their children to school or to seek jobs. Iverson and Matthews (1968:63) noted that "there are cases where if the merchant kept a store for them, most of the old-age pensioners and semi-retired residents of a community would remain for the rest of their lives, or as long as they were in good health". This sentiment was also expressed by Grand Bruiters.

However, Brox (1969:81) points out that "many factors preventing a young couple from establishing a household in an agricultural rural area, do not apply in Newfoundland fishing outports.... They do not have to wait for the older generation to retire and hand over rights to resources" since "there is always room for a shareman, or one can jig or carry on with

gillnets without any right" (Brox: 1969:21). Other factors are the lack of capital required in fishing and the rent-free housing; he quotes evidence (Brox: 1969:82) from Faris (1966), Philbrook (1966), and "Report on North Eastern Newfoundland (1964), that there is a tendency for some young couples to settle down in their home outports. Likewise five young families settled in Grand Bruit roughly five years ago.

"Isolation" has been described as a factor in the re-settlement trend. Brox (1969:77) related isolation to the resources (most importantly, cash resources) present in the community. "A self-sufficient outport becomes isolated if people have to go out of that settlement for making money, shopping, schools, local government, age-mates etc.". For example, "an outport that is one hour's driving or one hour's boat trip from a bigger centre is rather isolated if one has to make one's money in that centre", but it is very well connected if they only have to go there once a year, or once a month (Brox: 1969:77). Brox (1969:78) suggested "the reason why some outports are isolated or marginal, may be that they haven't got the technological and organizational tools with which to utilize local resources" and they "haven't got the fish buyers and shops, schools, churches, and local governmental institutions that make a successful local adaptation possible". Isolation probably has "nothing to do with spatial distance" or "with young people having 'a different

appreciation of isolation than their fathers'" (Brox 1969:78). The reasons given by Grand Bruiters against resettlement indicate that Grand Bruit is self-sufficient with respect to the resources of "good water", the means of "making a living", and security, although the resources of shopping, schools, and girls had largely to be obtained in bigger centres.

Darling's data (1955:1950) also indicate that "isolation" involves several factors. In the Highlands, as in Grand Bruit, it is not only remoteness from larger centres that is relevant but the small size of the population which results in a lack of meaningful social life of its own. Darling notes (1955:1950) that in those areas with industry, or well-organized agriculture or fishing, the population was rising. This appears to be true of the South West Coast also, as the centres with fish plants, such as Rose Blanche, Port-aux-Basques, Burgeo, and Ramea, are increasing in population at the expense of smaller communities.

The diffusion of values has been discussed by Skolnik et al. Cited by Brox:1968:16:59) They noted that "it is not the most isolated communities but rather those on the periphery of the developing areas which show the strongest inclination to resettle. It is only when people see the amenities of modern civilization in communities close to their own that they are tempted to move". Brox (1968:19) explains this by the diffusion of values. "By having transaction with [a growing middle class in a mainland

centre] one is inclined to modify one's own evaluations of everything that is being transacted". People far removed from a centre with a middle class "do not take part in such transaction - they are self-sufficient also as to values, they have transactions with each other, and maintain the values that they had before, whereas people closer to the mainland [of Newfoundland] come to change their value-parameters, which can help explain their different reaction to the government policy". (Brox: 1968:19). "Values are spread, modified, or maintained through human interaction. The interaction pattern then becomes more important than sheer distance between outport and centre" (Brox: 1969:76). For example, "the islanders in Bonavista Bay during long periods came to interact with mainland-people", and "it is not unlikely that their evaluations would tend to be more and more like those prevalent in the urban, hierarchically organized society" (Brox; 1969:77). He concludes this "may explain the seemingly irreversibility of urbanization as a process" for the migrant "is a different man after many years away from neighbours and relations", and would not return to his outport even if things got "so much improved back home that the migrant would have stayed if the situation had been like that when he went". (Brox: 1969:77). He concludes, therefore, that value changes "can probably more fruitfully be perceived as a consequence rather than a cause of rural-urban migration and changes in settlement pattern". (Brox: 1969:77).

Cognition: Knowledge and Changing Aspirations

Discussion: Concept of Cognition

Cognition is very central to the concept of culture itself. Chance defines the "cultural system" as the "cognitive organization of an individual and the standards by which he perceives, predicts, judges and acts". (1968:15). He points out that culture refers to complementary cognitive patterns, although the "ultimate locus of a cultural system is found within the individual's cognitive organization and standards for thinking and acting" (1968:15). The fact that individual cognition differs is crucial to cultural change, however, since it is often one individual with a different cognitive orientation who is the innovator (Murdock: 1956: 250).

Chance describes the function of cognition as follows: "Man strives for a coherent organization of his individual experience such that he can internally order or classify the phenomena he perceives, and from which he can communicate the ideas and beliefs stemming from this organization to others" (1968:15). He says that new experiences are frequently catalogued in terms of earlier classifications of phenomena but that language permits man to derive new abstract concepts by realigning different segments of previous sense experiences, and to "make generalizations about past events and express predictions about future events" (Chance: 1968:15), by juxtaposing patterns of relationships in these ways. Erasmus (1961:22) states that cognition among

uneducated unspecialized people is based largely on direct experience. Thus one can argue that the views Grand Bruiters have of their past and future are for the most part distillations of past experience.

Cognition plays a very important role in a culture's overall adaptation. Laura Thompson, after studying the ecological adjustment of a community in Fiji concluded that the human group "has tended to organize and integrate its habits of feeling, thought, and behaviour systematically with the world of nature in such a way as to play a basically positive---and logical role in the multi dimensional process of attaining, and maintaining a healthy, balanced" adjustment of the whole community (Thompson: 1961:125). Erasmus (1961:22-23) partially analyzed the relation between cognition and the environment as follows: "as a causal factor in cultural behaviour, [cognition] takes the form of probability predictions; that is, of frequency interpretations derived from inductive inference--- Frequency interpretation is predictive interpretation based on the observation of repeated events, the dominant cognitive aspect of human action", the raw material being experience or observation. Thus, cognition builds on human knowledge which is made up of prediction; (often based on culturally-determined assumptions rather than objective reality); that is, on tentative probability statements. This explains how culture may become

adapted to its environment.

Changing Cognition

In order to understand changes and stresses in the cognitive sphere, it is necessary to introduce the concept of felt-needs and motivations. Certain biological needs or drives, such as that for sexual gratification or for self-preservation are universal, but "felt-needs" are different in various cultures, and are derived, according to Erasmus (1961:13) from the interaction of cognition with the "limitative causes inherent in every situation". These felt-needs are probably analogous to Malinowski's "derived imperatives" which are "culturally developed and learned modes of coping with the requirements of experience which in themselves become fully as imperative for the organism as the basic needs" (Hughes: 1960:33). For example, it is often more important to have certain types of food than to have food. It is logical that such felt-needs would change with changing situational limitations or with the introduction of new ideas which change people's cognition. For example, Murdock (1956: 247-248) describes the culture-forming process in terms of actions resulting from motivations. If these actions prove successful, the action is repeated and becomes a habit, but if it is a failure, it is replaced by other behaviour. A change in situational factors in cognition might alter the

definition of success and failure and consequently might result in the production of different action and different habits.

"Value" is a concept necessary because man's knowledge, his cognitive organization, is not a direct result of his experience, the world of events (Ayoub: 1968:248). The criteria used by people for deciding what conclusion to make from particular events are the "imputations of relative worth" (Ayoub: 1968:248). Likewise "when converted into action, our understanding does not provide one unequivocal path insuring survival". (Ayoub: 1968:248). The decision as to course of action implies a "preference by some standard of judgement". (Ayoub: 1968:248). These standards and imputations of relative worth are values and are themselves mechanisms by which a culture adapts to its environment. However, once established, values also constitute a limitation on the possible alternatives which can be selected by people without a reorganization of their value system. "World view" is a broad concept described by Redfield (1956: 86) as "the whole meaningful universe seen from the inside view", embodying cognitive, affective and normative (value) aspects.

Changing cognition both affects the overall adaptative strategy, and itself constitutes a strategy in that it justifies people's actions. Specifically, aspirations have in the

past been in tune with the resources available in Grand Bruit, but now these needs are changing, and new strategies are being developed to satisfy them and some previous ones are being dropped.

Cognition in Grand Bruit

Isolation: A Factor Limiting Cognition

Since cognition is related to experience, isolation (meaning here, remoteness from larger centres - another concept of isolation is discussed later), and small community size, result in a comparative lack of information entering Grand Bruit from outside, and therefore affect cognition.

Information sources include people on the steamers, mail carried by the steamers, visits of ministers, doctors, and politicians, visits of relatives, and several communication media.

The first steamer (Bowring's "Curlew") stopped at Grand Bruit in 1877, (Keir: 1962:139) and for a long while, steamer service was only every second week. In 1956, there were complaints about the CNR service on the South West Coast (Southern Newfoundland Conference: 1956:7-10) because of high freight rates and lack of information on the location of steamers. These problems have largely been rectified, but the steamer service to Grand Bruit is still a source of complaint and of much discussion and concern, whether or not the person talking is going on a

steamer or meeting someone on one. Last year the school teacher (wife of the fish merchant) wrote a letter to the local Member of the House of Assembly concerning CNR's intention to have the steamers anchor out in the harbour and send a "mail boat" in to carry mail and passengers. As a result, CNR steamers still come to the Grand Bruit wharf.

Isolation, partly a function of lack of information from the outside world, has been decreasing in some ways because of the introduction of several communication media. The use people make, and the views people have, of these media give an indication of their influence on changing felt-needs.

Grand Bruit has been served by one "ship to shore" telephone which often does not work in bad weather, and people limit their calls to giving or receiving necessary information such as the date of arrival of visiting relatives.

Every household has a battery-operated radio. People listen to a Marystown station which provides news primarily of events in Newfoundland, specifically the South West Coast, and the Marystown town council. People listen intently to "Ron Pumphrey" (a Newfoundland open-line programme) and "Newfoundland Calling", (a programme of Newfoundland music and anecdotes), and to programmes of hymns and devotional readings. Accordingly, they derive minimal information on world events and city life from the radio.

As television reception is poor and there is no electricity aside from generators owned by each of two households, there is only one television in Grand Bruit. Television is eagerly discussed. Several women said they would not get it when the community got electricity because it "hurts their eyes", but a few elderly people said they might get it to pass the time if the reception is good.

Newspapers come once a week and appear not to have greatly affected people's world view. A few magazines, such as "Chatelaine" and a farm magazine, are subscribed to, and books (mostly romances and school books) are read by a few adults.

Sources of new ideas and hence of changing aspirations appear at present to include primarily visits of relatives, school teachers, and ministers; seasonal migration and short visits to relatives living elsewhere; and children and young people returning from school and jobs in Port-aux-Basques, Burgeo or Ramea.

It is possible to describe four basic needs (warmth, food, shelter and health) and several other felt-needs (cleanliness, style which is a function of prestige, an aesthetic value, information, recreation, sociability, and education) which were mentioned frequently by informants. It is also possible to see that emphases on some of these has increased over the last twenty years, (for example,

on style, education, and recreation) probably as the result of the "pull" of opportunity. One can describe four types of resources, themselves valued, which can be expended to satisfy these values (labour, money, time, and the external resources, already described, in the ecological economic sphere).

