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A LINGUISTIC AND ETHNOHISTORIC APPROACH TO BELLA COOLA PREHISTORY

by

JAMES W. E. BAKER

B.A., Simon Fraser University, 1969

A THESIS SUBMITTED IN PARTIAL FULFILLMENT

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ABSTRACT

Ethnohistoric sources have been little used to show the material culture of the various Northwest Coast linguistic groups. This study is an attempt to show the culture of the Bella Coola through the use of journals and articles of the early explorers, traders, and other visitors to the Northwest coast.

The major problem undertaken in this examination of Bella Coola culture is the attempt to offer an explanation for the geographically remote position of the Bella Coola from all other Salish speakers. Linguistic data is presented that will show the Bella Coola language is more closely related to the Coast Salish linguistic groups.

Three proposals are offered which could explain the location of the Bella Coola, how they arrived at their location, and how they have managed to remain at their location. The three proposals are:

1. That proto-Salish speakers arrived on the uninhabited coast from a position to the south and east of the present position of the Coast Salish in British Columbia.

2. That the Bella Coola were at one time contiguous with other Coast Salish speakers.

3. That a later Wakashan intrusion from the north isolated the Bella Coola in their present location because they could not be dislodged.

The first proposition deals with a topic that has been much discussed; Smith, Boas, Kroeber, Drucker, Borden, and a number of others have dealt with the problem of the origins of Northwest Coast culture. Archaeological and linguistic evidence is offered in support of the above proposals. Linguistic data best substantiate the second proposition. Ethnohistoric sources have been used to offer support for the third proposal.

PREFACE

The archaeological field work that focused on the problem of the anomalous position of the Bella Coola was initiated by Dr. Carlson and Professor Hobler of Simon Fraser University. Dr. Carlson and Professor Hobler provided me with the opportunity of taking part, as an undergraduate student, in the 1968 survey of the Bella Coola region under Professor Hobler's directorship. In the summer of 1969 I conducted excavations, as a graduate student, at a large midden site in the Bella Coola region, again under Professor Hobler's directorship. I would like to thank both Dr. Carlson and Professor Hobler for their inspiration, guidance and discussions which resulted in the following study.

Funds for the archaeological research were provided by Simon Fraser University through the Archaeology Department's Field School Programme. Library research was conducted under a Simon Fraser President's Committee Research Award (1969) and graduate stipends arranged by Dr. Carlson. I am grateful to these funding agencies.

As this is primarily a library research paper I would like to acknowledge the many helpful librarians I have dealt with during the course of this study. Particularly helpful and efficient were those working in the Northwest Room of the Vancouver Public Library, the Special Collections Library of the University of British Columbia and the Provincial Archives.

I would like to thank especially Mr. G. A. Mintz of the B.C. Studies Library at Langara for the many fruitful discussions on Northwest Coast ethnohistory, and for his invaluable assistance in obtaining obscure ethnohistoric material.

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INTRODUCTION

Ethnohistory with reference to material culture on the Northwest Coast has been sadly neglected. This project is an attempt to show the material culture of the Bella Coola Indians as seen from the journals and articles of the various early explorers, traders and visitors to the Northwest Coast. It must of necessity include much that does not refer specifically to the Bella Coola Indians, but it will be shown that the latter must be included in the descriptions given for the Northwest Coast Indians as a whole.

The archaeology of the Bella Coola will be looked at from the major excavations of one site complex within Bella Coola territory. An attempt will be made to delineate the culture of the Bella Coola in prehistoric times by using ethnographic analogy when viewing the material excavated at Kwatna Bay.

The major problem undertaken in this thesis is the attempt to offer an explanation for the geographically remote position of the Bella Coola from all other Salish speakers. The location, linguistic affiliation and population of the Bella Coola and their neighbours is described. Ethnographic and ethnohistoric sources are used to show the Bella Coola culture just prior to contact.

Three proposals are offered which will serve to explain the position of the Bella Coola, how they arrived at their position, and how they have managed to maintain their position through time. The three propositions are:

1. That proto-Salish speakers arrived on the uninhabited coast from a position to the south and east of the

present position of the Coast Salish in British Columbia;

2. That the Bella Coola were at one time contiguous with other Coast Salish;

3. That a later Wakashan intrusion from the north isolated the Bella Coola in their present position.

The First proposition deals with a topic that has been much discussed, Smith, Boas, Kroeber, Drucker, Borden and a number of others have all dealt with the origins of Northwest Coast culture. Archaeological and linguistic evidence will be offered in support of the above proposals. Linguistic evidence best substantiates the second proposition. Ethnohistoric sources have been used to offer support for the third proposal.

Territory

The aboriginal territory of the Bella Coola Indians included villages of the Dean and Kimsquit rivers at the head of Dean Channel, on the Bella Coola river at the head of North Bentinck Arm, on South Bentinck Arm, and at Kwatna Bay off Burke Channel. This territory lies approximately between 52-53° north latitude, and 126-127°50' west longitude. The Bella Coola had as neighbours to the north, west and south, various branches of the Kwakiutl, and to their east, were the Athapaskan speaking Carrier and Chilcotin.

Boas (1898:48) records 29 villages of the Bella Coola, in the territory outlined above. MacIlwraith who worked with the Bella Coola in the 1920's lists the following 45 villages as Bella Coolan:

(1) Qameix: on the west bank of the Necleetsconnay about three-quarters of a mile from the sea.

(2) Tasaltimx: on the shore of North Bentinck Arm, west and north of the mouth of the Necleetsconnay.

(3) Atqalaxt: near the south bank of a small stream about a quarter of a mile from the sea.

(4) Ttoqotl: above (3), about one-half mile to the north of the Bella Coola river.

(5) Anulsqwaxstl: eastern continuation of (4).

(6) Aimats: to the north of (5).

(7) Stskiutl: on the south shore of the Bella Coola river quarter of a mile from the sea.

(8) Qomqots: the upper, or eastern, continuation of (7).

(9) Ososxkpumx: on the north side of the Bella Coola, about half a mile above (6).

(10) Tcuxtcuxwtelpats: some distance from the north bank of the Bella Coola, near the lower slope of the mountain, and about three miles from the sea.

(11) Sunxt: on the south side of the Bella Coola river, opposite (10).

(12) Sqomelt: on the south of the Bella Coola about three miles from the sea.

(13) Tcumotl: the upper continuation of (12).

(14) Snooniqwulx: on the bank, south side, about four miles from the sea.

(15) Nuexmaq: on the north bank of the Bella Coola a little above (14).

(16) Tsulkt: on the north bank of the river a little above (15).

(17) Nuqaxmats: on the north side of the river about one mile above (16).

(18) Suutali: on the south bank above (17), where a small stream enters the Bella Coola river.

(19) Oqmikumx: on the lower end of the island near Hagenburg post office, eleven miles from the sea.

(20) Nukits: on the south side of the river, eleven and a quarter miles from the sea.

(21) Asanani: south side of Bella Coola river above Nusatsum river about thirteen and a quarter miles from the sea.

(22) Nusqalst: on the north side of the river opposite the mountain of the same name.

(23) Nutleax: thirty-one miles from the sea at the junction of Burnt Bridge creek and the Bella Coola river.

(24) Stuux: on the point between the junction of the Atnarko and Talchako rivers.

(25) Qwliutl: on the north side of the Atnarko river a few hundred yards above the forks.

(26) Snutletl: on the north side of the Atnarko river about ten miles from the forks.

(27) Nusxeq: on the shore of North Bentinck Arm to the east of the creek that flows into it at Green Bay.

(28) Satlia: on the east side of South Bentinck Arm, about a quarter mile from Tallheo Point.

(29) Qankulst: on the east side of South Bentinck Arm, slightly north of Bensins Island.

(30) Tsaoltmen: on the east side of South Bentinck Arm about four miles from (29).

(31) Kxdis: on the east side of South Bentinck Arm about a quarter mile from Noeick river.

(32) Nuik: on the east side of the mouth of the Noeick river.

(33) Talio: on the west side of the mouth of the Taleomey river.

(34) Asux: located some little distance from the ocean on Asseek creek.

(35) Qwapx: on the east side of the mouth of a creek flowing into the bay at the head of South Bentinck Arm, from the south.

(36) Anutlulx: near the mouth of the Dean River.

(37) Nutal: on the shore of Dean River at the bottom of the canyon.

(38) Axeti: on the south side of Dean River about one mile from the sea.

(39) Nutsqwalt: on the south side of Dean River about one and a quarter miles from the sea.

(40) Nusqapts: on south bank of Dean River about twenty-five miles from the sea.

(41) Ixwunk: east side of river twenty-eight miles from the sea.

(42) Siwalos: on the north side of the river about thirty-five miles from the sea.

(43) Asklta: at Salmon House on the upper Dean river.

(44) Satsk: at the mouth of Kimsquit River.

(45) Nuxwalst: on the shore of Dean Channel, six miles from (44) (MacIlwraith 1948:I-6-16).

The villages as listed above do not include any in Burke Channel, or more properly, Kwatna Bay. The first of the 29 villages listed by Boas as being inhabited by the Bella Coola is "Qoatlna, at the bay of this name." (Boas 1898:48). The Quatlena River runs into the head of the west arm of Kwatna Inlet, but it would seem Boas' informants are referring to a village in Kwatna Bay, as it is there that the Indian Commission of 1911 set aside a Bella Coola reserve. Further reference is made to this village by Harlan I. Smith:

> In the Bella Coola section of the Salishan area, on the northern side of the eastern arm of Kwatna inlet, there is a midden containing much shell ... (Smith 1927:42).

Boas, Smith and the early Indian Commissioners all consider Kwatna to be Bella Coola territory.

MacIlwraith considers Kwatna to be territory of the Kwakiutl speaking Bella Bella, although he does say that because of so much intermarriage with the Bella Coola, the inhabitants of Kwatna were not considered foreigners, and the settlements at Kwatna (he lists seven

villages) were bilingual (MacIlwraith 1948:19).

Kwatna Bay is approximately forty miles from Bella Coola, but MacIlwraith may have been wrong in considering it Bella Bella territory. As indirect evidence of Kwatna being Bella Coola territory, Tolmie says:

> ... some of the Billichoola tribe here today, traded from them some cakes made from the inner bark of the hemlock ... This branch of Billichoola are called Kummuchquetoch & their village is one night distant (1970:292).

The above quote is from Tolmie's journal kept while he was at Fort McLoughlin (the present town of Bella Bella) and is dated November 21, 1834. Later while he was still at Fort McLoughlin, in his entry dated January 14, 1835 he says:

> Busy with the Billichoola all day. They call themselves from their river (Nowhalick) Nowhalikimich - those here under the command of Nooshimadh inhabit the entrance of the river and are called Koomkotash ...
>
> January 16
> ... Before departing they requested me to make the weather moderate for the period of their ensuing voyage - two days! (Tolmie 1970:301)

Tolmie in the above quote is most definitely referring to the people of the Bella Coola valley, called Nuxalk by MacIlwraith (1948:11), and Nookhalk by Palmer (1863:3). Koomkotash must be Qomqots of MacIlwraith (1948:ii) and Ko-om-ko-otz of Palmer (1863:5), both who place this village near the mouth of the Bella Coola River.

There can be little doubt that Tolmie was able to recognize the Bella Coola as distinct from the Kwakiutl, or more specifically, the Bella Bella. The people called Kummuchquetoch by Tolmie must have

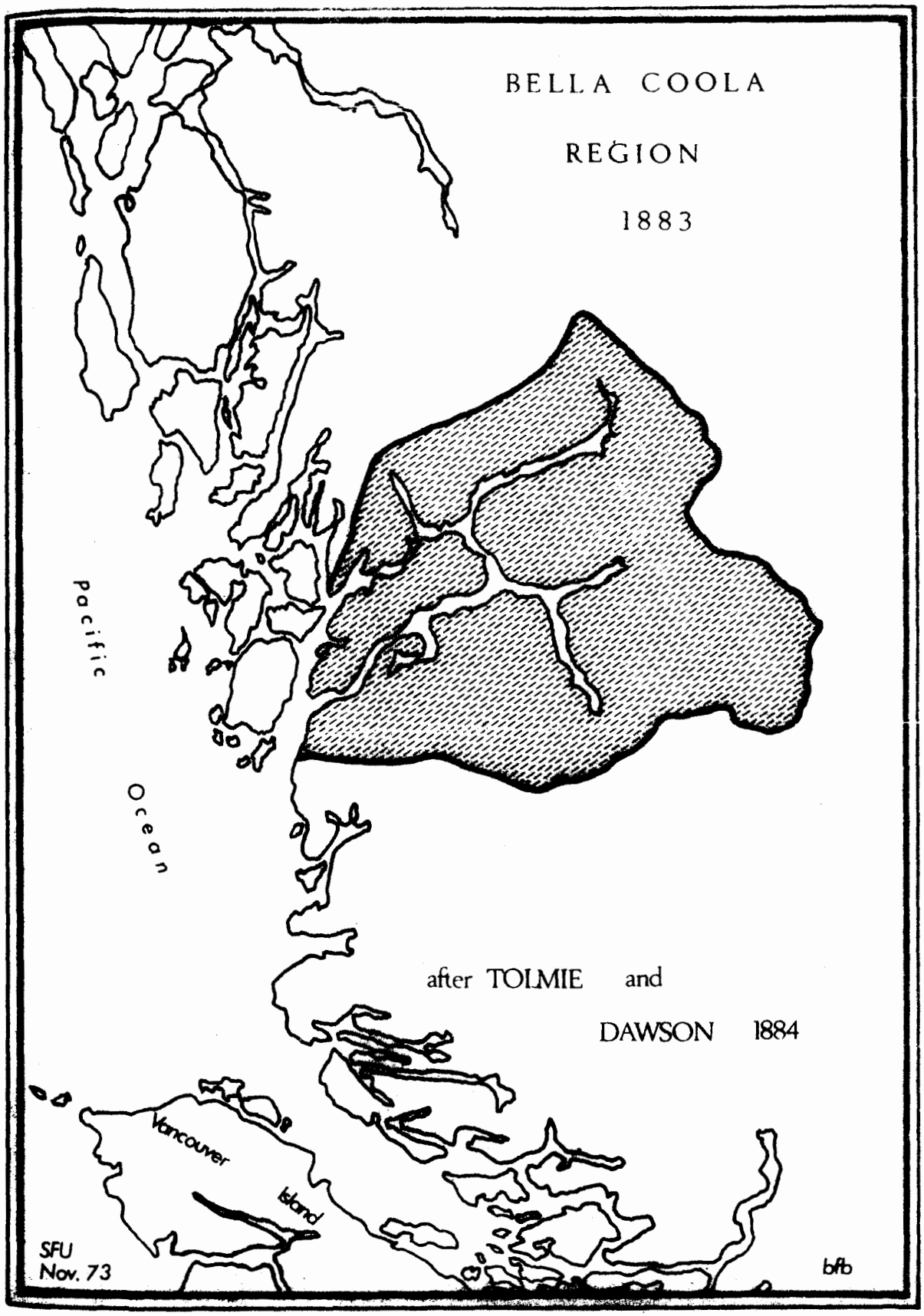

Figure 2.

(after Tolmie and Dawson 1884)

been the inhabitants of the Dean River. Olsen says:

> ...Long ago the Bella Coola lived only along the Dean River, the Kwakiutl at the mouth of the river. In Kwakiutl the Dean River is called Kimxaku ("Canyon"), and the Bella Coola people Kimxakwidox (1955:321).

The Kummuchquetoch of Tolmie lived one night distance, and the Koomkotash two days, or one overnight camp, which may be taken as approximately equidistant from Fort McLoughlin, which the Bella Coola and Dean Rivers are. Tolmie can be considered correct in placing the Bella Coola on both the Dean and Bella Coola Rivers. It is therefore significant that on a map published in 1884, Tolmie includes Kwatna Bay in Bella Coola territory (see figure 2).

Village number 38 of MacIlwraith as listed above is called Axeti, located one mile from the sea on the Dean River. The name (which translated from the Bella Coola means "Occupied Mound") is derived from the small mound on which it was built (MacIlwraith 1948:15). In Kwatna Bay where MacIlwraith lists 7 villages assigned to the Bella Bella, the second village on his list is called Axeti, "Occupied Mound", (MacIlwraith 1948:20).

MacIlwraith accepts the Axeti of Dean River as being a Bella Coola village, but assigns the Axeti of Kwatna Bay to the Bella Bella. There is no evidence that Axeti is a Kwakiutl word adopted by the Bella Coola and applied to both villages in different areas. The sixth village in MacIlwraith's list for the Kwatna River is Wakwas, he says: "the meaning is unknown, and it is thought the name, Wakwas, is in the Bella Bella language." (MacIlwraith 1948:20). No such explanation is given for Axeti.

As further evidence, albeit negative, of Kwatna being Bella Coola territory Olsen says:

> ... A very good informant, who, as of 1935, the time of my first visit, probably knew more of the old history and culture than any other person at Bella Bella, gave the following list of towns and places involved in Bella Bella history ... (1955:320).

Olsen then lists the names and describes the places of 24 villages. Five are placed on Dean Channel, none are placed on Burke Channel, Kwatna Inlet, Kwatna Bay or Kwatna River. In the light of all this, it might be assumed that Kwatna is Bella Coola territory, and MacIlwraith is incorrect in assigning it to the Bella Bella.

Linguistic Affiliation

The Bella Coola Indians belong to the Salish speaking family. Their closest relationship to the larger Salish linguistic groups is with the Coast rather than Interior Salish. They are an isolated group, having as their geographical neighbours to the north, west and south, the Wakashan speaking Kwakiutl, and to their east, the Athapascan speaking Carriers and Chilcotin.

Boas says:

> The great similarity between the Bella Coola and the other Coast-Salishan dialects leads me to assume that at one time the tribes speaking these dialects inhabited contiguous areas ... (1898:26).

