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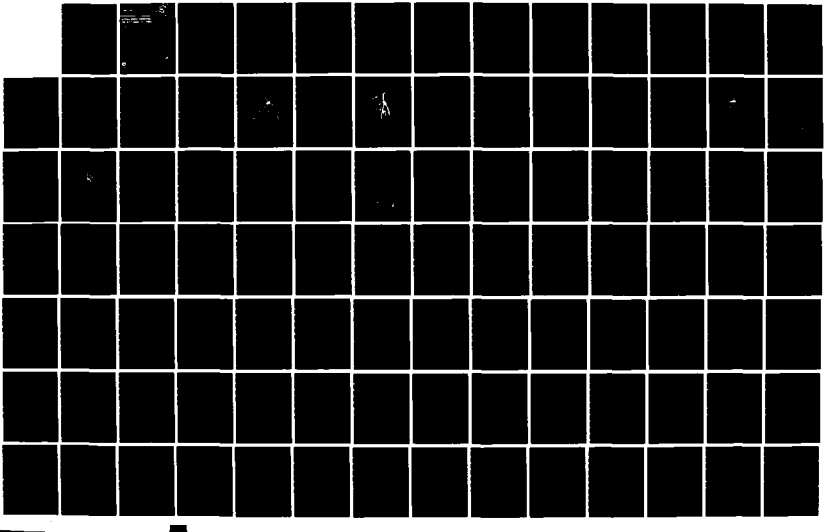

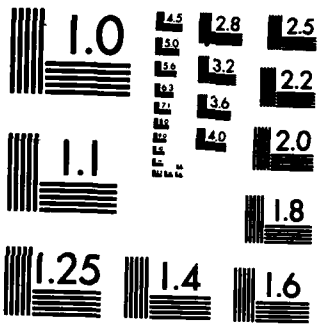
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KUTENAI INDIAN SUBSISTENCE AND SETTLEMENT PATTERNS,

NORTHWEST MONTANA

SEPTEMBER 1984

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KUTENAI INDIAN SUBSISTENCE AND SETTLEMENT PATTERNS

NORTHWEST MONTANA

by

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

This study examines traditional subsistence and settlement aspects of the Kutenai Indians, a distinctive Plateau group residing in northwest Montana and adjacent areas. The Upper Kutenai at Tobacco Plains are the focus of the study. The report uses data from published ethnographic and historic sources, but with critical review. In addition to a detailed discussion of subsistence and settlement,a tentative reconstruction is made of four successive protohistoric and early historic periods. These periods illustrate the transition from foot to horse mobility and corresponding cultural changes in Kutenai life.

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I am especially grateful to Randall F. Schalk and the Seattle District of the Corps of Engineers, Department of the Army, for allowing me the opportunity, as a participant in the Libby Dam Cultural Resources Survey, to assemble and analyze the data presented in this report.

ABSTRACT

The traditional life patterns of the Kutenai, both Upper and Lower Divisions, differed in notable respects from those of other Plateau groups, the consequence of their distinctive biogeoclimatological environments and unique culture history. The subsistence and settlement aspects of the culture of the Upper bands are the focus of this report, with special attention to those groups whose protohistoric and early postcontact homeland was in the Libby-Lake Koocanusa region. The data are drawn largely from published ethnographic and historical accounts, and are structured, analyzed, and subjected to certain speculative interpretations with the aim of serving the particular interests of archaeologists concerned with the lake area and with Kutenai and Plateau prehistory more generally.

At the time of first Euroamerican contact the Upper Kutenai occupied as their homeland the Rocky Mountain Trench from the area near the present Golden, British Columbia, north of Windermere Lake, south through the Lake Koocanusa sector and then west to the general area of Kootenai Falls; farther to the west lay the country of the Lower groups. By 1800 major segments of the Upper people were mobile equestrians who divided their food search between bison hunting in the nearby Plains foothills and hunting, fishing, and plant collecting in their home country. Owing to significant habitat differences, their lack of horses, and their distance from bison, the Lower bands remained, in general, within their own borders and possessed a more balanced economy in which the taking of nonanadromous fish, hunting (especially of deer and ducks), and the gathering of vegetable products all contributed importantly to their food supply.

When they first encountered Westerners, the upriver people comprised six and possibly seven localized bands. Together these are customarily referred to in the literature simply as "Kutenai" or by some other variant of this native-based term, the more specific designations "Flatbow Indians" and "Lake Indians" being reserved for the Lower Division bands. The population of the Upper Division in the early 1800s is uncertain, but that of the entire tribe may be roughly estimated at 1,000 persons.

The food quest and related settlement patterns of the Upper Kutenai represent responses to warm, comparatively dry summers and long, cold, snowy winters. They were likewise adaptations to the natural resources of the upper Columbia River and tributaries of the Kootenai River, of restricted valley bottoms with ponderosa cover and occasional bunchgrass prairies, and of the forests of bordering mountain slopes that climbed from the pine and grassy floor through a Douglas-fir zone to an Engelmann spruce-subalpine fir band immediately below timber line.

Game--primarily deer, elk, and to a lesser extent caribou--were hunted in the valleys and on the mountain flanks and bison were taken in considerable numbers by parties on the eastern slopes of the Rockies. Mammalian flesh was supplemented by catches of small native fish, especially trout, char, and whitefish, taken principally with spears and in weirs in streams emptying into the Kootenai and to some degree by salmon speared in the Columbia Lakes area. These resources were augmented by lesser supplies of a wide variety of roots, though neither camas nor bitterroot in quantities; of berries, mainly serviceberries, chokecherries, and huckleberries; and of small amounts of stems, nuts, cambium, lichen, and other plant products.

Spring, summer, and autumn found the Upper Kutenai either in roving search of game, fish, and edible plants in their own country, moving as the various foods came into season, or hunting bison for short periods east of the Divide. Even winter saw some ungulate hunting and, particularly in exigencies, some fishing and plant collecting to extend dwindling food supplies.

Upper Kutenai groups with few horses were small, were effectively tied to their tribal territory, were mobile year-round, and occupied temporary conical hide, mat, or bark shelters in all seasons. In contrast, families and bands wealthy in these animals formed larger population aggregates throughout the year, rode to bison country once or twice during the warmer months and exploited their homeland subsistence resources at other times; they lived in relatively elaborate hide tipis in more sedentary communities, when within their tribal borders in the forest edge confronting good grazing plains. The long mat lodge evidently saw some service in winter in protohistoric times, but semi-subterranean dwellings are only doubtfully attested to ethnographically.

The typical settlement complex consisted of dwellings, of outdoor earth ovens and food drying racks, of caches in pits or consisting of surface log or elevated structures, and of one or more hemispherical sweat lodges. Ceremonial constructions comprised temporary altar modifications in the conical hide dwellings, special tipi-like structures and long lodges for exclusively ritual purposes, and large conical sun dance shelters.

In traditional times Upper Kutenai settlements in the Libby-Lake Koocanusa region were concentrated importantly in the Tobacco Plains area, to a minor extent in the Warland sector of the narrow river canyon south of these plains, and to a moderate degree at, or just downstream from, the southern limits of Lake Koocanusa where the Jennings band maintained its headquarters.

Aboriginal Upper Kutenai life modes were not greatly altered through White contact until the last quarter of the nineteenth century. This was the case even though the tribe first encountered Euroamerican explorers and traders in its home territory in 1800, was exposed to the influence of small trading posts from 1807 until the 1870s, and maintained an association with Christian missionaries beginning in the 1840s.

A tentative reconstruction of the subsistence and settlement patterns of the Upper Kutenai suggests four successive protohistoric and early historic periods: (1) a prehorse, prefirearms, prebison period when hunting, fishing, and plant gathering were pursued year-round in a relatively balanced manner west of the Continental Divide by small, wandering camps; (2) a period when mid-winter foot treks for bison meat east of the Rockies were initiated by certain groups near the mountains, but life was otherwise little changed; (3) a late prehistoric period which saw the introduction of the horse, and a significant turn on the part of several bands toward equine-dependent bison hunting on the Plains during warmer seasons to complement the earlier winter bison hunts on foot, toward a decreased utilization of the traditional food resources within their tribal homeland, and toward fewer but larger and more sedentary settlements when resident in their own territory; and (4) an early postcontact period when firearms were obtained, bison hunting received a still greater emphasis on the part of most of the Upper people, and certain minimal elements of Western culture were adopted.

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INTRODUCTION

This survey describes certain of the traditional life patterns of the Upper Kutenai Indians in protohistoric and early historic times, specifically those most immmediately responsive to the biogeoclimatic environment. It focuses more particularly upon those tribal subdivisions that considered the Lake Koocanusa area and nearby regions their native homeland. The intent is to contribute a special dimension to the assessment of the cultural resources of this lake sector and to place these resources as they relate to the aboriginal population within a somewhat wider geographical framework.

The study consists of three principal sections, differing greatly in length and depth. First, a section that discusses a number of propositions relating to the traditional Kutenai, their territory, and the nature of their early contacts with the Euroamerican world; these facts are designed to provide relevant background for the substantive section that follows. Second, the extended descriptive segment of the report, presenting in full detail basic subsistence data and shelter and settlement information. And finally, a brief section that outlines certain tentative conclusions and postulates a number of provisional speculations in an attempt to reconstruct subsistence and settlement changes among the Upper Kutenai during the 1650 to 1900 time period.

None of these data are exhaustive: every subject treated in this study will profit from further research and a more detailed and perceptive analysis. The important ethnographic reports and certain of the ethnohistorical records have been examined for relevant information and these data are included and interpreted here. But because of time pressures, lesser and more elusive ethnographic sources have not been thoroughly reviewed and several even important historical records have received little or no attention. Archival documentation of possible relevance remains wholly unexplored. And finally, additional field research among the Upper Kutenai would be certain to add further facts and refinements to the segments of this study that depend heavily on informant data. Nevertheless, it is believed that the material presented here represents a balanced and reasonably comprehensive first assessment of the subjects to which this report directs thought.

CHAPTER 1: BACKGROUND DATA

Orthographic Conventions

Several variant spellings of the Anglicized version of the tribal name are common and, derived from this term, for the principal river that threads through much of the Kutenai territory, for the great lake that interrupts the river course near its mouth, and for the various fur trading posts established on its banks in early postcontact times. To complicate matters, the official geographic designators for the river in Canada and the United States are at variance. As might be anticipated, additional, often idiosyncratic renderings of the term are also to be found in the early historical and ethnographic literature.

There would be little merit in compiling a roster of these minor orthographic deviations, for the significance of all appears transparent. But it is useful to lay out here the somewhat arbitrary spelling conventions adopted in this report. The form "Kutenai," following the customary anthropological orthography, is used for the tribe. "Kootenai" is employed for the entire river system, inasmuch as the Lake Koocanusa area lies predominantly within the American borders, even though the greater length of the river, both above and below this impounded lake, flows in Canada where "Kootenay" is the convention. But the spelling "Kootenay" is used for Kootenay Lake, a wholly Canadian body of water, and for the several fur posts and "forts" that appeared from time to time along the river, whether north or south of the current international line. Variations from this pattern appear only in quotations.

The employment of these different orthographies carries with it, in fact, a practical advantage: it contributes to narrative clarity, frequently making it unnecessary to indicate, for instance, whether tribe or river is referred to.

Ethnographic Data Base

The data concerning the traditional Kutenai life-patterns are far from rich. This circumstance reflects a number of special geographical, historical, and ethnograhic facts.

In geographical perspective, the Kutenai occupied an area of rugged mountain chains, narrow valleys, and vast forests tucked deeply into the western face of the Rockies and, at least in later protohistoric times, also the remote, broken, eastern slopes of the Divide. Their territory lay well off the principal east-west and north-south aboriginal trails and trade routes. The Kutenai were, in short, geographically insulated.

Kutenai history is likewise one of eloquent isolation. The end-to-end upper Columbia and Kootenai rivers served during the immediate postcontact period as a fur-trader highway from the upper Saskatchewan and upper Athabasca Rivers to the Columbia Valley below the present

international border. But with the navigational possibilities of the Columbia from the Boat Encampment in the far north established by David Thompson in 1811, the Kutenai found themselves at once in a fur-trading backwater, with only insignificant and frequently moving fur-collecting posts (Chance 1981). They were only minimally missionized by the early Catholic priests until the late 1850s and, as far as I am aware, were entirely neglected by early Protestant missionaries. They escaped most of the grinding disorganizational influences of the gold mining period. They remained aloof from the various Indian uprisings of the 1850-1870s that inflamed and demoralized native groups to their west and south. Finally, they confronted the first serious influx of agricultural homesteaders and loggers only near the close of the 1800s.

On these points the testimony of Baillie-Grohman (1907:306), writing of the late 1870s, is of interest:

> I was . . . surprised . . . to find that the Kootenays were a tribe practically untouched by the . . . civilisation of the West. They had no reservations; they had no agents over them; they received no assistance from the Government; no official census had ever been taken of them; they lived entirely upon the products of their rivers, lakes, and forests; they spoke a tongue unknown to their next neighbours; they kept strictly to themselves, and, with the exception of their annual buffalo hunt, they never left their own beautiful mountain-girt home.

Perhaps Baillie-Grohman is exaggerating the situation somewhat, but his observations appear correct in the main.

In short, with the exception of a brief period around 1860, the Kutenai and their territory attracted singularly little outside attention through the greater part of the nineteenth century. The consequences are obvious: comparatively few historical records relating to the Kutenai and their country exist for the 1800s and, unfortunately, these few contain scandalously little ethnographic information. Some of these meager and scattered cultural data are, however, integrated into this report.