Aspirations Regarding Education

When children were important sources of productive labour, education was not valued except to fill in time for a few years (roughly age eight to eleven) until children were old enough to contribute significantly to household production. Now that the "pull" of opportunities to acquire various paying jobs in other places is felt by Grand Bruiters, they are placing greater value on education. The primary reason cited for getting a good education (grade eleven) is that it facilitates obtaining a job. However, other informants said they wished they had more education so that they could read magazines more easily, and several older informants maintained that school is necessary now that children have so much free time, so that they will not be "running around". This increased value placed on education has resulted in two changes in behaviour adopted by parents with children: either to move to bigger places such as Ramea or Burgeo, with "better" schools, or to send the children away after grade eight (Two years ago the high school grades stopped being taught in Grand

Bruit.) to live with relatives in Port-aux-Basques, Burgeo or Ramea on government-supplied bursaries. Neither of these strategies were regarded as entirely satisfactory. People say that they do not wish to impose on their relatives, that their relatives would not be able to control their children, and that the children find alternative uses for their time, such as going to dances, and therefore do poorly in school.

This year, two fourteen year old grade nine candidates were kept at home "running around" (neither of these children helped extensively at home, much to the disgust of other women). The mother of one of these said she could not send her daughter among strangers as she herself cannot "keep her down" and her brother in Port-aux-Basques could not take her since his wife was sick. The mother of the other child maintained her son would not eat properly away and would be homesick, and that she could not impose on her married daughter to look after him.

The teacher, who had taught in the community for twenty-two years, left at the end of the 1969-70 school year, and a new teacher to fill the position was not secured until the end of August. There was much anxiety and intense discussion about the problem, as it was felt, and appears to be generally true in Newfoundland, that a teacher would not want to go to such isolated areas.

Already, several families have moved in order to send

their children to school. One family, for example, left for Ramea a year ago to enable their children to attend grade school, because they were considered too young to go away alone when they reach grade nine, and they "could get in with the wrong type of people if there is no one to talk to them". When this family visited Grand Bruit for a few weeks the mother said that at first her children were "scared by the number of kids and the different kind of school work", different because the teacher in Grand Bruit taught the "old way". The reasons for another family's moving were several, but education played a major role: a fourteen year old boy refused to go to school in Burgeo (he would have had to stay with relatives there) unless his parents were there. Then his grandmother became sick and went to hospital in St. John's. The doctor asked if his parents would stay with his grandfather. Therefore, they moved to Burgeo for awhile. Meanwhile, his father found a job at the power plant there and the family decided to stay.

People with school-age children said they would move if no teacher could be obtained but they certainly preferred to stay. Many of the women discussed their anxieties with the present school teacher, and several blamed her for leaving. She and I decided to hold a meeting of the mothers of school children. At this meeting, on June 8th, it was agreed that they all did not want to move. One woman wanted to write to

the premier while others thought they should not blame him as he had done a lot for Newfoundland and was not directly involved in this matter. It was decided to write to the Port-aux-Basques school board and to the Provincial Department of Education in St. John's, asking to help in obtaining a school teacher. The women present felt that what "they" wanted was a statement that they would move if they did not get a teacher. "They" is a pronoun of vague meaning often used by Grand Bruiters when discussing their desires or rights.

During the summer of 1970, a rumour (probably representing a gross distortion of a casual comment) circulated that one of the two ministers who hold services in Grand Bruit told the Port-aux-Basques school board that the people of Grand Bruit wanted to move, and therefore did not need a teacher. This was urgently discussed by the people of Grand Bruit, all but a few believing it to be true. Not until considerable letter writing had been done was this matter cleared up to the satisfaction of the people of Grand Bruit, and of the minister, who had been quite angry about this rumour.

Later in the summer, the other minister discussed with one of the two men who were local representatives for the school board the idea of writing to the Port-aux-Basques school board in order to obtain the services of the Mennonite teacher who had been in West Point, which had resettled during the summer. This teacher came to Grand Bruit in September.

Everyone said they felt it would be more reasonable for the government to spend the money going into bursaries to hire a school teacher for Grand Bruit, and they said electricity was of no value to them if there was no teacher.

Not everyone, however, objected to sending their children away. One woman said it would be alright to send one's children away if "you were lucky enough to have someone" (that is, relatives) in Port-aux-Basques, Burgeo, or Ramea. It would not be good to send them away to "run wild with no one to look after them".

Aspirations Regarding Recreation

A second change in aspirations is in what constitutes satisfactory recreation activities. People once relied on berry-picking, hunting, "going-around", and "times" (parties involving food and dancing) for their pleasures, whereas now some segments of the population feel that life cannot be enjoyed without restaurants, cars, movies, and television. Particularly the young single people want these amenities now; in the past, they were busy most of the time helping with subsistence and household activities, and there were more dances and "times", initiated by the young people themselves. Now they complain that no one aside from a twelve-year old boy can play the accordion. Now that there are more young people away, working on Lake Boats and working in stores and restaurants and in the Burgeo hospital, young people in

general look to the outside for their recreation and find that Grand Bruit falls short of their idea of a "good" place. Even middle-aged and elderly people who have been away express the value of television for "passing the time" and keeping one company. The strategy used by these dissatisfied people has been to move to bigger centres resulting in extensive demographic changes and the almost non-viable population structure (see Figure 2) of Grand Bruit now.

Aspirations Regarding "Conveniences"

A third change in aspirations is the desire in "late years" for "conveniences", that is, commodities provided by an industrial economy. These include, for example, electric appliances such as electric washers, toasters, kettles, irons, and refrigerators which would reduce the time and effort required for housework. Moving away has been one solution to this problem as the availability of many commodities depends on electricity or on a storekeeper who would be willing to expand his business inventory. These considerations appear not to have been the expressed reasons for moves; rather, better job or education opportunities have been mentioned, but once people settle down in larger places and start a new household, they acquire these items and on visits to relatives in Grand Bruit extol their virtues, resulting in general discontent among some Grand Bruiters about their own situation. One forty-year old woman in Grand Bruit wished she had moved

to Corner Brook to work when she was single, knowing that her boyfriend would follow and subsequently marry her and settle down there.

A second strategy adopted was writing letters to the local Member pleading for electricity; the first letter was written in September 1969; electricity was installed in December 1970, and by the spring of 1971, some people had bought electrical appliances. One man, who had moved to Ramea, maintained that Grand Bruit would be like Ramea or Burgeo if more people "asked for power and cars etc.".

Needs for Companionship and Security

A fourth need is that for companionship and security. This need has been and still is defined by most married people, and especially by elderly people in Grand Bruit, as satisfied by the local culture. Only in a few cases has the desire for it declined and been replaced by a desire for privacy. A young married girl of twenty-one expressed the sentiment of most people still living in Grand Bruit, saying it was good for "loneliness" since "you can go and visit someone anytime you want" whereas "in big places you can go for a walk or stay home but you are always alone". Most married people in Grand Bruit like the friendliness of Grand Bruit and maintained that people who leave are generally discontented in their new homes. One fifty-year old woman, who now lives in Ontario, was described as "hunched over and

miserable" with a "nervous stomach", and this was attributed to her having left Grand Bruit. Security in the form of owning one's own house, having an extended family to care for one when one gets older, and not having to contend with "strangers" is still highly valued.

It is important to realize that it is the people's definition of what is a secure and friendly situation that is relevant. For example, one family who had left Grand Bruit for Ramea found the gossip and enquiring about one's activities done by Grand Bruiter to be an intrusion and sign of "nosiness" rather than of friendliness. In Ramea, fortunately (from her point of view) no one cares what the person on the street is doing since "you don't know him anyway". Likewise, Grand Bruiter were pleased that their children were "safe" from cars whereas visitors complained that in Grand Bruit their children could easily fall into coves. Whereas some people felt the failure of Grand Bruit women to keep in style and the pronounced dialect were drawbacks, others felt more secure knowing that their accents and "old-fashioned" furniture were adequate and that they did not have to change these in order to be socially accepted.

Aspirations Regarding Prestige and Wealth

A fifth rising aspiration, the desire for prestige, was discussed in connection with consumption. It appears that those people with aspirations in this direction have mostly

left, leaving a population in Grand Bruit, including the younger married couples (but excluding the children who are away at school) who are quite content with the "old ways".

Wealth appears not to have high value in Grand Bruit and there have been and still are few discernable differences in wealth among the fishermen's families; traditionally all fishermen were regarded as of one social class as opposed to the social class of the merchant, minister, and school teacher. Poor families were this way because the household head was sick and on the "dole", which in those days was only \$12-16 per three months. Today there are minor differences in wealth, the poorer families being those of men who have been partially incapacitated for fishing by illness. In Grand Bruit, on the other hand, people compared the secure life of Grand Bruit with the "hard" life of elsewhere, saying that elsewhere the prices were high, and explaining one would have to pay rent and buy more food in those places. It appears that those with aspirations for wealth have largely moved away, leaving a population who appreciate the non-competitive world of Grand Bruit.

The situation in Grand Bruit appears to be in contrast to that on St. Lawrence Island where people are acquiring "unrealistic notions about money and prices, how easily it can be made, and about the obligatory nature of a loan. Concern has begun to be centred not only on the acquisition of

money, but also on its function as a standard against which other aspects of life are weighed. Most notable in the latter respect is the contrasting of the whole way of life in the village to what is conceived to exist elsewhere, and the main point of comparison is money". "People on St. Lawrence Island maintained 'cost lots of money to living now' and 'I sometimes think of the hard life we have here---how expensive everything is'". (Hughes: 1968:208).

Views of Grand Bruit and Other Communities

Views of Other Communities

The views people have of communities other than Grand Bruit affect their views of the strategies open to them. Places which are relevant to Grand Bruiters (that is, on which they comment) are listed in Table 27 with their descriptions and comments about each. From this table it is evident that people would regard an ideal place as bigger than Grand Bruit, not "slummy", possessing several stores, on level ground, possessing roads but not overrun with cars, lacking strangers, and possessing restaurants, stores, and opportunities for fishing and wage labour. Obviously, such an ideal (and paradoxical) place is most unlikely to exist and Grand Bruiters must take second best either by staying in Grand Bruit for the advantages accruing from isolation and smallness, or by moving to a larger place for its advantages.