In a later paper by Boas and Haeberlin on the Salish language, their data seem to show greater affinity between the Bella Coola and the Interior dialects:

> The most conspicuous soundshift in the Salish dialects is that of k to tc. The distribution of the k

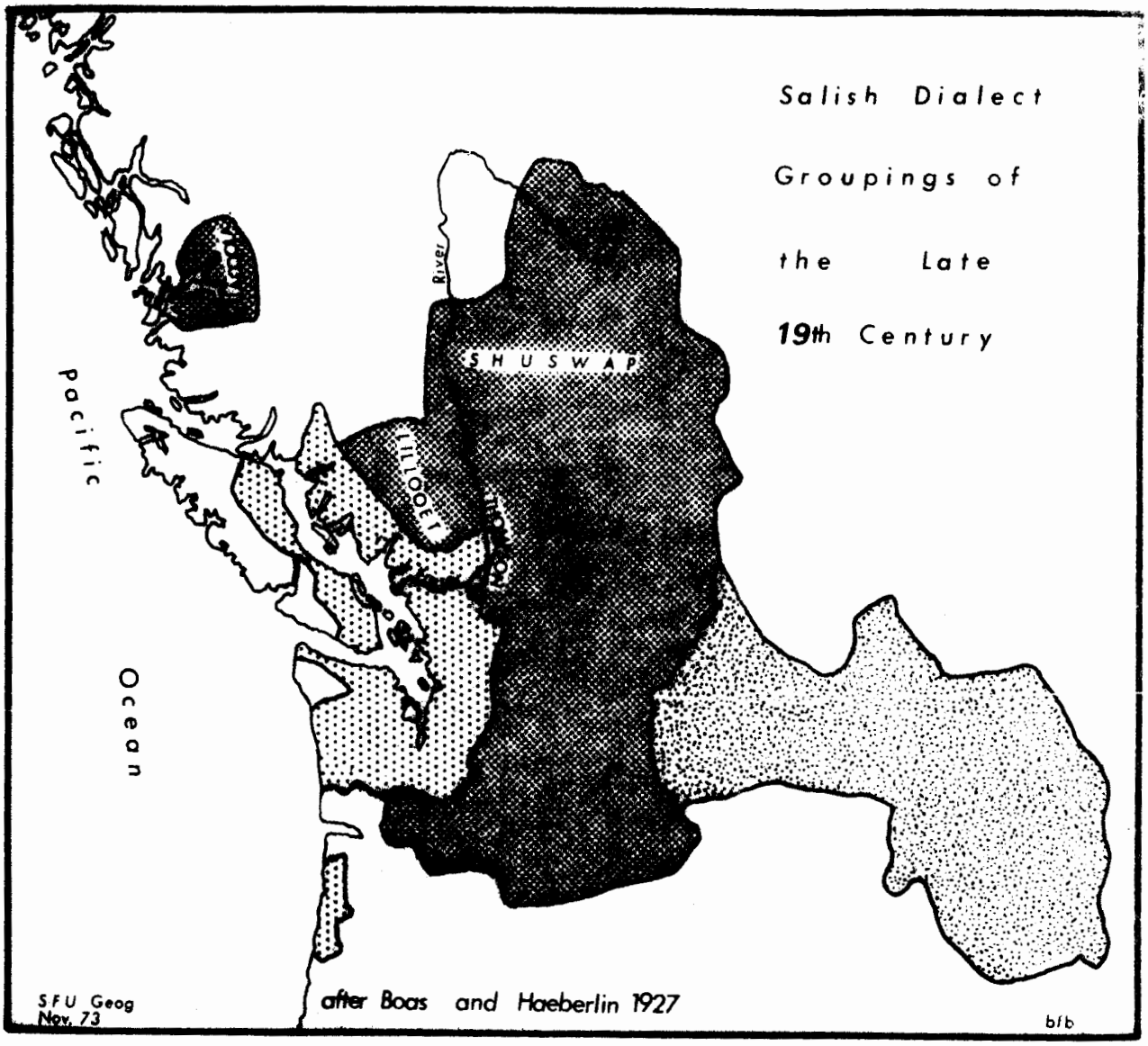

Figure 3.
(after Boas and Haeberlin 1927)

> dialects and tc dialects is of considerable interest. Most of the coast dialects belong to the tc group, while the inland dialects are divided into a k and tc group (see fig. 3). The distribution is such that the k dialects lie between and separate the tc dialects. To the k (sic) dialects belong most of the Coast dialects on the one hand, and the eastern inland dialects on the other. Of the dialects mentioned in our list the following are k dialects: Lillooet, Thompson, Shuswap, Okanagon, Sans Poil, Colville, Lake, Columbia, and also Cowlitz, and Upper Chehalis 2. Bella Coola seems to belong to the k group likewise (Boas and Haeberlin 1927:120).

The accompanying map to the above quoted article (fig. 3) shows the Bella Coola area as belonging to the k dialects, but it is stated that: "The BC vocabulary deviates considerably from that of all the other Salish dialects." (Boas and Haeberlin 1927:123).

Swadesh (1950) has applied the techniques of glottochronology to 30 Salishan languages and dialects to show the degrees of relationship within this linguistic stock. No definite time in years can be fixed to the rate of drift in the Salishan languages but the relative values can be useful where:

Percent of common vocabulary =	72	52	37	27	19	14	10
Indicated time depth periods =	1	2	3	4	5	6	7

By using statistical methods Swadesh is able to arrive at four divisions of the Salish language; Bella Coola, Coast Division, Tillamook, and Interior Division. He then shows the ranges of linguistic distance between the Divisions thus:

	Bella Coola	Coast	Tillamook
Coast Division	4.5-6.5		
Tillamook	6.0	4.5-6.0	
Interior Division ..	5.0-6.8	3.9-6.9	4.6-5.5

Table 1. (after Swadesh 1950)

Linguistic distance is indicative of physical and cultural separation. From the above data, it would appear that the Bella Coola have been isolated from other Salish speakers for a considerable length of time. The extreme ranges of linguistic distance favour, slightly closer affinities with the Coast Salish over the Interior Salish, but the difference in range in Swadesh's data alone is not significant enough to state unequivocally that the Bella Coola are an isolated pocket of Coast Salish.

More recent studies of the Salish language (Diebold 1960; Suttles and Elmendorf 1963; Jorgensen 1969), tend to confirm Bella Coola as a Coast dialect. Jorgensen (1969:10) says:

> Bella Coola has been demonstrated to be distant from all other groups, but more closely related to the northernmost Coast languages than to those of the Interior. On the basis of synchronic linguistic materials alone it is reasonable to think that Bella Coola moved north into their area from a more southerly homeland.

Diebold (1960:10) using Dyen's language Migration Theory sees the probable homeland for proto-Salish in the Gulf of Georgia region and the adjacent Interior. He postulates intrusion or migration as the two most probable hypotheses to account for the separation of Bella Coola from that area.

Suttles and Elmendorf (1963) are far more ambitious in their attempts to delineate Salish prehistory based on an analysis of lexical relations. They say with reference to North Georgia-South Georgia-Puget Sound-Hood Canal-Olympic:

> 1. Coast Salish branches developed as a chain, oriented north to south in the order: NG-SG-PS-HC-Oly. All were in territorial contact in that order ...
>
> 2. Bella Coola is a detached northernmost member of this chain. Its closest relation, to NG, Compares with relations between non-adjacent members of the original Coast Salish chain; NG-PS, SG-HC, PS-Oly ...
>
> 3. Oregon (the Tillamook-Siletz dialect continuum) is a detached southern member of the chain. However, its relations run north chain-wise through HC-PS-SG-NG-BC. It is not closest to Oly ...
>
> 4. Interior is a chain, generally oriented northwest to southeast, with less internal diversity than in the coastal chain but with greater internal diversity than in any other branch ...
>
> 5. Int shows a preponderance of early separation figures from other branches, including three maximum dates for the entire stock: from NG, 69 units; BC, 68; SG, 66. Int probably separated earlier than any other major linguistic subgrouping within Salish ...
>
> 6. Maximum cognate relation figures link western Int languages, especially Lil and Tho, to adjacent languages of the SG, NG, and PS branches ...
>
> 7. The relations of Ore and Oly are the most problematical of all the various subgroupings; both close to HC, but not at all close to one another, Ore closer to Int than to Oly, and as close to BC. This suggests that it is Oly that has had the really peculiar history ... (Suttles and Elmendorf 1963:44).

Using the above conclusions reached in their study, Suttles and Elmendorf give a specific and detailed account of the movements of

people they consider to be early Salish speakers. They say:

> ... The above conclusions point to original divergence of protobranch languages in river valleys along the western slopes of the Cascade Mountains, perhaps from the southern end of Puget Sound north to the Fraser River, with the earliest offshoot just east of the Cascades. River-valley concentrations of early Salish population in a north-to-south series would explain original dialect differentiation leading to the later branch relationships. Subsequent expansions from this territory took place not only eastward through the northern part of the Intermontane Plateau, but southward to the coast of Oregon (Ore), southward and westward through southwestern Washington (Oly), westward to the Hood Canal area (HC), and northward along the coast of British Columbia (BC,NG) ... (1963:45).

Ramifications of the above will be discussed in the final chapter, we are concerned here with establishing Bella Coola linguistic affiliations.

Comparative grammar studies done by Suttles and Elmendorf show "BC appears markedly divergent from other Salish languages, its peculiarities here being in the direction of Kwakiutl." (1963:46). Despite the Bella Coola peculiarities they say such ties as are discernible are with Coast Salish not Interior (1963:46).

Estimates for internal differentiation of Salish languages and neighbouring stocks as provided by Swadesh (1953, 1950) using century units and accepted by Suttles and Elmendorf as relative units (1963), are for Salish, 55; Wakashan, 29; Chemakuan, 21; and for the separation of Tsimshian and Chinookan, 45. From these figures, Suttles and Elmendorf arrive at:

> 1. If the separation of BC from CS dates back some 55 units, then it occurred before the separation of Wakashan into Nootka and Kwakiutl (29 units), which took place perhaps on Vancouver Island. If the separation of BC

> occurred on the coast, then presumably the BC were in or near their present location first and the Kwakiutl later moved in around them. This makes it more likely that the BC were the northern end of a continuum of Salish speech communities than that they were a migrant offshoot (1963:47)

The above would agree with Diebold's (1960) hypothesis of intrusion being the factor causing the separation of Bella Coola from the rest of the Salish stock.

Population

The population of the Bella Coola Indians in 1963 was 536 (Duff 1964:39). That figure is given for the sole remaining locality of the Bella Coola. Duff estimates that in 1835 there was a population of 2,000, inhabiting many villages throughout the Bella Coola territory. Duff's figure agrees with the estimate of Tolmie (1970) of 1,950 for all the Bella Coola.

Both the above estimates approach the figure given by Palmer for only two Bella Coola villages. He says:

> Half a mile from the mouth and on opposite sides of the Nookhalk are situated two Indian villages, forming a settlement named Ko-om-ko-otz, and presided over by the chief Pootlas. Two miles further up on the south bank is another large village named Soonochlim, ~~ruled by~~ Annokutsum, and the whole population numbered, when I was there, about 1200 souls (Palmer 1863:5).

Palmer's figure may be somewhat high, but it would seem that 2,000 for all the Bella Coola is somewhat low if Palmer's estimate is close to accurate.

Another consideration regarding Bella Coola population estimates is the fact that epidemics of various diseases in outlying villages

resulted in the survivors moving to the Bella Coola Valley. Indeed, Palmer (1863:7) remarks on the devastating effects of a smallpox epidemic which had just begun amongst the Bella Coola when he arrived. If a smallpox epidemic was sweeping the Bella Coola territory at the time of his visit, Palmer's estimate may have included people who had moved to the Valley from outlying areas. Thus, Palmer's estimate for the two villages may have been a close count of the entire Bella Coola population, but it can only have been made after the population had been very drastically reduced. Perhaps an accurate estimate of the entire Bella Coola population, prior to the introduction of devastating diseases cannot be made. Whatever the case, by the early 1900's most of the Bella Coola Indians resided at their present location in the Bella Coola Valley.

Climate, Flora and Fauna

The Bella Coola territory is included in the Littoral of Kendrew and Kerr (1955), which is the coast, west slopes and uplands of the Coast Mountains. The coast is remarkable for its long narrow fiords, some of which reach nearly a hundred miles into the uplands. The outstanding feature of the climate is the mildness and humidity of the winters.

The climatological table for Bella Coola (Kendrew and Kerr 1955: 116) shows that the Bella Coola territory falls within the Cfb classification of Koppen, where:

> C - warm temperate rainy climates (mesothermal). Average temperatures of coldest month is less than 64.4°F, but more than 26.6°F.

f - no distinct dry season (driest month of summer more than 1.2 inches).

b - cool summer, temperature of warmest month less than 71.6°F (Krajina 1959:2)

The Cfb climate classification roughly correlates with vegetation of Krajina's (1959) Coastal Western Hemlock Zone which has for:

Trees: Western Hemlock (Tsuga heterophylla), White Fir (Abies amabilis), Western Red Cedar (Thuja plicata) and occasionally Sitka Spruce (Picea sitchensis) and Jack Pine (Pinus contorta).

Shrubs: too numerous to name them all, but the main ones are Mountain Huckleberry (Vaccinium alaskaense), Red Huckleberry (V. parvifolium), Raspberry (Rubus leucodermis), Thimbleberry (R. parviflous), Salmonberry (R. spectabilis), Wild Rose (Rosa gymnocarpa), Devil's Club (Oplopanax horridus) and Salal (Gauthlheria shallon).

The fauna of the area includes blacktail deer (Odocoileus hemionus), mountain goat (Oreamnos americanus), black bear (Ursus americanus), porcupine (Erithizon dorsatum), marten (Martis americana), mink (Mustela vison), American beaver (Castor canadensis), Canadian river otter (Lutra canadensis), sea otter (Enhydra Rutras), Northern fur seal (Callorhinus ursinis), hair seal (Phoca vitulina), Northern sea lion (Eumetopias jubata) and dolphin (Dolphin species). All the above have been recovered in excavation and identified by Birute Galdikas-Brindamour (1971).

Species that could be added to the list as they are known to occur in the area include, grizzly bear (Ursus arctos horribilis), mule deer (Odocoileus hemionus hemionus), wolf (Canis lupus fuscus), and Pacific killer-wale (Grampus rectipinna).

There is a great quantity and variety of fish in the area including five species of Pacific salmon which return to spawn in the rivers

each year. Others that occur seasonally are herring and olachen. Year round residents include halibut, cod, rock fish and flat fish.

Shellfish in the Bella Coola territory include various species of clams, cockles and mussels. Gastopods used as a source of food included welks, limpets and periwinkles. Birds include grouse, geese, ducks and eagles.

The foregoing should serve to show Drucker is incorrect when he says:

> ... the Bella Coola held the heads of Burke and Dean channels and can be considered only a semicoastal group. Their habitat approaches the interior in climate: the summers are hot and relatively dry, the winters rigorous. The occurrence of rabbits and foxes in the regional fauna demonstrates the really non-coastal nature of the environment. An inventory of culture traits relating to economy sets the Bella Coola off rather sharply from the dwellers of the outer coasts (Drucker 1950:159).

In the following chapters dealing with the ethnohistory and archaeology of the Bella Coola, an attempt will be made to show Drucker is as incorrect with reference to Bella Coola economy as he was with Bella Coola area climate and fauna. If rabbits and foxes denote non-coastal environment then the Nawhitti of northeastern Vancouver Island must be non-coastal people as Work (1945:75) reports receiving 1,065 rabbit skins in trade from the Nawhitti. Of course the Nawhitti may have acquired the rabbit skins from the Bella Coola, but then the Bella Coola may have acquired them from the Chilcotin.

II

ETHNOHISTORY

There are two principal definitions of ethnohistory:

> 1) The use of written historical materials in preparing an ethnography or the use of historical materials to show cultural change. Either a synchronic or diachronic study.
>
> 2) Use of a people's oral literature in reconstructing their own history (Lantis 1970:5).

The following material will be a synchronic study of the Bella Coola Indians, using historical material for an ethnographic description of a past stage of their culture. As Sturtevant (1966:7) remarks on the use of historical ethnography:

> ... The aim is to produce a description paralleling as closely as possible what would be possible in field ethnography, even though the evidence is not what the anthropologist has himself observed, overheard and been told, but rather what others, nonanthropologists, have learned and written down.

For the Bella Coola, a reconstruction of an ethnographic description of a past stage of culture must include some data recorded by recognized anthropologists. The historical material written by nonanthropologists is somewhat limited especially when attempts are made to infer social organization or religion. The reverse is true when attempting to reconstruct an ethnographic description of material culture using data recorded by early anthropologists. By combining data from both, it should be possible to reconstruct an ethnographic description of the Bella Coola for the time just prior to contact.

The justification for this synchronic approach in ethnohistory is simply that not enough is known of the Bella Coola culture to apply the diachronic approach. It must first be established what the Bella Coola culture was, at a given point in time, before changes in the

culture, from that point in time can be shown. Hickerson (1970:7) says:

> Ethnohistorians, then, apply the methods of historiography to the cultures in which they are interested in the light of their general anthropological experience; to gauge change that has taken place in them and to comprehend historical factors involved in and determining change ... Ethnohistory, then, is that sub-branch of ethnology which employs historiographical methods to lay a foundation for the formulation of general laws: in a word, ideographic means to nomothetic ends.

Nomothetic ends cannot be reached from a vacuum. The purpose of this paper is to lay the foundation, or to at least partially fill that vacuum in regards to Bella Coola culture. Subsequent formulations of general laws may result, but they are outside the scope of this study.

Ethnographic Description

The large plank house, typical of the Northwest Coast culture area, was the characteristic habitation of the Bella Coola Indians. Mackenzie gives a lengthy description of a Bella Coola house:

> I now made the tour of the village, which consisted of four elevated houses, and seven built on the ground, besides a considerable number of other buildings or sheds, which are used only as kitchens, and places for curing their fish. The former are constructed by fixing a certain number of posts in the earth, on some of which are laid, and to others fastened, the supporters of the floor, at about twelve feet above the surface of the ground; their length is from an hundred to an hundred and twenty feet, and they are about forty in breadth. Along the centre are built three, four or five hearths, for the two-fold purpose of giving warmth, and dressing their fish. The whole length of the building on either side is divided by cedar planks, into

> partitions or apartments of seven feet square, in front of which there are boards, about three feet wide, over which, though they are not immovably fixed, the inmates of these recesses generally pass, when they go to rest. The greater part of them are intended for that purpose, and such are covered with boards, at the height of the wall of the house, which is about seven or eight feet, and rest upon beams that stretch across the building. On these also are placed the chests which contain their provisions, utensils, and whatever they possess. The intermediate space is sufficient for domestic purposes. On poles that run along the beams, hang roasted fish, and the whole building is well covered with boards and bark, except within a few inches of the ridge pole; where open spaces are left on ea h side to let in light and emit the smoke. At the end of the house that fronts the river, is a narrow scaffolding, which is also ascended by a piece of timber, with steps cut in it; and at each corner of this erection there are openings for the inhabitants to ease nature ... The houses which rest on the ground are built of the same materials, and on the same plan (Mackenzie 1971:328-29).

This lengthy quote of Mackenzie attests to one of the differences between the Bella Coola houses, and others on the Northwest Coast. The difference is that a number of Bella Coola houses are built on piles.

Vancouver remarks on pile built houses he noticed in Dean channel near Cascade Inlet; "The construction of these was very curious; the back parts appeared to be supported by the projection of a very high, and nearly perpendicular, rocky cliff, and the front and sides by slender poles, about sixteen or eighteen feet high." (Vancouver, 1967: II-268). Later when he is discussing Mr. Johnston's exploration of South Bentinck Arm, he describes houses encountered there that are almost identical to the description given by Mackenzie of houses in the Bella Coola valley. Of the houses in South Bentinck Arm Vancouver says:

> On the eastern side of this canal, near the head of a small rivulet, they had noticed on the preceding evening a house of very singular construction ... These were found to be of a different construction from any they had before seen; they were erected on a platform similar to that seen in my last excursion, and mentioned as being raised and supported near thirty feet from the ground by perpendicular spars of a very large size ... each having a separate access formed by a long tree in an inclined position from the platform to the ground, with notches cut in by way of steps, about a foot and a half asunder (Vancouver, 1967:II-274).

The above quoted passages from volume two of Vancouver's journal yield, in relation to house construction; 'The construction of these was very curious ...'; 'of very singular construction ...'; and 'a different construction from any they had before seen ...', all concerning houses in what has been established as being Bella Coola territory. It should be obvious from the above that neither Vancouver, nor any of his crew, had previously encountered pile built dwellings.