The situation from the ethnographic side, though appreciably better, still leaves much to be desired. Very few ethnographic data of professional stature have been collected among the Kutenai and still fewer published in spite of a promising beginning in the closing decades of the nineteenth century. At least superficially, their lifeways were without elaboration. The Kutenai lacked the material wealth and the ceremonial, artistic, and social organizational florescence of the coastal groups; they had little of the spectacular Dionysian religious excesses, hypertrophied raiding patterns, and constant bison-hunting excitement of the Plains tribes. Despite the size of their home territory, they were a tribe of very limited numbers and one divided into distant wandering bands. While ethnographic neglect has been commonplace for native Plateau societies and is from the above geographic and historical circumstances particularly explicable for the Kutenai, it is more than normally difficult to justify in

anthropological terms in the Kutenai instance. For they were a very special people.

The Kutenai were effectively isolated from all other native groups by their unique language.[1] Partly because of geography but evidently also by choice, they appear to have comparatively rarely encountered nearby groups in traditional times and seldom then to have interacted with them on a fully amicable plane. And although basically Plateau culturally, they were distinguished from the surrounding Salishan peoples in a singularly large number of cultural ways. Under these circumstances, it might have been predicted that their distinctive language and culture, preserved until comparatively recent times by the remoteness of their mountainous territory, limited historical contact, and small floating bands, would have generated active anthropological interest. But, unfortunately, this has not been so.

In this report the primary ethnographic sources are examined for subsistence and settlement data relevant to the Lake Koocanusa area and to the Upper Kutenai more broadly, and the available information is collated and analyzed.[2] The degree to which the emergent facts are fragmentary and otherwise imperfect will become obvious. But it is worthwhile at the outset to direct attention to the more general troublesome features of the basic sources.

First, for the most part the ethnographic literature describes Kutenai culture as though areally undifferentiated, failing to distinguish between the Upper and Lower Kutenai and, in spite of their particular importance as Upper Kutenai groups, to address the life patterns of the Lake Koocanusa bands explicitly.

Second, each of the sources--those of Curtis (1911), Schaeffer (1940), Turney-High (1941), and Ray (1942), all based on field research--has its own limitations.

- Curtis' report, presenting data gathered by his field assistant, W. E. Myers, is very brief in the cultural domains of concern to this study, placing a much heavier emphasis on mythology and ceremonial life.

- Schaeffer's study, his doctoral dissertation, is available to me only in draft manuscript form, obviously incomplete and unedited.[3] In some respects, however, it is the most useful. It not only relates predominantly to the Upper Kutenai (Schaeffer 1940:3), but also focuses upon the subsistence component of Kutenai culture and far more often than the other sources distinguishes explicitly between Upper and Lower Kutenai divisions, even on occasion calling attention to the Tobacco Plains and Jennings bands of the present Lake Koocanusa district.

- Turney-High (1941:7) evidently obtained information from both Lower and Upper Kutenai, but typically fails to reveal whether his data apply to the tribe as a whole or to only one or the other of these two primary divisions. Moreover, his data, or at least his interpretation of them, sometimes convey the impression of being improbable or even unqualifiedly erroneous. Nonetheless, his study is the one comprehensive ethnographic monograph for the tribe.

• Ray's (1942) data are presented in the form of discrete culture traits, often fragmented down to the minimal level. They are, therefore, frequently difficult to assemble with confidence into their organic complexes. Nor is his information defined in Upper and Lower Division terms. His principal informant was born about 1895 near Cranbrook; the birthplace of this man's mother, Ray's second-line informant, was unknown, because "the Kutenai move freely" (Ray 1942:103). But inasmuch as the Cranbrook area was well within Upper Kutenai territory, more specifically within the orbit of the Fort Steele Band, which, about 1865, was reformed largely by Tobacco Plains and Libby folk of the Upper Division, Ray's data are assessed to apply to the Upper people in particular and so find their place in this present study. Indeed, this Upper group assumption receives strong confirmation in certain of Ray's (1942:117) data: e.g., his report of bison as the staple Kutenai food, a situation true only of the upriver division.

The ethnobotanical data relating to the Kutenai and their homeland are likewise not without their problems. Both Hart (1976) and Turner (1978), from whose summaries most of the plant information is derived, generally present plant-use descriptions for the Kutenai as a whole, again rarely differentiating between the two principal divisions--much less the individual bands--even though the biogeoclimatic and floristic characteristics of the country of the two divisions were perceptibly at variance. However, Hart's data seem to have been obtained principally from the present Flathead Lake Band, comprised largely of members of traditional downriver subgroups of the Upper Kutenai. Similarly, Turner's (1978:5) facts are known to reproduce in large part her own field findings with informants at Cranbrook and Tobacco Plains, both Upper Kutenai areas. Accordingly, their Kutenai information is generally utilized in this report.

Procedurally, to summarize, ethnographic and ethnobotanical information tied explicitly or circumstantially to the Lower Division is normally omitted from this study, unless there is some evidence to disclose its applicability to the Upper people as well. Data expressly or inferentially attributed to the Upper Kutenai are, on the other hand, routinely incorporated into the sections that follow. So too are descriptive statements that are reported to be true "for the Kutenai" as an undifferentiated group where the probabilities argue validity for the upriver bands.

Traditional Kutenai Territory

The immediate concerns of this report lie with only a small (but important) segment of aboriginal Kutenai country. Consequently, it might appear at first blush that a plotting of the boundaries of the "tribe" as a whole would be distinctly peripheral to our interests. And this would indeed be so if we were to focus on geographical minutiae, to attempt, for example, a fine-grained adjudication of differing boundary formulations or a detailed diachronic reconstruction of minor boundary shifts during the late precontact and early contact periods.

The Lake Koocanusa groups were, however, by no means limited in their subsistence foraging to their own band lands. In their food quest they wandered freely over the total territory of the Upper Kutenai and seasonally even joined Lower Division people in exploiting their downriver food resources. For this reason a review of the "tribal" borders as defined by various ethnographers and an effort to draw an approximate boundary are in actual fact essential to an understanding of the normal subsistence and settlement range of the Lake Koocanusa groups.

Dawson's Map

The earliest serious attempt toward describing the Kutenai tribal boundaries of which I am aware is that of Dawson (Tolmie and Dawson 1884: pocket map) (Figure 1-1). For this reason it is of some particular historical interest. His base map is somewhat distorted and even lacking in notable physiographic features. Nevertheless, it is sufficiently detailed to permit a reasonably close following of his Kutenai border.

From a point in the Rockies labelled Mt. Hooker, the line proceeds down the southeastern side of Wood River to the Columbia, which it crosses about where the community of Boat Encampment appears on contemporary maps. There it swings to the southeast along the divide between the arms of the great bow of the Columbia, moves down the west side of Duncan River, and passes between Trout Lake and Duncan Lake (not shown on the Tolmie and Dawson map). Turning to the southwest and seemingly running west of Slocan Lake, though this is not entirely certain since this body of water is likewise omitted from the map, it reaches the Columbia River once more just west of Castlegar and continues, now west of the Columbia, over the international border to the Northport, Washington, area.

From Northport on the Columbia it turns abruptly eastward and, with an abandoned disregard for prominent physiographic features, spans the divides between the Columbia and Pend Oreille, the Pend Oreille and Kootenai, the Kootenai and Moyie, and the Moyie and Yaak, running the entire distance just south of the international line. At the Yaak River, the boundary is shown to break sharply to the southeast and cross the Kootenai at Jennings. Off to the southeast it obviously encircles an area (undefined but apparently of some considerable dimensions) in the Flathead Lake country, occupied, Dawson reports, by the "Flathead Kootanie." The eastern and northeastern line coincides with the Continental Divide from at least as far south as Lake McDonald (not shown) to Mt. Hooker on the extreme northeast.

Of particular interest in terms of this report is the fact that all of the Lake Koocanusa region is placed within (but just within) Kutenai country and, off to the east, also most or all of Flathead River above Flathead Lake.

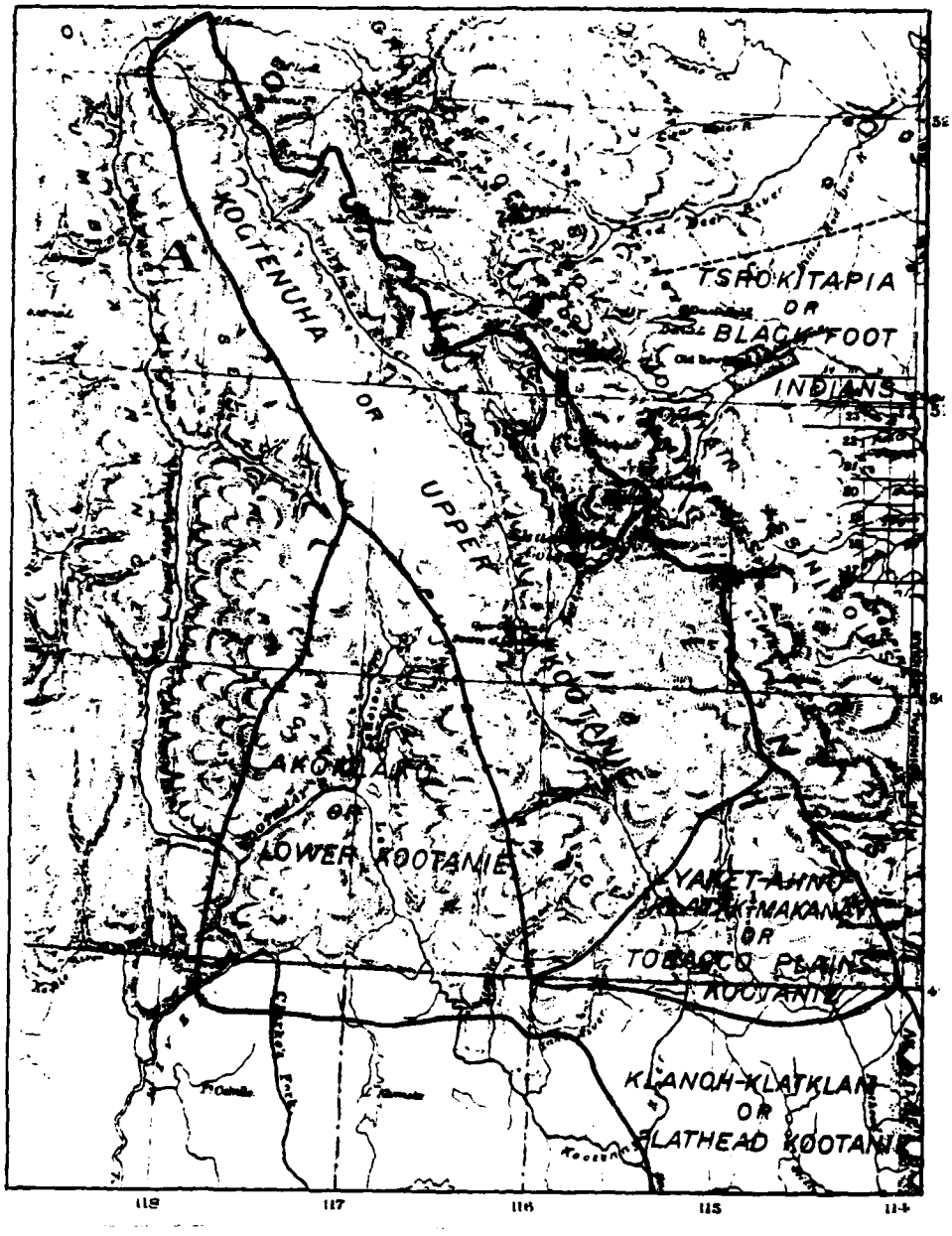


Figure 1-1. Section of a "Map shewing the Distribution of the Indian Tribes of British Columbia. By W. F. Tolmie and G. M. Dawson" (Tolmie and Dawson 1884:back pocket). The boundaries, marked on the original map only by tint differences except for along the crest of the Rockies, are here converted to solid lines.

Hale's Map

A small-scale map of Hale (1891:552 [NARN 1974 8 (1-2):92]), dated 1890, marks the Kutenai homeland as a simple wedge-shaped area (Figure 1-2). Apparently this delineation was considered by Hale (1891:553 fn. 1 [NARN 1974 8 (1-2):93]) himself as nothing more than cartographically suggestive.

As drawn by Hale, the northern point of the triangle lies in the Rockies close to Mt. Freshfield, northeast of the town of Donald, the boundary line crossing the Columbia Valley about 10 miles north of where Donald now stands. The western border is shown to run south along the peaks of the Selkirk Mountains (International Map of the World, Kootenay Lake quadrangle 1969), evidently to enclose the Duncan River and Duncan Lake drainage. It transects the lower Kootenai River roughly half-way between Kootenay Lake and the river's confluence with the Columbia. The eastern boundary follows the snake-like crest of the Rockies from northwest to southeast. No real effort is made to draw the tribal limits south of the international line; for Hale's concerns here, as with Dawson's in 1884, were essentially restricted to the Crown's country.

Teit's Map

From his Shuswap findings Teit (1909:450-451, 454-455, 460, 460 fn. 5) was able to define the territorial boundaries of that group. These data are germane to this study precisely because the Kutenai, in part, shared a common border with the Shuswap (Figure 1-3).

Viewed from a Kutenai perspective, Teit's information indicates that the Kutenai held the Kootenai Valley upstream to Canal Flats and the country on up the Kootenai River for some distance above that point. They likewise controlled the Columbia and Windermere Lakes area and a very short reach of the Columbia Valley to the north. From just below Windermere Lake north to the Canoe River bend and then south to the foot of Lower Arrow Lake, the valley and adjacent mountain slopes, according to Teit, belonged to the Shuswap.