TABLE 27

GRAND BRUITERS' VIEWS OF OTHER COMMUNITIES

Community	View or Comment	Informant (cases where opinion is not representative of most Grand Bruiteurs)
Burgeo	-smell from fish plant objectionable -"orange lodge" declining since people no longer attend meetings as they do in Grand Bruit -bored there	young girls working in hospital there
Burnt Island	- "had it hard" there (until two years ago when causeway to mainland of Newfoundland was built) because had to go by boat to church and post office	
Corner Brook	-not as "nice" as Stephenville because it is hilly	
Harbour Breton	- "nice" because is a large general store near wharf.	
Isle-aux-Morts	-bigger than Grand Bruit; has a road -"is no place like Grand Bruit although I was born and reared and married in Isle-aux-Morts."	
La Poile	-is "poverty" there, ie. "nothing to do" (work for cash)	
Little Bay	-Grand Bruit is a "better" place than Little Bay	elderly lady who grew up in Little Bay
Morton's Harbour (North East Coast)	- "people talk to you but seem to want to have nothing to do with you" whereas in Grand Bruit people are friendly	

Community	View or Comment	Informant (cases where opinion is not representative of most Grand Bruities)
North Sydney	"I love it there" "I hate it there"	Single girl Young married man.
Port-aux-Basques	- "Everyone hates it" since: -- crowds in station -- "more cars than people" -- "so big and so many cars" -- terrible cafeteria in CN station -- CN employees "won't give you information" on trains and boats -- "draggers" to be feared in winter -- foreigners on these boats are "horrible looking"	
Ramea	- fewer stages but more boats than in Grand Bruit -- "better" since: -- "can get more things you need in stores" -- schools better since teachers have been at college	Woman who moved to Ramea a year ago since discontented in Grand Bruit
Stephenville	- "beautiful" place since "flat and green" and has "nice buildings" (at air base)	
St. John's	- "slummy": -- "I loves it"	Single girl

Views Held by Young and Old

There is a strict dichotomy between the attitudes of young single people, and young or older married people to life in Grand Bruit and outside. One sixteen year old who had been working in St. John's said she would "go crazy" if she lived in Grand Bruit. "There's nothing going on and there's hardly any young people. I suppose it would be alright for someone married. I loves St. John's." One girl changed from slacks to a skirt after supper on Sunday as she would in Burgeo although there was "nowhere to go". Even old women agree there is "nothing in Grand Bruit for young people". "I cannot see young couples settling down here. There's nothing here, no restaurants, cars or movies. One thing, it is nice and quiet." An unmarried man of age 29 said he wished there were a television to pass the time and a shoe shine boy. A quite articulate and reflective girl who had spent a year at Memorial University in St. John's, said that growing up on the South West Coast was a handicap and she felt inferior because she was inexperienced with cars and television and large stores. Her mother agreed and said she tried to take her children on trips along the South West Coast so that they would have some experience. This girl said that an out-port background stunts many people since it makes them afraid to enter modern society. At University, she tried "everything" (movies, pubs, plays and shops) and felt this was more

important than her studies. The same girl said that Grand Bruit was a good place to acquire peace of mind and that she could enjoy two weeks there but no longer.

In contrast with these sentiments, a young married girl (age 21) said small places are "better for loneliness than big ones since in a big place one can only go for a walk or stay home (always alone)", whereas in Grand Bruit one can go and visit someone anytime you want. A married man 22 years old said he did not enjoy a two week trip to North Sydney to visit relatives and kept protesting to go home to the security of Grand Bruit. A married woman of 29 would not move if she had to "talk different" in a bigger place.

Older people almost universally extolled the merits of the small place and criticized "big places". A middle aged man said in a big place he would be afraid of being killed and in Grand Bruit one does not have to bother with the noise of cars. He complained that in Burgeo few people attend 'orange' meetings and a middle-aged woman complained of the smell in Burgeo from the fish plant. Everyone said they hated Port-aux-Basques because of the crowds at the station "who stare at you", the station employees who do not help you, the poor service in the station cafeteria, and the fact that there "are more cars than people". For Grand Bruit there is less worry about children's safety as there are no cars. Another man pointed out that because there were no dances and

movies in Grand bruit, no one failed any high school grade during the past fifteen years. People avidly compared this record with the 40% failure rate in high schools in places such as Ramea and Burnt Islands which have restaurants and dances. An old woman who had spent several winters in Ottawa said it was a "hard" place (high cost of living). In Grand Bruit she is relaxed and contented. "No one can do you harm as there are no 'strangers'. 'Strangers' must come in by harbour and everyone would know they were here." People commented on how friendly people are in small places and aloof they are in big ones. Others commented on the necessity in a larger place to keep up appearances by buying new furniture. For Grand Bruit, one's old hand-made wooden chairs and old metal daybed will suffice.

Views of Past, Present, and Future

The views Grand Bruiters have of the past, present, and future of their community influence their choice of strategies regarding settlement pattern.

The people of Grand Bruit are well aware of the traditional pattern of young people leaving for temporary work and then settling down and getting married. One middle-aged informant, visiting relatives in Grand Bruit, who met his wife and settled down in Ontario told me that there were a limited number of salmon berths and of lobsters to be caught, and as a young man could only get a salmon berth by being the first to take one

vacated because of someone's death, many young people had to seek work elsewhere. He said there was no pattern as to which sons or daughters go away. The ones who get established first in Grand Bruit stay and some go away and return again. He commented that Grand Bruit would be unable to hold all the people if they all stayed. An elderly woman said that the ones who got grade eleven in Grand Bruit went away and got married. She said it was better to go away and get married a little later to someone in another place than to get married in Grand Bruit.

However, Grand Bruiters are aware of a recent trend toward imbalance resulting from extensive out-migration. Grand Bruiters feel that their community will "phase out" in five or ten years. The old people comment that only one or two of their children are still in Grand Bruit and that the others are in Ontario or Nova Scotia and that some of their grandchildren have graduated from college. An elderly woman said that Grand Bruit was once a thriving place "with 250 people and more stages and skiffs". A middle-aged woman told me Grand Bruit is now just a "shell" since the old people will die and the young ones are leaving. She listed the number of old and middle-aged people beyond child-bearing age and commented that the young couples are not having children and said that soon there will not be enough children to warrant a teacher. Others complained that few

young couples settle down in Grand Bruit. People said it was "too bad" that Grand Bruit was "going down" and that it was "better" in the past. They explained that by "better", they meant that there were more people and more children to maintain the population. They explain that when there are too few children for a teacher (which will occur when the present grade seven and eight children enter high school), the parents of the children will have to leave and the old people will have to follow. The merchant left last year (a fisherman now keeps a shop) for St. John's since he was convinced that Grand Bruit was "going down" and people will employ him now at age 51 but will not in a few years. He said that eleven young households are not enough to maintain the population. He said that as many of these couples have one or no children, there will soon be only eight or so school children. He also reasoned that since so many of the householders are older couples (see Figure 2) one spouse can easily "pop off" and the other must leave to live with relatives on the mainland.

Knowledge

The field of ethnosience aims to discover the "system of knowledge and cognition typical of a given culture". This "reduction of chaos" by a particular culture is not necessarily the "highest possible and conscious degree of reduction".

(Sturtevant: 1964:99) Frake (1962:54-55) maintains that, to describe cultural behaviour, one must tap the cognitive world of the informants. He speaks of "ethnographic ecology" as requiring the discovery of the set of rules the people use in their dealing with the environment, for example, to name a species or find a house site. This knowledge very often entails knowledge of the ecology of the species utilized by a culture. For example, Morrill, (1964:405-416) discussing the "ethnoichthyology" of a people living on the Virgin Islands, noted that people's taxonomy of marine organisms was limited but their knowledge of marine ecology and fish behaviour was extensive. This included knowledge of food chains, reproductive behaviour, territoriality, tolerances of turbidity and temperature, and much more. They recognized the reef to be an ecosystem. This logic was inductive. Forman, (1964:417-426) studying Brazilian fishermen, found that they recognized the distribution of fish was a function of water depth and composition of the bottom.

Knowledge in Grand Bruit

Firstly, knowledge in Grand Bruit, as we have seen, includes some knowledge of food chains, seasonal behaviour, population dynamics, migration patterns, ecological succession, and predation. These factors are relevant at all levels of adaptation. For example, the gathering adaptation is enhanced by a knowledge of ecological succession after fire damage and

the economic fishing adaptation is enhanced by knowledge that lobsters "crawl" on foggy days.

Knowledge is not uniformly distributed, Men know more about the behaviour of fish and winds and tides whereas women can estimate whether the weather is appropriate for putting the wash out. Among the children, girls expect boys to know the names of fish found in "holes" or in the harbour whereas girls and boys both take a lively interest in small birds. The men who acted as guides for "sports" showed considerable knowledge of caribou and moose behaviour. For example, one man told me that caribou are down by the sea from October until February, some remaining until May, in order to eat "kelep" (Kelp, order Laminariales). They are driven back inland by a certain species of fly (he said that different types of flies appear at different times during the summer) to the "barren country", where they feed mostly on "caribou moss" (Sphagnum sp) (at Cinq Cerfs) eating a lot of yew bush (Taxus canadensis), white wood (basswood, Tilia americana) and black spruce (Picea mariana) (moose had depleted the stands of these at North Bay). This is merely a small example of the type of biological knowledge he possessed.

From Appendix B one can see that Grand Bruiters name more species than they use and that there is considerable "lumping" and some "splitting". This is reminiscent of Morrill's observation (1967:405-416), that among the Cha-Cha

there is a lumping of organisms not used as food. Levi-Strauss (1966:1-33) states that "natives" are interested in plants with no direct use to them because of their significant links with the animal and insect world, and their desire to see order in natural phenomena. Tentatively, from Appendix B one can say that Grand Bruiters are aware of species which affect species they use, but that species, whose links with species used are less obvious, are lumped together.

The men had considerable knowledge of the abundance over the years of various species of flora and fauna important to them, as the data in Chapter 3 indicated.

Chapter 3 also indicated a "knowledge" of population dynamics including an awareness that: the population of arctic hares (Lepus arcticus bangsii) declines as the fox (Vulpes fulva deletrix) population increases; trapping and fishing pressure explains a decline in the numbers of such species as hare, lobster (Homarus americanus) and harp seal (Pagophilus groenlandicus); and disease could cause the rabbit population to fluctuate in four-year cycles. Biologists at the Wildlife Division of the Provincial Department of Mines, Agriculture and Resources (personal communication) maintained that much of this "knowledge" of population dynamics was distorted, as was discussed in Chapter 3. It appears that Grand Bruiters make explanations for phenomena of interest to them or pertaining to their adaptation, regardless of the

objective accuracy of such explanations. Such distorted knowledge however, does not appear to adversely affect the ecological balance between the people and their resources.

Distribution of species important to Grand Bruiters is well known to them, as indicated in Chapter 3 and Map 3. The seasonal behaviour of important species is also known by the men. For example, saddleback (Larus marinus) and bluey gulls (Larus argentatus smithsonianus) hatch in June (the saddleback laying on islands and bluey laying in the blue hills), and in early July the young gulls are in the ponds and at the end of July, they come out to the harbour. The Canada goose comes from the prairies in March and April and eats goose grass near Barachois Island, staying until October. In April and May, the sea birds move north to breed. Connected with this partial knowledge of distribution is a knowledge of the food preferred by these species. For example, Canada geese were known to eat goose grass, caribou to eat caribou moss and "kelep" and moose to eat yew bush, black spruce and white wood.

The processes of erosion and succession were recognized and described. Erosion was explained because the soil in the Grand Bruit area is underlain by clay and it was loosened when it was turned over in the process of gardening, so that a few days of rain in succession would wash it away. This happened two years ago and people said there are now rocks

where there was good soil. Succession, as described earlier, was manipulated to increase the berry crop.

Finally, weather is a continually present limiting factor, to which man can adapt by means of knowledge. Men are especially concerned with and aware of fog, wind, rain, tides, currents, "loppy" (rough), and "dirty" (bad) weather as these affect their fishing. Lobsters, crabs, and some fish are said to "crawl" and therefore be caught on "logy" (foggy and wet) days. Likewise, foggy, overcast, cool, wet weather is said to be good for the salmon fishery and for troutng. Not only are fishermen concerned with the weather because of its effect on the fish they seek, but because of their own comfort and safety. They appear to be experts at estimating whether it is too lippy or windy for them to go out to their nets.

Weather conditions are also considered relevant to non-fishing aspects of Grand Bruit adaptation. Birds are known to come into the islands in a southerly wind and the men take advantage of this. Men and women know that the time of ripening of berries depends on the weather conditions, that certain types of flies prefer hot weather, and that small birds will build their nests earlier in fine weather. Likewise, late frost is feared and discussed, especially among the women because of its adverse effect on gardening activities.