Despite the evidence as quoted, Niblack (1970) mistakenly includes the Kwakiutl among those on the Northwest Coast who inhabit raised houses. He says:

> According to Vancouver, amongst the Kwakiutl of Johnstone Strait, there were dwellings "raised and supported near 30 feet from the ground by perpendicular spars of a very large size" with "access formed by a long tree in an inclined position from the platform to the ground, with notches cut in it by way of steps about a foot and a half assunder." (Niblack, 1970:305).

Niblack gives as his source; "Vancouver, Voyage, vol. II, p.274" (Niblack 1970:305). He has indeed quoted his source correctly, but he is incorrect as to Vancouver's position. Vancouver describes the Johnstone Strait region in volume I, Cape Mudge to Nimpkish River, pages 337 to 355, visited in July 1792. During that time Vancouver

noticed a number of villages but described only two. Of the one at Cape Mudge he says, "Close to the edge of this precipice stood the village, the houses of which were built after the fashion at Nootka, though smaller, not exceeding ten or twelve feet in height ..." (Vancouver 1967:I-338). He gives a very lengthy description of the village at Nimkish River, but again states, "The houses were constructed after the manner at Nootka, ..." (Vancouver 1967:I-347).

At no time, while in the Johnstone Strait region, does Vancouver describe houses built on piles. It is obvious that Niblack has erred in assigning pile built houses to the Kwakiutl, particularly those Kwakiutl in the Johnstone Strait region.

Boas uses Vancouver's journal as a reference when he declares that his Kwakiutl informants are mistaken when they deny they ever built houses on pilings. He says, "It is claimed that no houses were erected on piles; but this is an error, since Vancouver expressly describes pile-dwellings ..." (Boas 1909:415). The source Boas gives is "Vancouver, Voyage of Discovery, etc. Vol. II p.268". The village that Boas considers as proof of the Kwakiutl having erected pile-dwellings is in Cascade Inlet, off Dean Channel; and is described on page 21 in this study.

The accusation of Kwakiutl informants being mistaken concerning pile-dwellings is reiterated by Drucker. When Drucker was collecting data for his Culture Element Distribution list, his Kwakiutl informants replied in the negative when asked about the use of pile built dwellings. He says that, "Boas reports his informants also erroneously denied pile dwellings, though Vancouver expressly describes such structures." (Drucker, 1950:249). On the basis of the above quote Drucker thought

his Kwexa informant was incorrect in replying in the negative. Wikeno and Xaisla Kwakiutl, and two Tsimshian informants replied that pile dwellings were sometimes used. All others replied in the negative.

In a later publication, when discussing houses, Drucker says that among Bella Coola, Kwakiútl, Coast Tsimshian and possibly Tlingit, " ... a specialized variant form of house was made ... These were pile dwellings, built partly or entirely over water. Alexander Mackenzie describes in some detail the Bella Coola houses of this type ..." (Drucker 1955a:69).

Mackenzie does indeed describe pile dwellings for the Bella Coola, but most certainly does not describe them as being built "partly or entirely over the water." The pile built dwellings described by Mackenzie in the Bella Coola valley are all reached only after a walk of some distance through the woods. After being transported by canoe the length of the Bella Coola valley, not once mentioning houses built over the water, Mackenzie describes a village near the mouth of the Bella Coola River:

> ... we left our canoe, and carried our luggage along a road through a wood for some hundred yards, when we came to a village, consisting of six very large houses, erected on pallisades, rising twentyfive feet from the ground, which differed in no one circumstance from those already described, but the height of their elevation ... If I were to judge by the heaps of filth beneath these buildings, they must have been erected at a more distant period than any which we had passed (Mackenzie 1971:339).

The above quote probably describes the third village on MacIlwraith's list of Bella Coola towns, the translation of the name of which he gives as "'The Fenced Town', so called because it was

stockaded" (MacIlwraith 1948I:16). No mention is made of it being built over water, and it was occupied at the time of Mackenzie's visit, according to MacIlwraith's informants. MacIlwraith describes twenty-six villages in the Bella Coola valley, only one of which was known to have been built over the water. This was village number two on his list which was said to have been abandoned before Mackenzie's visit. The debris mentioned by Mackenzie in the quote above would preclude this house ever having been built over water.

MacIlwraith says each village had a wooden platform, which served as a sidewalk. "The outer side of this structure was always supported on piles; in fact, in many cases, the houses as well as the whole sidewalk were thus raised from the ground" (MacIlwraith 1948I:17). The reason given for this type of structure is not because of flooding as suggested by Drucker, but because of "the sloping sites of the villages", and more significantly; "the added advantage of being a protection against attack" (MacIlwraith 1948I:17). The significance of this latter statement will be discussed in the last chapter.

Other structures used by the Bella Coola are the sheds used for preparing and probably smoke curing fish, as mentioned by Mackenzie. Drucker lists storehouses, subterranean caches and stockades as having been constructed. He also lists semisubterranean earth lodges as a habitation type, but qualifies the positive response in his notes; "The informant had heard (presumably in myths) references to an ancient type of house built below ground level. He knew nothing of its form, however" (Drucker 1950:252). It might be inferred from this that semisubterranean earth lodges were not a part of the Bella Coola culture during the period being described.

H. G. Barnett in his article, Underground Houses on the British Columbian Coast, discusses a number of references made to this type of dwelling. The first mentioned for the Coast, were the references to the use of underground dwellings in the Bella Coola myths recorded by Boas (Barnett 1944:265). Barnett says Harlan Smith reported remains of what appeared to be a semisubterranean house at Bella Coola. A hemlock tree, two feet in diameter grew out of the floor level of a two-foot depression. Smith considered the structure to be very ancient (Barnett 1944:266).

After mentioning a number of other occurrences of possible semisubterranean dwellings on the coast, Barnett says:

> This certainly does not clear up the relation between Eskimo, Kamchatkan, and Thompson River houses; neither does it establish the Coast Salish as a critical link between their congeners of the interior, who enter their winter dwellings through the roof, and the Pacific Eskimo, who do not. The existence of excavated quarters on the mainland but not on Vancouver Island, their occurrence on long sea arms that extend far inland close to the borders of Interior Salish territory, their continuous distribution down the Fraser and the linguistic affiliations of the groups concerned suggest that the most conservative guess would derive the coastal pattern directly from the interior. But the forms and, in part, the functions of the structures in the two areas were certainly different (1944:269).

leaving unsolved, the relationship of semisubterranean dwellings on the Coast with those of the Interior.

Subsistence activities of the Bella Coola Indians for the most part consisted of the harvesting of fish, particularly the anadromous salmon. These were caught in great abundance during the annual runs, by a variety of methods. One of the most productive methods was the construction of an elaborate weir that enabled the Bella Coola to

harvest sufficient salmon for their immediate wants and to preserve a quantity that could be used for trade and provide provisions for the time when there were few fish in the river.

The weir constructed by the Bella Coola involved considerable effort and is remarked on by Mackenzie:

> ... The weir is a work of great labour, and contrived with considerable ingenuity. It was near four feet above the level of the water, at the time I saw it, and nearly the height of the bank on which I stood to examine it. The stream is stopped nearly two-thirds by it. It is constructed by fixing small trees in the bed of the river, in a slanting position ... with the thick part downwards; over these is laid a bed of gravel, on which is placed a range of lesser trees, and so on alternately till the work is brought to its proper height (1971:320).

That the Bella Coola Indians were well provided with salmon is attested to by Mackenzie on a number of occasions; 'the chief ordered (them) to go and catch fish, which they did in great abundance, with dipping nets at the foot of the weir' (1971:327). Further he says they were not able to obtain fresh salmon to prepare in their own way, 'though there were thousands of that fish strung on cords, which were fastened to stakes in the river' (1971:328). And yet again, 'I observed before the door of the chief's residence, four heaps of salmon, each of which consisted of between three and four hundred fish' (1971:333). When Mackenzie returned to this village from the sea he remarks:

> ... we arrived, and found a very material alteration in the place since we left it. Five additional houses had been erected and were filled with salmon ... (1971:368).

The type of weir Mackenzie describes was used in conjunction with dip-nets and conical baskets fixed in place to catch salmon when they attempted to jump the fall. Besides these means, Mackenzie says, fish

were taken by the use of seine nets in the river, hauled between two canoes; 'The men were fishing on the river with drag-nets between two canoes' (1971:339), and also, 'He was seining between two canoes' ... (1971:360). Besides the various nets, traps and weirs used by the Bella Coola, hooks, made from two pieces of wood or bone fixed at an obtuse angle, and spears, with detachable barbed heads, were also employed to catch salmon (Mackenzie 1971:372).

When Mackenzie visited the Bella Coola valley in July of 1793 the majority of the inhabitants were engaged in harvesting salmon. Had he arrived earlier, he would have observed them catching and processing olachen. MacIlwraith (1948) gives a good description of the olachen harvest and the subsequent rendering of them into oil. The olachen run starts at about the end of April and occupies all of the people for about a month.

The major part of the olachen catch is rendered into oil which is used as a condiment with a variety of foods including berries, bark, and dried salmon. Mackenzie was offered hemlock bark dipped in oil which was considered to be a luxury item, "... the chief partook of it with great avidity, after it had received an additional quantity of oil. This dish is considered by these people as a great delicacy ..." (Mackenzie 1971:327). The above dish described is not expressly shown to have been olachen oil, Mackenzie called it salmon oil, but from the quantity involved, there is every likelihood that it was recently rendered olachen oil. Not all the olachen were processed for their oil though. MacIlwraith says many hundreds are dried for winter use, "hanging from cedar sticks over the central fire in a house, or in brilliant sunshine, hung in the open", or tied laterally to strips of

cedar bark "laid across a horizontal bar above a fire or in the open" (1948:II-537).

Salmon and olachen were probably the two most important types of fish taken by the Bella Coola, but a number of others taken in the salt water were also used. Halibut were caught on hook and line operated from canoes in the deep channels, flounder were speared on the shallow mud flats, cod were caught on hook and line. Some of these were cured, particularly halibut, but most simply provided a variety satisfying the daily wants. Herring, and herring spawn were collected in most of the bays.

Hunting activities seem not to have been very important as a means of supplementing the diet. Mackenzie states unequivocally of the Bella Coola that, "Flesh they never taste ..." (1971:321). He later qualifies the statement by adding that they do eat the flesh of sea otter and seal, and mentions the only instance observed of flesh being eaten was that of a porcupine. He is not certain however; "... whether this be their custom throughout the year, or only during the season of the salmon fishery ..." (1971:370). The overall impression gained by Mackenzie is that hunting was a relatively unimportant activity, and he concludes his discussion of the topic by saying, "... It is certain, however, that they are not hunters, and I have already mentioned the abhorrence they expressed at some venison which we brought to their village ..." (1971:370).

The impression Mackenzie gained could not have been otherwise when consideration is given to the time of his visit, the length of his stay, and his limited knowledge of the Bella Coola language. However, the Bella Coola Indians were hunters, although hunting was not an important

subsistance activity.

MacIlwraith says that marten, wolverine, lynx, black and grizzly bears, were hunted for their skins which served as cloaks. Mountain goats were hunted for their wool which could be woven into blankets and the flesh was cured for winter consumption. Beaver were killed for their flesh and their skin. Deer were killed, but formed a negligible part of the Bella Coola diet (MacIlwraith 1948:I-2). Birds such as ducks, geese, grouse, and cormorants were sometimes killed for food. Eagles were taken for their down.

Berries formed a large part of their vegetable diet. They were eaten fresh in season, and preserved in a number of ways to be eaten in the winter. MacIlwraith says many were "pounded into a pulpy mass and dried in the sun ..." (1948:I-2). Another use, more fully described, is given by Mackenzie:

> ... Women were employed in boiling sorrel, and different kinds of berries, with salmon roes, in large square kettles of cedar wood. This pottage, when it attained a certain consistency, they took out with ladles, and poured it into frames of about twelve inches square and one deep, ... which were then exposed to the sun till their contents became so many dried cakes (1971:369).

The inner bark of the hemlock was gathered in considerable quantities and when eaten with olachen oil, was, as already mentioned, considered a luxury. Drucker says that the roots of a variety of ferns were dug everywhere, and those of clover where it occured.

The picture of the Bella Coola as presented by Mackenzie is one of a sedentary group, dependent almost entirely on the sea and rivers for their sustenance. He describes the Bella Coola as being, "better clothed with flesh than any of the natives of the interior country"

(1971:370). He of course is remarking on their circumstances at a very favourable time of the year, but from his descriptions of the amount of food in the process of being preserved for the winter, it is possible to assume that the Bella Coola rarely suffered from want.

The picture of abundance, as described by Mackenzie in 1793, is contradicted somewhat by Palmer less than a hundred years later. He says:

> ... They, as usual with the Indian tribes west of the Cascade mountains, subsist chiefly upon salmon and berries, eaten fresh in summer and dry in winter, and also on the flesh of the wild animals hunted for the sake of their furs during the winter months; but they possess the usual native characteristic of improvidance and, in the spring, are frequently reduced by want of food almost to skeletons ... (Palmer 1863:6).

The date of Palmer's visit to the Bella Coola was 1862, in the course of surveying a route to the Cariboo goldfields. He began his journey from the mouth of the Bella Coola River on July 2nd. Palmer offers no evidence that in the spring the Bella Coola are reduced to skeletons.

The Bella Coola Indians, in common with the general pattern of the Northwest Coast, manufactured a number of items from wood. Cedar was used to construct the large storage boxes and containers mentioned by Mackenzie (1971). A number of spoons, ladles, bowls and troughs, are also mentioned as being made of wood. MacIlwraith (1948:I-4) says:

> ... Dishes, benches, cooking-boxes, cradles, totempoles, canoes, all were carved from this (cedar) wood. The bark was woven into baskets, and when dyed formed the most common ceremonial decoration.

Similarly, Drucker (1943:31) says:

> Like all Northwest Coast groups ... food vessels and spoons, storage containers, quivers, and a great deal of the ceremonial paraphenalia - rattles, drums, masks, and headdresses - were made of wood.

Boas (1909) gives extensive descriptions of the use of wood by the Kwakiutl for the manufacture of household items. But surprisingly enough Boas, Drucker, and MacIlwraith, do not mention wood being used for implements connected with subsistence activities apart from the bent wooden halibut hooks. Drucker says arrow, harpoon, and spear points were most often made of bone, horn, and shell (1943:31). In a later publication he says, "... weapons and implements for fishing and hunting ... were made of wood" (1965:24), but he does not elaborate. It is possible that in this case Drucker is referring to bows and the halibut hooks mentioned above.

There is little doubt that wood was a very important material of manufacture on the Northwest Coast. There is some indication that items made from stone, antler, or bone, were also made from wood. When discussing the harvesting of herring, Drucker explains the use of a herring rake which he describes as:

> ... a device shaped like a long slender oar with a row of sharp spikes of bone along one edge of the blade. In recent years sharpened nails have replaced the bone spikes (1965:15).

In 1834, while at Fort McLoughlin, William Tolmie remarks on the harvesting of herring:

> ... a shoal of herring in Sound in the afternoon - the Indians took them in the following manner ... In the bow of canoe, a man stands, furnished with a slender pole about 12 feet in length - beset for about two feet with

> transverse wooden teeth about an inch apart in length & placed about an inch apart. When in the midst of a shoal, he poles vigorously & generally brings up two or three fish impaled on the teeth (1970:273).

It may be assumed that the Bella Coola also used wooden barbs in their herring rakes. Wooden barbs on fish hooks have already been mentioned (page 29) as described by Mackenzie.

In the introduction to Smoke From Their Fires, Ford says:

> Formerly, the manufacture of wooden objects dominated Kwakiutl technology. Work in stone, shell, bone and horn merely supplemented this basic craft. They made their weapons and tools of stone or bone and wood ... (1968:5).

The same most likely holds true for the Bella Coola, but the quote should read, 'of stone or bone or wood'. In many cases the wooden object need not be supplemented with stone, shell, bone, or horn; to make it a functional device.

Mackenzie (1971) describes the fishing equipment of the Bella Coola as consisting of nets and lines of various kinds and sizes, which are made from cedar bark, the hooks are made of wood or bone. He mentions spears of from four to sixteen feet long with detachable barbed heads used for taking sea otters, seals and large fish. The Bella Coola bow is described as being not more than two and a half feet long, made of red cedar, sinew-backed, and highly efficient. The arrows may well have had barbed points as Mackenzie says they are the same as the spear only slighter.

At the time of Mackenzie's visit, iron was becoming a less rare commodity on the Northwest Coast, and it was used amongst the Bella Coola as the principal material for axe heads and adze blades. Mackenzie says, "Their hatchets are made principally of about fourteen inches of

bar-iron, fixed into a wooden handle" (1971:372). Mackenzie also mentions hatchets of bone or horn. There is also every likelihood that stone was still in use for adze blades. The large planks and poles used in house construction were fashioned with a mallet and wooden wedges. Mackenzie does not indicate whether or not the mallet was the large stone maul, common to the Coast.

Iron seems to have replaced stone, bone, antler and shell as the fixed arming point of spears and possibly arrows. Mackenzie (1971:373) says simply, "Their spears are about ten feet long, and pointed with iron." The knives the Bella Coola men carried were all of iron of various kind, "... being of British, Spanish and American manufacture" (Mackenzie 1971:373).

Iron seems to have been adopted only by the men, for utilitarian purposes. Mackenzie says:

> Copper and brass are in great estimation among them, and of the former they have great plenty: they point their arrows and spears with it ... They also abound in iron. I saw some of their twisted collars of that metal which weighed upwards of twelve pounds. It is generally beat into bars of fourteen inches in length, and one inch three quarters wide. The brass is in thin squares: their copper is in larger pieces, and some of it appeared to be old stills cut up. They have various trinkets; but their iron is manufactured only into poniards and daggers (1971:333-334).

The women make use of mussel shell to split and clean their fish (Mackenzie 1971:373). The household furniture consisted of wooden boxes, troughs and dishes as well as a number of basketry items. These were used for storing provisions and personal articles, carrying water, cooking in, and eating from. No iron at all was used in any of the above pursuits, despite the obvious functional advantages of iron kettles over wooden boxes for cooking.

Mackenzie relates an incident that explains the reluctance on the part of the Bella Coola to rapidly replace their traditional vessels with those made of iron. He says:

> They had, indeed, taken our kettle from us, lest we should employ it in getting water from the river; and they assigned as the reason for this precaution, that the salmon dislike the smell of iron (1971:328)

Iron was readily accepted to replace only traditional tools and implements that were not directly connected with anything to do with salmon, apparently both before and after the fish were caught.

The clothing the Bella Coola men wore consisted for the most part of a simple cedar bark robe. The basic cedar bark material is sometimes interwoven with strips of red and yellow thread. Fur, of sea otter or beaver and possibly marmot, are often used to trim the robe. Mackenzie (1971:322) says the robe is "tied over the shoulders, falling down behind, to the heels, and before, a little below the knees."

Mackenzie adds that when it rains the men add, "a circular mat ... which extending over the shoulders, throws off the wet" (1971:371). He further adds that they occasionally wear shoes of dressed moosehide which is traded in from the Interior (1971:371).

According to Mackenzie, the women wore no clothing but the robe, either loose or tied about the middle with a girdle, as the occasion may require, with the addition of a fringed apron ... and a cape (1971:371).