As I interpret Teit's map, rather lacking in topographic detail, the northern and western border of Kutenai country--at least from the Shuswap viewpoint--ran in a southwesterly direction from the Continental Divide near Assiniboine Pass down to and across the upper Kootenai River, up over the height of land--perhaps via Sinclair Pass--and then down to near the north end of Windermere Lake. It then proceeded westward to the Duncan River, evidently above the Duncan Lake district. There it turned sharply toward the southwest, following the watershed between Duncan Lake and the Columbia Valley, apparently running along the west side of Slocan Lake, and finally down Slocan River to its junction with the Kootenai below Kootenay Lake.

From the Slocan Lake confluence the Kutenai territorial line, Teit tentatively suggests, moved southeasterly along the ridge separating

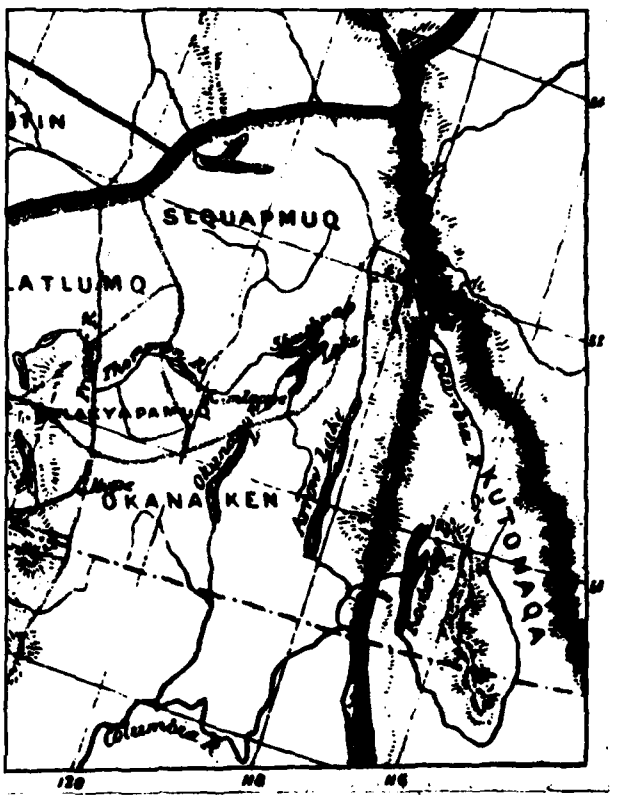


Figure 1-2. Southeast quarter of Hale's (1891: 552 plate 19) linguistic map of British Columbia. Dated 1890, it shows the territory of the Kutenai ("Kutonaqa") in the lower right corner.

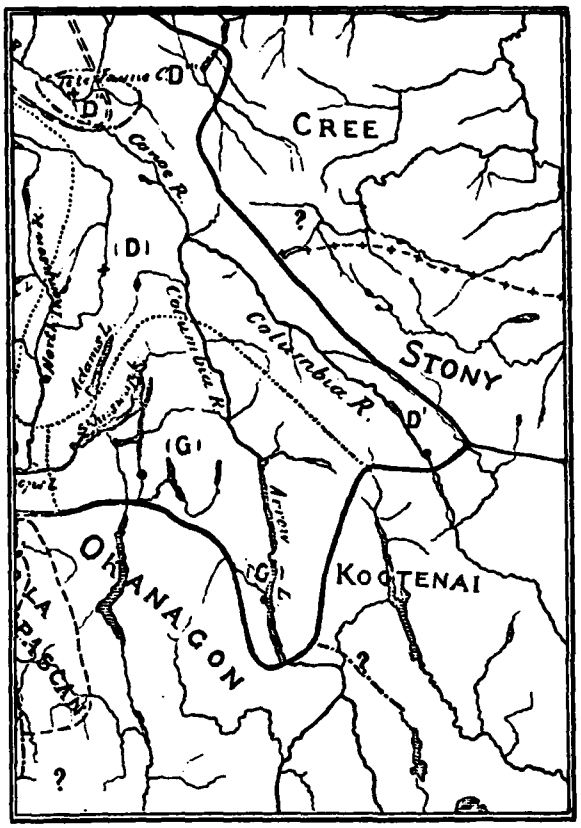


Figure 1-3. Fragment of Teit's (1909: 450) map, based on field research among the Shuswap, defining the Kutenai-Shuswap boundary as of the mid-nineteenth century. The upper Columbia group identified as "D'" are the Kinbasket people of the Upper North Thompson Band of the North Thompson Division of the Shuswap.

streams flowing northeast into Kootenay Lake and Kootenai River from those emptying into the Pend Oreille on the southwest and south. Now beyond the area of Shuswap concern, the Kutenai boundary is carried by Teit no farther to the east.

Two points relating to these border data are worth noting. First, Teit recognizes no distinct Lakes "tribe" in the Arrow Lakes sector and along the Columbia to the north.[4] The identity of the group that held that country is, however, irrelevant to the interests of this study, for the Kutenai boundary line remains the same in any case.

Second and more importantly, the Shuswap that occupied the Columbia River region north of the outlet of Windermere Lake and the headwaters of the Kootenai River over the mountains to the east were the "Kinbasket" people, to use Teit's term. He explains:

> Belonging originally to . . . [the North Thompson Division of the Shuswap] is the band of Shuswap located on the Upper Columbia River near Lake Windermere. They . . . are known as the Kinbaskets, or Kootenai Shuswap. Their hunting country extends on both sides of the Columbia, north to beyond Golden. . . . They have intermarried frequently with the Kootenai. (Teit 1909:455)

And he writes further:

> This [Kinbasket] band live on reserves nearly opposite the mouth of Toby Creek, on the right bank of the Columbia River, not far from the outlet of Lower Columbia or Salmon [Windermere] Lake. They lived for many years in a more or less nomadic state, wintering and ranging in the Columbia valley, chiefly between Golden and Windermere. The ancestors of these people belonged mostly to the Upper North Thompson band. It seems, however, that some of them belonged to the Lower North Thompson band, and a few to the Adams Lake and Shuswap Lake bands. (Teit 1909:460, 460 fn. 5)

These Kinbasket facts provide the key for understanding what appear to be conflicting claims to the upper Columbia reach from Windermere Lake to the Golden-Donald sector: on the part of the Kutenai, as expressed without exception in the Kutenai ethnographic studies reported in this section, and on the part of the Shuswap, whose de facto occupancy of the area is attested to in various historical records. Just such a Shuswap historical observation was made by de Smet (1906b:209-211) in September, 1845, when he reached the Columbia Lakes region:

> The monarch [named Morigeau] who [with his wife and seven children] rules at the source of the Columbia is . . . from . . . [a] district of Montreal, who has resided for twenty-six years in this desert. . . . [T]hree Indian families . . . accompany him in his migrations. . . . [Heading east up into the mountains, we] . . . bade adieu to the Morigeau family . . . , and to their companions of the chase, the Sioushwaps.

The fact that Shuswap groups resided in this upper Columbia region at the midpoint of the century and routinely exploited its subsistence resources is evidently not to be questioned. But Teit's findings seem to establish beyond argument that the Kinbasket group represented an early postcontact thrust of various eastern Shuswap peoples into aboriginal territory of the Columbia Lakes Band of the Kutenai.[5]

Boas' Map

The tribal distribution map for the pre-1800 period prepared by Boas (1928) on, at least in part, his own field evidence from the late 1800s and early 1900s differs from that of Dawson (1884) in certain respects. It does not include quite as much territory in the far north, reaching northward down the Columbia River only to just below where Golden is now located (Figure 1-4). The northeasternmost point of their country falls, as with Hale's map, close to Mt. Freshfield, well below Dawson's Mt. Hooker. The western boundary bends southeastward along the watershed between the upper Columbia and Duncan River and then, turning to the southwest, crosses the latter immediately north of Kootenay Lake, thus excluding some territory claimed for the Kutenai both by Dawson and by Teit. It follows the divide south between Kootenay Lake and Slocan Lake, crosses the Kootenai River just east of where Nelson now stands, and thence coincides in a long arc with the watershed between the Kootenai River on the east and north and the Pend Oreille River and Clark Fork on the west and south until it reaches a point southeast of Eureka, Montana. There it swings in a generally northeasterly direction to transect the North Fork of the Flathead River very close to the international border and then reach the Continental Divide close to where Dawson places Kootanie Pass. The eastern boundary between the Kutenai and the Plains Kutenai--for this latter group Boas obviously follows Teit, although his own field findings may have provided support for Teit--is not marked, but presumably was thought to coincide with the heights of the Rockies.

Inasmuch as the Flathead River basin north of Flathead Lake falls within the outer peripheries of the special interests of this report, Boas' assignment of the very considerable upper length of this region to the Kutenai merits further comment. As Boas notes, he relied to a substantial degree on Teit's research with the eastern Salishan tribes in drawing the southeastern limits of Kutenai country. Consequently, it is of particular interest that Teit (1930:308) expresses some indecision as to the traditional "ownership" of the upper Flathead River region. He writes:

> Northward . . . [the Pend Oreille] extended to about the British Columbia line. The original owners of that part of Flathead River that is in British Columbia is uncertain, as some informants of both the Pend d'Oreilles and Upper Kutenai claim it as hunting territory of their respective tribes. In later days it seems to have been used principally by the Upper Kutenai.

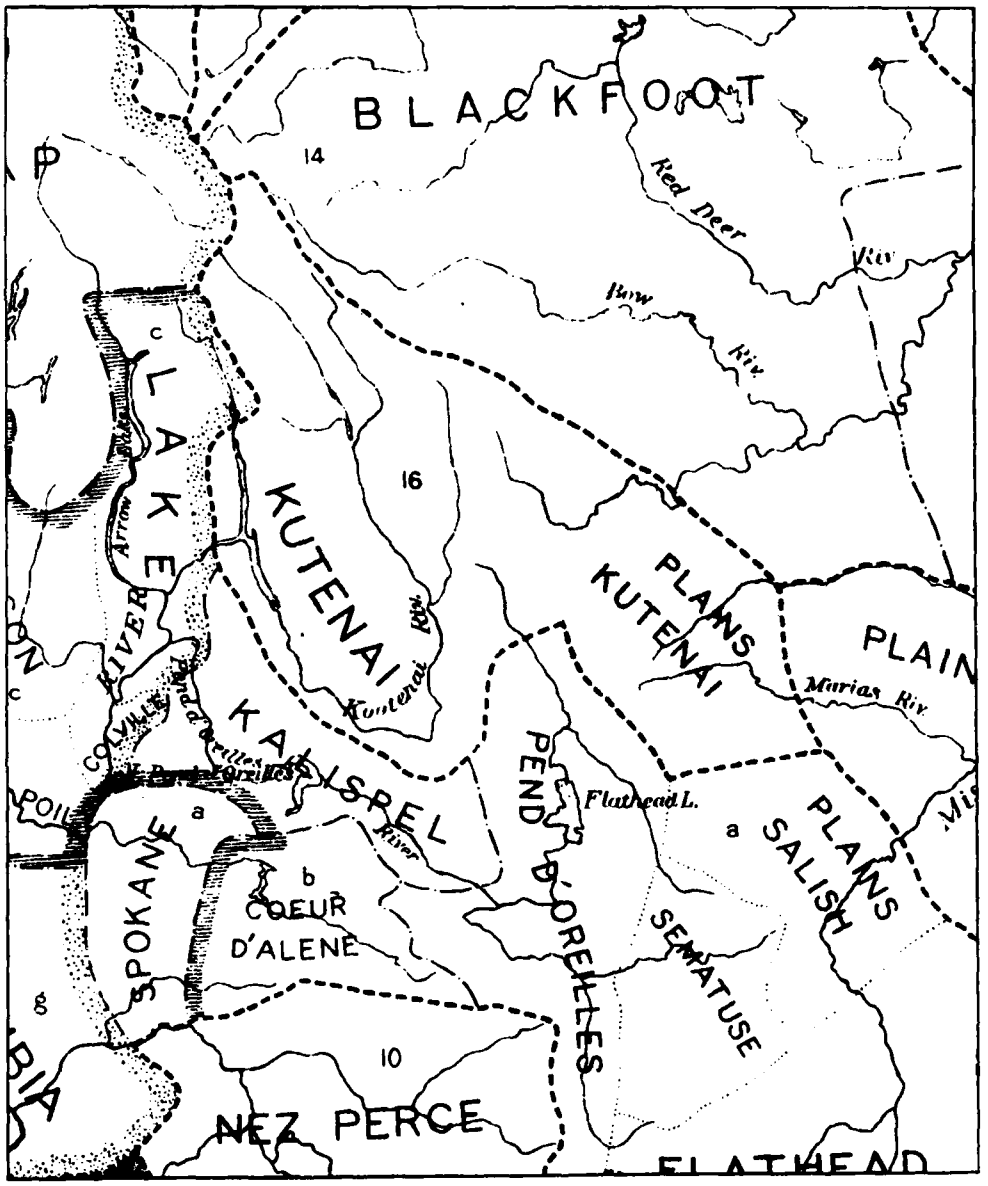


Figure 1-4. Map of Kutenai territory before 1800 prepared by Boas (1928) with the assistance of Teit's field data for the Salishan groups to the south and west.

In regard to at least the north of the border Flathead Valley, Boas' map shows a clear decision in favor of the Kutenai. This question of which group held controlling interest in the valley will be returned to in considering Turney-High's data below.

In sum, Boas removes from Kutenai control and assigns to the Lake (or Lakes) tribe a long slice of territory on the extreme west that Dawson--and even Hale to a lesser extent--considers to have been Kutenai country. His map attempts for the first time to indicate with precision the southern limits of the Kutenai homeland below the Canadian line, including those areas occupied by the Tobacco Plains and Jennings bands that are of primary interest to this present study. And notably, it articulates for areas in addition to that along the Rocky Divide the principle, at present widely accepted, that tribal boundaries in this sector of the Plateau tended, for obvious practical reasons associated with native land-use patterns, to follow major mountain watersheds.