The limiting of knowledge to useful ideas is emphasized

by certain gaps in knowledge, and misconceptions. For example, the fact that people consider frogs (not occurring around Grand Bruit—a specimen from Port-aux-Basques was an attraction for several weeks) and lobsters to be "fish", and bats to be birds has no deleterious effect on the ecologic balance between people and their resources. Likewise, plants not eaten by man or by caribou or moose are lumped together as "leaves". Grand Bruiters have different names for the immature ("bald eagle") and adult ("grepe") forms of the American eagle (Aguila chrysaetos canadensis) and regard them as different species. Likewise, they lump under one name the two or more species of puffins (Fratercula sp) the two species of murre (Uria sp) in their category of "turrs" and two species (northern wolf fish (Anarhichas denticulatus) and catfish (Anarhichas lupus)) in their category of "catfish", (personal communication, Dr. Warner). Such failures to make terminological distinctions also do not affect Grand Bruit adaptation.

The importance of cognition in the adaptation of a Newfoundland outport, in this case on the North East Coast, has been emphasized by Faris (1966:2,3,28). He discovered elaborate terminology and knowledge of aspects of the environment relevant to their adaptation, similar to that noted for Grand Bruit. For example, he noted their extensive knowledge of the behaviour of the sea (1966:28), of the fishing "grounds"

(1966:34), and of weather (1966:46). He discovered, as was the case in Grand Bruit, "significant" aspects of the conceptualization of sea creatures, some of which roughly parallel 'scientific' biological classification, and others which only make sense in terms of local cognition" (Faris: 1966:32). He also noted (1966:32-33), as was the case in Grand Bruit that cognition has affected the use of marine species; for example, fish used for bait were considered inedible, as were dogfish which are killed because of their adverse effect on the cod fishery.

Whether or not knowledge has increased or decreased over the years in Grand Bruit, thus changing the adaptation, was not discovered in this study; it is likely that much of the woods lore is not being passed on to younger men, who go on the Lake Boats seasonally and who therefore do less hunting and fishing, and who do not "go in the country" trapping as a few men did in the past. The learning, thirty-six years ago, of the technique of preserving food by bottling, is an example of an item of new knowledge which has affected adaptation in Grand Bruit.

New knowledge has been acquired from time to time, through diffusion following "culture contact". For example, contact between settlers in North Bay and a few Mic Mac Indian families resulted in the learning of medicinal cures (for example the use of sarsaparilla (Aralia racemosa) and yew bush

roots (Taxus canadensis) for colds) and of woods lore. A middle-aged informant, who had moved to Grand Bruit from North Bay, told me an Indian couple used to take his uncle into the woods when he was twelve years old. White settlers involved in transhumance built "indian-style" "winters' houses", copied from those built by the Mic Macs. (These houses had an open fire place and a hole in the roof instead of a chimney).

Another example of diffusion is the learning of the techniques of making seal moccasins for use "in the country" by Grand Bruit men, who fished "on the Labrador", from the women there.

Today there is increasing contact of this peasant part-society with the industrial society. Moore (1965:6) describes "modernization" as "becoming a member of a common pool of world knowledge and useful techniques". Included in this new knowledge is awareness by Grand Bruiters of the opportunities open to young people for education, and jobs of a different sort from those held by the last generation (for example working in a store or as a nursing assistant rather than as a domestic, or joining the Air Force rather than being a fisherman). Also included is a wider knowledge of the world outside Grand Bruit, especially of the cities and towns offering new types of jobs, new consumer items, and new life-styles which in turn affect felt-needs and aspirations

discussed above

The Preservation of Food

An important aspect of local knowledge persisting throughout the 150 years studied is that of preserving food. This adaptation is necessary when a considerable part of the adaptation is hunting, gathering, fishing, and the use of domesticated plants and animals as opposed to the use of store-bought food.

Techniques of Preservation

Preservation techniques are necessary because after the death of an animal two processes begin; bacterial decomposition (resulting from the action of bacteria from a source external to the food) and autolysis (due to self-digestion by enzymes).

Bacterial and enzyme action can be reduced by lowering the temperature (chilling), altering the acidity (pickling), or reducing the water content (drying or freezing) of a food item. The destruction of bacteria and enzymes can be achieved by means of heat (canning or smoking).

These methods vary in effectiveness: "The degree of preservation effected by smoking is small, and depends on the amount of drying, and the disinfection of the surface of the product by the constituents of the smoke". (MacPherson: 1935:18)

Salting and drying are more effective because of the withdrawal of water by drying (evaporation) and salting (osmotic action which withdraws water from the tissue cells), thus inhibiting bacterial growth and enzyme action (MacPherson: 1935:19).

Pickling, by raising the acidity, inhibits the activity of enzymes and prevents bacterial and mould growth. Brine pickle also "withdraws water from the flesh" and the "surrounding fluid prevents to a certain extent contact with bacteria as well as being an unsuitable medium for bacterial growth". (MacPherson: 1935:21)

Chilling only delays decomposition and therefore is effective for only a short period. Freezing allows products to be kept for long periods and has the added advantage that "on thawing the water of tissue has greater chance of being taken up, this giving a product very like the original". (MacPherson: 1935:21)

Canning is very effective, as after sealing and sterilization, no further contamination can occur and the cooked product will keep unchanged for long periods.

Traditional Techniques in Grand Bruit

In Grand Bruit, the traditional means of preventing bacterial and enzyme action had been salting, drying, and freezing. Fish were salted or dried (see Table 9). Meat

(moose, caribou, and one or two sheep carcasses each year) was frozen in the "storehouse" (a small unheated shed for storing fishing gear, coal, and food), the winters being cold enough to freeze the meat. The skin was left on so that the meat would "keep longer". Now that the legal hunting season is shorter, this cannot be done as the weather is not cold enough in the fall. Biologists at the Wildlife Division of the Provincial Department of Mines, Agriculture and Resources explained that, before 1958 the open seasons for moose and caribou included the period from the beginning of September to the beginning of November, and the month of December. However, in 1958 the seasons were changed as follows: from the beginning of September to mid October for caribou, and from the beginning of September to mid December for moose, these changes being made to attract tourists rather than satisfy the local people. Birds were cleaned and kept frozen in case "dirty" weather came and the men couldn't go out and get birds.

Berries and rhubarb were made into jam, enough being picked each summer to last until the next berry-season. Vegetables were stored over the winter in cool "cellars". The simplest type of cellar was the "potato pit"; a hole was dug in the ground, hay was put on the bottom, the vegetables in barrels were put on top of the hay, and hay was put on top and the pit was covered with mud and not opened

until the spring. A couple of informants now in their seventies remembered making this kind of cellar. A second type, the type in use by most everyone today is called a "root cellar". A wooden frame is made and covered with mud. This "rots out" and lasts only six or seven years. Potatoes stored this way grew soft and sprouted after a year. Enough potatoes are put in the cellar to last a year. On July 4th one root cellar contained only a few sprouting potatoes. At the present time one of the stores (Ron's) stocks a few vegetables every few weeks to carry people over the summer until the schooner comes in the fall. A third type of cellar is the concrete root cellar and lasts a "life time"; two families in Grand Bruit have this type.

Changing Patterns

The introduction of the bottling techniques thirty-six years ago has changed the preservation adaptation somewhat. Now moose, caribou, and birds are bottled (put in a bottle with a little salt and boiled); when the meat is used, it is cooked with onions. A few cans of lobster and salmon are kept at the end of the open season for these species, generally only if people are expecting guests and would need a "special meal".

Informants mentioned that in the fall people do not eat much salt meat because of the ready availability of moose,

caribou and birds. In the summer people rely more heavily on salmon, cod, and halibut whereas, in the winter, they obtain herring and birds and rely for the remainder of their diet on preserved food. Before the bottling technique was learned people ate no fresh meat (moose, birds, caribou) in the summer but did eat it in the winter as it could be kept frozen.

The time involved in most of these preservation processes is comparatively small, but the time and skill required to dry fish is considerable as was seen above, and this probably partly accounts for a decline in this activity.

From this discussion, it is evident that there is considerable long-term (yearly) planning. Firth, in her study of Malay peasants, also found that "saving" in the form of drying, salting, and pickling fish was done to tide over the monsoon months, and during the fishing season, the diet consisted mainly of fish; dried, salted or pickled as well as rice. These peasants also had to contend with the difficulty of dull wet days during the drying of fish, resulting in poor quality and bad flavour. Just as the Grand Bruiters saved potatoes, turnips, cabbage, and other vegetables, the Malays saved rice (in this case, against the monsoon season when they did not get cash payments weekly and hence could not buy it at the store). In both Grand Bruit and Malaya, these adaptations fluctuate seasonally with the availability of game and fish, and the maturing of the domesticated plants. Hence, to the

degree that preservation techniques are not or cannot be used, there will be seasonality in consumption pattern.

The Use of Energy and Time

A fourth adaptive technique is the use of energy (that is "work", the use of the energy of the human body, often aided by tools which make energy utilization more efficient) and time (all work takes time, which is itself a limited resource on which value is put).

Social Organization

Social organization is an adaptive feature in getting tasks done, since it facilitates the distribution of work and time expenditure among people. The producing and consuming unit is the nuclear family although there is considerable sharing of goods and tasks among the members of the extended family as will be seen later. Within this nuclear family, division of labour (see Tables 28, 29, 30) is quite pronounced in certain areas, the men generally being concerned with the sea and land, and the women with the household. However, there is a considerable sharing of tasks in the use of domesticated plants and animals on land (gardening, shearing sheep, even carding wool). Occasionally a woman will chop wood "like a man" and a man will help his wife with the cooking if she is busy elsewhere (for example doing house cleaning for a sick relative). Children do various land and household tasks

TABLE 28

LIST OF WORK DONE BY MEN (Summer 1970)

In Connection with Lobster Fishery

Haul traps
Make traps and buoys
Paint buoys

In Connection with Salmon Fishery

Make killocks (anchors for nets)
"Put out frames" (put supporting structure for nets in sea)
Repair nets torn by sharks and steamer
Remove "kelep" from nets (usually every day)
Put out herring nets for bait each day

In Connection with Upkeep of Boats

Paint boat
Repair engine
Make additions to boat (eg. add bunk to longliner used for guiding "sports")

In Connection with House

Chop wood for stove
Carry coal from coal schooner to coal house
Build and repair houses

In Connection with Subsistence

Hunt birds and animals
Fish
Attend to broody hen

Tasks Shared with Women

Shear sheep
Paint house
Prepare meals (when wife is busy elsewhere, eg., helping someone else houseclean)

TABLE 29

LIST OF WORK DONE BY WOMEN (Summer 1970)

Housework

Change sheets on beds
Dishes
Housecleaning (spring and fall)
Put quilts outside to air
Scrubbing and waxing (Friday or Saturday)
Sweeping and scrubbing mats
Washing windows
Washing, ironing (Monday)

Preparation of Food

Bake bread
Bake desserts (rolls, cookies, cakes, pies, puddings)
Put fire in stove (wood stove)
Go to store
Pack lunch for husband if he stays away fishing all day
or all week
Prepare meals (eg. peel vegetables, clean cod, etc.)