Both men and women wore ornaments such as necklaces, collars, bracelets for the arms, wrists and legs, with ear-rings (Mackenzie, 1971:373). Mackenzie is not explicit as regards to the material the

above ornaments are made of, but copper, brass, iron, bone and shell are all mentioned. Mackenzie (1971:370) says they have wedge heads. The men wear their hair long, "some keep it well combed, and let it hang loose over their shoulders, ... others arrange its plaits and bedawb it with brown earth, the women wear their hair short" (1971: 370-71).

Ceremonial dress is not mentioned by Mackenzie, obviously he was limited in his observations by the time of year he visited, and by the short length of his stay.

Social Organization

Mackenzie is of course not explicit with regards to Bella Coola social organization, but it is possible to make some inferences in this regard on the basis of his observations on Bella Coola government. He says:

> ... It is in this river alone that one man appears to have an exclusive and hereditary right to what was necessary to the existence of those who are associated with him. I allude to the salmon weir, or fishing place, the sole right to which confers on the chief an arbitrary power. Those embankments could not have been formed without a very great and associated labour; and, as might be supposed, on the condition that those who assisted in constructing it should enjoy a participating right in the advantages to be derived from it. Nevertheless, it evidently appeared to me, that the chiefs power over it, and the people, was unlimited, and without control. No one could fish without his permission, or carry home a larger portion of what he had caught, than was set apart for him. No one could build an house without his consent; and all his commands appeared to be followed with implicit obedience. The people at large seemed to be on a perfect equality, while the strangers among them were obliged to obey the commands of the natives in general, or quit the village (Mackenzie 1971:374-375).

The above quote gives the total explicit remarks made by Mackenzie

with regards to Bella Coola social organization. A number of inferences can be drawn from other remarks in Mackenzie's journal. Mackenzie's first encounter with the Bella Coola was when he walked unannounced into a village where he shook hands with a number of inhabitants who soon conveyed to him by signs that he should go to the largest house in the village. There Mackenzie met the chief of the village. After spending some time at this village, Mackenzie was transported by canoe downstream to another village. He was greeted by another village chief and was introduced to the latter's two sons, the eldest of whom presented Mackenzie with a robe;

> ... I instantly stepped forward to meet him, and presented my hand, whereupon he broke the string of a very handsome robe of sea otter skin, which he had on, and covered me with it. This was as flattering a reception as I could possibly receive, especially as I considered him to be the eldest son of the chief (1971:326).

After this reception Mackenzie was entertained in a house of greater dimension and built of better materials than any he had previously encountered. The entire village stayed at the reception for Mackenzie, "except a party of ten or twelve of them, whom the chief ordered to go and catch fish," (1971:327).

Mackenzie was then conveyed by canoe down the valley with the chief's son as guide. The chief of each village visited was thoroughly informed beforehand of all particulars concerning Mackenzie's party. The settlements encountered by Mackenzie on his journey downriver, varied in size from villages consisting of several hundred inhabitants, to single house sites. He was made to stop and visit at one spot where there were only two houses, as he was informed the owner of the houses was "a person of consideration"

(1971:337).

Mackenzie's next stop was at a single large house divided into a number of apartments. He was graciously received by the inhabitants and remarks that he continued his usual practise of presenting them with gifts for their kindness. Mackenzie further remarks, "here we saw a woman with two pieces of copper in her under lip, as described by Captain Cook." (1971:338). He unfortunately does not convey any hint as to the status of this woman with the labret.

It would appear from Mackenzie's remarks, that at the time of his visit, Bella Coola social organization differed little from that described at a later date by MacIlwraith. Patrilocality might be inferred from Mackenzie's remarks concerning the various chiefs and their sons residing in the same village, but the marital status of the sons is not definite, in which case matrilocality may have occurred.

Rank can definitely be inferred as Mackenzie makes constant reference to the chief's house being the largest. There is also the reference to one man being the sole and hereditary owner of the fish weir. Mackenzie could distinguish no ranking among the inhabitants of the villages, other than the chief, except in regards to the Interior visitors. Slaves are not mentioned by Mackenzie. The woman with the labret, probably from the more northern coast, may have been a slave, but she may also have been a wife of one of the Bella Coola.

Each village, whether it consisted of one house or several had a chief. It would appear that the size of the village did not reflect the importance of the chief of that village. Witness the exhortation to stop at a village of only two houses as the chief there, was a man of some consideration. It might be inferred from this that the Bella

Coola villages comprised a loose association whereby the chief of one village was on a par with a chief of any other village, size not withstanding, but perhaps other factors were involved in ranking. There may have been a hierarchy of chiefs, but it was not abundantly evident to Mackenzie.

MacIlwraith is somewhat ambiguous in regards to ranking of various chiefs. At one point he says:

> ... The most careful investigation, however failed to show such a system of ranked seating ... Several men may have positions at practically the same spot, but when all are seated they merely move slightly so that all have room. There is no thought of one person infringing on the location of another (1948I:168).

The above quote implies a sense of equality among chiefs, but on the other hand MacIlwraith says:

> ... But as a rule the chiefs sit in a row at the back of the fire, the most influential one in the middle. There must have been feuds when two men desired to seat themselves in the central position at the same time, but disputes about this were uncommon, (1948I:169).

This latter quote definitely indicates a ranked hierarchy for the Bella Coola chiefs. Rosman and Rubel however, are unequivocal with regards to ranking. They state:

> With regards to the ranking of minmints or villages, there is no evidence of a hierarchy in which villages were externally ranked (1971:115).

Bella Coola social organization is based on the principle of prerogatives gained by "First Settlers." Bella Coola myths state that each village was started by "First Settlers", the descendants of whom form the ancestral family or minmints. Of these first settlers,

MacIlwraith says:

> ... They came in groups of two, three, four, or more, brothers and sisters, or more rarely man and wife, to different parts of the Bella Coola valley. They brought with them tools, houses, clothing, even sustenance in the shape of fish and animals. More important, from the point of view of social organization, they brought with them names and ceremonial prerogatives ... (1948I:117).

MacIlwraith says the Bella Coola believe there were approximately forty-five groups of first settlers, corresponding to the forty-five towns. Each group had its own hunting ground and fishing station along the Bella Coola river. When marriage occurred between villages, patrilocality was usually the rule, so that children shared in the hunting grounds of the father's village and the child learned ceremonial dances from his father.

MacIlwraith says further though:

> ... But the mothers of these children, the first born on this earth, did not surrender the privileges of their own villages at marriage ... It was taken as a matter of course that a child had full rights in the village of his mother, and from her, as from her relatives, he likewise received various prerogatives. Thus each child was a member of a bilateral social group (1948I:119).

After these first marriages which were necessarily exogamic, the Bella Coola practised endogamy in order to keep prerogatives within the village.

The household appears to be the social unit within the villages. A village consisted of from two or three, to twenty or thirty houses. A house might contain from three to ten families. Rosman and Rubel say;

> ... there is no fixed structure of rank among the Bella Coola. The position of a chief is more open to individual definition and initiative than among other Northwest Coast tribes ... (1971:112).

But within the household Rosman and Rubel say the authority of a chief as head of the household was clear-cut (1971:115).

The lack of external ranking, or any sort of central authority boded ill for the Bella Coola in time of war. MacIlwraith considered the Bella Coola unlikely to have engaged in aggressive war, an enterprise; "... for which they were unfitted both on account of their unmilitary attitude and their lack of central authority" (1948II:339). MacIlwraith is most emphatic in stating the characteristic unmilitary attitude of the Bella Coola and their lack of central authority that made it difficult for them to wage war.

The following lengthy quote from MacIlwraith will serve to delineate Bella Coola warfare:

> ... Lack of a strong government was a serious handicap to the Bella Coola. After being assailed, the members of the town would discuss retailiation, and if unanimity of opinion was reached, that course was decided upon. Public opinion alone selected the leader, usually a man who had given a number of potlatches, especially one whose position had been made stronger by previous validation as a warrior. Such a chief had no command over his followers. If he were a man of great prestige, many would be willing to serve under him, but he could not compel the services of anyone except his own slaves. A few individuals often declined to follow their fellows to war, although the force of public opinion usually prevented a too individualistic course. Inhabitants of other towns used their own discretion whether or not to join the party, if some of their relatives had been slain in the previous attack, revenge influenced them to share in the retaliation, otherwise only the prestige of a mighty chief could attract them. No case is known in which all the Bella Coola villages joined in a single expedition; there

> were often temporary alliances between neighbouring settlements, but complete lack of central organization ... The so-called leader had little authority over his men, who could desert and return home at any time. Lack of martial ability among their own chiefs sometimes led the Bella Coola to place themselves under the authority of a Bella Bella in a way which would be impossible for a war-like people. Frequently such divided leadership led to disaster, and is the surest proof that the Bella Coola were not as aggressive or bellicose as other coastal tribes (1948II:340-342).

Though the Bella Coola, as evidenced in the above quote, were not militarily organized to wage war, their geographical position prevented them from being annihilated by more aggressive coastal tribes. MacIlwraith says; "The narrow Bella Coola valley, however, far removed from the open sea, and densely populated, was difficult to attack (1948II:339). Such was the case for the villages in the Bella Coola valley proper, but the outlying Bella Coola villages were subject to quite frequent raids by the Kwakiutl and Tsimshian.

MacIlwraith mentions specifics for the recourse taken by one such outlying Bella Coola village. He says:

> ... Bella Coola itself was too difficult of access and too densely populated to be successfully attacked, but Talio was subject to constant raids ... The raiders became so bold that the inhabitants of one of the Talio villages decided to defend themselves by building a stockade. Everyone assisted in the task, so that the fortification was soon completed. It consisted of a fence of vertical logs with a platform running around near the top, on the inner side, on which the defenders could stand, and a water-gate through which canoes could enter at high tide. It surrounded five or six houses and was planned as a place of refuge for all the Talio villages ... (1948II:362).

Apparently MacIlwraith is speaking of a more recent time than Vancouver for no stockaded villages are mentioned by Vancouver in South Bentinck

Arm. Also MacIlwraith describes two successful defences of Talio during which the defenders made extensive use of firearms (1948II:363&365). And further evidence of a later time is the fact that MacIlwraith does not mention pile built dwellings at Talio as they are described by Vancouver.

The picture presented of Bella Coola social organization is somewhat sketchy but is adequate for the purpose of this study, which is to show the lack of central authority and its consequences in warfare.

III

ARCHAEOLOGY

The Northwest Coast culture as it is known from ethnography has given rise to much speculation regarding its origin and subsequent development (H.I. Smith 1903, 1907; Boas 1910; Kroeber 1923, 1939; Drucker 1943, 1950, 1955a, 1955b; Borden 1950, 1951, 1962, 1968; King 1950; M.W. Smith 1950, 1952, 1956; Carlson 1960; Butler 1961; Daugherty 1962; Swanson 1962; Anderson 1967; Mitchell 1971.) This chapter will attempt to show that the possibility of proto-Salish speakers arriving on the uninhabited, recently deglaciated coast from an area to the south and east of the present position of the Coast Salish in British Columbia is very real. The subsequent developmental sequence of these first inhabitants' culture to that of the ethnographic Coast culture is not entirely clear, but some possibilities are offered.

The earliest dated sites contiguous with the Northwest Coast are found to the south and east (Daugherty 1956; Cressman 1960; Fryxell et al 1968; Leonhardy and Rice 1970). The dates from these sites establish that man was in that area at least 10,000 years ago. The possibility exists that these early population groups in the Columbia Plateau are the progenitors of the Coast Salish.

Tracing population movements with scant archaeological data is somewhat tenuous, especially when dealing with considerable antiquity and relatively undiagnostic material. Enough archaeological data are available to indicate a similarity between the Columbia Plateau and Northwest Coast cultures at a very early date.

Butler (1961) was the first to attempt a synthesis of the available archaeological data for a Pacific Northwest basal culture which he

termed the "Old Cordilleran Culture".

> ... the Old Cordilleran Culture is generally represented in the archaeological record by a relatively simple, basic assemblage of chopping, cutting, and scraping implements of chipped stone. Among the more diagnostic of these are the large, bifacially chipped, excurvate-edged knife blades. The ubiquitous pebble scraper, found in most of the later complexes in the Pacific Northwest, was evidently first introduced in the Old Cordilleran Culture. An assortment of bone implements, including bone points, may also have been characteristic of this culture; but they are poorly represented in the known remains ...
>
> Food-grinding implements, such as milling stones and manos, are not found in the earliest manifestations of this culture; ... The basic economy appears to have been relatively flexible but was essentially oriented toward the hunting of land mammals, particularly deer. Certain riverine resources, such as fish and mussels, were exploited to a small degree ... Extensive use of fish does not appear to have become a universal phenomenon in the culture; indeed, depending upon the nature of the local ecology, the economy of the Old Cordilleran Culture remained essentially land-oriented for a considerable length of time (Butler 1961:64-66).

The trait most diagnostic of the Old Cordilleran Culture is not described in the above outline of the culture. It is the characteristic bi-pointed leaf-shaped projectile point described by Butler as closely resembling Lerma types and because of geographical distribution named by Butler as "Cascade Points".

These Cascade Points, together with the above listed material constitute the Old Cordilleran Culture, which Butler sees as representing a non specialized hunting-fishing-gathering people who occupied a large part of the Pacific Northwest sometime between 12,000-13,000 years ago. Butler (1961) outlines five sub-areas of the Pacific Northwest where he considers the Old Cordilleran Culture to be manifest. These are:

> ... The Northern Great Basin of south-central Oregon, the Upper Klamath Lake Region, which lies against the eastern slopes of the Cascade Mountains in southern Oregon, the Dalles Region of the Lower Columbia Valley east of the Cascades, the Columbia Basin of eastern Washington and Oregon, and the Puget Lowland of northern Washington, which is west of the Cascades (Butler 1961:7).

Another area Butler sees as possibly representing the Old Cordilleran Culture is not included in his five sub-areas. It is the Milliken site (DjRi3) in southern British Columbia. Butler says, "The earliest component of the Frazer Canyon site appears to represent an Old Cordilleran Culture occupation" (1961:68).

Daugherty (1962) has formulated an Intermontane Western Tradition which he says "evolves through tracing a developmental sequence tied closely to the changing environmental and economic conditions which followed the waning Wisconsin stage of the Pleistocene epoch" (1962:144).

We need be concerned only with Daugherty's first two periods, which are most pertinent to the Northwest Coast.

The Early Period (Ca 9000 - 6000 B.C.) is characterised by small nomadic bands practising food gathering, hunting, and fishing where local conditions permitted. Daugherty says:

> All projectile points used during this period were based on a lanceolate form. A number of styles were common, often occurring together as an associated complex. The earliest projectile points are lanceolate forms which in the Northwest have been called Cascade Points (Butler 1961) ...
>
> The crescentic blade is a common and widespread implement in the Early period assemblages ... Varieties of scrapers, including large scraping planes, also are found in sites of this period. Unfortunately, artifacts of bone are rare except in cave sites where factors of preservation have permitted their survival ... (1962:145).

The next period in Daugherty's sequence is called Transitional and dates from 6000 to 2500 B.C. Of this he says:

> ... In the Plateau there was likely a concentration of the population along the major streams and their larger tributaries. The resources of these streams, salmon, steelhead, and other types of fish, as well as river mussels, now became the basis of the economy, with food-gathering activities of secondary importance, and hunting a poor third ...
>
> Throughout the Intermontane West, during the Transitional period, there was a shift in emphasis from projectile points derived from a basically lanceolate form, to styles that are basically triangular ...
>
> ... In the Plateau the development of a true riverine orientation is in process (1962:145-46).

Daugherty does not agree with Butler regarding the feasibility of an Old Cordilleran Culture. Daugherty would prefer that the Old Cordilleran be called a "tradition":

> which persisted for a long period of time in a more restricted distribution, specifically in the Cordilleran region (not the Intermontane region) of the Pacific Northwest from Oregon to southern British Columbia ...
>
> Although no doubt related to the Intermontane Western tradition, there is not yet sufficient evidence to tell us much about relationships or lack of them between the Northwest Cordilleran Area tradition and the developing Northwest Riverine Area tradition. It appears, however, that the Northwest Cordilleran Area tradition did not participate in the early change from lanceolate to triangular points ... (1962:149).

Daugherty does not rule out the possibility of the Old Cordilleran being the progenitor of the culture of Salish speakers. He says:

> ... The remarkable correspondence, both temporally and spacially, between the concept of a Northwest Cordilleran Area tradition and the apparent distribution of early Salishan languages, suggests a relationship (Daugherty 1962:149).

Swanson (1962) also sees the generic possibilities of the early Columbia Plateau material as common to both Coastal and Interior Salish. He sees the Old Cordilleran Culture concept as having considerable validity,

especially in the northern Puget Sound area.

Leonhardy and Rice (1970) have defined a regional typology for the lower Snake River in southeastern Washington which appears to show two developmental continua. Their typology is divided into six phases, the first two are of concern here. The earliest archaeological components are from Windust Cave, which lends its name to the phase. Leonhardy and Rice show the Windust Phase assemblages to consist of:

> ... A variety of closely related projectile point forms with relatively short blades, shoulders of varying prominence, principally straight or contracting stems, and slightly concave bases. Both uniface and biface lanceolate points occur, but are exceedingly rare. Most knives are large lanceolate or oval forms and are relatively crudely made. End scrapers are large and usually of poorly defined form. They are rare in all assemblages. Single and multiple faceted burins occur in small numbers. Utilized flakes are the most numerous and most varied lithic artifacts. Cobble tools include large scraping planes, uniface and biface choppers, large scraper-like implements, and utilized spalls. Bone artifacts are few, but include needles, atlatl spears, tips of awl-like implements, and fragments of small round shafts (1970:4).

Leonhardy and Rice (1970) show the fauna associated with the Windust Phase consisted of elk, deer, antelope, rabbits, beaver and river mussel. The phase is dated to between 8,000 and 7,000 B.C., but may date to as much as 10,000 B.C. (Leonhardy and Rice 1970:6).

The next phase, called Cascade is divided into two subphases with the Cold Spring side-notched projectile point acting as the horizon-marker defining the chronologically later subphase. Leonhardy and Rice say of the Cascade phase:

> Except for the side-notched projectile points, the artifact inventories of the two subphases are essentially identical. The lanceolate Cascade point is typical and, indeed in the earlier subphase, is virtually the only form found. Other forms found in earlier subphase assemblages are rare and

> are so distinctive that they are usually considered intrusive. Large, generally well-made lanceolate and triangular knives are characteristic. Tabular and keeled end scrapers are common. Large, varied, utilized flakes are numerous in most assemblages. Atlatl weights occur, but are rare. Cobble implements include large scraper-like implements, pounding stones, small grinding stones of questionable identification, manos of certain identification and a second hallmark artifact, the edge-ground cobble. Bone implements include atlatl spears, splinter awls, split metapodial awls, needles of various sizes, and fragments of large and small shafts. Olivella beads are the only shell artifacts identified (1970:6-9).

The fauna associated with the Cascade Phase includes elk, deer, antelope, rabbit, beaver and possibly bison larger than the modern species. Riverine resources used include river mussels, steelhead and other fish. One possible fishhook shank gives the only indication of how riverine resources were harvested. The Cascade Phase dates fall between 6,000 B.C. and just prior to 3,000 B.C. (Leonhardy and Rice 1970:10).