Jenness' Map

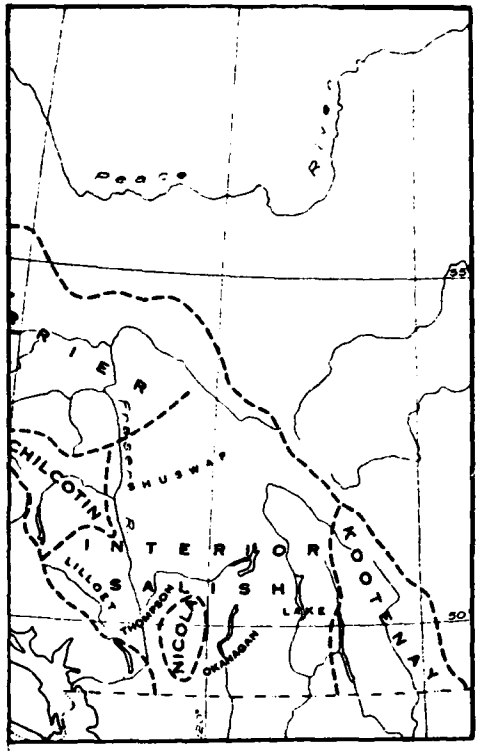
Jenness (n.d.:352, 423, back pocket) provides two maps that attempt to reconstruct the boundaries of Kutenai territory north of the 49th parallel as they existed about 1725, prior to the earliest fur trader influence. The more carefully delineated of the two (Figure 1-5A shows the western and northern boundary in all essentials as plotted by Boas in 1928 (Figure 1-4). On the east, however, it places the Kutenai line along the crest of the Rocky Mountains. The second map, of which Figure 1-5B is but a small fragment, charts the native linguistic families of Canada. It marks the Kutenai borders in an obviously highly schematic fashion except for the eastern boundary which, again, equates with the Continental Divide: the Kutenai country is merely a triangular block in the upper Columbia and upper Kootenai region, pressed against the western flank of the Rockies. While the area thus designated is not wildly out of line as a definition of the Upper Kutenai homeland, the territory held by the Lower Kutenai is entirely overlooked.

Ray's Maps

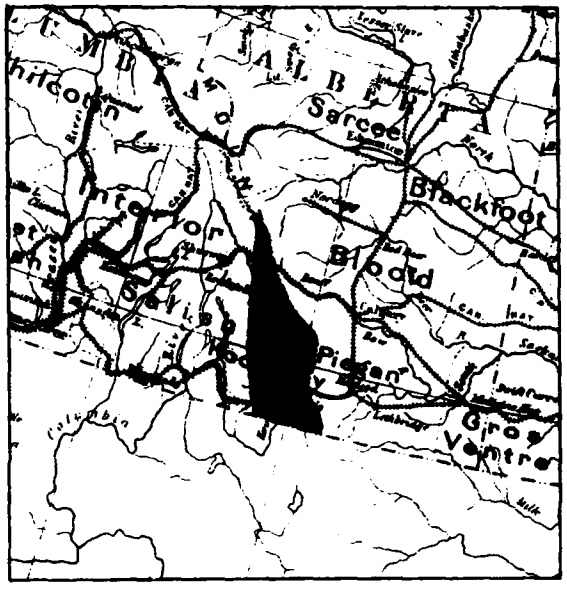
Map of 1936

While Ray (1936:103, 114) evidently made no special study of the Kutenai tribal limits nor of their settlement sites and land utilization areas, his research with the Lakes and Kalispel enabled him to estimate the Kutenai western and southern boundaries (Figures 1-6A and 1-6B).

From the northernmost corner of their country in the vicinity of Golden (and the Rockies just off to the northeast) Ray's border runs southwest to the watershed between the upper Columbia and Duncan River and then slightly east of south to the northern tip of Duncan Lake.

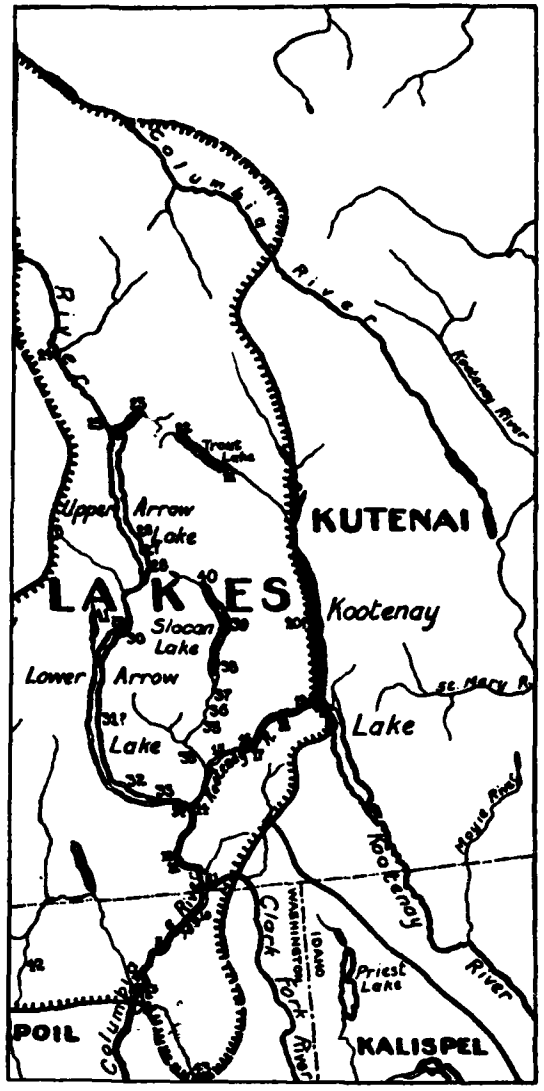


A.



B.

Figures 1-5A and 1-5B. The Kutenai country according to Jenness (n.d.:352, back pocket) as of "about 1725 A.D." Compare A with Boas' 1928 map (Figure 1-4).



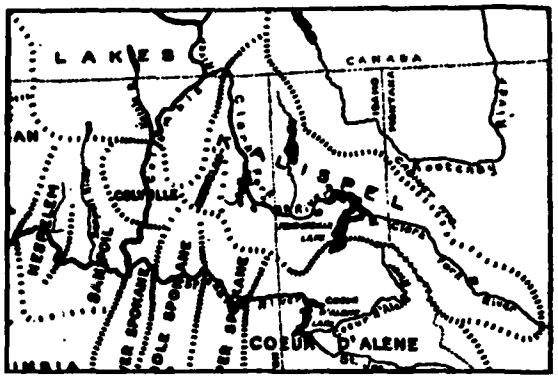


Figure 1-6A. Map from Ray (1936:114 Figure 2) showing, as of c. 1850, the territory and occupation sites of the Lakes tribe and the northeastern limits of Kalispel country. Adventitiously, it marks the western and southwestern boundary of the Kutenai homeland, as Ray viewed it from his Lakes and Kalispel field findings.

Figure 1-6B. Fragment from Ray's (1936:103 Figure 1) tribal distribution map of the northern Plateau as of c. 1850. Of interest is the northeastern Kalispel boundary. As far as the middle Cabinet Mountains, this would have been the southwestern Kutenai border. This map carries the Kutenai-Kalispel boundary farther to the southeast than Figure 1-6A.

From there it follows the west shore of Kootenay Lake--where Ray (1936:114, 126) actually places one temporary camp of the Lakes tribe--to its Kootenai River outlet. A short distance down the lower arm of the lake, it moves in a southwesterly direction to near where the town of Ymir, British Columbia, is now situated. From this point it runs to the southeast along the divide between the Kootenai and Pend Oreille Rivers, north of Priest Lake and Lake Pend Oreille. It then coincides with the mountain crest to the Libby area. Ray's boundary plotting proceeds no farther east.

If the data of Dawson, Teit, Boas, and Turney-High (reviewed below) mean anything, one is encouraged to suspect that Ray's Lakes informants may have claimed a bit more territory in the Kootenay Lake district than Kutenai informants would have agreed to. For various reasons which need not be examined here, overlapping tribal claims along watercourses, where major natural barriers are not found, are not uncommon in the eastern Plateau. To define tribal limits in such instances, in truth a somewhat arbitrary exercise, careful consideration must be given to the use and settlement patterns of the two contiguous tribal groups.

Map of 1939

In his Cultural Relations survey, Ray (1939:2) provides a map of the language stocks of the Plateau culture area (Figure 1-7). This includes a mapping of the Kutenai country, obviously embracing a region east of the Rockies. In this effort the boundaries that cover the same ground as his 1936 plotting are virtually identical with those. But here is added the southern Kutenai border east of the Libby area. This is shown to circle up through the Trego-Fortine country to the Canadian line and then to bend south again below the forty-ninth parallel to include a short distance of the North Fork of the Flathead River valley before reaching the Rocky chain. It quite resembles in this area the border drawn by Boas (1928) with the latter's angularities converted to arcs.

Turney-High's Map

Like Boas and Ray (1939), Turney-High (1941:22-25) provides a map delineating the total Kutenai territory (Figure 1-8). Confusingly, however, he plots and describes after a fashion two quite different boundaries.

The outer border encircles on the west and southwest an extensive area that most of his informants vigorously defended as aboriginal Kutenai hunting, fishing, and gathering country. On the southeast the stippled territory extending down to Flathead Lake includes a large area occupied, evidently only in comparatively recent times, by the Flathead band of the Kutenai. Turney-High himself entertained doubts as to the appropriateness of the claim to so much country in the western and southwestern sectors. And I am aware of no historical or ethnographic support for any of the large region that Turney-High designates by these

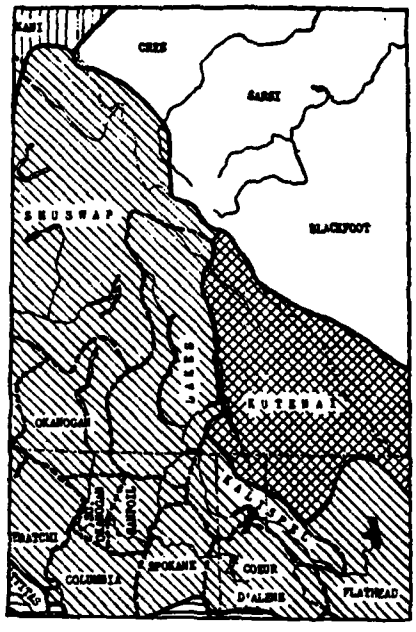


Figure 1-7. Linguistic stocks of the Plateau according to Ray (1939:2). Of interest in the context of this study is the plotting of the boundaries of the Kutenai territory, particularly those in the extreme northern and southern sectors. These areas concern specifically the Upper Kutenai.

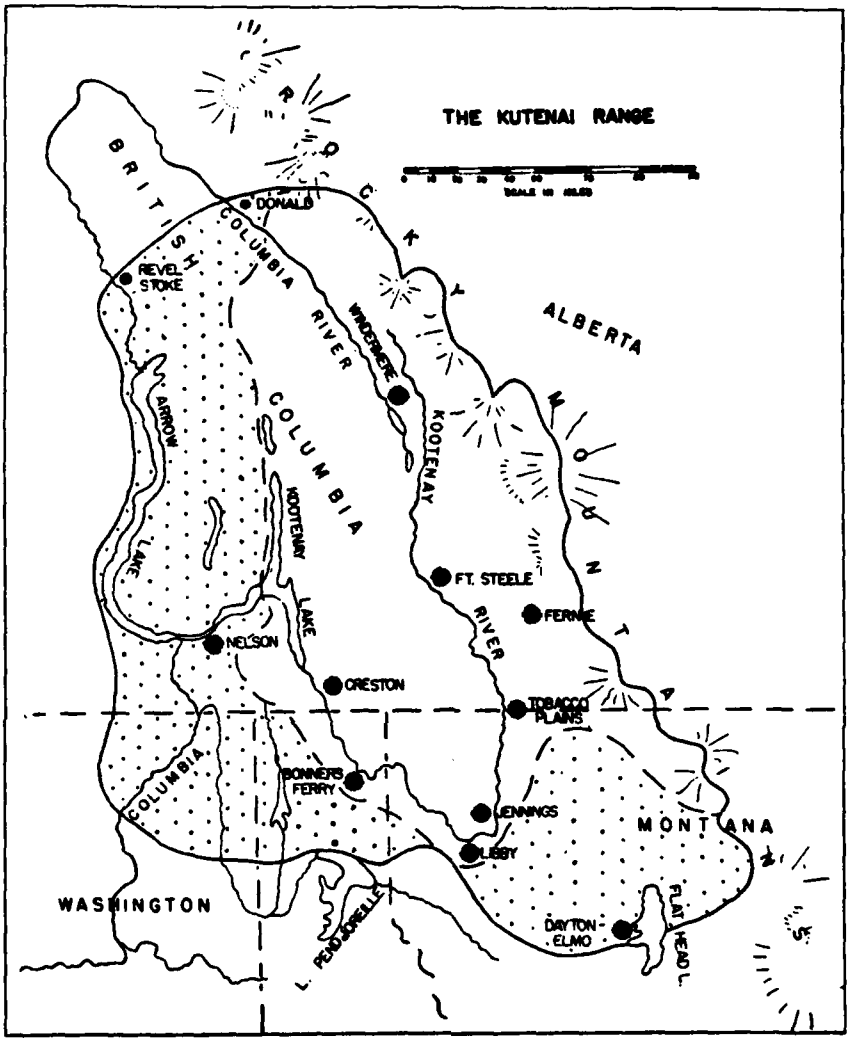


Figure 1-8. The "Kutenai range" as plotted and described by Turney-High (1941:22-25). The difference between the two areas--the clear area within the inner line and the larger country, including a stippled region, inside the outer line--is not well explained by Turney-High.

spaced dots. Indeed, it includes areas that beyond question lay within the core territory of the Lakes, Colville, and Kalispel tribes. Accordingly, no further consideration is given here to the stippled country.