Subsistence Activities

Berry-picking
Build chicken pen
Feed chickens
Weed in garden

Sewing and Related Activities

Card wool and spin
Darn socks
Fancywork (embroidery, crocheting)
Hook mats
Knit (socks and guernseys)
Sew dresses

Aids to Fishing

Make "flags" for nets
Make "sandbags" for nets

Tasks Shared with Men

Paint rooms
Shear sheep
Saw logs and chop wood (only some women)
Carry coal (because husband sick)

TABLE 30

LIST OF WORK DONE BY CHILDREN (Summer 1970)

BoysSubsistence

Bring coal in from coal house
Catch and clean trout
Chop wood
Attend to pigeons

GirlsHousework

Bring coal in from coal house
Clean out washers (gasoline-run)
Dishes
Dusting
Emptying chamber pots and pails
Ironing
Making beds
Scrubbing (Friday or Saturday)
Sweeping floor

Preparation of Food

Beat cakes
Carry vegetables in from root cellar
Fry giblets or trout
Go to store (everyday in some households)
Peel vegetables
Put fire in stove (wood stove)
Set table and remove dishes after meal

Subsistence Activities

"Bar up" hens
Get eggs from hens

Sewing and Related Activities

Learn "fancywork"

and are recognized to be aids in the running of the household. Girls, especially, are appreciated for this, and people said that a mother of seven boys would be better off if she had seven girls. Informants maintained boys in the "old days" were cutting wood "like a man" at the age of nine, and several girls were taken out of school at age twelve or thirteen to help with the household and subsistence tasks.

The extended family is also an aspect of social organization which has aided in adaptation in this marginal habitat. The tasks involved in production and the fruits of these tasks are shared extensively within the extended family and among "friends" who are non-kin within the community as will be seen later.

Mechanical Technology

Tools are mechanical means which aid in the harnessing of energy (White:1959:40). In traditional Grand Bruit culture, tools made by Grand Bruiters have largely been in aid of transportation (itself a necessary aspect of adaptation as has been seen in the discussion of movement to dispersed resources). Such artifacts included "handbars" used for carrying coal or fish, "handslides" used to haul wood or meat out of the country. (Men would get on the slide to go down hills in the winter in three minutes which would take fifteen minutes to walk) and "hoops" used to lighten the load when carrying buckets of coal or water. The use of dogs to draw handslides

also increased the efficiency of energy utilization from man's point of view.

Other aspects of mechanical technology are imported from the outside industrial economy; for example, guns for hunting and motors for boats, which greatly increase the efficiency of energy use.

Changing Expenditure of Energy and Time

In the "old days", the lack of cash required that needed commodities (food, mats for warmth) for example, be obtained by means of the expenditure of time and energy. Then "women and men were always busy": men getting up at 5 or 6 a.m. to get bait for fishing, and women getting up then to 'work on the room' (spread fish for drying) and going to bed at 12 or 1 a.m. The fact that ten or thirteen children was a common family size indicates that women must have been kept very busy.

The changed adaptation pattern today represents an increasing tendency to place higher value on time and leisure and therefore to expend another valued item, money. The labour, money and time expended today each of the eleven felt-needs can be tabulated (see Table 31).

Table 32 indicates the changes over the last twenty years in work done by women. These changes represent a decline in work done for some felt-needs such as food and warmth whereas work done for others has remained the same (for example,

TABLE 31

RESOURCES EXPENDED FOR THE SATISFACTION OF FELT-NEEDS (Summer 1970)

Felt-Need	Resources Expended				
	Labour	Time	Money	Renewable Resources of Environment	Non-renewable Resources of Environment
<u>Practical</u>					
1) Food	Berry-picking (w, ch.)	x (w, ch.)		x	
	birds ("gunning") (m)	x (m)	x (gun)	x	
	cooking (w)	x (w)			
	fishing (m, ch.)	x (m, ch)	x (gear)	x	
	hunting land animals (m)	x (m)	x (gun)	x	
	keeping hens (w, ch.)	x (w, ch)	x (feed)		
	shopping (w, ch.)	x			
2) Health		x	covered by medicare plan		
3) Shelter	carpentry (m)	x (m)	x (wood)		
4) Warmth	chop or gather wood (m)	x (m)		"landwash" wood	trees and boughs
	carrying coal (m,w,ch)	x (w,w,ch)	x		
	hooking mats (w)	x (w)			
	knitting and preparing wool (w, m)	x (w,m)	x (occasionally for "worsted")	x (sheep)	

Felt-Need	Resources Expended				
	Labour	Time	Money	Renewable Resources of Environment	Non-Renewable Resources of Environment
4) Warmth	sewing (w)	x (w)	x (material)		
<u>Others</u>					
5) Aesthetic	Fancywork (w)	x (w)	x (materials)		
	hooking mats (w)	x (w)			
	painting houses (w, m)	x (w, m)	x (paint)		
		picking flowers (w, ch)		x	
6) Cleanli- ness	scrubbing, etc. (w)	x (w)	x (soap)		
7) Education	school (ch)	x (ch)	x (books, clothes)		
8) Informa- tion		catalogue (w) gossip (w) "going round" (w, ch) radio (m,w) sit in store (m)			
9) Recrea- tion		hunting (m) x (gun) berry-picking (w, ch) trouting(ch) radio (m,w, ch)		c x x	
			x (radio)		

255

Felt-Need	Resources Expended				Renewable Resources of Environment	Non-Renewable Resources of Environment
	Labour	Time	Money			
10) Soci- ability		"go round" (w) sit in store (m) "times" (m,w,ch)				
11) Style (prestige)		catalogue (w)	x (clothes, furniture)			
	sewing (w)	x (w)	x (material)			
	carpentry (m)	x (m)	x (wood)			

256

Note:

m = men; w = women; ch = children.

TABLE 32

CHANGES IN WORK DONE BY WOMEN

<u>Past Work (Outline Without Details)</u>	<u>Tasks Still Done</u>
<u>Housework</u>	
Carrying water from brook (until three years ago)	-
Scrubbing	x
<u>Preparation of Food</u>	x
<u>Subsistence Activities</u>	
Carrying boughs	-
Chopping wood (a few women)	x
Gardening	x (only a few still keep a garden)
Shear sheep	x (only two families have sheep)
Spread hay on rocks	x (only two families need to do this)
<u>Sewing and Related Activities</u>	
Hooking mats	x (by only a few women)
Knitting	x
Making dresses and clothes for children	x (by only a few women)
Mending children's clothes (up until 12 - 1 a.m.)	x (not to a large extent)
Quilting	x (not to a large extent)
Spinning, carding	x (by only a few women)
<u>Aids to Fishing</u>	
"Make" (cure) fish	x (only a few cod for own use)

cleanliness) if not increased (for example, style). The use of time has also increased from the attainment of the values of warmth, food, shelter, and cleanliness to include the values of style (poring over catalogues and making dresses), and recreation (taking the family for a day to an island or to a fishing camp for a picnic), information ("going around" the harbour visiting friends and relatives, writing letters, and reading the weekly newspaper), and sociability ("going around", visiting relatives elsewhere on the South West Coast for a week or so, or on the mainland for a season). Values which people want increasingly for their children are education and recreation. Women said of a twelve year old girl who performed all the tasks listed in Table 30 that her guardians (her elder sister and her husband) made her work far too hard and that she should have some time to play. Wadel (1969:54) maintains that "increased leisure might be placed on the same level as other consumption goods" and that the first "luxury" the outport household "bought" with an increase in their cash income was leisure for the wife (not having to handle fish). In Grand Bruit, women maintained they preferred to know what they had to do that day; otherwise there was no incentive to get up and start the day. Nevertheless, they appreciated their increased leisure and said that life was hard in the "old days".

One can view time not only as more highly valued now but

also as more available; so much so, that in cases it has become a liability. People feel a need to "fill in time". This felt-need was highly dependent on the situational factors of age and occupation, being strongest among old-age pensioners, young girls home for a holiday from work in Burgeo or St. John's, and men home from the Lake Boats, or at home during the winter having fished during the summer. Table 33 indicates several ways in which this time is filled; it appears to have resulted, for example, in the development of skills such as embroidery, crocheting, and reading by the women, and in gatherings in the stores and drinking sessions by the men, and in gatherings on the roads and in the stores by the teenagers (part of the courting pattern). This excess time with "nothing to do" is also a major motivation for teenagers and young adults wanting to migrate.

Money is a resource used increasingly for the production of warmth (bought clothes and wool), food (bought food, see Table 18), shelter (bought wood for the construction of homes), health and style and prestige (the accumulation of large wardrobes, the collection of knick-knacks, and in a couple of cases the buying of chesterfield sets for the "inner room", a room normally only used for guests, funerals, and pictures of ancestors). Less money is spent on recreation probably due to lack of opportunity (television reception is poor and there is only one television in the village, and there are no movies or

TABLE 33

LIST OF WORK AND OTHER TIME-CONSUMING ACTIVITIES
OF OLD-AGE PENSIONERSElderly Men

Carrying in coal and kindling
Chopping and cutting wood
Going out in boat (berry-picking and "gunning" birds)
Making birchbrooms
Repairing fishing gear of younger men
Sharpening knife
Shaving kindling (for stove)

Elderly Women

Baking and cooking
"Canning" (e.g. caribou meat)
Cleaning chairs
house
stove
"Fancywork" (embroidery, crocheting)
Knitting
Reading

restaurants). Wadel cited the availability of cash as one of four factors explaining the decline of subsistence production in Notre Dame Bay. "It was no longer absolutely necessary to keep gardens and animals to provide the necessities" (1969: 54). This was also true in Grand Bruit as was made evident in Chapter II.

Generalization

Four final adaptative strategies are also interrelated: generalization, specialization, and the concept of property.

Generalization in Grand Bruit

Generalization is a strategy whereby an individual or a community develops skills and the ability to utilize resources from several sources. This has been regarded as a traditional Newfoundland adaptative strategy, the typical Newfoundlander being capable of fishing for cash, hunting and gardening for food, and taking seasonal wage work jobs. The wide range of activities exploiting diverse resources in Grand Bruit is indicative of this generalized adaptation. It has been emphasized that Grand Bruiters use a diversity of subsistence resources of the land and sea as well as cash for exchange, rather than concentrating on one staple.

As is evident from Table 11, all Grand Bruit households show considerable generalization in their economic adaptation. There are several niches occupied by only two or three men,

such as boat building and guiding sportsmen; however, these are not examples of specialization as these occupations constitute only part of the economic niche of these men.

Theoretical Discussion

Wadel speaks of occupational pluralism as a typical Newfoundland adaptation; that is, "the inshore fisherman typically combines several occupations or activities in his seasonal round" (Wadel: 1969:45). He proceeds to classify these adaptations according to the "dominance or nexus of one activity or type of income", into fishing, wage work, and welfare nexuses (Wadel: 1969:45). Boat work, and inshore fishing; the other occupations, such as guiding sportsmen, acting as post office operator, and packing salmon being 'gap-fillers' (see page 37).

The generalization of Grand Bruit is typical of technologically simple societies. Nash (1966:21) describes primitive and peasant economies as requiring "a few specialized operations", these being such "that a highly interrelated web of occupations does not result....The division of labour is not extensive....[and] tends to follow the natural lines of sex and age".

Specialization

Specialization in Grand Bruit

However, there are several examples of specialization within the generalized adaptation of Grand Bruit; not everyone combines the same part-time occupations, and therefore there are several functions performed by only a small proportion of the total Grand Bruit population. In the "old days", only two men specialized in trapping far inland, and a few men in packing lobster, and four brothers in netting seals.

An example of specialization on the community level occurred at North Bay, a community situated at the head of a fjord in the middle of a good stand of timber. Informants told me people settling in North Bay gradually learned the art of boat building by trial and error. North Bay, being an area of abundance of trees and of skilled carpenters, became the supply centre of boats (mainly schooners and skiffs) for the entire South West Coast from Port-aux-Basques to Baie d'Espoir. No other commercial boat-building occurred west of Baie d'Espoir. In this case, a resource concentrated in one area was utilized by all through the specialization of a few men in the use of that resource, and the travel back and forth of men from other communities to buy the product.