The succeeding phase, Tucannon, apparently is not a continuum of the Cascade Phase. Leonhardy and Rice have included their two earliest phases and Daugherty's Early and Transitional Periods into one larger unit they have named the Pioneer Period lasting from at least 8,000 B.C. to just prior to 3,000 B.C. (1970:22). They give four reasons for this realignment:

> ... First, the phases within the two original periods are not sufficiently distinct in general content or basic economy to warrant different periods. Second, Daugherty intended that the Lithic (Early) Period be assigned to the Lithic Stage proposed by Willey and Phillips (1958). We do not feel that such assignment is warranted on the basis of either economy or general stage of culture development ... A third reason for the suggested change is that cultures of the "Transitional" Period are not now considered to be transitional to anything. Instead the Cascade Phase which existed during that time represents

> a fully developed, well-adapted climax culture. Finally, the Windust and Cascade Phases represent the people who first occupied the region ... Hence the term "Pioneer" was chosen to characterize the period. We do not intend to imply that the cultures of subsequent periods necessarily evolved from cultures of the Pioneer Period (1970:22-24).

From all of the above it should be evident that at a reasonably early time there was a viable population inhabiting an area relatively near the Coast, who pursued a varied economy which included river resources such as mussels and salmon. It has also been intimated by extrapolation that the people of the Pioneer Period may be the progenitors of the Coast and Interior Salish.

Borden (1962) remarking on the archaeological material at The Dalles suggests that there is an early population well-equipped for exploiting riverine resources. He says:

> Noting that his findings are earlier by several thousand years than evidence of similar ecological adaptation elsewhere in North America, Cressman rightly suggests the possibility that on this continent such patterns were first evolved in the Pacific Northwest, and that in the following millenia they were carried into northern regions by Indians moving through the interior of Washington and British Columbia (1962:11).

The interpretation of the archaeological material at The Dalles regarding Interior-Coast relations offered by Cressman (1960) is as follows:

> ... We should know that from the end of the Pleistocene on and perhaps earlier there was a population on the Columbia not far east from the head of tide water, although far from the sea ... We do not know when people moved down-river to the coast ... We know that at approximately the beginning of occupation these people had the harpoon (Level 37), a necessary adjunct to maritime adjustment ... The food or subsistence pattern early established at the Narrows was mainly based upon fish with a secondary dependence upon marine and land mammals and birds, and probably roots and berries in

season. This is the essential coastal pattern (1960:71).

The sites described from the Columbia Plateau included in Butler's (1961) Old Cordilleran Culture are given wider geographical distribution by Borden (1969) as he sees them occuring also in Nevada, California and Mexico. Of these Borden says:

> ... Though regional and local specializations are often apparent, such assemblages commonly feature large biface knives and leaf-shaped points, scrapers in a wide range of size and type, occasionally crude or even well-made blades, but never microblades. Varying quantities of pebble tools are usually present. One example of such an assemblage is that of the Milliken phase in southwestern British Columbia, dated at 7100 to 6200 B.C. ...
>
> Undoubtedly of earlier more southerly origin, the Milliken culture is at present the northernmost exponent of these cultural manifestations. Farther south, Cressman's (1960) Early I component at Fivemile Rapids, dated at 7800 B.C. ... probably represent earlier manifestations of this tradition (1969:8).

These widespread geographically distributed sites which Borden sees as dating to as much as 20,000 years ago in their most southern reaches have been named by him the Protowestern cultural tradition (1969:9). The northward movement of conveyors of the Protowestern tradition brought them into British Columbia shortly after the area had been deglaciated. Of this Borden says:

> ... It is significant in this context that 8,000 to 9,000 years ago the lower valley of the Fraser was still depressed from the last and recently terminated local glaciation and that a long inlet extended from the Gulf of Georgia to the vicinity of Hope ... Thus, the Indians who fished in the Fraser Canyon at that time were little more than twenty miles from the mouth of the river and salt water ... (1962:11).

From the above it is evident that the earliest inhabitants on the Coast arrived from an area to the south and east. The problem now remains to

show that these first inhabitants are indeed the progenitors of the ethnographically known Salish, and that their northward movement took them along the coast to at least as far as the Bella Coola territory.

The culture continuity at the Milliken site in the lower Fraser Canyon from 7500 B.C. to 4500 B.C. does not appear to be in question. This time period encompasses two phases: Milliken Ca. 7500-6000 B.C. and Mazama Ca. 6000-4500 B.C. The Milliken phase is described above. Borden says of the Mazama Phase:

> The artifact collection of this phase is not large, and in general no marked change from the preceding phase is indicated (1968:14).

However the succeeding phase, Eayem Ca. 3500-1500 B.C., shows an introduction of a number of new traits. The phase is described by Borden:

> Certain important technological advances occurred in this period. Projectile points provided with stems to facilitate hafting make their appearance. Drills of various types are added to the tool kit ... A small fragment of thin siltstone plaque decorated with incised cross-hatching was recovered, as well as two small spindle-shaped steatite objects with encircling lines. Possibly the latter are gaming pieces used in slahal, a guessing game still passionately played by the Indians of today. Among the most striking developments of this phase was the beginning of the ground slate industry ... The Eayem deposits at Esilo have yielded a series of chipped and partially ground slate points and fragments of exceedingly well-made ground and polished knives (1968:14).

The dates that bracket this phase, also bracket the earliest dated sites in the Fraser Delta and Gulf of Georgia region. These sites are St. Mungo Cannery dated to 2300 B.C. and Mayne Island dated at 2000 B.C. Of the material at St. Mungo Calvert says:

> ... The basic economic reliance on fish, molluscs and wood which is so characteristic of later Northwest Coast cultures is well-defined in the earliest levels ... The

> lowest levels of the deposit show affinities to the Eayem Phase of the Fraser Canyon, with which they are roughly contemporary. The people were apparently well acquainted with wood working techniques and depended on riverine, inter-tidal and land resources for food ... This economic pattern seems to persist with little change. It is accompanied by a gradual cultural development, marked by an increase in particular decorative forms and the first slight indications of a more maritime oriented way of life ...
>
> As a final remark, one might point out that the presence of a Fraser Delta component of the Eayem Phase suggests that other early Canyon Phases may be just as wide-spread and that the cultural similarity found along the lower Fraser in more recent times has a great antiquity. (Calvert 1970:74-75).

The material from Mayne Island is represented by three phases. The earliest of these has been named by Carlson (1970) the Mayne Phase and consists of:

> Flaked basalt artifacts and debitage in quantity, leaf-shaped basalt points, stemmed and shouldered basalt points, scrapers and knives, pebble choppers, milky quartz and quartz crystal flakes and microblades, obsidian flakes and microblades, ground slate points and knives present but rare, chipped slate points, bilaterally barbed harpoon heads of antler, unilaterally barbed antler points with lashing grooves, antler wedges, sandstone abrading slabs and whetstones, labrets and other polished stone ornaments, bone pendants, long, unbarbed, bone points, red ochre, extended burials, circular hearths, rock slab features (1970:115).

The Mayne Phase material as described above constitutes the first recorded evidence for such an assemblage on the Northwest Coast. Carlson (1970:117) sees similarities between Mayne Phase material, and material excavated on Takli Island off the coast of the Alaska Peninsula, dated between 2500 and 1000 B.C. But Carlson also says:

> There are some similarities between the Mayne phase projectile points and those from the Eayam phase at Yale and at the St. Mungo site ... The St. Mungo site also yielded one bilaterally barbed harpoon head of a different style ... A Fraser River site which might

> contain a Mayne phase component is the site at Port Hammond which produced a number of small bilaterally barbed harpoon heads (1970:117).

Closest affinites of the Mayne phase material appear to be with the Takli material, but the affinities with older indigenous material would suggest diffusion to local groups rather than intrusion of alien people.

The next oldest culture material on the coast is represented by the Locarno Beach phase and dates to approximately 1000 B.C. It is difficult to determine the artifact inventory for the Locarno Beach phase, but by combining Borden's (1970:96) component list for the mainland with Mitchell's (1971:91) component list for Montague Harbour I which he terms Locarno, the Locarno Beach phase consists of: chipped leaf-shaped points, chipped contracting-stem points, microblades, chipped slate or shale knives, split cobble tools, cobble-core tools, Gulf Islands complex artifacts, grooved or notched stones, handstones, shaped abrasive stones, antler foreshafts, composite toggling harpoons with flat points, one-piece toggles, large facetted ground slate points, facetted ground bone points, labrets, heavy ground slate knives, long heavy barbed bone points, one-piece toggles (blade slotted), mussel shell points (side-notched), mussel shell adze blades, bird bone needles, earspools, decorated slotted antler cylinders.

Combining the trait lists of two named Locarno Beach phases may be assuming too much license of the data, but as Abbott (1972:275) says:

> The concept of "phase" has been too readily resorted to on the southern Northwest Coast as a device to categorize differences between archaeological assemblages. In my opinion this has been frequently over-hasty, especially where, with small assemblages, trait absences have been emphasized.

Given the similarities between the Mayne phase and the combined material above, it may be more useful to consider the Mayne phase, Montague Harbour I, and the Locarno Beach phase as components of some larger unit. As Abbott (1972:275) further says:

> Perhaps it is justifiable to categorize the archaeology of this area only in terms of "traditions" or by "periods" (Kidd, 1964), or by "culture types" (Mitchell, 1971).

Whatever the larger unit is called, by at least 2000 B.C. the Northwest Coast had received a number of cultural traits that do not appear to be explained by indigenous or historical development.

The next earliest dated phase on the Northwest Coast is the Marpole phase. It is dated to approximately 500 B.C., and is considered to be the earlier manifestation of the final, ethnographically known, Northwest Coast culture. Carlson (1960) says:

> At Marpole, Borden has found evidence for a large multi-family dwelling which must certainly be related to if not identical with that of the historic Indian groups. A similar continuity is evident in wood working tools - adzes, mauls, chisels, and wedges. There is a continuity in art style also (1960:585).

The Marpole phase has been termed a climax culture that saw the synthesis of earlier traditions into a full flourishing Northwest Coast culture that continued through time with some modifications to the ethnographically known Coast Salish culture. It appears to be the culture of a people who have long been in the area. Borden (1962) says:

> The culture of the Marpole Phase is firmly rooted in local tradition. Links with the ancient riverine cultures of the Columbia and the Fraser are obvious. Exploitation of the rich fish resources, which started more than 7,000 years earlier is still the economic basis, supplemented by fowling and some hunting of land animals. But in addition shellfish is extensively eaten, and numerous harpoons as well as the bones of

> seal, sea lion, and porpoise, attest to the importance of sea mammal hunting ... Finally, though there are many new forms, even the chipping industry of the Marpole Phase still shows marked affinities with the ancient up-river types (1962:12).

Borden sees the possibility of the new forms manifest in Marpole as being derived from a number of sources. Labrets and earspools, Borden suggests (1962:13), diffused from the south, whereas ground slate, adze blades, and bone whistles diffused from Siberia, but not via the Eskimo-Aleut (Borden 1962:16). That there has been considerable outside influence on developing Northwest Coast culture is not in doubt, it is evident by at least 2000 B.C. and may extend further back in time, but the means of diffusion is questioned. A new look at population spread on the Northwest Coast is required.

The widespread and relatively continuous geographic distribution of the Salish language in the Pacific Northwest indicates considerable antiquity for the Salish people in the area. The most northerly Salish (Bella Coola) and the most southerly (Tillamook) people, are the only geographically separated Salish speakers. There are two possible explanations for this isolation: 1) migration and 2) intrusion. The latter is the more probable, as it conforms with language migration theory (Diebold 1960:7). As we are concerned only with the Bella Coola an attempt will be made to show that they were probably contiguous with Coast Salish and were separated by another group forcing the Salish south, and isolating the Bella Coola in their present Territory.

Archaeological data is scant for the area between the Fraser Delta and Bella Coola territory. Two surveys, (Capes 1964, Mitchell 1969, 1972) have been conducted in part of the intervening area. Drucker (1943) is the only source of archaeological data for the area between

the northern tip of Vancouver Island and the Bella Coola territory. Despite the dearth of archaeological data, some inferences can be made.

The test excavation conducted by Capes (1964) at Millard Creek near Comox yielded too few artifacts to state with certainty the position of this material in the Northwest Coast sequence. Among the material recovered was a bifacial leaf-shaped point. A date of approximately 3000 B.C. was obtained from a carbon sample gathered at a depth of 1½ feet, the level that yielded the point, a worked bone fragment, perforated channel coal object and number of small obsidian and quartz crystal flakes (Capes 1964:60). Typologically similar material was recovered from a site on the other side of Comox Bay from Millard Creek. The radiocarbon date for this site, taken at a similar depth, is A.D. 1500. Despite the incongruity of the dates, the sites on typological grounds can be accepted as quite old. The artifact samples are small, as indeed are the excavations. A major excavation in the area would probably result in the placing of the sites fairly early in the Northwest Coast sequence. The Comox region is well within the boundry of historic Coast Salish.

The survey conducted in the Johnston Strait region by Mitchell (1969, 1972) led to the recording of 687 sites. In regard to the position of these Mitchell says:

> Three clusters of sites stand out fairly clearly - a large one on islets and channels to either side of the mouth of Knight Inlet, a second to the northwest in the Templar Channel - Drury Inlet area, and another centering on the waterways of the Quadra-Sonora-Cortes Island group (1972:22).

Part of Mitchell's survey area lies within Kwakiutl territory and part

within Coast Salish territory as it is ethnographically known (Barnett 1955). A considerable amount of chipped stone material was collected in the course of the survey, including large leaf-shaped points, leaf-shaped points, stemmed points, choppers, flake bifaces and flake unifaces. Mitchell says of the distribution of these:

> Artifact classes appear to be fairly indiscriminately distributed among locales, with the exception of the chipped-stone categories, which are disproportionately represented in the southern cluster and the southeastern part of the large Knight Inlet group (1972:41).

All the material recovered was surface collected so it is not possible to assign dates to specific artifacts, but the type of chipped-stone material recovered should probably be accorded the earlier dates. The range of radiocarbon estimates from the survey area is 4300 B.C. to A.D. 1180 (Mitchell 1972:41).

As a result of his analysis of the survey material, Mitchell suggests that the boundary for chipped-stone artifacts may be near the mouth of Knight Inlet, rather than at Comox where Smith earlier drew it (Mitchell 1972:41). The type of material collected is very likely evidence for the northward movement of people from the Fraser Delta. Mitchell's survey has extended the area to Knight Inlet for the known distribution of chipped-stone, particularly point types typologically similar to the Cascade point. It can be assumed that Salish speakers had spread along the coast to Knight Inlet by approximately 6000 years ago. As more work is done north of Knight Inlet the possibility exists that the known distribution of chipped-stone will be increased.

The intervening area between Knight Inlet and Bella Coola territory is relatively unexplored archaeologically. Drucker's survey lists two sites from the Rivers Inlet area and two from near Namu. One of the

sites, Schooner Passage at the mouth of Rivers Inlet, was test excavated. Schooner Passage is an extremely large site. Drucker says:

> The midden follows an irregular shoreline around three coves and out on the western point of the island for 1,050 feet ... In width it averages at present about 60 feet, except in one place near the north and where it cuts back across a narrow neck to a cove on the shore for 150 feet ... The extent of actual deposit varies from 10 to 17 or 18 feet, 15 feet probably being the average external height (1943:100).

The artifact yield from the test trench was moderate, but the composition of the midden deposit is of interest. Drucker says:

> At 108 inches a block 5 feet long (from the inner face) was left, and the trench walls were brought in slightly so that at the bottom the cut was 2 feet wide. At this level seepage prevented further excavation, although depth tests put down 36 inches showed the midden material to continue (i.e. 227 inches). The bottom of the trench, at 191 inches, was 47 inches below high-tide line. Several depth tests were dug at low tide down the beach front of the side, in an effort to determine the extent of the midden material ... The upper 10 inches consisted of fine particles of white shell (apparently crushed clam and barnacle), overlying a thick bed of mussel shell with fragments of white shell. Both layers contained some ash, and in the lower layers bits of charcoal and burnt stones were noted. At 60 feet from the datum (by eye, 4 feet below the beach line) shell material was found to extend to a depth of 36+ inches. At the surface was a layer of beach gravel, followed by a 9- inch layer of mussel shell with clam and/or barnacle fragments and considerable ash and charcoal. Inferior to this was a very compact layer of broken mussel shell 8 inches thick, which overlay a bed of mussel shell with ash (lighter in color than the preceding) which continued to the bottom of the hole (Drucker 1943:100 & 102).

The midden composition shows a very heavy reliance on mussel as a food resource, which is typical of midden deposits in the Salish area at an early level. The possibility of the Schooner Passage site being Salish does exist, but a more thorough excavation of the site is necessary

before anything can be said with assurance.

A major excavation has been conducted at the large midden site at Namu by members of the Anthropology Department of the University of Colorado. Radiocarbon estimates indicate considerable antiquity for the site but data concerning the cultural sequence is not yet available. It may be significant to note that large chipped-stone points were recovered from the early levels. Until more information is available regarding the excavations at Namu, it is not possible to determine if the early age estimates date a Salish occupation.

Archaeological excavations in Bella Coola territory consist primarily of those done in the Kwatna Bay region. A site survey conducted in Bella Coola territory in 1968 revealed a number of sites which promised to offer important archaeological data (Hobler 1970). Two sites in Kwatna Bay were chosen for subsequent excavation. In 1969 a large midden (FaSu 2) was test trenched and a water-logged midden (FaSu 1) was tested. FaSu 2 revealed cultural deposits to a depth of 2.8 m. Of these deposits Carlson says:

> The earliest deposit is a layer of crushed shell, primarily mussel, which lies directly over the sterile glacial till below. Above this is a compact, black, organic soil with numerous large and small granite boulders. Resting on this deposit is a well defined house floor indicated by a 5 cm. thick layer of clay. Above the house floor is a layer of floor debris, and above this and partly filling the house depression is a massive deposit of crushed shell into which are intruded a series of stake holes. A friable deposit containing many lenses of sand and charcoal as well as shell forms the fill above. Twenty cm. of soil disturbed by gardening covers the site above this (1970b:1).

Carlson distinguishes two cultural phases at this site:

> 1) an earlier phase lacking the heavy ground stone tool complex typified by the hammerstone grinders and circular stones, and 2) the Kwatna phase in which there is a continuity of artifact types from the earlier deposits plus the heavy ground stone tools (1970b:4).

An even earlier phase which is not found at FaSu 2 is manifest at four sites in the area. Carlson has named this earlier phase "Cathedral" and says:

> The geological picture suggests that the sites of this phase belong in a period of time when sea level was lower than it is today, at least in the Kwatna locality ... The site locations themselves are strongly indicative of a maritime coastal oriented culture with watercraft and ultilization of sea resources (1972:43).

The Cathedral phase material is described by Carlson as probably the earliest in the locality. It differs from the later material in that tools of the Cathedral phase were made by chipping or flaking stone. Carlson says of this phase:

> Typical tools from Cathedral phase sites are all made of flaked stone and consist of projectile points, large core scrapers, denticulates, retouched flakes, notches, and perforators. One definite microblade fragment and several possible ones were also recovered. In addition to these artifacts quantities of struck flakes and a number of very well made prepared flake cores were found (1972:43-44).