Regarding the inner line Turney-High says singularly little. He explains only that one Bonners Ferry informant insisted that Kutenai moving in early times west of Kootenay Lake could anticipate hostilities, and that, as noted above, the upper Flathead Lake area was a relatively recent addition to Kutenai territory. This raises two issues: first, where does this inner line fall and, second, on what grounds, beyond the Kootenay Lake and Flathead Lake data just noted, is this line placed where Turney-High indicates it to be? These are not insignificant questions, since Turney-High's ethnography is the only extended professional treatment of the Kutenai and carries the authority of such a monograph.

According to Turney-High's inner boundary, the traditional territory of the Kutenai anchored its northeasternmost point in the region of Mt. Gordon. From this height it circled around the head streams of the Kootenai River and down to the Columbia Valley close to where "a small stream . . . runs into the Columbia on the other side of [i.e., somewhat downstream from] Golden, or at about Donald, B.C." (Turney-High 1941:22,23). The identity of this steam is not fully clear, but Turney-High appears to refer to Blaeberry River, which flows southwesterly from the crest of the Rockies to reach the Columbia between Golden and Donald.

From that point the boundary moved westward around the headwaters of Spillimacheen and Duncan Rivers, and then turned southward along the mountains just west of the latter river and Duncan Lake to reach the northern end of Kootenay Lake. The western shores of the upper arm of this lake were within Kutenai country. South of the outlet of Kootenay Lake, the line looped to the southwest, south, and southeast, following the watershed around the sources of the small streams feeding into the southern end of the lake.

From this southwesternmost corner above the source of Upper Priest River, the Kutenai boundary struck off on a relatively direct southeasterly reach along the crest of the mountains separating the Kootenai River drainage from the Pend Oreille River basin, north of Pack River and Lake Pend Oreille. Thence the tribal limits coincided with the crest of the Cabinet Mountains south of Bull Lake but then passed north of the Thompson Lakes.

On the southeast the border ran across the Fisher and Tobacco Rivers, both tributaries of the Kootenai River. It is surprising that Turney-High (1941:22), for some reason not explained, seems to remove the upper segments of these two steams from Kutenai aboriginal control. On both theoretical grounds and my own ethnographic research with the neighboring Kalispel, it would appear that the Kutenai almost certainly controlled the Fisher and Tobacco Valleys to their upper limits. However, the entire basin of the Stillwater River, which contributes its

waters to Flathead Lake, lay outside of Kutenai country as Turney-High draws his line.

In the extreme southeast, where the Flathead River valley above Flathead Lake is the prominent physiographic feature, tribal boundaries as between the Kutenai and the Pend Oreille seem likewise at odds with the usual situation. This river flows south into Flathead Lake, which was without question within the traditional borders of the Pend Oreille tribe. Consistent with the principle generally supported ethnographically that a group that controls the lower course of a minor stream likewise exercises control over its upper segment, the Flathead Valley northward into Canada might be expected to have been Pend Oreille country. However, Turney-High (1941:22) says not and here he may well be correct. There are at least three reasons for believing that the Kutenai may have considered this their country and for suspecting that the Pend Oreille did not vigorously argue the point.

(a) First, the upper and middle sectors of the North Fork of the Flathead River, which evidently makes its way down a narrow but generally level valley, appears to be blocked off--except for access along the river valley itself--from the lowest segment immediately above the lake by a complex tangle of mountains, notably the Whitefish and Swan Ranges with several lesser but still formidable ridges and mountains (USGS Kalispell quadrangle 1957).

(b) Second, the valley must have been a substantial convenience to the Kutenai, even though they seem not have occupied it with "permanent" settlements, at least in traditional times. Trails are known to have crossed from the Kootenai Valley both via the lower Elk River and, farther south, from the Tobacco River area.[6] Possibly there were still other routes. At any rate, once in the upper reaches of the Flathead Valley, travelers could continue eastward to the Plains through several passes, including that which led by Waterton Lake (Turney-High 1941:23). Alternatively, they could move south along the flank of the towering mountains of the Continental Divide and then, unless blocked by hostile Plains tribes, cross over a pass like Logan Pass to the plains and their bison hunts. The Pend Oreille, on the other hand, had no equally urgent need for these particular transmountain trails, though they occasionally used them--as apparently did Blackfoot raiding parties intent on making off with Salish and Kutenai horses and other booty. Only a short distance southeast of Flathead Lake were far less rigorous mountain gaps, like those up the Blackfoot River, and the friendly Flathead tribe with which the Kutenai and Pend Oreille so frequently joined forces in their early and mid-1800 bison hunts along the eastern face of the Rockies.

(c) Third and perhaps most important, the data of both Dawson and Boas likewise place the upper section of the North Fork of the Flathead River within the Kutenai tribal bounds, though at

least in Boas' case somewhat less of this valley than Turney-High would claim.

From the east side of the Flathead Valley at about the Lake McDonald area, according to Turney-High, the Kutenai boundary followed the Continental Divide northwestward for many miles to the Mt. Gordon sector.

We move finally to the second question posed above, the source of the information on which Turney-High's territorially more restrictive of the two boundaries is based. In comparing this border with the Kutenai tribal limits as shown on the maps already reviewed, it is at once apparent that Turney-High's line bears a singular resemblance to that in Ray's 1939 publication, so far as the country west of the Continental Divide is concerned. Turney-High was certainly aware of Ray's report, for he cites it in his bibliography.[7] This is not a trivial issue. For if Turney-High's line is in essence drawn from Ray, we have but a single primary source for these specific boundaries. If, to the contrary, it rests on his own field data, concerning which for some reason he is largely silent, we have at once two primary sources that are in very close agreement, greatly strengthening the case for these particular tribal limits. It is a shame that the data required to choose between these two alternatives are not made explicit by Turney-High.

Other Cartographic Data

There are, of course, in the anthropological literature many other tribal distribution maps, showing--or purporting to mark--the location of the traditional territory of the Kutenai. Being derivative in nature rather than based on first-hand field or historical research, these are of no essential interest to this study.[8]

Summary

To leave the preceding ethnographic data without an attempt to evaluate them and summarize their principal thrust would appear to be performing small service. Here this is attempted with attention to the varying time levels and probable reliability of the data and to the principle that, others things equal, Plateau "tribal" boundaries tended where possible to conform to major stream watersheds (Figure 1-9). These boundary data are relevant to our primary interests for two reasons.

- They are essential for establishing the total physical environment to which traditional Kutenai subsistence and settlement strategies represented adaptations. As observed above, while our predominant interests lie with the Lake Koocanusa area and then with the country of the Upper Kutenai more generally, the homeland of the downriver Kutenai was not unvisited, especially in the protohistoric and early historic periods, by the Lake Koocanusa folk for the joint exploitation of its food resources.

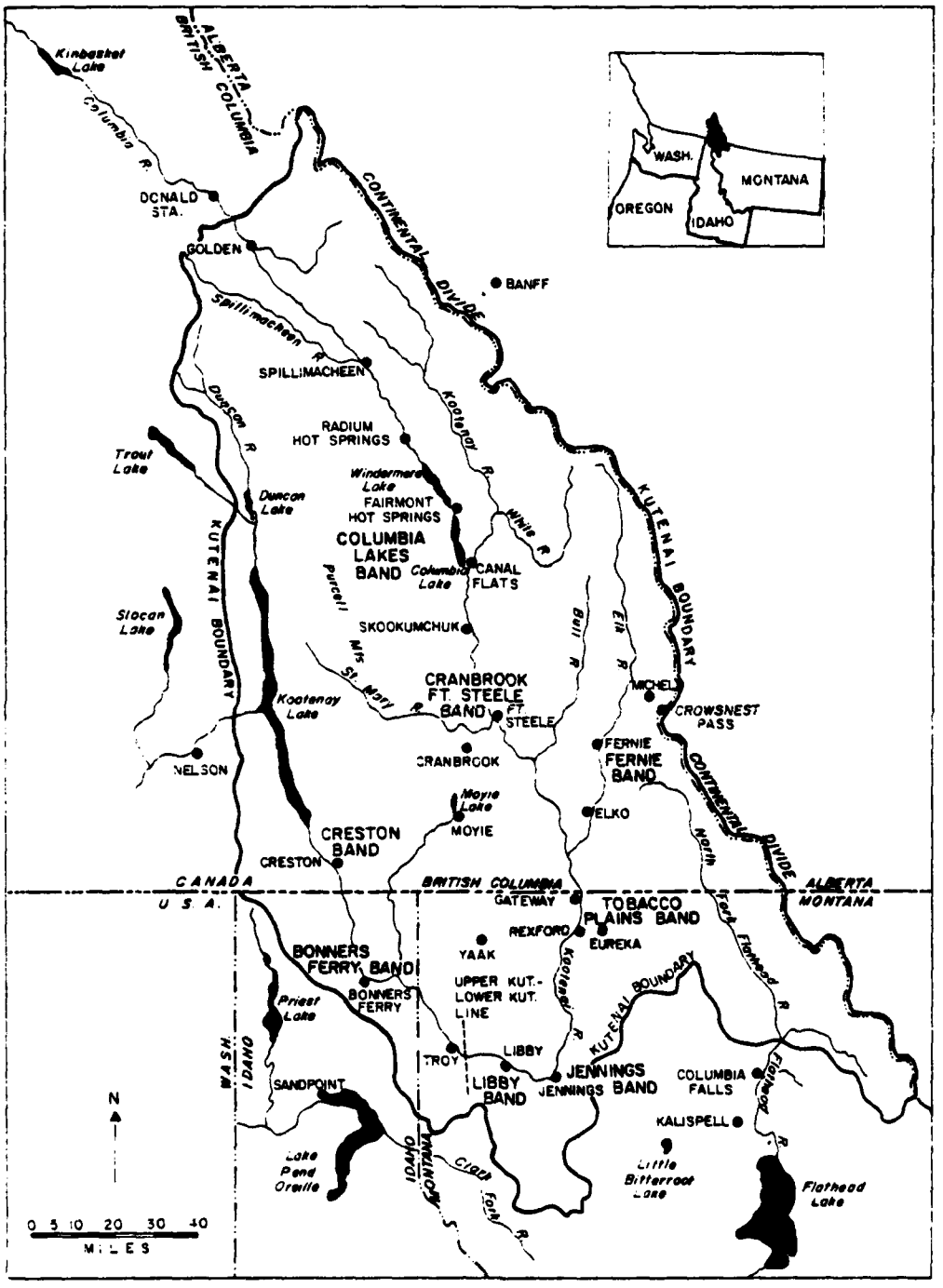


Figure 1-9. Approximate boundaries of traditional Kutenai territory, of the position on the Kootenai River of the dividing line between Upper and Lower Kutenai, and of the location of the Upper Kutenai bands.

• They possess implications for Kutenai population movements in late precontact and early postcontact times.

The approximate northernmost limits of Kutenai country seem clear. Certainly the Columbia and Windermere Lakes region at the headwaters of the Columbia River fell within the tribe's territory.[9] It likewise surely included some segment of the uppermost reaches of the Columbia Valley: i.e., down the river as far as the Golden-Donald sector and possibly somewhat farther. Yet hardly as far as Dawson (1884) would place the line, for the Kinbasket Lake region was in traditional Shuswap territory (Teit 1909:460, 462; Boas 1928 based on Teit's field findings). Tentatively I place the approximate border along the trail that leaves the Columbia between Golden and Donald, follows the Blaeberry River, and ascends the slopes to Howse Pass (CDMTS Vernon-Golden quadrangle 1951).

The line then arced southwestward along the ridge between the headwaters of Beaver River on the north and the Spillimacheen and Duncan Rivers on the southeast and south. Duncan Lake apparently was within the Kutenai western borders, but not Trout Lake, even though it drains into Duncan Lake. Trout Lake is, on the one hand, defined as Kutenai country by no one to my knowledge and, on the other hand, is specifically assigned to the "Shuswap" or Lakes by Teit (1909:450; 1930:210) and to the Lakes by Ray (1936:114, 126).

The evidence for aboriginal control of the Slocan Lake area is less plain. So far as the Kutenai are concerned, I accept with some reservations the negative determination of Boas and Ray, and interpret the positive findings of Dawson and Teit as possibly the result of an early postcontact movement of Kutenai into previous Lakes territory, one that by the mid-1800s carried Kutenai in small numbers even to Arrow Lakes. Provisionally, then, I bring the Kutenai boundary down the watershed along the west side of Kootenay Lake, which was unarguably traditional Kutenai hunting and fishing country.

There is, however, one problem with this Kootenay Lake determination which requires comment. As already noted, the Lakes are reported by Ray (1936:114, 126) to have had a temporary camp on the west side of Kootenay Lake. To my knowledge, the Kutenai are nowhere explicitly stated to have maintained settlements on the lake shores at any season. It is virtually axiomatic in the Plateau that a group's claim to an area is legitimized by recurrent major subsistence use of that region and especially by the regular maintaining of winter encampments in the area. In the case of Kootenay Lake, neither the Kutenai nor the Lakes evidently winter-camped on its margins. The physiographic characteristics of the lake's borders suggest an explanation for this circumstance. For Baillie-Grohman (1907:307-308) states, speaking of the Lower Kutenai:

> As the mountains round Kootenay Lake rise very precipitously from the water's edge, there is on the banks hardly a square rood of ground available for Indian settlements, hence their villages . . . [of reed mat tipis] are all confined to the

> grass-covered flats in the valley between the lake and the [international] boundary. The lake and the mountains were only visited for hunting and fishing. If for the former, they betook themselves in their light pine bark canoes to the upper end of the lake, and, landing at one of the many sandy beaches hemmed in on all sides by red cedars and pines of great growth, cached their canoes, and proceeded to climb the mountains on foot. [They were often] away for a month at a time, . . .