Much specialization is a result of differences in sex and age, and sharing patterns reduce the problems resulting

from the unequal distribution and utilization of resources. Table 34 shows that salmon fishermen gave salmon to their aged relatives, birds were shared among relatives, and other subsistence items among friends and relatives. Likewise, if people had cooked or bought too much for their own nuclear family, it was given to relatives of friends.

People with skills were called upon to perform tasks for relatives and friends in anticipation of a reciprocal favour, or for other members of the community in anticipation of monetary payment. For example, a man who had been a lumberman and boat builder in North Bay until three years ago, was called upon to get timber for an elderly man and to help a young man build a boat (he also built boats during the winter for payment). Women who knew how to crochet or make quilts made lunch cloths and runners and quilts for other women.

Men who went moose hunting shared the meat with everyone in the community. This was probably due to two factors: a Provincial Department of Mines, Agriculture and Resources regulation forbidding the selling of moose or caribou meat, and ecological stresses similar to those cited by Damas who explained seal-sharing as a cultural trait among Central Eskimos as "insurance for unsuccessful hunters" because of the "lower level of subsistence or exploitative efficiency" (Damas: 1969:55).

TABLE 34

SHARING PATTERNS (Summer 1970)

Item Shared	Comments
<u>Food</u>	
<u>From Environment</u>	
birds	e.g. when shoot several, or several "turrs" get caught in net
broody hen	to rear chickens
eggs	sold
lobster parts	
moose	whenever a moose or caribou is shot, the meat is shared "around the harbour"
mussels	shared with people who visit while cooking
potatoes	grown in garden
salmon	given by fishermen to people, especially older people who do not fish
trout	
<u>Bought (Examples)</u>	
bean dinner	any left over
cabbage	any left over
chicken soup	any left over
cheese	any left over
<u>Labour</u>	
<u>For Food</u>	
carry potatoes	child for elderly person
pick berries	child for elderly person
<u>For Warmth</u>	
make dress	certain women do this, in anticipation of payment, for others
knit socks	
make quilt	
carry in coal	
shear sheep	shared by members of extended family
<u>For Shelter</u>	
saw logs	young man for older one

<u>Item Shared</u>	<u>Comments</u>
<u>For Aesthetic Felt-Need</u> crocheting	certain women do this in anticipation of payment, for others
<u>For Cleanliness</u> house cleaning	especially for someone who is incapacitated
ironing	for someone who is incapacitated
painting	for someone who is incapacitated
scrubbing	in bad weather or for elderly or incapacitated person
wallpapering	
washing	
<u>For Style</u> cut hair	certain women (one or two) do this for others for payment
sew dresses	certain women do this in anticipation of payment, for others
<u>For Fishing Adapataion</u> make boats	
<u>For Shop Keeper</u> bring freight up from steamer	teenagers helping Ron
tidy up counter	teenagers helping Ron
<u>Miscellaneous</u> company at night	young girl to keep woman company when her husband is away
packing and moving	

Much helping behaviour was the result of periodic or temporary physical incapacity. This applies particularly to old people who had young girls do their "scrubbing" for them for a fee, or whose grown-up children and young adult friends painted and wallpapered their houses for them or who paid a child to pick berries. A granddaughter washed and ironed for her elderly grandmother who was sick, and a pregnant woman's mother and sister-in-law did her house cleaning and interior painting for her. Likewise, when a sudden rain-squall occurred on wash day, a sister-in-law helped a woman bring in her wash.

Other instances of sharing were not examples of specialization but were the result of the fact that some tasks are more easily done by several people. Such tasks include shearing sheep, shared by members of the extended family, and bringing freight up from the steamer to the shop, shared by any young men available at the time.

Theoretical Discussion

Wadel (1969:63) discusses the disruption of pluralistic adaptations and their replacement by specialization of three types: moving and taking up urban employment; remaining in the outport and going on welfare; and innovating in situ. The first one, as described above, has been tried by many Grand Bruisers. The second one has not been resorted to except by one man who was sick. The third innovation has

been tried by one young fisherman, that is by building a longliner so that he can fish almost all year round. Wadel also regards the movement from inshore to offshore and the transition from salt fish technology to fresh fish as examples of specialization, in this case aided by industrial society in the form of provincial government programmes providing financial aid for these fishing adaptations.

Specialization appears not to have taken hold of Grand Bruisers' behaviour and aspirations as much as it has, for example, in St. Lawrence Island (Hughes: 1969:203-4) where one man bakes bread, another is a self-taught dentist, and several have expressed ideas about starting businesses in the village, through which they might have a steady income, such as a second general store, a coffee shop, a beauty parlor, a recreation hall, a movie house, and a waiting room for the passengers on the airlines.

Reciprocity and sharing appear always to have been part of Newfoundland culture. For example, Szwed (1966:39-59) noted sharing and cooperative behaviour throughout the history of the Codroy Valley. He found that

"inter-personal relations are ruled by attempts at balance and equality between individuals....All social relationships...are viewed as requiring balance and reciprocity [and] as all social units...(individuals and nuclear families) are seen as equal, symmetry is thus implied....All transactions of goods and services within this sphere of social organization are seen as a part of social life in general: the 'economic is embedded in the social'...."The pattern of socio-economic integration thus characterizing this level

of parish society is that of reciprocity". (Szwed: 1966:46)

The introduction of money to a people with this orientation resulted in the development of the custom of "inverted haggling" in bargaining behaviour (Szwed: 1966:56) Chiaramonte (1970) discovered, in a South West Coast Community, part-time specialists (craftsmen) in boat building, boat repairs, engine repairs, and house construction. They formed contracts (as such people did in Grant Bruit) with their clients.

Notions of Property

Finally, because resources are limited and dispersed, suitable notions of property are necessary to order the relationship of the members of the community to the required resources. Steward (1955:72-73) showed that the concept of property rights among the Shoshoneans was directly related to their way of life. Among the Shoshoneans, natural resources were available to everyone, but if a group of families built a fish weir, their group alone had the right to use that weir. Likewise, seeds gathered by a woman were hers since she had done the work of converting a natural resource into something that could be directly consumed. In seed gathering, the families which entered a seed plot or pinon grove first selected the best portion and had rights to their chosen portion. Steward maintained this principle of property rights was essential for survival in this area; because of the "erratic

annual and local occurrence of foods, the arbitrary exclusion of territorially delimited groups of families from utilization of other territories would have caused starvation and death". (Steward: 1955:73) Likewise, in Grand Bruit berry patches and land for hunting were available to all.

Murphy and Steward (1956:214-234) described Indians in the third stage of acculturation in which the nuclear family is the primary economic unit and the old bonds of inter-familial economic dependence are attenuated, a situation also observed in Grand Bruit. They said that a system of ownership by usufruct for trapping territories developed at this stage; in Grand Bruit, fishing "berths", and trapping and garden territories were also held by usufruct. Murphy and Steward said that this system is found in "areas of the world in which controls of law and government are loose and population density is low" (1956:219).

In Grand Bruit, such property rights functioned to enable people to use dispersed resources without undue privileges accruing to some members of the community. The overall ecologic adaptation did not favour the development of rigid property rights as occurs in the condition of "stable agriculture" (Nimkoff and Middleton: 1960:389) in which land acquires a special significance, and a group remains rooted to it over a long period of time, the land being a source of pride, prestige, and power.

CHAPTER V
SUMMARY AND CONCLUSION

In this dissertation, a body of data concerning a small community has been presented in terms of a particular viewpoint: the presentation has been holistic and historical, in the manner recommended by Redfield (1956:156-158) and Thompson (1950, 1961). The data was presented in terms of several concepts: "adaptation" as understood by Cohen (1968:40-60); "stresses" as understood by Chance (1968:11-32); and Buff (1970:19-26), and "change" as understood by Chance (1968:11-32) and Murdock (1965:247-260).

Presentation of Data

The data was presented in the following order:-

1) The limitations (physical, climatic, biologic, and economic) inherent in the environment of these people were described. From these emerged a general overall picture of the adaptative strategy, described in terms of a peasant "part-society" who use fishing as a means of articulation with the cash economy, and who have a generalized adaptation including subsistence activities, production for exchange, and wage-labour.

2) The information provided by informants on activities of each of Cohen's (1968:48-52) levels of adaptation was presented. Changes in the use of each biologic and economic

resource, and the responsible stresses cited by informants were described.

3) An understanding of the exchange aspect of Grand Bruit adaptation was furthered by an analysis of factors limiting the goods available to Grand Bruiteres for purchase, and of other stresses determining consumption patterns.

4) Various strategies used by Grand Bruiteres to adapt to their environment were described, and changes in each of these through time were discussed.

Conclusions

Several Specific conclusions can be drawn from the material on changing adaptation in Grand Bruit.

Limitations and Stresses

1) The limitations which affect Grand Bruit adaptation vary in their stability. Some, such as geography and soil type, are long-term and have partially determined the overall adaptative pattern whereas others, such as the presence and behaviour of flora and fauna and of fish merchants and fish prices, are more variable and are responsible for stresses and resultant changes in adaptation occurring throughout the one-hundred-and-fifty year history of Grand Bruit. Some limitations are inherent in the nature of fishing as an economic adaptation (discussed in Chapter 2) in the preservation-properties of food (discussed in section on

Consumption Patterns in Chapter 3), and in the isolation of Grand Bruit (discussed in section on Cognition in Chapter 4).

2) Stresses which have been influential in changing adaptation include: events in the physical environment; ecological processes affecting populations of animals and plants; events in the industrial part-society such as changing laws, changing prices, changing services (school, post office, steamer service), and Confederation with Canada; the action of man in depleting a resource; demographic factors; the availability of alternate sources of a necessary or desired item; changes in the definition of an opportunity; changes in the value placed on time, work, and money as well as in availability of these; changes in taste and felt-needs; lack of time, a limited resource, to engage in one activity because of its use for another; culture-contact; and idiosyncratic factors.

3) Changes in felt-needs have been due to the "pull" of opportunity, and contact with the culture of "bigger" places due to the migration pattern of Grand Bruiters.

Adaptive Strategies

4) Several strategies can be described which are used by Grand Bruiters to adapt to their environment. These include: mobility, cognition, the preservation of food, the use of energy and time, generalization, specialization, and the concept of property. Changes have occurred in the use

of these strategies.

5) Mobility is part of Grand Bruit culture. There are several degrees of mobility; daily, weekly, seasonal, transhumance, temporary and permanent. All of these are partially correlated with the situational factors of age and sex, and are adaptive in the use of dispersed resource, be they environmental resources or sources of cash. Mobility has influenced the demographic pattern of Grand Bruit which, in turn, has affected other adaptive strategies. Mobility has been instrumental in the pattern of mate selection, probably resulting in the formation of a homogeneous South West Coast culture without considerable inbreeding.

6) Knowledge in some subject areas is very detailed, as was also found by, for example Faris (1966:27-49) elsewhere in Newfoundland. Morrill (1967:405-416) and Forman (1967:417-426) with fishing peoples elsewhere in the world whereas in other subject areas it is lacking or distorted from objective reality. Such "defects" in knowledge do not adversely affect the overall adaptation. Changes in knowledge have occurred due to culture-contact and changes in subsistence behaviour, and varied between individuals especially with respect to the situational factors of age and sex.

7) Planning with respect to the preservation of food is largely yearly and to the consumption of food is largely daily

and yearly rather than weekly or seasonal. Seasonal variation in diet occurs as a result of seasonal variation in subsistence activities.