One radiocarbon estimate from the type site at Cathedral Point yielded a date of approximately 300 B.C., but Carlson feels the Cathedral phase will eventually be shown to date between 4000-1000 B.C. (Carlson and Hobler 1972:4).

The artifact assemblages for the two subsequent phases in the Kwatna region are typologically dissimilar to the Cathedral phase material but are very similar to each other. Carlson (1972) differentiates the earlier Anutcix phase from the Kwatna phase simply on the basis of heavy ground stone material, such as hammerstone grinders and circular stones, perforated and unperforated, appearing

only in the top 60 cm. of the midden deposit (1972:48). Both Anutcix and Kwatna phases contain in part adze and chisel blades of shale, mauls, pebble hammerstones, composite toggling harpoons, unilaterally barbed harpoons, bone points, bone awls, spindle whorls, whalebone barkbeaters, ground rodent incissors and bear tooth and claw pendants. Also included in the Anutcix and Kwatna phase assemblages are artifacts made from perishable materials recovered from the waterlogged midden. These include; cedar bark cordage, plaited mats and bags, woven hats, wooden wedges, barbed curved fish hooks, bipointed fish hook barbs, and various stakes and pegs (Carlson 1972:46-47)

This cultural content of the Anutcix and Kwatna phases does not correlate at all closely with the phases of the Fraser Delta region. Dates for these phases of the Kwatna locality are estimated at approximately A.D. 500 for Anutcix phase, and A.D. 1400 for the Kwatna phase. The Cathedral Phase with a date earlier than 1000 B.C. will most likely prove to date the earliest occupation level of Salish speakers. If this phase does indeed date to approximately 4000-1000 B.C. we might look at material of a similar date from areas geographically close to Bella Coola.

To the east of Bella Coola territory very little archaeological work has been done. Borden (1952) reports on a series of excavations conducted in ethnographically known Carrier territory. In 1950 excavations were conducted near the junction of the Stuart and Nechako Rivers. In 1952 salvage excavations were conducted at sites on Ootsa, Natalkuz and Euchu Lakes, and excavations were completed at the site near the junction of the Stuart and Nechako Rivers (Borden 1952:31).

The artifacts from these sites appear to fit two phases, one a

late prehistoric Carrier occupation and the other an earlier, perhaps Salish occupation. Of these Borden says:

> Carrier points are generally small, sometimes minute in size, and abound in the following forms:-
>
> Unstemmed, triangular, straight base, side notches.
> Unstemmed, triangular, concave base, side notches.
> Parallel sided stem, sloping or no shoulders.
> Expanding or button-like stem, sloping or no shoulders.
> Miniature points.
>
> Not many points were recovered from the Natalkuz Lake house deposits, but those that did occur were much larger than the normal Carrier points. They include the following types:-
>
> Laurel-leaf-shaped, pointed at both ends.
> Laurel-leaf-shaped, pointed at one end, convex base.
> Laurel-leaf-shaped, pointed at one end, straight base.
> Expanding stem, produced by diagonal corner notches, broad concave base (Borden 1952:36)

It is difficult to determine the entire cultural context for these phases, but apparently microblades did occur in the same deposit as the leaf-shaped points. The stratigraphic position of the microblades in relation to the leaf-shaped points is not given, but a date of 500 B.C. has been determined for the microblades (Borden 1962:17) and presumably the leaf-shaped points are of a similar age.

Another part of the Chilcotin plateau was surveyed and test excavated by Mitchell (1970a, 1970b). Three sites were test excavated, FaRx 1 on the Chilanko River; EkSe 1 on Horn Lake; and FdSi 2 at the outlet of Anahim Lake (Mitchell 1970b:45). The artifact count was relatively small from these sites (none recovered in excavations at FaRx 1) but Mitchell nonetheless places them in a relative chronology of Late Period, Upper Middle Period, and Lower Middle Period, based on the correlation he sees with Sanger's sequence for the Lytton-Lillooet

region (1970a:110-111).

The artifact assemblage from the three sites is somewhat similar. All three sites contained leaf-shaped points, stemmed leaf-shaped points, corner notched points, flake bifaces, flake unifaces, and boulder spall scrapers. Only FaRx 1 contained split cobble tools and abrasive stone. Only EkSe 1 contained microblades and end scrapers. Both EkSe 1 and FdSi 2 contained bone artifacts (Mitchell 1970a:105). Despite this similarity Mitchell (1970a:109) thinks that three or four components might be represented at this site. No radiocarbon estimates are given, but Mitchell would place these sites at A.D. 1 - A.D. 1800 for FdSi 2; 1500 B.C. - A.D. 1 for EkSe 1; and 3000 B.C. - 1500 B.C. for FaRx 1 on typological grounds.

The next area of major archaeological work done east of the Bella Coola territory is on the Fraser River near Lillooet, about 300 miles from Bella Coola. Sanger (1963, 1966, 1967, 1969, 1970) has conducted extensive excavations in the Lochnore-Nesikep Creek locality of the area. Stryd (1971, 1972, Stryd and Hills 1972) has done extensive archaeological work on the Fraser, north of the Lochnore-Nesikep Creek locality.

The cultural sequence proposed by Sanger (1969) dates from approximately 7000 B.C. to A.D. 1800. The earliest material from this locality is assigned to the Lochnore complex which consists of:

> An assemblage reminiscent of those included in the Old Cordilleran concept. The presence of leaf-shaped bipoints, macroblades and cores, edge-battered cobbles, cobble choppers, and the absence of microblades is probably best explained by a northward migration of people bearing the Old Cordilleran Tradition in early post-glacial times (Sanger 1969:192).

The subsistence patterns included hunting and gathering techniques as

evidenced by associated deer bones, river mussel shell and possible milling stones (Sanger 1969:194). Artifacts of this complex are known from only two components in the locality, and may be limited to about a 2000 year time span. The succeeding material is placed in the Nesikep Tradition, which began at about 5000 B.C. and ended about A.D. 1800 (Sanger 1969:194).

The Nesikep Tradition shows such a degree of cultural continuity that Sanger (1970:127) sees it as representing the prehistory of the people who presently inhabit the area, that is, Interior Salish. The cultural sequence of the Nesikep Tradition is divided into Early (5000-3000 B.C.), Lower Middle (3000-1500 B.C.), Upper Middle (1500 B.C. - A.D. 1) and Late (A.D. 1 - A.D. 1800) with the consequent division of artifactual material.

Preliminary reports on the Lochnore-Nesikep locality did not distinguish between Lochnore complex material, and that which is now placed in the Nesikep Tradition. Sanger (1963) shows his Early period as characterized by:

Chipped points typologically similar to Scottsbluff, Milnesand and Plainview. Other artifacts included are;

> microblades red and yellow ochre, many plano-convex end scrapers, cobble choppers, a symmetrically belvelled antler wedge, antler point, hammerstones, large strongly recurved chipped points, triangular points and leaf-shaped knives (Sanger 1963).

Most of the above material is now placed in the Lochnore complex. Microblades and triangular points remain in the Early period of the Nesikep Tradition.

The Lower Middle period features points which are generally medium-sized, with expanding stems and indented bases. Lateral and basal grind-

ing of the stem is always extensive. In the Upper Middle period there occurs a group of leaf-shaped points with a single basal notch. Corner-notched, basal-notched, and stemmed forms are also common but do not exhibit ground stems (Sanger 1967).

Microblades and cores are most prominent in the Middle period but have been found in the Early period. Lower Middle period components contain few bone and antler artifacts. In the Upper Middle period the complete woodworking compliment of wedges, nephrite celts, beaver incisors, and pecked stone mauls appear (Sanger 1967).

The Late period is characterized by basal and corner-notched points continued from the upper Middle period with the introduction of side-notched points with narrow necks and narrow notches. Chipped bifaces (end-notched and pentagonals), steatite objects such as spindle whorls and pipes, bone and antler material in quantity, Olivella, Dentalium, and Pecten caurinus shells are all associated with the Late period. There appears to be little in the Nesikep Tradition that correlates with Bella Coola material.

To the north of Bella Coola territory, major archaeological work has been done in the Prince Rupert area, or ethnographic Tsimshian territory. Here, MacDonald has excavated a number of sites which, on the basis of radiocarbon estimates, he has placed into three horizons. These are: Upper horizon A.D. 1850 - A.D. 500, Middle horizon A.D. 500 - 500 B.C., and Lower horizon 500 B.C. - 2500 B.C. (MacDonald 1969:250). MacDonald says of the cultural material:

> In the lower horizon, chipped-stone artifacts predominantly basalt occur. These include heavy leaf-shaped points and points with square bases. Large, chipped bifaces, probably knives, also occur. The majority of chipping, however, is

the detachment of boulder chips for scrapers, knives, saws, any many cobble (or pebble) tools with cutting and scraping edges ... Edge-ground cobbles are frequent in this horizon as are a variety of hammerstones ... Ground slate increases from a relatively low frequency in this horizon to a much higher one in the succeeding one ... Harpoons and barbed points are quite distinctive from the lower horizons. Harpoons have line-guards, often multiple, but are generally smaller in size than to the south. Unilateral barbed points have multiple notches sawn in the base. The most common barbed points, however, have gouged line holes as do those in later horizons ...

In the middle horizon c. 500 B.C. - A.D. 500 stone labrets appear ... Labrets range in size from small keeper pins through intermediate sized, winged varieties to very large stone forms 3 inches in diameter. Shell is also used for labrets, bracelets and one point with a tapered base ... Points with a stem or tapered base also appear in bone (bevelled) and ground slate. The most common ground slate point, however, has a bevelled, hexagonal cross-section and round or square base ... Ornaments include brow bands of mammal rib, fish-shaped pendants of bone, and canine teeth with knob-ends ... Harpoons are rare but barbed points with gouged line holes in the base are frequent. Small points, probably arrow points of splinters of bone are also frequent. Modified concretions with the skeletal structure of fish probably can be assigned to this horizon. In the upper horizon (c. A.D. 500 - 1800) new, heavy stone forms appear, including grooved adzes, zoomorphic and plaingrooved mauls, and zoomorphic bark shredders ... Chipped-stone - with the exception of boulder chips, choppers, and end scrapers - is absent. Ground slate points are also rare. New point forms of bone appear ... Barbed points with gouged line hobs continue but larger harpoons with a side line ring turn up as do small numbers of harpoon valves ... Small adze blades are much more frequent than in the previous horizon, and jade makes its appearance early in the horizon as a raw material ... grave furnishings are included with both male and female skeletons ... These include disc shell beads, shell gorgets, dentalium, shell effiges, clubs of whalebone and of whale jaws with the teeth on the striking edge, chipped and ground slate daggers, grooved adzes, and beads and pendants of amber. Copper is very frequent in the graves in the form of copper-wrapped sticks, ear pendants, beads and bracelets. It appears to be native copper ... Decorated objects include typical Tsimshian motifs on bone pendants, combs, and blanket and hair pins (MacDonald 1969:250-253).

Interpretation of the archaeological data has led MacDonald (1969: 243) to state:

> I see the Tsimshian occupying the lower Skeena from just above the Kitselas Canyon and the Prince Rupert Harbour area for a minimum of 3,000 years.

He further advocates an area co-tradition concept that would include the Haida, Coast Tsimshian and Tlingit: in that the three form a very close cultural unit in comparison with other coastal groups (1969:244). After a long in situ development, all three began to expand within the last millenium. MacDonald says:

> The Haida finally pushed north into the sparsely populated Prince of Wales Islands. The Tlingit expended north on the Alaska coast at the expense of the Eskimos and into the adjacent interior at the expense of the Athapaskans. The Tsimshian perhaps gained some ground in the Nass estuary from the Tlingit, but expanded mainly south on the coast. The Bella Bella, Bella Coola, and Kwakiutl who had a distinctive but equally vital adaptive patterns resisted this spread so that the Tsimshian had to override them onto the outer islands rather than displace them from the mainland (1969:245).

The area co-tradition concept is in keeping with Drucker's Northern Aspect of Northwest Coast culture. Borden however notices similarities between the Marpole Phase of the Fraser Delta and the Middle and Upper horizons of the Prince Rupert area. He suggests that the similarities point to a south to north diffusion of traits that are early in the Fraser Delta (Borden 1969:257).

IV

DISCUSSIONS AND CONCLUSIONS

A new hypothesis regarding the development of Northwest Coast culture, and the position of the Bella Coola in that cultural development, presupposes an earlier hypothesis. There have been a number of earlier hypotheses, the major ones will be delineated here, before the new hypothesis, which incorporates some of the old, is offered.

The earliest interpretation of Northwest Coast culture placed emphasis on the similarities with Eskimo-Aleut cultures. As Drucker says:

> Northwest Coast culture was seen as a result of a flow of cultural influences from Asia to North America along the North Pacific littoral (1955b:60).

Such was the early interpretation of Boas which Drucker says became untenable as more archaeological work was done (1955b:60).

A different interpretation offered by Kroeber (1923) is given by Drucker:

> According to this view, the civilization of the area was a highly specialized but essentially American Indian culture. Kroeber considered that it might have come into being as interior groups worked their way downstream along the various major rivers that empty into the Pacific, becoming first riparian and eventually maritime as they reached salt water (1955b:61).

Drucker raises two major objections to the above interpretation. His first objection is as follows:

> ... none of the distinctive major motifs of Northwest Coast culture can be derived from concepts prevalent in the cultures of the adjacent interior ... Nowhere in the whole New World was there <u>less</u> interest in fixed rank and material wealth than in the bordering interior ... Therefore, to

> attempt to derive basic Northwest Coast patterns from the interior ... means we must assume that tremendous changes in cultural orientation have occurred throughout the whole interior which transformed the patterns that contained the seeds of Northwest Coast motifs into rather colorless, close-to-bare-subsistence patterns known from the ethnographic horizon (Drucker 1955b:61).

Drucker's second objection to Kroeber's interpretation is somewhat subjective. He feels interior people could not adjust to the coastal environment except in the south, which should then show the consequent cultural complexity and intensity. He says:

> If the coast was first populated in the fashion pictured by Kroeber, then it would have to be in the south that the interior people worked their way downstream to gradually become maritime, thereafter pushing northward. If such had been the case, we should expect the cultural climax to occur in the southern part of the area, with a decrease in cultural complexity and intensity toward the north. This is obviously not the case (1955b:62).

The final early interpretation offered by Drucker, is that of direct trans-Pacific contact. He notes that there is documented evidence of east Asiatic junks drifting across the Pacific, but little or no culture was transmitted. There are some broad similarities between Northwest Coast and Oceanic cultures, but Drucker sees these as the "end products of two separate cultural currents flowing out of east Asia." (Drucker 1955b:63). Having refuted these earlier theories Drucker then offers a new one. He says:

> Proposed: that the distinctive basic patterns of the Northwest Coast culture, from Yakutat Bay to northwest California, were derived from the same subarctic fishing-and-sea-hunting base of the coasts of Bering Sea and southwest Alaska that gave rise to the various Eskimo and Aleut cultures (Drucker 1955b:64).

Having proposed his theory, Drucker then uses ethnographic evidence to establish four sub-areas on the Northwest Coast which he gives as:

(1) The Northern Province, which included the Tlingit, Haida, Tsimshian, and Haisla;

(2) the Wakashan Province, which included all Kwakiutl (other than the Haisla), the Nootka, and in addition the Bella Coola;

(3) the Coast Salish-Chinook Province ...

(4) the Northwest California Province ... (1955b:66).

He further states, based on his interpretation of the ethnographic evidence, that:

> It is only the Wakashan Province in which no specifically interior cultural traits can be identified, suggesting that the speakers of the Wakashan languages may have been isolated from interior influences for a very long time ... in terms of complexity of pattern and of achieving the greatest degree of elaboration of areal themes, the groups of the Wakashan Province stand out. They should, therefore, be regarded as "most typical" and as forming the principal focal center of the Northwest Coast area (Drucker 1955b:68-69).

A survey of the data on Northwest Coast culture which Drucker undertook to test his hypothesis yielded six results for him. Two are given here:

> 3 ... there is a respectably long list of traits and complexes, including both specific and generic items, found in the Wakashan Province, which are either demonstrably widespread or old among Eskimo-Aleut. This is significant because the Wakashan Province boasts both the purest and the most specialized Northwest Coast subculture, and is geographically remote from modern Eskimo territory.
>
> 4. The fact that the Eskimo-Aleut parallels of the Northern Province consist chiefly of material objects that could be traded, looted, or copied with a minimum of communication indicates that the contacts of Tlingit, Haida, and Tsimshian with Eskimo-Aleut were not only less close but probably also more recent than those of the Wakashan-speaking groups; in other words, the groups of the Northern Province probably emerged on the coast after the Wakashan-speaking groups, and may actually have disrupted lines of communication of the latter with Eskimo-Aleut (Drucker 1955b:78).

The developmental sequence as outlined by Marian Smith (1950, 1952, 1956) is somewhat more complicated than that proposed by Drucker. The chart drawn up by Smith includes a magnificent array of local developments and regional climaxes (1956:284). One of her local developments is the proposed "Prehistoric Foothill Province." This Province extends from the Columbia river in the south, north along the Cascade mountain range well into British Columbia. Having recognized such a Province Smith says:

> If the Foothill province extended north through parts of the Lillooet drainage, an easy route was available for the emergence of the Bella Coola. The Bella Coola would thus represent the northernmost extension of the province, the people having arrived at their present location by a process directly paralleling the slow down-river infiltration which marked the western advance of more southern Foothill groups (1956:289).

In proposing the above, Smith elaborates on the earlier contention of Swanton (1904) that the Bella Coola arrived at their present position via an interior route.

Swanton's article deals with the origin of the clan system and secret societies on the Northwest Coast. He comes to the conclusion that matrilineal clans originated among the Tlingit, Haida, and Tsimshian; but that secret societies began among the Kwakiutl, probably in the Bella Bella area. Swanton's final comment is of interest in regard to the position of the Bella Coola. He says:

> Morice tells us, however, that the Athapascan Chilkotin, who now separate these people from their congeners in the interior, once occupied but a single village back of the Bellacoola and have driven the Shuswap eastward out of the valley of Chilkotin river quite recently. If this process has been going on for some time longer the interior Salish must have bordered on the Bellacoola at no very distant day ... It would seem more likely, therefore, to suppose that some interior Salish at that time effected a lodgment near the heads of the long inlets just mentioned, and have gradually pushed seaward, while the Chilkotin meanwhile cut them off from the rest of the linguistic

stock to which they belong ... (Swanton 1904:485).

Evidence will be presented to show that the Bella Coola most likely reached their position via a coastal route.

The working hypothesis that has been the basis of this paper incorporates the earlier theories of Boas, Kroeber and Drucker. It is formulated as follows:

> The development of the characteristic Northwest Coast culture has taken place during an approximate 10,000 year time span. The initial inhabitants of the coast arrived in recently deglaciated British Columbia from the south and pursued an undifferentiated hunting-fishing-gathering economy that was becoming riparian. As they gradually spread northward along the coast, they came into contact with a developing maritime oriented Eskimo-Aleut culture which considerably influenced the Northwest Coast culture developmental sequence.