It appears, in short, that the mountain slopes surrounding Kootenay Lake comprised an important part of Kutenai hunting territory in aboriginal times. Further, that the Kutenai must have occupied more or less frequently several--perhaps many--ephemeral camp locations around the lake borders as bases for their subsistence pursuits on its water and in the nearby hills. Unfortunately, we do not possess for the Kutenai explicit village and camp site data similar to the extensive information published for the Lakes and other Plateau groups. In light of their evidently consistent and substantial utilization of the lake region as compared with the apparent limited use by the Lakes, as suggested by the single lakeside camp of the latter, Kutenai Lake is considered traditional Kutenai territory.

Evidently the western boundary of the Kutenai homeland crossed the lower Kootenai River not far below the lake. But precisely how far is unclear. The Lakes village and camp locations plotted by Teit (1930:210-211) and by Ray (1936:114, 126) (Figure 1-9) along Slocan River and on Slocan Lake and along the Kootenay River as far east as Nelson argue convincingly that the Kutenai western boundary in this region could not have fallen on the Kootenai River far below the lake. Teit (1930:210-211) places the Lakes-Kutenai border "seven or eight miles east of Nelson." Ray (1936:114, 126), on the other hand, identifies temporary subsistence camps of the Lakes eastward up the river to the very outlet of the lake. It is well to recall in this context two environmental facts. First, salmon ran in great numbers up the lower reaches of the Kootenai River and up the Slocan, but failed to ascend the Kootenai over Bonnington Falls just above the confluence of Slocan River (Teit 1930:210). And second, the Kootenai River below the lake was a dangerous stretch of continuous rocks, rapids, and narrow twisting courses, one that was unnavigable to the early traders and surely to the Kutenai as well. Presumably there would have been little incentive for the Lower Kutenai to travel down the Kootenai River from Kootenay Lake, unless they journeyed at least as far as Bonnington Falls, almost 30 miles below the lake, all river travel with major white-water difficulties. The thrust of this information, one concludes, places the Kutenai line somewhere between the lake itself and a point approximately 10 miles below the lake.

From its Kootenai River crossing, the southwestern and southern boundary seems, in contrast, quite clear. It followed the watershed dividing Kootenay Lake and Kootenai River above the lake on the northeast and north from the Pend Oreille-Clark Fork drainage on the southwest and south. This is to say, it ran above the headwaters of

Salmo River, Priest River, and Pack River. Turney-High notwithstanding, it must have looped south around the sources of Libby Creek--an area to which the Kalispel laid no claim--and, I believe, the headwaters of Fisher River and Tobacco River. This would place within aboriginal Kutenai country the Pleasant Valley district, but not the Little Bitterroot and Ashley Lakes regions and not the Stillwater River drainage, which contributes its water to Flathead Lake. In the subsequent discussion of the Upper Kutenai bands more will be said concerning what appears to have been early, postcontact spread of Kutenai into these sectors.

The upper segment of the North Fork of the Flathead River was evidently Kutenai country, though the Pend Oreille may likewise have made some use of the area. Where across this valley the boundary separating the Kutenai and Pend Oreille may be stated to have run is in doubt. But in general the precontact Kutenai-Pend Oreille territorial border from the Libby area to the crest of the Rockies must have approximated closely the plottings of Boas (1928) and Ray (1939) and also the inner boundary of Turney-High (1941). All evidence indicates that the extended lobe from the Lake Koocanusa region south to Flathead Lake, as shown by Dawson (1884), very roughly by Hale (1891), and by Turney-High's (1941) stippled area, represents a later, early postcontact expansion.

Considerations of a Plains Kutenai group aside, the territorial limits of the Kutenai on the east, all agree, coincided with the Continental Divide.

How long the Kutenai have occupied this territory is unknown. Whether they possessed a tradition of migration into the region is a somewhat tangled question. According to Curtis (1911 7:117), they had none. But Chamberlain (1893:550 [NARN 1974 8 (1-2):209] writes that the Kutenai "preserve . . . a distinct recollection of having formerly lived east of the Rocky Mountains." He also reports, according to Curtis (1911 7:118) who here contradicts his own asseveration noted above, that the "legends and traditions [of the Canadian Kutenai] indicate that they originally dwelt east of the Rocky mountains, probably in Montana, whence they were driven westward by the . . . [Blackfeet]" (brackets are Curtis'). And apparently alluding to these same Kutenai traditions, Hale (1891:553 [NARN 1974 8 (1-2):93]) states that "according to the best evidence we possess . . . [the Kutenai] are intruders, having penetrated into this region from the country east of the Rocky Mountains." The uncertain element in all this is whether these folk memories have reference merely to a part of the tribe that dwelled east of the divide, the remainder having been located to the west, or rather to the entire Kutenai tribe.

For what merit it may possess, both Curtis and Turney-High (1941:14-21) consider it probable that the direction of early Kutenai movement within their traditional country was from the upper or middle Kootenai Valley to the lower area. In Curtis' view it was more particularly from the source streams of the Columbia River south over to the Kootenai and then down that river. Of interest in this connection

is a Kutenai deluge myth recorded by his field researcher, Myers, that begins: "In the days when the people all lived on the eastern side of Columbia lake, . . ." (Curtis 1911 7:146). Following his Tobacco Plains informants, Turney-High, on the other hand, appears to see that plains area as the center from which Kutenai dispersal occurred, partly upriver and partly westward downstream.

There can be no question on the point that in the late 1700s and early 1800s Kutenai were found on the eastern flanks of the Rockies and occasionally some distance off to the east. But whether these were permanent residents in the area as Hale (1888:197-198 [NARN 1974 8 (1-2):23]; 1891:553 [NARN 1974 8 (1-2):93]), Chamberlain (1893:550 [NARN 1974 8 (1-2):209]), and Teit (1930:306-307) propose--and if so, whether these were Kutenai remaining in the earlier homeland of all Kutenai--or represented no more than temporary hunting groups of considerable magnitude that crossed the Divide periodically to bison hunt, as Curtis (1911 7:118, 119), following Lower Kutenai opinion, thinks possible seems still in question. There is no doubt, however, on the point that David Thompson (1962: lxxxvi) met a Kutenai party on the North Saskatchewan in 1800 (cf. also Henry in Coues 1897 vol. 2:703-705).[10] In any event, it is not germane to this present report to pursue the complex and clouded matter of the Kutenai on the eastern slope of the Divide.

Major Intratribal Divisions

The preceding tribal-boundary discussion has made clear two significant geographical points: the Lake Koocanusa region comprised only a small segment of the total traditional country of the Kutenai; and this impounded lake lies in the very heartland of that country, almost precisely midway by river trail between Golden on the far north and the northern tip of Kootenay Lake. We must now ask what specific major subgroup of the Kutenai considered the Lake Koocanusa sector of the Kootenai Valley its particular homeland.

From the viewpoint of the nearby Plains Indians just east of the Rockies and of the Salishan tribes that ringed the Kutenai on the north, west, and south, the Kutenai were a unique linguistic and social entity. The Kutenai, for their part, were well aware of their ethnic distinctiveness, and thought of themselves as one people (Turney-High 1941:11, 153, 178). But at the same time, they recognized from intratribal differences that they, in fact, failed to comprise a single, unified group.

Linguistically there were, at least in the 1800s, two principal divisions that varied slightly in dialect (Boas 1890:806 [NARN 1974 8 (1-2):41]; Garvin 1948:37 fn. 2).[11] In contemporary linguistic literature these are termed the Upper Kutenai and the Lower Kutenai, referring to their respective locations in the Kootenai Valley. In earlier times other designations were commonly applied to these units (see later Synonymy section).

From a cultural point of view, the divisional situation is not quite as clear-cut. Typically these same two units are recognized, for they differed importantly in a number of significant cultural areas. On the other hand, the people of the Libby and Jennings regions were evidently in some respects culturally intermediate between the Upper and Lower groups (Schaeffer in Chalfant 1974:49). To such a degree, in fact, that they might be considered to comprise a division to themselves, the Middle Kutenai (Turney-High 1941:19), coequal to the Upper on the east and the Lower to their west.

However, the simpler Upper-Lower formulation, as a cultural as well as linguistic division, is followed in this study, as it is by Schaeffer (1940) and Turney-High (1941:14-15). This alternative is selected for five reasons. First, few data are advanced to give substance to a threefold cultural subgrouping. Second, the two-unit division has behind it the solid imprimatur of history: David Thompson (in Glover 1962:283) recognized its existence in 1808, when he spoke of the "Kootanae," i.e., the Upper Kutenai, and the "Lake Indians," i.e., the Lower Kutenai, as distinct groups. Third, the primacy of an obvious two-division tribe is testified to by the fact that the neighboring Salishan peoples--like the Lakes, Sanpoil, and Okanagan group on the southwest and the Flathead on the southeast--possessed different, non-cognate terms for the Upper and the Lower Kutenai (Teit 1930:202, 300). Fourth, the two-unit structure is generally accepted by ethnographers and their information is presented in these terms. And fifth, a three-division Kutenai tribe would unnecessarily complicate the descriptive aspects of this study. For if a Middle Kutenai unit, comprised of the Jennings and Libby people, is recognized, then the extreme southern sector of Lake Koocanusa would probably fall within Middle Kutenai country, since it may be assumed to have been within the subsistence orbit of the Jennings band. By regarding the Jennings and Libby groups as essentially Upper Kutenai in their cultural affiliation, though somewhat divergent in the direction of the Lower division, only the Upper Kutenai become our principal concern. In either case the same data would be dealt with.

In sum, if a two-division structure is accepted for the Kutenai tribe, it is evident that the boundary between the Upper and Lower segments fell somewhere in the Libby to Bonners Ferry distance. No very precise location for this line is to be found in the ethnographic literature. The nearest approximation appears to be Turney-High's (1941:14-15) statement: "The dividing line between . . . [the Upper and Lower units] would be a broad and somewhat vague and wavy belt passing north and south through about Libby, Montana."[12] Since the Libby Band is considered, even in Turney-High's formulation, an Upper Division group, this statement patently cannot be taken literally, although he is unquestionably correct in viewing the line as a somewhat indefinite and shadowy demarcation. What he is obliquely saying--or should be saying in my judgment--is that the division line fell at that sector of the Kootenai Valley where the mountains crowd tightly against the stream and where, in the river itself, the Kootenai Falls are the most conspicuous landmark (Figure 1-9). This is to say that the two major dialect and cultural divisions were separated by an area of major topographic relief

and by the only truly rough and unnavigable segment of the entire Kootenai River from Canal Flats to the outlet of Kootenay Lake.

With the division boundary delineated in this fashion, Lake Koocanusa lies close to the southwestern limits of the aboriginal country of the Upper Kutenai. Accordingly, our attention is directed broadly to this Upper Division and more specifically to its more southern social groups. Reference is made to the Lower Kutenai only when these data contribute meaningfully to our understanding of the upriver bands.

Translating these facts into a physiographic framework, this study focuses on the southern segment of the great Rocky Mountain Trench. On that part of this glacial valley that, nestling between the soaring crests of the Rockies on the east and the only slightly less impressive Purcells[13] on the west, comprises the drainage basins of the northward-flowing upper Columbia River and the southward-coursing upper Kootenai River. More to the point still, on the Columbia Valley at least as far downstream as the Donald-Golden sector, the northern limits of the tribe as a whole, and on the Kootenai Valley downriver to its southernmost bend and then around the southern terminus of the Purcell Mountains to the Kootenai Falls sector.

The northern Columbia drainage area includes, in addition to the main valley slopes, the watershed of the Spillimacheen River and the Windermere and Columbia Lakes, from which the Columbia takes its source. The Kootenai Valley, in turn, consists of two segments: the headwaters area down as far as the Canal Flats region, the stream generally coursing through narrow canyons and mountain forests; and the area from Canal Flats to the Libby district, in which the stream typically flows more placidly and in a somewhat meandering pattern. Though without major lakes, the Kootenai River region includes lateral streams of some substantial significance: from the east the Bull, Elk, and Tobacco Rivers; from the west, the St. Mary River; and from the south the Fisher River, flowing northward from the Cabinet Mountains to reach the Kootenai approximately 3.5 miles downstream from Libby Dam. Within the main Columbia-Kootenai valley were several notable open prairies of importance to the Kutenai, the most important being that of Tobacco Plains about the mouth of Tobacco River.

The traditional land of the Upper Kutenai was, then, a country of occasional open valley bottoms, generally heavily forested mountain slopes, and rugged mountain scarps and crests above the timber line. As the ethnographic data, in spite of their signal deficiencies, reveal, these Upper people made important subsistence and settlement use of their entire country from its northermost limits to its southwestern border, where it joined Lower division territory. And similarly, in altitudinal terms, from the low valley floor to the mid-elevation mountain flanks and occasionally even to the alpine meadows encircling the towering peaks.

In light of the fact that the Lake Koocanusa sector was geographically marginal to the Upper Kutenai homeland as a whole, it is

of special interest that this present lake region was without doubt the location of the division's principal population center. The band data discussed in the following section cannot be interpreted otherwise.