8) Social organization, at the nuclear and extended family level, has been and still is an effective adaptation in the distribution of energy and time expenditure among people.

9) Grand Bruit adaptation has been and still is very generalized as is true in the rest of Newfoundland as described by Wadel (1969). Grand Bruit adaptation involves the use of several of Cohen's (1968:48-52) levels of adaptation, (hunting and gathering, the use of domesticated plants and animals, and articulation with a cash economy). Likewise, sources of energy vary from inefficient to efficient, and economic behaviour includes sharing patterns and cash economy. The two main contemporary "nexuses" (cf Wadel: 1969:45) are Lake Boat work and inshore fishing.

10) Specialization is an adaptation used to a small extent in Grand Bruit, especially recently. North Bay is an example of specialization at the community level. One type of specialization at the household level in Grand Bruit is the differential acquisition of food and skills due to the situational factors of age and sex and to temporary physical incapacity, a limitation largely overcome by means of sharing patterns. Other examples of specialization include permanent

migration to a larger place, going on welfare, and innovating in situ, as described by Wadel (1969). Of these three, only migration has been used in Grand Bruit to any extent.

11) Usufruct rights are a concept of property in common use in Grand Bruit. It is a good adaptation to the use of dispersed resources without inequality in access to resources as was also noted by Steward (1955:68-81) and Murphy and Steward (1956:214-233).

Responses to Stresses

12) There has been an overall decline in subsistence production in Grand Bruit similar to that described for all of Newfoundland by Dyke (1968:26-60) and Copes (1961). However, factors involved in this decline include not only the introduction of cash due to wage work, transfer payments, and the cessation of the credit system, as described by Wadel (1969:9-132), Dyke (1968), and Brox (1969), but also minor stresses which, in the presence of a major stress, such as the availability of cash, trigger changes in adaptation by individual households.

13) Consumption, which partially determines and is determined by production, has changed in response to stresses.

14) There have been changes in the proportion to people engaging in the various types of mobility, in response to changing perception of resources. Examples are the cessation of transhumance in the 1880's, and recent increases in temporary

and permanent migration. Much of this increase in mobility is due to the impact of a cash economy as described by Moore (1965). Lately, imbalance and possible resulting extinction of Grand Bruit in the near future has occurred.

15) There have been changes in settlement pattern because of changes in the pattern of mobility which are in turn due to the presence of stresses which favour a different settlement pattern from the existing one.

16) There appears to have been experimentation and the operation of balancing mechanisms in settlement patterns resulting in the survival of certain communities of optimum size for the resources present as was described by Dyke (1968). Lately there has been a concentration of population, those communities offering opportunities such as that for wage work being the ones which grow in population.

17) Responses to changing aspirations have been migration (permanent and seasonal), writing letters to relevant authorities asking for help, and changing consumption patterns.

18) There have been changes in the labour, time, and money spent on the various felt-needs due to changes in value placed on all of these.

19) The views Grand Bruiters have of other places, and of the past, present, and future of Grand Bruit affect the strategies adopted. For example, lately there has been an increase in permanent migration because of incoming information

(such as for example that on the recent resettlement of West Point, and that provided by migrating Grand Bruiters) and because of changes in aspirations, a perceived lack of services in Grand Bruit, and general anxiety. By-products of the permanent migration of a portion of the Grand Bruit population are anxiety among those left in Grand Bruit and a resultant trend of "mass migration" as described by Peterson (1958).

20) There appears to be a dichotomy in Grand Bruit between those who feel that Grand Bruit life provides their needs such as that for security, and those who are restless. The latter group have mostly left or are likely to move soon.

21) The data on changing adaptive patterns and the stresses influential in these show that changes can not be understood in terms of major events which usher in various "phases" of adaptation. Rather, stresses from various sources impinge on the entire Grand Bruit environment system and result in gradual processes and sequences of interconnected events.

APPENDIX A

PLANTS COLLECTED BY AUTHOR IN GRAND BRUIT AREA

Common Name (Grand Bruit Name in brackets)	Scientific Name	Locality	Habitat
<u>Trees and "boughs"</u>			
Balsam fir (spruce)	<u>Abies balsamea</u>		mineral soils
Black spruce	<u>Picea mariana</u>	Cinq Cerfs	mineral soils - in association with balsam fir but prefers wetter areas.
Canada yew	<u>Taxus canadensis</u>	Cinq Cerfs	mineral soil, generally among other trees
Juniper (fir or juniper)	<u>Juniperus communis</u>	Cinq Cerfs	mineral soil - upland dry - barren country
Larch or Tamarack	<u>Larix sp</u>	Cinq Cerfs	
Sweet Gale ("alder")	<u>Myrica gale</u>		damp areas, edges of bogs or ponds, mineral soil.
<u>Edible Berries</u>			
Cloud berry ("bakeapple")	<u>Rubus chamaemorus</u>		Sphagnum bogs
Cranberry ("marshberry")	<u>Vaccinium macrocarpon</u>		Bog and wet upland soil
Cowberry ("partridgeberry")	<u>Vaccinium vitis-idaea</u>		high exposed areas not sphagnum bog or acid areas re- quired by blue- berries (a hardy species)

Common Name
(Grand Bruit
Name in brack-
ets)

Scientific Name

Locality

Habitat

Grasses

Carex sp

"Big Hill"

wet areas

Freshwater Ponds

Yellow Lake Lily Nuphar

Barachois
Island

freshwater
pond

Bogland Plants

Bog rosemary

Andromeda
glaucophylla

sphagnum bogs

Leather leaf

Chamaedaphne
calyculata

shoreline
just east of
Grand Bruit boggy areas

Pitcher plant

Sarracenia
purpurea

bogland

Sundew

Drosera sp

Barachois
Island

bogland

Swamp laurel

Kalmia polifolia

Barachois
Island

bogland

Woodland Plants

Canker root or
gold thread

Coptus groenlandica "Big Hill"

shaded areas
woods

Liver wort
("moss")

Bazzania sp

Cinq Cerfs

under spruce
"boughs" or in
woods

Mosses

Dichranium sp;
Pleurozium sp

Cinq Cerfs

woods - upland
mineral soil;
woods

Common Name (Grand Bruit Name in brackets)	Scientific Name	Locality	Habitat
Trailing arbutus ("mayflower")	<u>Epigaea repens</u> <u>var glabifolia</u>	"Western Arm"	coniferous woods sandy to peaty clearings, acid mineral soil
Violet	<u>Viola</u> sp	"Big Hill"	shaded areas, woods
<u>Dry Bog or Dry Barrens</u>			
Labrador tea	<u>Ledum groenlandicum</u>	Barachois Island	Dryland and dry bogland
Lambkill	<u>Kalmia angustifolia</u>	Barachois Island	dryland
Lichen	<u>Cladonia</u> sp		wet or dry areas
Sphagnum moss ("caribou moss" "red moss")	<u>Sphagnum</u> sp	Cinq Cerfs	Barrens, drier hummocks
Vetch	<u>Vicia</u> sp	Barachois Island	dryland
<u>Plants Requiring Mineral Soil</u>			
Black Crowberry	<u>Empetrum nigrum</u> ; <u>Sanguisorba</u> <u>canadensis</u>	Barachois Island	high exposed areas mineral soil (a hardy species); damp spots mineral soil
Crackerberry or Bunchberry	<u>Cornus</u> <u>canadensis</u>	lowlands east of Grand Bruit	mineral soil
Fern ("crows foot")	<u>Osmunda</u> sp	lowlands east of Grand Bruit	soil, along ponds

APPENDIX B

LIST OF BIOLOGICAL SPECIES KNOWN TO GRAND BRUITERS

Grand Bruit Name	Common Name	Scientific Name	Habitat	Use	Miscellaneous
<u>Land Mammals</u>					
Bear	Newfoundland black bear	<u>Ursus americanus</u> <u>hamiltoni</u>			native
Beaver	Newfoundland beaver	<u>Castor canadensis</u> <u>caecator</u>	forested area and bog areas around lakes	exch. (trap)	native
Caribou	Newfoundland caribou	<u>Rangifer caribou</u> <u>terraenovae</u>	treeless barrens	S(hunt)	native
Ermine	Richardson's Ermine	<u>Mustela ermine</u> <u>richardsonii</u>		exch. (trap)	native
Fox	Newfoundland red fox	<u>Vulpes fulva</u> <u>deletrix</u>		exch. (trap)	native
Hare	Arctic hare	<u>Lepus arcticus</u> <u>bangsii</u>	higher hills barren hills	S(trap)	native
Lynx	Newfoundland lynx	<u>Lynx canadensis</u> <u>subsolanus</u>		exch. (trap)	native
Mink	Mink	<u>Mustela vison</u>		exch. (trap)	introduced 1935

Grand Bruit Name	Common Name	Scientific Name	Habitat	Use	Miscellaneous
Moose	Eastern moose	<u>Alces alces</u> <u>americana</u>	wooded areas	S (hunt)	introduced 1904
Muskrat	Newfoundland muskrat	<u>Ordatra zibethicus</u> <u>obscurus</u>	ponds in barrens	exch. (trap)	native
Otter	Newfoundland otter	<u>Lutra canadensis</u> <u>degener</u>	wooded wilderness streams and lakes	exch. (trap)	native
Rabbit	Nova Scotia snowshoe hare	<u>Lepus americanus</u> <u>struthopus</u>	wooded areas	S	introduced 1864
Wolf	Newfoundland wolf	<u>Canis lupus</u> <u>beothucus</u>			extinct ~1910
<u>Rodents</u>					
Bat		<u>Myotis</u> sp			native
Mouse	House mouse	<u>Mus musculus</u> <u>domesticus</u>	houses		introduced
	Meadow mouse	<u>Microtus pennsylv-</u> <u>anicus terraenovae</u>	grasslands, bogs, wood- lands		native
Rat	Norway rat	<u>Rattus norvegicus</u>	sea-coast (fish refuse)		introduced

...3

Grand Bruit Name	Common Name	Scientific Name	Habitat	Use	Miscellaneous
<u>Domesticated Mammals</u>					
Cat		<u>Felis sp</u>			
Cow		<u>Bos taurus</u>		S	
Dog		<u>Canis familiaris</u>		retrieve birds, draw handslides	
Hen		<u>Gallus sp</u>		S	
Pig		<u>Sus scrota</u>		S	
Sheep		<u>Ovis aries</u>		wool and S	
<u>Salt Water Birds</u>					
Diver	Eastern white- winged scoter	<u>Melanitta deglandi</u> <u>deglandi</u>	Often far offshore - dive to con- siderable depth for food - feed on mussel beds at low tide	S	
Eider duck	Common eider	<u>Somateria</u> <u>mollissima</u>	rocky coasts and islands mussel beds	S	

Grand Brit Name	Common Name	Scientific Name	Habitat	Use	Miscellaneous
Gull (bluey)	Herring gull	<u>Larus argentatus</u>	islands and coasts and inland fresh- water lakes and rivers	S	
Pigeon	Black guillemot	<u>Cepphus grylle</u>	Nesting sea- son - rocky coast; winter - offshore and inshore waters	S	
Tickleass	Black-legged Kittiwake	<u>Rissa tridactyla</u>	Breeding season - rocky coasts Other seasons - offshore		
Turr	Common murre	<u>Uria aalge</u>	Breeding season S - rocky cliffs and islands Winter - offshore		
Twillick	Greater yellowlegs	<u>Totanus melanoleucus</u>	shore bird		
<u>Fresh Water Birds</u>					
Black duck	Black duck	<u>Anas rubripes</u>	Shallow water marshes and salt water of coast	S	
Fish hawk	Osprey	<u>Pandion halinetus</u>	Lakes, rivers, dives for fish	S	