The chronology of events that occurred on the Northwest Coast during the past 9000 years is not entirely clear, but evidence offered by archaeological, ethnographic, ethnohistoric and linguistic data, does provide some elucidation.

The linguistic data is most consistent with our hypothesis. The Mosan theory that Salish, Chimakuan (Quileute-Chemakum) and Wakashan (Nootka-Kwakiutl) all have a common origin, can be used to explain a number of events. The time when the speakers of Salish, Chimakuan and Wakashan shared a common language has been calculated by Swadesh (1953:42) to be approximately 9000 years ago. This date so closely approaches those assigned the earliest archaeological assemblages presented in the previous chapter that we may consider the first people on the coast were Mosan speakers. As to their subsequent dispersment we must keep in mind Swadesh's admonition to linguists and prehistorians. He says:

> ... normally the spread of peoples is gradual, with the old and new areas maintaining contact from generations to thousands of years. Innovations appearing in one part of a dialect community tend to spread all around, in some cases being eventually adopted everywhere and in others reaching to various portions of the whole. Out of the complex series of processes arise dialects and separate languages, but the old continuity of dialects may be reflected thousands of years afterwards in the chain of interlocking relations among the derived languages (Swadesh 1959:32-33).

The linguists working with the Salish language agree that proto-Salish probably originated in the present homeland of the present Salish speakers (Suttles & Elmendorf 1963; Jorgensen 1969). Wakashan probably developed in an area north of the Salish and in an earlier time formed the northern branch of a Mosan chain. A more northerly position on the coast for the Nootka and Kwakiutl conforms to the ethnographic data as delineated by Drucker (1955b). The archaeological evidence for a more northerly position of the Wakashan in earlier times is not so clear but certainly the distance between Eskimo and Indian was not always so great. As Loughlin says:

> The present relatively sharp dichotomy may not apply equally to the crucial period 4,000 to 6,000 years ago. The possible contiguity of proto-Eskimo-Aleut and proto-Wakashan peoples deserves consideration (1962:125).

Very little work has been done by physical anthropologists on the Northwest Coast, but a recent study by Finnegan is of interest. He says:

> The Nootka, Kwakiutl, Coast Salish and Interior Salish were the first inhabitants in the southern region of the Northwest Coast. These populations diverged biologically for a variety of reasons and their present territories have been greatly reduced by later migrations of the Athabaskans and coastal movements of the Tlingit, Haida and Tsimshian ... The Bella Coola and the recent and ancient populations of the Bella Bella probably represent a later migration into the Northwest Coast area, or may simply show biological differences based on a longer separation from the proto-Wakashan-Salishan population ... the Haida were forced further

> south and the Bella Bella, Kwakiutl and Nootka populations were displaced with their territories effectively reduced to locations they inhabit today (Finnegan 1972:11).

The above migration model substantiates the hypothesis proposed at the beginning of this chapter.

A gradual northward spread of proto-Wakashan and proto-Salish speaking people seems best supported by the archaeological, linguistic, ethnographic and ethnohistoric data. The archaeological evidence from large midden sites, all show an early heavy reliance on mussel as a major source of subsistence. Such is in keeping with the early recognition of riparian people of river mussel as a source of food. All archaeological reports show mussel shell to be the main stratum in the earliest level of the site. As new techniques of exploitation were developed or acquired they diffused through the entire area. Techniques learned in the north were eventually manifest in the south. Contact between Eskimo-Aleut and Wakashan would mean a diffusion of cultural elements to the more southerly Salish without direct contact between Eskimo and Salish.

The continuity model of Mitchell (1969) has merit in terms of a relatively stable population, but it is doubtful that Northwest Coast culture developed in situ, without considerable diffusion of cultural elements from the Eskimo-Aleut. The toggling harpoon, ulu, and the whaling complex of the Nootka are too closely related to northern maritime traits to be explained by independent development. Cultural exchange must have taken place between Eskimo and Indian, and it is best explained by a more northerly territory for early Wakashan people who were at the same time in contact with Salish speakers to the south.

This situation must have prevailed until an intrusive group arrived on the northern coast about 4,000 years ago, starting the Eskimo north and the Wakashan south. The southward movement of the Wakashan dislodged the Salish from the mainland north of Vancouver Island and isolated the Bella Coola in their present territory. It has been demonstrated that despite the lack of central authority for concerted effort in warfare, the Bella Coola are admirably situated for defense. The Bella Coola also are unique in having developed pile built dwellings which made them particularly invulnerable to attack. The post-contact southward movement of the Kwakiutl is well documented (Taylor and Duff 1956) and it is my contention that this southward movement has considerable antiquity.

The position of the Bella Coola can be explained in one of four ways:

1. The Bella Coola migrated to their present position from a more easterly position in the interior;
2. the Bella Coola migrated to their present position from a more southerly position on the coast;
3. the Interior Salish were geographically contiguous with the Bella Coola, but the Carrier and Chilkotin dislodged them and occupied the intervening area;
4. the Coast Salish were geographically contiguous with the Bella Coola, but the Kwakiutl dislodged them and occupied the intervening area.

Arguments can be offered for any or all of the above statements.

The first of the above statements is offered by Marian Smith (1956) but is not supported by archaeological evidence. The second is not usually considered, but is hinted at in an origin myth recorded by Boas

(1898). Boas reports that the first family to settle Nusqlelst came overland from Naus near Kingcome Inlet. Presumably the route could have been via the Klinaklini River to Knot Creek to Knot Lake to the Atnarko River and thence to the Bella Coola valley. Such a route is feasible, but is without supporting evidence.

The third proposition is that suggested by Swanton (1904) but does not seem feasible in view of Goldman's report regarding the acculturation of the Alkatcho Carrier. Goldman says:

> At what period in their history the Alkatcho Carrier established contact with the Bella Coola we do not know. Alkatcho informants claim that in the "old days" they used to winter at Bella Coola, for two main reasons - first, because they frequently ran short of food during the winter months, and second, because the Bella Coola furnished a market for their furs ... The Bella Coola welcomed the Carrier, although despising them, because the fur trade was profitable and because it pleased them to have strangers present at their winter ceremonies as awe-stricken guests (Goldman 1940:339).

An awe-struck people hardly seem likely to have wrested their territory by force. Further evidence of the unlikelihood of the Carrier as conquerors is contained in Goldman's report. He says:

> Before the introduction of guns, steel traps, and horses the Carrier economic environment could barely sustain the population. Famines were not uncommon, and most winters were spent with the Bella Coola (Goldman 1940:351).

And in final refutation of the Carrier dislodging contiguous Salish people from the Bella Coola, Goldman states:

> The phratric system in its particular reorientation, which definitely diffused from the Coast, did not reach the Shuswap until 1850 from the Upper Carrier (1940:340)

This last statement presupposes a considerable distance between Interior Salish and Bella Coola and it seems unlikely that that distance could have been created by the Carrier forcing their way between the Interior

Salish and the Bella Coola.

The fourth proposition is the one accepted as most likely. The evidence presented in this paper from archaeological, ethnographic, ethnohistoric and linguistic sources supports the final proposition.

BIBLIOGRAPHY

Abbott, D.N.
1972 The utility of the concept of phase in the archaeology of Southern Northwest Coast. Syesis 5:267-278

Anastasio, A.
1955 Intergroup Relations in the Southern Plateau. Unpublished dissertation submitted to the Division of Social Sciences, University of Chicago.

Anderson, J.
1967 Northwest Coast Culture: The problem of origins. Tebiwa Vol. 10, No. 2, pp. 1-12.

Andrews, R.W.
1967 Indian Primitive. Bonanza Books. New York.

Bancroft, H.H.
1883 The Native Races. Vol. 1. McGraw-Hill Book Company. Toronto

Barbeau, M.
1950 Totem Poles, 2 Vols. National Museum of Canada. Bulletin 119.

Barnett, H.
1944 Underground houses on the British Columbia Coast. American Antiquity 9:265-270.

1955 The Coast Salish of British Columbia. University of Oregon Press, Eugene.

Bennyhoff, J.A.
1950 California Fish Spears and Harpoons. Anthropological Records 9:4. University of California Press, Berekeley.

Bishop, R.P.
1925 Mackenzie's Rock. Historic Site Series No. 6. Department of the Interior. Ottawa.

Boas, Franz
1888 The Indians of British Columbia. Transactions of the Royal Society of Canada. Section II.

1891 Sixth Report on the Indians of British Columbia. British Association for the Advancement of Science 553-715. London.

1898 The Mythology of the Bella Coola Indians. American Museum of Natural History, Memoirs. Vol. II, part 2. Leiden.

Boas, Franz
1909 The Kwakiutl of Vancouver Island. American Museum of Natural History, Memoirs. Vol. V, part 2.

Boas, F. and Haeberlin, H.
1927 Sound Shifts in Salishan Dialects. International Journal of American Linguistics 4:117-136.

Borden, C.E.
1950 Preliminary Report on Archaeological Investigations in the Fraser Delta Region. Anthropology in British Columbia, No. 1:13-27. Victoria.

1951 Facts and Problems of Northwest Coast Prehistory. Anthropology in British Columbia 2:35-52.

1952 Results of Archaeological Investigations in Central British Columbia. Anthropology in British Columbia 3:31-43

1954 Some Aspects of Prehistoric Coastal-Interior Relations in the Pacific Northwest. Anthropology in British Columbia No. 4:26-32.

1962 West Coast Crossties with Alaska. In, Prehistoric Cultural Relations between the Arctic and Temperate Zones of North America, Campbell, J.M. (ed.). Arctic Institute of North America, Technical Paper 11:9-19.

1965 Radiocarbon and Geological Dating of the Lower Fraser Canyon Archaeological Sequence. Proceedings of the Sixth International Conference Radiocarbon and Tritium Dating pp. 165-178. Pullman, Washington:

1968 Prehistory of the Lower Mainland. In, Lower Fraser Valley: Evolution of a Cultural Landscape, Siemens, A.H. (ed.). B.C. Geographical Series 9:9-26. University of British Columbia.

1969a Early population movements from Asia into western North America. Syesis 2:1-14.

1969b Symposium on the Northwest Coast at the 22nd Annual Northwest Anthropological Conference, Victoria. C.E. Borden, discussant. Northwest Anthropological Research Notes Vol. 3:255-263.

1970 Culture History of the Fraser-Delta Region: An Outline. In, Archaeology in British Columbia, new discoveries. Carlson, R.L. (ed.). B.C. Studies 6-7:95-112.

Braxton, M.A. et al
1969 Blood Groups, Red Cell Enzymes, and Cerumen Types of Ahousat (Nootka) Indians. American Journal of Physical Anthropology 31:391-398.

1970 Blood Groups, Phosphogluconates, and Cerumen Types of the Anaham (Chilcotin) Indians. American Journal of Physical Anthropology 32:329-336.

British Columbia Lands Service
1965 The Lower Coast Bulletin Area. Victoria.

Bryan, A.L.
1963 An Archaeological Survey of Northern Puget Sound. Occasional Papers of the Idaho State College Museum, No. 11. Pocatello, Idaho.

1965 Paleo-American Prehistory. Occasional Papers of the Idaho State University Museaum, No. 16. Pocatello

1969 Early Man in America and the Late Pleistocene Chronology of Western Canada and Alaska. Current Anthropology 10: 339-365.

Butler, B.R.
1961 The Old Cordilleran Culture in the Pacific Northwest. Occasional Papers of the Idaho State College Museum, No. 5. Pocatello, Idaho.

1962 Contributions to the Prehistory of the Columbia Plateau. Occasional Papers of the Idaho State College Museum, No. 9 Pocatello, Idaho.

Capes, K.H.
1964 Contributions to the Prehistory of Vancouver Island. Occasional Papers of the Idaho State University Museum, Number 15. Pocatello.

Carlson, R.L.
1960 Chronology and Culture Change in the San Juan Island, Washington. American Antiquity 25:562-586.

1970a Excavations at Helen Point on Mayne Island. B.C. Studies, Number 6-7:113-125.

1970b Excavations at FaSu 2 - 1970; A preliminary report to the Archaeological Sites Advisory Board. MS in Department of Archaeological Studies, Simon Fraser University.

1972 Excavations at Kwatna. In, Salvage '71. R.L. Carlson (ed). Department of Archaeology, Simon Fraser University Publication Number 1:41-57.

Carlson, R.L. and Phillip Hobler.
1972 Radiocarbon Dates from Sites Excavated by Simon Fraser University. The Midden 4:3-6 Vancouver.

Calvert, Gay
1970 The St. Mungo Cannery Site: A Preliminary Report. In, Archaeology in British Columbia, New Discoveries. R.L. Carlson (ed.). B.C. Studies 6-7:54-76.

Chard, C.S.
1963 The Old World Roots: Review and Speculations. Anthropological Papers of the University of Alaska 10:115-121.

Collins, J.M.
1949 Distribution of the Chemakum Language. In, Indians of the Urban Northwest, Marion Smith (ed.). pp. 147-160. Number 36 in the Columbia University Contributions to Anthropology.

Cook, James
1784 A voyage to the Pacific Ocean, 3 vols. London.

1784 The Voyage of the Resolution and Discovery. J. C. Beaglehole (ed.). Cambridge. 1967.

Cornwalles, K.
1858 The New El Dorado, or British Columbia. London.

Cressman, L.S.
1960 Cultural Sequences at The Dalles, Oregon: A Contribution to Pacific Northwest Prehistory. American Philosophical Society, Transactions, 50:10.

Cressman, L.S. and D.E. Dumond
1962 Research on Northwest Prehistory. Prehistory in the Naknek Drainage, Southwestern Alaska. Final report to the National Science Foundation.

Culin, Stewart
1907 Games of the North American Indians. 24th Annual Report of the Bureau of American Ethnology, 1902-1903.

Curtis, E.S.
1913 The North American Indian Vol. 9. Salishan Tribes of the Coast.

Dall, W.H.
1870 Alaska and its resources. Boston.

Daugherty, R.D.
1956 Archaeology of the Lind Coulee Site, Washington. Proceedings of the American Philosophical Society, 100:3.

Daugherty, R.D.
1962 The Intermontane Western Tradition. American Antiquity Vol. 28:144-150.

Dawson, G.M.
1876 Explorations in British Columbia. (Chiefly in the Basins of the Blackwater, Salmon, and Nechacco Rivers, and on Francois Lake.) Geological Survey of Canada. Report of Progress for 1876-77. pp. 17-94.

Diebold, A.R.
1960 Determining the Centers of Dispersal Of Language Groups. International Journal of American Linguistics, 26:1-10.

Dixon, G.
1789 A Voyage around the World. Da Capo Press. New York. 1968.

Dorsey, G.A.
1898 A cruise among Haida and Tlingit Villages about Dixon's Entrance. Reprinted from Appleton's Popular Science Monthly June 1898.

Drucker, P.
1943 Archaeological Survey on the Northern Northwest Coast. Bureau of American Ethnology, Bulletin 133, Anthropological Papers, No. 20:23-132.

1950 Culture Element Distributions: XXVI Northwest Coast. Anthropological Records, 9:3. Berkeley.

1951 The Northern and Central Nootkan Tribes. Bureau of American Ethnology, Bulletin 144.

1955a Indians of the Northwest Coast. McGraw-Hill Inc. New York.

1955b Sources of Northwest Coast Culture. In, New Interpretations of Aboriginal American Cultural History. 75 Anniversary Volume of the Anthropological Society of Washington.

1965 Cultures of the North Pacific Coast. Chandler Publishing Company, San Francisco.

Duff, Wilson
1964 The Indian History of British Columbia. Anthropology in British Columbia, Memoir No.5. Victoria.

Dumond, D.E.
1969 Toward a Prehistory of the Na-Dene, with a General Comment on Population Movements among Nomadic Hunters. American Anthropologist, 71:857-863.

Dunn, J.
1844 History of the Oregon Territory. London.

Elmendorf, W.W.
1961 System Change in Salish Kinship Terminologies. Southwestern Journal of Anthropology, 17:365-382.

1965 Linguistic and Geographic Relations in the Northern Plateau Area. Southwestern Journal of Anthropology, 21:63-78.

Espinosa y Tello, Jose
1971 Spanish Voyage to Vancouver and the North-West Coast of America. AMS Press. New York.

Farb, P.
1968 Man's Rise to Civilization as shown by the Indians of North America from Primeval Times to the Coming of the Industrial State. Avon Books. New York.

Farley, A.L.
1970 Historical Cartography of British Columbia with a separate appendix of Maps. (University of Wisconsin, PhD. Thesis 1960). Xerox Company, Ann Arbor, Michigan.

Fenton, W.N.
1966 Field Work, Museum Studies, and Ethnohistorical Research. Ethnohistory, 13:71-85.

Finnegan, M.
1972 A Migration Model for Northwest North America. Paper presented at the International Conference on the Prehistory and Paleoecology of the Western Arctic and Sub-Arctic. University of Calgary, November 23-26.

Fladmark, K.R.
1970 Preliminary Report on the Archaeology of the Queen Charlotte Islands. In, Archaeology in British Columbia, New discoveries. R. L. Carlson (ed.). B.C. Studies, No.6-7:18-45.

Fleurieu, C.P.C.
1801 A Voyage Around the World 1790-1792. Performed by Etienne Marchand. Da Capo Press. New York.

Ford, C.
1968 Smoke From Their Fires. Archon Books, Hamden, Conn.

Franchere, G.
1854 Narrative of a Voyage to the North West Coast of America. Readfield.

Fryxell, Roald et al
1968 A Human Skeleton from Sediments of Mid-Pinedale Age in Southeastern Washington. American Antiquity, 33:511-515.

Galdikas-Brindamour, B.
1971 Faunal Material from Eight Archaeological Sites: A Preliminary Report. MS in the Department of Archaeological Studies, Simon Fraser University.

Galvin, John
1964 A Journal of Explorations Northward along the coast from Monterey in the year 1775. John Howell Books. San Francisco.

Garfield, V.E.
1939 Tsimshian clan and society. University of Washington, Seattle.

Goddard, P.E.
1924 Indians of the Northwest Coast. American Museum of Natural History, Series No. 10. New York.

Golder, F.A.
1922 Bering's Voyages, 2 Vols. American Geographical Society, New York.

Goldman, Irving
1941 The Alkatcho Carrier: Historical Background of Crest Prerogatives. American Anthropologist, 43:396-418.

1953 The Alkatcho Carrier of British Columbia. Unpublished dissertation. Sarah Lawrence College, New York.

1963 The Alkatcho Carrier of British Columbia. In, Acculturation in Seven American Indian Tribes, Ralph Linton (ed.) pp. 333-389. Peter Smith, Gloucester, Mass.

Gormly, Mary.
1953 Tlingits of Bucareli Bay, Alaska (1774-1792). Paper presented at the 6th Annual Northwest Anthropological Conference. Pullman.

Gould, R.A.
1966 Archaeology of the Point St. George Site, and Tolowa Prehistory. Berkeley.

Gunther, Erna
1972 Indian Life on the Northwest Coast of North America. University of Chicago Press. Chicago

Hackler, J.C.
1958 Factors Leading to Social Disorganization Among the Carrier Indians at Lake Babine. Thesis presented to the Social Science Division, San Jose State College.

Hadleigh-West, F.
1963 Leaf-shaped Points in the Western Arctic. Anthropological Papers of the University of Alaska, 10:51-62

Hale, H.
1846 Ethnography and Philology, Vol. 6. Philadelphia.