Upper Kutenai-Lower Kutenai Cultural Differences

During the nineteenth century the traditional lifeways of the Upper Kutenai differed in notable respects from those of the Lower Division, in spite of the basic cultural unity of the two groups. Since our focus is upon the Upper group, it is unnecessary to catalog here the full range and details of these cultural dissimilarities to the extent that they are known or can be inferred from the available ethnographic information and the biogeoclimatological data. It need only be noted that in the 1800s the Lower Division was generally more sedentary--a reflection of a somewhat different food quest pattern--and isolated from neighboring tribes, placed a greater emphasis on deer and duck hunting and on fishing as subsistence activities, had far fewer horses, made greater use of canoes and long, tule-covered lodges, possessed a more complex leadership structure, and lacked many of the Plains-derived traits present among the Upper group. During this period the Upper Kutenai, in contrast, were far more mobile, saw much more of their native neighbors, placed a markedly greater emphasis on bison hunting in the eastern foothills of the Rockies, were horse rather than canoe oriented, made extensive use of the skin tipi, were organized under quite a different chiefly structure, and followed a diluted version of the horse-pilfering, coup-counting, sun-dance way of life of the high Plains tribes. (Cf. Curtis 1911 7:120; Turney-High 1941:14, 36, 199-201)

It seems certain that the majority of these very considerable life-pattern differences of the early 1800s must represent developments that postdated the arrival of the horse and firearms. In pre-equine times the culture of the Upper Kutenai--patently the principal innovating and hence divergent member of the pair--was surely far closer to the nineteenth century lifeways of the Lower people. This must have been particularly the case in those cultural elements that were less environmentally influenced. More will be said concerning a very tentative diachronic reconstruction of Upper Kutenai culture at a later point.

Band Groupings

Each of the two Kutenai divisions was comprised of a number of essentially discrete, politically independent population concentrations, occupying as their individual home-country particularly favorable segments of the upper Columbia and Kootenai Valleys (cf. Curtis 1911 7:167; Schaeffer 1940:39-40). Precisely how many of these were in existence in the protohistoric period and early 1800s and exactly what part of the Kutenai territory was under the "control" of each are not entirely clear.[14] But such data as are at hand for the tribe as a whole, even though relating in part to subgroups beyond the limits of

the Libby Dam pool area and even of the Upper Kutenai division, must be examined. This is essential both to confirming the boundary between the Upper and Lower Divisions and, more broadly, to placing the people of the Lake Koocanusa sector in their larger Upper Kutenai socio-economic context.

If the fullest accounting of these bands available to us--that of Schaeffer--is used as the touchstone, a complete roster of Kutenai subgroups is not provided by any other ethnographer. Moreover, Schaeffer's listing possesses the special advantage of reaching back to an earlier time level than the next most inclusive band catalog, that of Turney-High. Nevertheless, with the exception of the earliest compilation of which I am aware, that of Dawson (Tolmie and Dawson 1884), at least four subgroups are consistently recorded for the Upper Kutenai. While to some extent this consistency is patently the consequence of second-hand reporting (e.g., Wissler's tabulation), it cannot be wholly so explained. For we are given at least six independently field-generated rosters, including the wildly deviant statement of Dawson.

Dawson's Data

According to Dawson's (Tolmie and Dawson 1884:5B, 124B-125B; also end pocket map) early subgroup catalog, reflecting data collected in 1883, the Kutenai were divided into four "tribes" of equivalent status (Figure 1-1; Table 1-1):

(1) The Kootenuha (more properly Kittoonuh'a) or Upper Kutenai, occupying the Columbia Valley from just south of its northernmost hairpin bend in the Wood River area upstream to Columbia Lake and then the Kootenai Valley south to approximately half-way between Bull and Elk Rivers.

(2) The Yaket-ahno-klatak-makanay or Tobacco Plains Kootanie, controlling the Kootenai Valley from the southern limits of band (1) downstream to the mouth of Tobacco River, together with the Elk River country and the upper reaches of the Flathead River.

(3) The Klanoh-klatklam or Flathead Kootanie, in the Kootenai River region below band (2) as far downriver as the mouth of Fisher River, and then south overland an indefinite distance in the direction of Flathead Lake. They are also said to have held on the northwest the middle reaches of Yaak River. As noted above, Dawson obviously made no real effort to delimit band boundaries within the United States, perhaps not even to define with care the band units themselves.

(4) The Akoklako or Lower Kootanie, occupying a triangular area in the Kootenai basin from the mid-Yaak River sector westward across the Moyie Valley to the Kootenai River just south of Copeland, Idaho (USGS Sandpoint quadrangle 1958). Thence

downriver to include the Kootenay Lake country, the Kootenai River below to its mouth, and even a segment of the adjacent Columbia River region.

Two of these band designations--the second and third--are evidently descriptives of some sort, since they fail spectacularly to mesh structurally with the other two, as well as with the terms reported by later ethnographers. And the geographical sectors described as the homeland of the four subgroups are surely distorted, especially south of the international line and in the area west of Kootenay Lake.

Particularly germane to this report is Dawson's division of the Lake Koocanusa country between the "Tobacco Plains Kootanie" and the "Flathead Kootanie," with the greater, southern segment assigned to the latter group. The only other ethnographic source that splits the Koocanusa area significantly between bands is Schaeffer's unpublished field notes (see below).

Dawson's data, especially as relating to the Montana-Idaho segment of traditional Kutenai territory, are clearly wanting and should, in my judgment, be seen only as a first attempt at a band and territorial definition and as an effort largely of historical interest.

It would be unfair to leave these Dawson data without noting that he derived his Kutenai band and, evidently, distributional "facts" from a Mr. Robert Galbraith. It is no great wonder that they are confused, as evidenced from the material of later researchers; for Galbraith, it seems quite safe to conclude, was no Indian.[15] He is granted the honor of a title of respect, bears a name unlikely to have been that of a Kutenai at that period, and is not reported by Dawson to have been an Indian. In contrast, Dawson calls explicit attention to the fact that his Kutenai vocabulary was secured at Joseph's Prairie from an "Indian known as 'Joe.'"[16]

Dawson's four band structure was later reproduced by Powell (1891:85).

Boas' Data

On the basis of his own field findings during the 1886-1888 period, Boas (1890:806 [NARN 8 (1-2):41]) distinguishes four subgroups within the Upper Kutenai dialect unit:

(1) Aqkisk•anū′kEnik, 'tribes of the lakes,' i.e., Columbia Lakes.

(2) Aqk•a′mnik: at Fort Steele.

(3) Aqk•anequ′nik, 'river Indians,' at Tobacco Plains. It would appear that the 'river' refers to Tobacco River rather than the Kootenai River. For this designation, first reported so far as I am aware by Boas, is obviously derived from the Upper Kutenai term "a$_a$'kanúɣo•," 'Tobacco River,' as recorded by Chamberlain (see Boas 1918:321, 383).

(4) Aqkīyē′nik: at Lake Pend d'Oreille.

The Lower Kutenai, on the other hand, consisted of only a single social entity, the Aquqtlā′tlqō or Aquqenu′kqō on Kootenay Lake.

Concerning the above data two significant comments are called for:

(a) The placement of the Aqkīyē′nik, the fourth of the Upper Kutenai bands on Lake Pend Oreille is plainly a geographical inaccuracy, an error perpetuated by some who undiscerningly followed in his footsteps. That this large lake lay indubitably within traditional Kalispel territory was recognized by Boas' predecessors Tolmie and Dawson (1884:78B, 123B) as it was later by Teit (1930:308), Ray (1936:103), and others. The Aqkīyē′nik were, in fact, nothing more than the Jennings Band, as the later field data of Curtis, Schaeffer, and Turney-High all reveal (cf. Table 1-1). Evidently, more to the point, in Boas' formulation they were that group in its later Flathead Lake location, if the relevant data of Chamberlain (see below) are considered in this context. For by some error Boas or his informant appears surely to have confused Lake Pend Oreille with Flathead Lake. Extended speculation on the genesis of this geographical blunder would be unrewarding, but one may wonder if the fact that Flathead Lake lay in the tribal country of the Pend Oreille may not have led to misidentifying of that sheet of water as Lake Pend Oreille. More will be said on this point in the Chamberlain section that immediately follows.

(b) Boas' positioning of the Lower Kutenai specifically and solely on Kootenay Lake appears to be a trivial geographical slip: on the basis of later evidence, the population centers of this division seem to have been located on the Kootenai River above the lake. Whether Boas was influenced by Dawson's earlier formulation that placed Kootenay Lake in the very heartland of Lower Kutenai country (Figure 1-1) is uncertain. In any event, Boas' statement, like that of Dawson, plainly supports the Kutenai claim to the lake and its borders as part of their aboriginal range.

Chamberlain's Data

In 1891 Chamberlain (1893:549, 550 [NARN 1974 8 (1-2):208, 209]) carried out field research among the Kutenai. He reports that the tribe was:

> . . . generally divided into two groups, viz., Upper Kootenays and Lower Kootenays, the subdivisions of these being as follows:--
>
> I. Ki′tōnā′Qa, or Upper Kootenay:

(1) Aqki′sk•Enū′kinik (i.e., 'people of the two lakes'), the tribe of the Columbia lakes,[17] with chief settlement at Windermere, on the Lower Lake [i.e., Lake Windermere].[18]

(2) Aqk'ā′mnik (i.e., 'the people of A′qk'ām,' as the region of Ft. Steele is called), the tribe of Ft. Steele and the Mission of St. Eugène, of whom a large number camp at a place called Bummer's Flat, Yākīkāts;

(3) Yā′k'ēt āqkinū′qtlē′ēt āqkts'mā′kinik, or Indians of the Tobacco Plains (Yā′k'ēt āqkinū′qtlē′ēt); these are better and more properly termed Aqk'āneqū′nik (i.e., 'Indians on a creek or river');

(4) Aqkīyē′nik ('people of the leggings'?), Indians of Lake Pend d'Oreille.

II. Aqkōqtlā′tlqō, or Indians of the Lower Kootenay (Aqkōktlā′-hātl) River, partly in British Columbia and partly in Idaho.

Here we find another descriptive term--that for the Tobacco Plains band--similar to those given by Dawson for the Tobacco Plains and Flathead Kutenai. In this instance, however, it is coupled with what is stated to be a more correct designation, one that is clearly a transcription of the same Kutenai word for this band reported by others. The longer term obviously contains elements of Dawson's descriptive, but it may be doubted that it is merely a different orthographic reduction of the same designation, one or the other (or both) being grossly mangled.

Again we see the Aqkīyē′nik, actually the Jennings Band, mistakenly associated with Lake Pend Oreille as in Boas' band listing.[19] It seems that Chamberlain either blindly followed Boas in his misplacement of this group or secured his ethnolinguistic data from the same misinformed source. That he must have had Flathead Lake in mind when writing "Lake Pend d'Oreille" is indicated not only by the Aqkīyē′nik = Jennings Band equation (as in Boas' case), but also by the following revealing entry in his 1891 Kutenai word-list: "a_a'kiye′nik!, 'Kutenai of Pend Oreille and St. Ignace'" (in Boas 1918:321, 367). This brief gloss requires two comments. First, while Chamberlain may again be referring to Lake Pend Oreille as in his band roster, it seems equally possible--perhaps more probable--that he is here alluding to the Pend Oreille or Clark Fork River which skirts the southwestern corner of Flathead Valley. And second, whatever the truth on this lake-river issue, "St. Ignace" can only be St. Ignatius, the site of the old Catholic Mission east of the Flathead River about 26 miles south of Flathead Lake. This appears to nail down the fact that Chamberlain had the Flathead Lake and River area in mind. He is, then, not only speaking of the Jennings Band--as was the case with Boas' Aqkīyē′nik--but even more transparently than in the Boas' instance of this band in its mid-1800 location in the Flathead Lake and River sector.

Teit's Data

Sometime during the period from 1904 to 1909, Teit (1930:311) carried out limited field research among the Kutenai, apparently with a special focus on those of the tribe who either lived wholly on the Plains or at least bison-hunted on the eastern front of the Rockies. Accordingly, while he gives us no extended band roster, he provides brief notes on one Upper Kutenai group in particular.

The kakwagEmEtū'kEnîk! "are said to have had their headquarters in the heart of the Rockies in the Crow's Nest Pass near Michel, British Columbia, and to have hunted on both sides of the [continental] divide."

Beyond debate, Teit is referring to Schaeffer's gakawakamitu'kinik (his [3] band) and to Turney-High's Fernie band (his [3] band; see below). The context as well as Teit's geographical location of the group's "headquarters," demonstrate that this band is distinguished by Teit from the true Plains Kutenai (his Kutenai-Tunā'xe). And, if further proof is necessary, this point is driven home by Teit's (1930:311) observation that this band "spoke the same dialect as the Upper Kutenai of Tobacco Plains and Fort Steele," whereas the full-fledged Plains Kutenai were dialectically different from both the Upper Kutenai and Lower Kutenai (Teit 1930:306).

These kakwagEmEtū'kEnîk! "are reported to have been killed off by an epidemic and the few survivors scattered. A very few of them settled among other bands of Kutenai as far north as Windermere."

Curtis' Data

Five Kutenai subunits, apparently of equal status, are listed by Curtis (1911 7:118). Fortunately, like Dawson and Chamberlain, he also provides basic locational information for each entity. These term and geographical data, he observes, were the "best . . . obtainable [in 1907-1909] from the few remaining Kutenai beyond middle age . . . ." The five subgroups of Curtis are these:

(1) Akisknúknik (akúknuk, 'lake'; as, 'two'; akīlsmáknik, 'people'): around the Columbia lakes [i.e., Columbia and Windermere Lakes] at the source of the Columbia river."