Grand Bruit Name	Common Name	Scientific Name	Habitat	Use	Miscellaneous
Goose	Canada Goose	<u>Branta canadensis</u>	nest ground near water vast ecologi- cally varied areas	S	
Hound	Oldsquaw duck	<u>Clangula hyemalis</u>	summer-lakes, ponds, coasts, islands; other seasons- coastal waters and lakes and rivers	S	
Loo	Common loon	<u>Garia immer</u>	Winter-inshore coasts Summer-lakes and rivers	S	
Shellbird	Common merganser	<u>Mergus merganser</u>	Summer-lakes and rivers; Winter-coastal salt water	S	
Spraw-foot	Northern pied- billed grebe	<u>Podilymbus podiceps</u> <u>podiceps</u>	nests-swamps and ponds; feeds on fish	S	
Stearin	Common tern	<u>Sterno hirundo</u>	nest-sand and gravel beaches forages lakes, rivers, salt water	S (eggs)	

Grand Bruit Name	Common Name	Scientific Name	Habitat	Use	Miscellaneous
Teal	Green-winged teal	<u>Anas carolinensis</u>	fresh water ponds and marshes and salt water	S	
<u>Land Birds</u>					
Crow	Common crow	<u>Corvus bachyrhynchus</u>	adaptable omnivorous		
Partridge	Willow ptarmigan	<u>Lagopus lagopus</u>	Low tundra	S	
Robin	American robin	<u>Turdus migratorius</u>	forest open- ings, burnt lands		
Wagtail	Yellow wagtail	<u>Motacilla flava</u>	Open country		
Yellowhammer	Newfoundland yellow warbler	<u>Dendroica petechia</u>	mixed growth insectivorous		
<u>Terrestrial Invertebrates</u>					
Black fly		family <u>Simuliidae</u>			
Emit	Ant	family <u>Formicidae</u>			
Lamplighter					
Nipper	Mosquito	<u>Aedes</u> sp			

Grand Bruit Name	Common Name	Scientific Name	Habitat	Use	Miscellaneous
Sandfly		family <u>Chironomidae</u>			
Spider		class <u>Arachnida</u>			
Woodlice					
Worm		phylum <u>Annelida</u>			
<u>Marine Mammals</u>					
Porpoise	Atlantic harbour porpoise	<u>Phocaena phocoena</u>		S	
Seal(harp)	Harp seal	<u>Panophilis groenlandicus</u>		S	
Seal(bay)	Harbour seal	<u>Phoca vitulina</u>		S 'exch. (oil and skins)	
<u>Marine Fish</u>					
Blackfish	Pilot whale	<u>Globicephala melaena</u>			
Brim	Rosefish	<u>Sebastes</u> sp	deep warm water below intermediate cold layer	S	pot exch.
Capelin	Whitefish	<u>Mallotus villosus</u>	spawn on beaches in June	S	
Catfish	Catfish	<u>Anarhichas</u> sp			

Grand Bruit Name	Common Name	Scientific Name	Habitat	Use	Miscellaneous
Cod	Atlantic cod	<u>Gadus morhua</u>	Winter-warm deep water; Summer-move toward shore	S exch.	pot exch.
Conner				bait	
Dogfish	Spiny dogfish	<u>Squalus acanthias</u>	Common South coast - es- pecially June -November		negatively viewed
Eel	American eel	<u>Anguilla rostrata</u>	rivers, streams ponds	S	pot exch.
Flatfish or Flounder	American plaice	<u>Hippoglossoides platessoides</u>	cold water -1°C to 1°C	S, bait (not pre- ferred for eating)	pot exch.
Haddock	Haddock	<u>Melanogrammus aeglefinus</u>	Various depths depending on temperature - live on bottom	S	pot exch.
Halibut	Atlantic halibut	<u>Hippoglossus hippoglossus</u>		S	pot exch.
Herring	Atlantic herring	<u>Clupea harengus</u>	spawn May-June in shallow water near shore	S bait	pot exch.
Launce	Launce	<u>Ammodytes</u> sp			

289

...9

Grand Bruit Name	Common Name	Scientific Name	Habitat	Use	Miscellaneous
Lump	Lumpfish	<u>Cyclopterus lumpus</u>	coastal waters spring and early summer	S (not pre- ferred)	
Mackerel	Atlantic mackerel	<u>Scomber scombrus</u>	moderately warm water	S bait	pot exch.
Pollock		<u>Pollachius virens</u>	not as close to bottom as cod	S	pot exch.
Salmon	Atlantic salmon	<u>Salmo salar</u>	young in streams; adults in ocean	S exch.	pot exch.
Sculpin	Sculpin	<u>Myoxocephalus</u> sp			
Shark	Porbeagle	<u>Lamna nasus</u>	migrate to South Coast July-September		
Swordfish		<u>Xiphias gladius</u>	migrate from farther South in summer	S	pot exch.
Tomcod		<u>Microgadus tomcod</u>		S	
Turbot	Greenland turbut	<u>Reinhardtius</u> <u>hippoglossoides</u>	Deep water	S	pot exch.

Grand Bruit Name	Common Name	Scientific Name	Habitat	Use	Miscellaneous
<u>Freshwater Fish</u>					
Trout	Brook or Mudtrout	<u>Salvelinus fontinalis</u>	Almost every stream and pond in Newfoundland	S	
Salt water Trout	Sea Trout	<u>Salvelinus fontinalis</u> (sea-going form)	salt water	S	
<u>Marine Invertebrates</u>					
Bloodsucker	Sea Anenome	class <u>Anthozoa</u>			negatively viewed ²⁹⁷
Buttercup Shell	Limpet	<u>Acmaea testudinalis</u>		S	
Clam	Soft-shell clam	<u>Mya arenaria</u>		S	
Crab	Common rock crab	<u>Cancer irroratus</u>	Below mid-tide to over 100 fathoms		
Lobster	American lobster	<u>Homarus americanus</u>	Shoreline to 100 fathoms	S exch.	
Mussel	Blue mussel	<u>Mytilus edulis</u>	Intertidal to several fathoms	S	
Jellyfish		phylum <u>Coelenterata</u>			

...11

Grand Bruit Name	Common Name	Scientific Name	Habitat	Use	Miscellaneous
Renkle	Common periwinkle	<u>Littorina littorea</u>	Intertidal to high water rocks	S	
Salmon louse		class <u>Crustacea</u>	on salmon		negative
Seaworm					
Sea cucumber		class <u>Holothuroidea</u>			
Shiprenkle	Atlantic dogwinkle	<u>Thais lapillus</u>	Below mid-tide to 2 fathoms		
Shrimp	Pink shrimp	<u>Pandalus borealis</u>			
Snail	Common Northern moon-shell	<u>Lunatia heros</u>	Low water to 200 fathoms, sand		
Squid	Short-finned squid	<u>Tllex illecebrosus</u>		bait	
Starfish	Purple Starfish	<u>Asterias vulgaris</u>	Along shore		
Whelk	Common Northern edible whelk	<u>Buccinum undatum</u>	Cold water, low water to 15 fathoms		
Whore's egg	Green Sea Urchin	<u>Strongulo centrotus dröbachiensis</u>	Intertidal to 600 fathoms		

Grand Bruit Name	Common Name	Scientific Name	Habitat	Use	Miscellaneous
<u>Domestic Plants</u>					
Beet	Sugar beet	<u>Beta vulgaris cicla</u>		S	
Cabbage		<u>Brassica oleracea</u>		S	
Carrot		<u>Daucus carota</u>		S	
Currant bush		<u>Ripes sp</u>		S	
Gooseberry		<u>Ribes sp</u>		S	
Lettuce		<u>Lactuca sativa</u>		S	
Onion		<u>Allium cepa</u>		S	
Parsnip		<u>Pastinaca sativa</u>		S	
Potato		<u>Solianum tuberosum</u>		S	
Pumpkin		<u>Cucurbita sp</u>		S	
Radish		<u>Raphanus sativus</u>		S	
Rhubarb		<u>Rheum rhaponticum</u>		S	
Turnip		<u>Brassica rapa</u>	Sandy soil	S	
<u>Berries</u>					
Bakeapple	Cloud berry	<u>Rubus chamaemorus</u>	Sphagnum bogs	S	

Grand Bruit Name	Common Name	Scientific Name	Habitat	Use	Miscellaneous
Blackberry	Black huckleberry	<u>Gaylussacia baccata</u>	dry sandy, rocky soil often with blueberries	S	
Blueberry	Lowbush blueberry	<u>Vaccinium angustifolium</u>	acid areas	S	
Groundheart	Ground cherry	<u>Physalis pruinosa</u>		S	
Marshberry	Cranberry	<u>Vaccinium macrocarpon</u>	Bog and wet upland soil	S	
Partridgeberry	Cowberry	<u>Vaccinium vitis-idaea</u>	high exposed areas	S	
Raspberry	Raspberry	<u>Rubus idaeus</u>		S	
<u>Trees and "Boughs"</u>					
Alder	Alder	<u>Myrica gale</u>	Damp spots mineral soil		
Birch	White Birch	<u>Betula papyrifera</u>	Rich moist areas in association with hardwoods	fuel, birch- brooms, boats, houses	
Fir	Balsam fir	<u>Abies balsamea</u>	Better soils	Fuel	
Juniper	Common juniper	<u>Juniperus communis</u>	Mineral soil upland, dry		

Grand Bruit Name	Common Name	Scientific Name	Habitat	Use	Miscellaneous
Spruce	Black spruce	<u>Picea mariana</u>	wetter areas	fuel	
Tamarack	Ground tamarack	<u>Larix laricina</u>			
Whitewood	American basswood	<u>Tilla americana</u>	prefers deep moist fertile soil but also grows in rocky areas		
Yew bush	Canada yew	<u>Taxus canadensis</u>	Mineral soil intolerant of shade		
<u>"Moss"</u>					
Red moss		<u>Sphagnum</u> sp	Boggy areas		Eaten by caribou
Soft caribou moss		<u>Sphagnum</u> sp	Barrens - drier hummocks		
<u>"Flowers" and "leaves"</u>					
Crowsfoot	Fern	<u>Osmunda</u> sp	Soil, along ponds	S	
Mayflower		<u>Epigaea repens</u> <u>var glabifolia</u>	Conferous woods acid mineral soil.	aesthetic	
Pitcher Plant		<u>Arracenia purpurea</u>	Bogland		

...15

Grand Bruit Name	Common Name	Scientific Name	Habitat	Use	Miscellaneous
Poppy	Yellow water-lily	<u>Nuphar advena</u>	Fresh water ponds		
Sarsaparilla	Spikenard	<u>Aralia racemosa</u>		Cure	
Stinging needle	Stinging nettle	<u>Urtica dioica</u>			negatively viewed
Wild rose		<u>Rosa</u> sp		aesthetic	
<u>Grass</u>					
Hay				feed	
Goose grass		<u>Carex</u> sp	Wet areas		Canada geese feed on it
<u>Marine Plants</u>					
Kelep (three kinds)	Kelp, brown algae	Order <u>Laminariales</u>	Cold waters	fertilizer	
Irish moss		<u>Chondrus crispus</u>	Rock pools		
Water moss	Green algae	Phylum <u>Chlorophyta</u>	Rock pools		

Note:

S = used for subsistence (food only)
 exch. = used for cash exchange.
 Sources: Various biological manuals.

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