Haswell, Robert
1968 Journal of a Voyage Round the World to the Northwest Coast 1787-89. Facsimile Reproduction. The Shorey Book Store. Seattle.

Hawthorn, A.
1967 Art of the Kwakiutl Indians. University of Washington Press. Seattle.

Hazlitt, W.C.
1858 British Columbia and Vancouver's Island. London.

Heider, K.G.
1967 Archaeological Assumptions and Ethnological Facts: A Cautionary Tale from New Guinea. Southwestern Journal of Anthropoloty, 23:52-64.

Hester, James J. and Kathryn J. Conover
1970 Ecological Sampling of Middens on the Northwest Coast. Northwest Anthropological Research Notes, 4:137-152.

Hickerson, H.
1970 The Chippewa and Their Neighbors: A Study in Ethnohistory. Holt, Rinehart and Winston, Inc. Toronto.

Hill-Tout, C.
1898 Oceanic Origin of the Kwakiutl-Nootka and Salish Stocks of British Columbia. Transactions of the Royal Society of Canada, Vol. IV, Sec. II, pp.187-231.

1948 The Great Fraser Midden. Vancouver Art, Historical and Scientific Association. Vancouver, B.C.

Hobler, P.M.
1970 Archaeological Survey and Excavations in the vicinity of Bella Coola. In, Archaeology in British Columbia, New Discoveries, R.L. Carlson (ed.). B.C. Studies, No. 6-7:77-94.

Holland, S.S.
1964 Landforms of British Columbia A Physiographic Outline. British Columbia Department of Mines and Petroleum Resources. Bulletin No. 48. Victoria.

Hulse, F.S.
1955 Blood-Types and Mating Patterns Among Northwest Coast Indians. Southwestern Journal of Anthropology, 11:93-104.

1957 Linguistic barriers to gene flow. The Blood-Groups of the Yakima, Okanagon and Swinomish Indians. American Journal of Physical Anthropology, 15:235-245.

Humphrey, R.L. Jr.
1970 The Prehistory of the Arctic Slope of Alaska: Pleistocene Cultureal Relationships Between Eurasia and North America. Unpublished dissertation. University of New Mexico, Albuquerque.

Inglis, G.B.
1970 Northwest American Matriliny: The Problem of Origins. Ethnology, 9:149-159.

Irving, W.N.
1963 Northwest North America and Central United States: A Review. Anthropological Papers of the University of Alaska, 10:63-71.

Jacobsen, A.J.
1884 Capitain Jacobsen's Reise an der Nordwestkuste Amerikas, 1881-1883. A. Woldt. Leipzig.

Jacobsen, B.F.
n.d. Search in 1884 along east coast of Vancouver Island and in Knight's Inlet for Indian artifacts. Ms in Provincial Archives of British Columbia.

Jenness, D.
1932 The Indians of Canada. National Museum of Canada, Bulletin Number 15. Ottawa.

Jewitt, J.R.
1967 Narrative of the Adventures and Suffering of John R. Jewitt. Galleon Press. Fairfield.

Jones, J.M.
1968 Northwest Coast Basketry and Culture Change. University of Washington, Seattle.

Jorgensen, J.A.
1969 Salish Language and Culture: a statistical analysis of internal relationships, history, and evolution. Language Science Monographs. No. 3. Bloomington, Ind.

Kendrew, W.G. and D. Kerr
1955 The Climate of British Columbia and the Yukon Territory. Queen's Printer. Ottawa.

Kiefer, T.M.
1969 Continuous Geographical Distributions of Musical Patterns: A Test Case from the Northwest Coast. American Anthropologist, 71:701-706.

King, A.R.
1949 Archaeology of the San Juan Islands: A Preliminary Report on the Cattle Point Site. In, Indians of the Urban Northwest, Marion Smith (ed.), pp. 133-146. Number 36 in the Columbia University Contributions to Anthropology.

1950 Cattle Point: A stratified site in the southern Northwest Coast Region. Memoirs of the Society for AM ARCH No. 7

Kopas, C.
1970 Bella Coola. Mitchell Press. Vancouver

Kotzebue, Otto von
1821 A Voyage of Discovery Berrings Traits, 3 Vol. London.

Krajina, V.J.
1959 Bioclimatic Zones in British Columbia. University of British Columbia. Vancouver.

1965 Ecology of Western North America. University of British Columbia. Vancouver.

Krieger, A.D.
1962 The Earliest Cultures in the Western United States. American Antiquity, 28:138-143.

1964 Early Man in the New World. In, Prehistoric Man in the New World, J.D. Jennings and E. Norbeck (eds.). University of Chicago, Chicago.

Kroeber, A.L.
1923 American Culture and the Northwest Coast. American Anthropologist, 25:1-20.

1939 Cultural and Natural Areas of Native North America. Berkeley.

1955 Linguistic Time Depth Results so far and Their Meaning. International Journal of American Linguistics, 21:91-104.

Kroeber, A.L. and S.A. Barrett
1960 Fishing Among the Indians of Northwestern California. Anthropological Records, Vol. 21, No. 1. Berkeley.

Laguna, Frederia de
1960 The Story of a Tlingit Community: A Problem in the relationship between archaeological, ethnological and historical methods. Bureau of American Ethnology. Bulletin Number 172.

1972 Under Mount Saint Elias: The History and Culture of the Yakutat Tlingit. 3 Vols. Smithsonian Institution Press. Washington.

Lamb, W.K.
1970 The Journals and Letters of Sir Alexander Mackenzie. Cambridge University Press.

Langsdorff, G.H. von
1814 Voyages and Travels in Various Parts of the World, 2 Vols. Da Capo Press. New York.

Lantis, M. (ed)
1970 Ethnohistory in Southwestern Alaska and the Southern Yukon. University Press of Kentucky.

Larsen, H.
1967 The Ipiutak Culture: Its Origin and Relationships. In, Indian Tribes of Aboriginal America, Sol Tax (ed.). Selected Papers of the 29th International Congress of Americanists, pp. 22-34. Cooper Square Publishers, Inc. New York.

Laughlin, W.S.
1962 Bering Strait to Puget Sound: Dichotomy and Affinity between Eskimo-Aleuts and American Indians. In, Prehistoric Cultural Relations between the Arctic and Temperate Zones of North America, J. M. Campbell (ed.). Arctic Institute of North America, Technical Paper 11:113-125.

1963 The Earliest Aleuts. Anthropological Papers of the University of Alaska, 10:73-91.

1967 Human Migration and Permanent Occupation in the Bering Sea Area. In, The Bering Land Bridge, D. M. Hopkins (ed.). pp. 409-450. Stanford University Press. Stanford.

Leonhardy, F.C. and D. G. Rice
1970 A Proposed Culture Typology for the Lower Snake River Region, Southeastern Washington. Northwest Anthropological Research Notes, 4:1-29.

Lisiansky, U.
1814 A Voyage Around the World 1803-06. London.

Lord, J.K.
1866 The Naturalist in Vancouver Island and British Columbia, 2 Vols. Richard Bentley. London

McCurdy, J.G.
1961 Indian Days at Neah Bay. Superior Publishing Co. Seattle.

McDonald, G.F.
1969 Preliminary Culture Sequence from the Coast Tsimshian Area, British Columbia. Northwest Anthropological Research Notes 3:240-254.

McFeat, T. (ed)
1966 Indians of the North Pacific Coast. Studies in Selected Topics. McClelland and Stewart Ltd. Toronto.

Macfie, M.
1865 Vancouver Island and British Columbia. London.

MacIlwraith, T.F.
1948 The Bella Coola Indians, 2 Vols. Toronto

Mackenzie, A.
1801 Voyages from Montreal on the River St. Lawrence. Xerox Inc. 1966.

Mackenzie, A.
1801 Voyages from Montreal. J. W. Garvin. Toronto, 1927.

Mackenzie, A.
1801 Voyage from Montreal through North America. London.

Mackenzie, A.
1971 Voyages from Montreal through the continent of North America. M. G. Hurtig Ltd. Edmonton.

MacNeish, R.S.
1963 The Early Peopling of the New World; as seen from the Southwestern Yukon. Anthropological Papers of the University of Alaska, 10:93-106.

1971 Early Man in the Andes. Scientific American, 224:36-46.

Mayne, R.C.
1862 Four Years in British Columbia and Vancouver Island. London.

Meares, John
1790 Voyages made in the years 1788-89. London.

Meares, John
1790 Voyages to the North-West Coast of America. Da Capo Press. New York. 1967.

Miles, C.
1970 Indians and Eskimo Artifacts of North America. Bonanza Books, New York.

Miller, P. and Leon Miller
1967 Lost Heritage of Alaska. World Publishing Co. New York.

Mitchell, D.H.
1969 Site Survey in the Johnson Strait Region. Northwest Anthropological Research Notes, 3:193-216.

1970a Excavations on the Chilcotin Plateau: Three Sites, Three Phases. Northwest Anthropological Research Notes, 4:99-114.

1970b Archaeological investigations on the Chilcotin Plateau, 1968. Syesis, 3:45-66.

1971 Archaeology of the Gulf of Georgia area, a natural region and its cultural types. Syesis, 4. Supplement 1.

1972 Artifacts from archaeological surveys in the Johnstone Strait region. Syesis, 5:21-42. Victoria.

Mozino, J.M.
1970 Noticias de Nutka. Translated by I. H. Wilson, McClelland and Stewart Ltd. Toronto

Muller-Beck, H.
1967 On Migrations of Hunters across the Bering Land Bridge in the Upper Pleistocene. In, The Bering Land Bridge, D. M. Hopkins (ed.). pp. 373-408. Stanford University Press. Stanford.

Newcombe, C.F.
1909 Guide to the Anthropological Collection in the Provincial Museum. Victoria.

Newcombe, C.V. (ed.)
1923 Menzie's Journal of Vancouver's Voyage, April to October 1792. Archives of British Columbia. Memoir No.5. Victoria

Niblack, A.P.
1970 The Coast Indians of Southern Alaska and Northern British Columbia. Johnson Reprint Corporation. New York.

Olsen, R.L.
1927 Adze, Canoe, and House Types of the Northwest Coast. University of Washington Press. Seattle.

1936 The Quinault Indians. University of Washington Press. Seattle.

1955 Notes on the Bella Bella Kwakiutl. Anthropological Records, 14:5. Berkeley.

Osborne, D.
1958 Western American Prehistory - An Hypothesis. American Antiquity, 24:47-52.

Osborne, D., Caldwell, W.W. and R.H. Crabtree
1956 The Problem of Northwest Coastal-Interior Relationships as seen from Seattle. American Antiquity, Vol. 22:117-128.

Oswalt, W.H. and James Vanstone
1967 The Ethnoarchaeology of Crow Village, Alaska. Bureau of American Ethnology. Bulletin 199.

Palmer, H.S.
1863 Report of a journey of survey, from Victoria to Fort Alexander, via North Bentinck Arm. Royal Engineer Press. New Westminster.

Piddocke, S.
1960 Wergild among Northwest Coast Indians. Thesis submitted to Department of Anthropology University of British Columbia.

1965 The Potlatch System of the Kwakiutl. Southwestern Journal of Anthropology, 21:244-264.

Poole, F.
1872 Queen Charlotte Islands. London.

Portlock, N.
1789 A Voyage Around the World. Da Capo Press. New York. 1968.

Portlock, N.
1789 A Voyage Around the World. London.

Rattray, A.
1862 Vancouver Island and British Columbia. London.

Reetz, C.A.
1949 The Cultural Position of the Klamath Semi-subterranean Earth Lodge in western North America. MA Thesis. University of Oregon.

Rohner, R.P.
1969 The Ethnography of Franz Boas. University of Chicago Press. Chicago.

Roquefeuil, C. de
1823 Voyage Around the World. London.

Rosman, A. and Paula G. Rubel
1971 Feasting with Mine Enemy: Rank and Exchange among Northwest Coast Societies. Columbia University Press. New York.

Royal Commission Report
1916 Report on the Royal Commission of Indian Affairs for British Columbia, Vol. 1. Acme Press Ltd. Victoria.

Ruschenberger, W.S.W.
1838 Narrative of a Voyage Around the World. 2 Vols. London

Sage, W.N.
1931 Spanish Explorers of the British Columbian Coast. The Canadian Historical Review. December 1931.

Sanger, David
1963 Excavations at Nesikep Creek (EdRk-4) A Stratified Site near Lillooet, British Columbia: Preliminary Report. National Museum of Canada Bulletin 193. Ottawa.

1966 Excavations in the Lochnore-Nesikep Creek Locality, British Columbia, Interim Report. National Museum of Canada Anthropology Papers, No.12. Ottawa.

1967 Prehistory of the Pacific Northwest Plateau, as Seen from the Interior of British Columbia. American Antiquity, Vol. 32, No.2:186-197.

1969 Cultural Traditions in the Interior of British Columbia Syesis, 2:189-200.

1970 The archaeology of the Lochnore-Nesikep locality, British Columbia. Syesis, 3. Supplement 1. Victoria.

Sapir, E.
1916 Time Perspective in Aboriginal American Culture. Memoirs, Geological Survey of Canada, 90:1-87.

Scouler, John
1840 Observations on the Indigenous Tribes of the North West Coast of America. London Geographical Society Journal, Volume 11:216-251.

Seaman, N.G.
1967 Indian Relics of the Pacific Northwest. Binford and Mort. Portland.

Shepard, F.P.
1964 Sea Level changes in the last 6,000 years. Science, 143: 574-576

Siebert, E. and Werner Forman
1967 North American Indian Art. Paul Hamlyn. Toronto

Simpson, G.
1847 Narrative of a Journey around the World. 2 Vols. London.

Smith, H.I.
1907 Archaeology of the Gulf of Georgia and Puget Sound. American Museum of Natural History, Memoirs. Vol. 4, pt. 6.

1909 New Evidence of the Distribution of Chipped Artifacts and Interior Culture in British Columbia. American Anthropologist, 11:359-361.

1929a Kitchen-Middens of the Pacific Coast of Canada. National Museum of Canada, Bulletin No. 56, Annual Report for 1927, pp. 42-46.

1929b Materia Medica of the Bella Coola and Neighbouring Tribes of British Columbia. National Museum of Canada, Bulletin No. 56, Annual Report for 1927, pp. 47-68.

Smith, H.I. and G. Fowke
1901 Cairns of British Columbia and Washington. American Museum of Natural History, Memoirs. Vol. 4, pt. 2, Leiden.

Smith, M.W.
1950 Archaeology of the Columbia-Fraser Region. Memoirs of the Society for American Archaeology, No.6.

1956 The Cultural Development of the Northwest Coast. Southwestern Journal of Anthropology, 12:272-294.

1967 Culture Area and Culture Depth: With Data from the Northwest Coast. In, Indian Tribes of Aboriginal America, Sol Tax (ed.) Selected Papers of the 29th International Congress of Americanists, pp. 22-34. Cooper Square Publishers. New York.

Sproat, G.M.
1868 Scenes and Studies of Savage Life. London.

Strange, James
1929 James Strange's Journal and Narration of the Commercial Expedition from Bombay to the North-West Coast of America 1785-1787. Madras Government Press.

Strong, E.
1960 Stone Age on the Columbia River. Binford and Mort. Portland.

Stryd, A.H.
1972 Housepit Archaeology at Lillooet, British Columbia: the 1970 Field Season. B.C. Studies, 14:17-46.

Stryd, A.H. and L.V. Hills
1972 An archaeological site survey of the Lillooet-Big Bar area, British Columbia. Syesis, 5:191-210.

Stryd, A.H. and Rachel A. Smith (eds.)
1971 Aboriginal Man and Environments on the Plateau of Northwest America. The Student's Press, University of Calgary.

Sturtevant, W.C.
1966 Anthropology, History and Ethnohistory. Ethnohistory, 13:1-51.

Suttles, Wayne
1960 Affinal Ties, Subsistence, and Prestige among the Coast Salish. American Anthropologist, 62:296-305.

Suttles, W. and W.W. Elmendorf
1963 Linguistic Evidence for Salish Prehistory. Symposium on Language and Culture. Proceedings of the 1962 Annual Spring Meeting of the American Ethnological Society. Seattle.

Swadesh, Morris
1949 The Linguistic Approach to Salish Prehistory. In, Indians of the Urban Northwest, Marion Smith (ed.). pp. 161-174. Number 36 in the Columbia University Contributions to Anthropology.

1950 Salish Internal Relationships. International Journal of American Linguistics, 16:157-167.

1951 Diffusional Cumulation and Archaic Residue as Historical Explanations. Southwestern Journal of Anthropology, 7:1-21.

1952a Lexico-statistic Dating of Prehistoric Ethnic Contacts. With special reference to North American Indians and Eskimos. Proceedings of the American Philosophical Society, 96:452-463.

1952b Salish Phonologic Geography. Language, 28:232-248.

1953a Mosan 1: A Problem of Remote Common Origin. International Journal of American Linguistics, 19:26-44.

1953b Salish-Wakashan Lexical Comparisons Noted by Boas. International Journal of American Linguistics, 19:290-291.

1955 Towards Greater Accuracy in Lexico-statistic Dating. International Journal of American Linguistics, 21:121-137.

1959a Linguistics as an Instrument of Prehistory. Southwestern Journal of Anthropology, 15:20-35.

1959b The Mesh Principle in Comparative Linguistics. Anthropological Linguistics, 1:7-14.

Swadesh, Morris et al
1954 Time Depths of American Linguistic Groupings. American Anthropologist, 56:361-377

Swan, J.G.
1964 The Haidah Indians of Queen Charlotte's Islands, British Columbia. The Shorey Book Store. Seattle.

Swanson, E.H.
1962 Early Cultures in Northwestern America. American Antiquity, Vol. 28:151-158.

Swanton, J.R.
1904 The Development of the Clan System and of Secret Societies among the Northwestern Tribes. American Anthropologist, Vol. 6:477-485.

1965 Indian Tribes of Alaska and Canada. The Shorey Book Store. Seattle, Washington.

Taylor, H.C. and W. Duff
1956 A Post-Contact Southward Movement of the Kwakiutl. Washington State College Research Studies, 24:56-66.

Tolmie, W.F.
1970 Physician and Fur Trader. Mitchell Press. Vancouver.

Tolmie, W.F. and G.M. Dawson
1884 Comparative Vocabularies of the Indian Tribes of British Columbia. Dawson Brothers. Montreal.

Vancouver, G.
1798 Voyage of Discovery to the North Pacific Ocean and Round the World, 2 Vols. Da Capo Press. New York.

Voegelin, C.F.
1952 The Boas Plan for the Presentation of American Indian Languages. Proceedings of the American Philosophical Society, Vol. 96:439-451.

Wagner, H.R.
1936 Journal of Tomas de Suria of his Voyage with Malaspina to the Northwest Coast of America in 1791. The Arthur H. Clark Company. Glendale, California.

1968 The Cartography of the Northwest Coast of America to the year 1800, 2 Vols. N. Israel, Amsterdam.

Wagner, H.R. and W.A. Newcombe
1938 The Journal of Jacinto Caamano. B.C. Historical Quarterly II.

Walbran, J.T.
1909 British Columbia Coast Names. Ottawa.

Work, John
1945 The Journal of John Work, January to October 1835. Victoria.