(2) Akámnik (ákam, 'pine'): "on Kootenay river in the country about Fort Steele, British Columbia, a region known to the Kutenai as Ákam."

(3) Akanuhúnik (aknuhunuknána, 'creek'): in "the valley of Tobacco river in northern Montana. The name probably had reference to the river."

(4) Akiyínnik (akínnik, 'thigh'): "on Kootenai river at the present Jennings, Montana."

(5) Akukɬáɬhu (akakɬáhaɬ, 'swamp'): in "the territory between Kootenai river at Bonner's Ferry, Idaho, and the northern end of Pend d'Oreille lake, the name referring to the swampy character of the borders of the lake."

Obviously the first four units are identical to the Boas and Chamberlain Upper Kutenai bands as well, of course, as to the second-level data of Hodge and Wissler (see below). Plainly, too, the fifth "subdivision" is equatable with the Lower Kutenai--or perhaps one major band of them if Turney-High's material (see below) is followed.

For all their brevity, this information from Curtis, representing primary field findings, is of particular importance, for it supports and broadens the original and derivative data of earlier ethnographers.

Hodge's Data

According to Hodge (1910:872; 1912:741), the Upper Kutenai bands were these:

(1) Akiskenukenik or Akiskenukinik

(2) Akamnik

(3) Akanekunik

(4) Akiyenik

This list is unarguably second-hand, since Hodge conducted no field investigations among the tribe. While his source is unidentified, it seems almost certainly to have been Chamberlain's (1893) list, altered by certain orthographic simplifications of Hodge's own devising. The probability of a Chamberlain derivation is supported by Hodge's inclusion of Chamberlain's report among his citations in his brief Upper Kutenai summary. No specific locations are indicated for these four subgroups. And no band units are identified within the Lower Kutenai division: the Akoklako term of Dawson and the equivalent terms of Boas and Chamberlain are, however, listed as an alternative designation for the Lower Kutenai as a whole (Hodge 1912:740-742, 776-777).

Wissler's Data

The four Upper Kutenai groups named by Wissler (1938:395) are identical, even orthographically, to those cataloged by Hodge, except that the first band marches under a minimally variant spelling: viz., Akiskemikinik. This "-mi-" innovation has the appearance of a simple slip on Wissler's part,[20] for Hodge's "-nu-" is probably the better transcription, if the recordings of the field researchers carry weight (Table 1-1). As with Hodge, no geographical areas are described by Wissler for these four bands, and no subgroups are indicated within the Lower Kutenai.

Schaeffer's Data

In his unpublished field notes of 1935, according to Chalfant (1974:45-49), Schaeffer (1935) records ten Kutenai subgroups of equivalent stature. For at least part of the year "all [but one] occupied the region immediately along, or adjacent to the Kootenay River valley." Schaeffer's information, gratifyingly detailed in comparison to that of others, must, unfortunately, be summarized from Chalfant's reporting of them.

The Upper Kutenai were comprised of the following seven bands:

(1) agiskənə́kkinik:[21] the northernmost band "in the country between the Columbia and Watertown Lakes" with their principal location near Fairmont Springs. The "Watertown" lake element of this statement puzzles me, for I have been unable to locate such in the vicinity of the upper Columbia. Could "Waterton Lake" in the Rockies on the international border be meant? If so, one must suspect a slip here, on the part either of Schaeffer or Chalfant, for Windermere Lake. This is all but made certain by the placing of the band in the Fairmont Springs sector between Columbia and Windermere Lakes and by the presence of the Ft. Steele and Fernie bands in the country intervening between the Upper Columbia and Waterton Lake regions.

To return to Schaeffer's information as given by Chalfant, the "hunting territory [of the agiskənə́kkinik] extended northwest along the Spillamacheen River." After the Tobacco Plains band ([4] below) began hunting bison, these northern people "joined them seasonally, travelling eastward by way of Sheep Creek and across the Continental Divide." This band of 90 persons was augmented about 1880 by a number of Libby people ([7] below).

For several reasons these data are not without relevance to this present study. But of special interest is the additional evidence presented of the close socio-economic ties between the bands at the two ends of Upper Kutenai territory: just as the Lake Koocanusa people traveled north to the lakes and river reaches at the Columbia headwaters to fish for salmon (Schaeffer 1940:39-40) so the agiskənə́kkinik bison-hunted with the aganahó.-nek ([4] below).

(2) agámni'k: (curiously, in light of other data, said by Schaerfer to be of unknown meaning). This band, in the Ft. Steele area in pre-horse times, "was exterminated by dysentery." Little is known of these people. But it is believed that they went to bison via the North Kootenay Pass and that they cultivated no tobacco but gathered wild plants near Canal Flats. Of this band, a subgroup (the gainta-k) "lived on a large flat west of Whiteswan Lake, B.C."

About 1865 this area was resettled by people from the Tobacco Plains band ([4] below) and the Libby band ([7] below) and by some from the Lower Kutenai division. They first lived on Joseph's Creek near Cranbrook and later removed to near the confluence of the St. Mary and Kootenai Rivers. While known as the agámnik, they were not descended from the earlier band. The existence of a Lower Kutenai component in this present Ft. Steele group gives some slight room to question my assumption that because both Ray and Turner collected field data from Cranbrook informants, their data necessarily relate to the Upper Kutenai.

(3) gakawakamitu'kinik: Schaeffer terms this group the "Plains Kutenai." While patently exhibiting a plains focus if his data are valid, they were, however, not the "Plains Kutenai" who lived year-round on the eastern slopes of the Rockies as described by Teit (1930:306-307, 310-311, 316-320) and others. Rather, like the Tobacco Plains band, they divided their time between the bison country and a home area west of the Divide. According to Schaeffer (as summarized by Chalfant 1974:47), "they spent each summer west of the main ranges hunting elk and tending their tobacco plots," maintaining their principal camp "at the confluence of Michelle Creek and Elk River near Fernie, B.C." But the better part of the year, they spent hunting bison east of the Divide, with their primary camps then "at the junction of the Bow and Old Man rivers, and between Crow's Nest Lake and Waterton Lake, Alberta."

In the aboriginal period this group intermarried considerably with the Tobacco Plains people ([4] below). Immediately prior to the Kutenai acquisition of horses, they "were all but destroyed by small pox," their remnants finally joining other Upper Kutenai bands. Apart from this statement's intrinsic interest, it has special time-depth implications concerning basic Upper Kutenai subsistence patterns: it demonstrates that at least for this Kutenai band the routine utilization of important game resources on the two flanks of the Rockies was not a post-horse innovation. We shall return to this important point in the later subsistence section.

(4) aganahó.-nek: "with headquarters at Tobacco Plains east of Kootenay River at the international boundary." The orientation of this band was to the north, their socio-economic ties having been substantially closer with bands in that direction than with the Jennings and Libby people. Indeed, they rarely crossed to the west side of the Kootenai River and they seldom traveled south of Rexford. In the Kootenai Valley to the north, they journeyed as far as White River, which joins the Kootenai about 20 miles above Canal Flats, and rarely beyond. Along the Columbia, however, they traveled still farther north. For "well over a hundred years ago [i.e., before 1835] they . . . [were accustomed to hunt]

moose and elk with the . . . [Fernie "Plains"] group" ([3] above) downriver from the Columbia Lakes.

The limited subsistence use of the west wide of the Kootenai by this group is explained by Schaeffer, if Chalfant reports his views accurately, on the basis of the difficulty of crossing the river. In view of the sophistication of the Kutenai canoe, the noted abilities of the Kutenai as canoemen, and the apparent placidity of the Kootenai in the Tobacco Plains area in normal times as indicated cartographically (USGS Rexford Quadrangle 1963), I am frank to say that I find Schaeffer's explanation on its face unconvincing. It appears to me that there must be more to this customary disuse of the western slopes of the Kootenai Valley.

(5) agukuatsu'kinik, 'people of the narrow valley': a small group in the Kootenai River valley between Tweed and Warland. Their main village was at Warland, where the valley is narrow, "being confined by abrupt mountain ridges on each flank," the topographic feature to which the band name alludes. These data from Schaeffer make it plain that the settlement site was in the Warland Creek area, about 6.5 or 7 miles upriver from Libby Dam (USGS Ural Quadrangle 1963; USGS Alexander Mountain Quadrangle 1963; USGS Kalispell quadrangle 1957); but on which side of the river is less certain (see later Settlement Locations section).

The band, Chalfant writes summarizing Schaeffer's field notes, "stayed in this valley for most of the year, occasionally travelling north to hunt deer or west to Bonner's Ferry to hunt ducks in summer. This group may have traded with the . . . [Tobacco Plains band] for buffalo meat and hides, and for tobacco which they did not raise." From these observations and from Schaeffer's note relating to the southern limits of the normal range of the Tobacco Plains people, I judge that the effective Warland-Tobacco Plains band border must have been between Rexford and Tweed Creek, probably closer to the former than the latter.

This Warland band was considered warlike and was feared by the Tobacco Plains people, who chose not to intermarry with them. This may assist in explaining, it seems to me, why, as Schaeffer reports, the Tobacco Plains orientation was distinctly northward rather than to the south. In the interests of comprehending more of the relationships of this band with the more northern groups, it would have been helpful to know how far upriver these people occasionally journeyed in their deer hunts. Only to the northern fringe of their own band country or, more probably it seems to me from Schaeffer's coupling this observation with his Bonners Ferry note, up into areas of the Tobacco Plains group and even farther north? At any rate, this group became extinct at an early time.

(6) agiyinik: a band that "lived along the Kootenay River in the vicinity of Jennings," just below the Libby Dam site. The early subsistence economy of this small group, which numbered no more than 700 persons, is not known, Schaeffer reports, "except that it resembled that of the Lower Kutenai." This statement seems to indicate, among other things, a generally non-bison hunting involvement as contrasted with the strong Plains hunting interest of the Tobacco Plains people.

Some time before 1850 the members of this band migrated to the Kalispell, Montana, region and later to the Elmo sector on the west side of Flathead Lake, where, joined by many Lower Kutenai, they became the agitskənik.

(7) əksuəkkinik.[22] This southwesternmost Upper Kutenai band occupied an area along the Kootenai River near Libby. "They cultivated tobacco west of Pleasant Valley, Montana." This valley is, I presume, the Pleasant Valley along the upper Fisher River and along Pleasant Valley creek, approximately 25 miles southeast of Libby (USGS Kalispell quadrangle 1957).

Many of this band moved to Ft. Steele and Windermere "some years ago"--i.e., some time prior to 1935, the year of Schaeffer's field report.

(8-10) These three bands--the yakokwa'nik, katsaa'tnik, and agakawu'kinik--were, according to Schaeffer (Chalfant 1974:45), all Lower Kutenai groups. Unfortunately, the country occupied by these social units individually is not indicated.

For all their brevity, these data from Schaeffer's research file are highly significant for an ethnographic understanding of the Lake Koocanusa region. Three specific points may be mentioned.

(a) First, they demonstrate that in aboriginal times the Lake area fell within the primary territory of two Upper Kutenai bands and perhaps three: certainly the Tobacco Plains and Warland groups and quite possibly the Jennings band in the extreme south.

(b) Second, they testify to a clear difference in subsistence orientation between the Tobacco Plains and Jennings units. The former looked northward; the latter, in contrast, found their food-base kin to the west. Between the two geographically, the Warland group appears to have been in a measure transitional with a tilt, however, toward the downriver region. If this is an essentially accurate statement of the facts, then one can envision the intriguing possibility that, at least in the recent protohistoric and early historic periods, the archaeological record within the upper and the lower segments of the Lake Koocanusa region may be recognizably different in detail.

(c) Third, they reveal once again that linguistic and cultural boundaries need not be conterminous. As observed above, the Upper Kutenai-Lower Kutenai dialect dividing line along the Kootenai River fell between the Libby and Bonners Ferry bands. The Upper Kutenai-Lower Kutenai subsistence break--but apparently not that for their overall cultural patterns--was notably farther upriver: i.e., at the Warland group.

Turney-High's Data

A second somewhat expanded listing of Kutenai bands as they existed "before the dispersion [as a result of government pressures] and reservation system" has been published by Turney-High (1941:14-21, 150). However, not all of these bands are thought by Turney-High to have been aboriginal groups.

The descriptive data are supplemented by an attempt to reconstruct the breakup of an "original" Kutenai core unit that led through time to separate bands. Much of this effort is based on informant findings, but is prejudiced by the awkward fact that these sometimes differ in important respects and are otherwise of questionable worth. On the other hand, certain of his time-level formulations appear to be historically documentable. To provide some perspective--perhaps especially for archaeologists--on how the Kutenai bands may have evolved through time, whatever diachronic speculations Turney-High ventures are included with the unit data.

Arranged geographically in a downriver sequence, Turney-High's seven Upper Kutenai bands are these:

(1) Windermere Band. The most northern Upper Kutenai group. According to Turney-High's (1941:15, 20) information, this is "quite a modern band"--in fact, "the most recent of the Upper Kutenai bands"--formed by Chief Michel and others dissatisfied with the treatment of the Kutenai by the U. S. government. "Many of the . . . [members of this band] are of Libby-Jennings origin." It is notable that nothing is said about this modern splinter group having taken over an area formerly occupied by an aboriginal band, which was surely the case (see, e.g., Schaeffer's band [1]).

(2) Fort Steele Band: a_a'k'ámnek. This is an old band for which there is no origin tradition. When this band, now extinct, disappeared as a distinct population entity, their area was resettled by people from the Libby band ("Chief Joseph's people"), who became the forebears of most of the people of Cranbrook today. This latter confirms at a rather more general level Schaeffer's observation regarding the groups that went into the formation of the present Kutenai of this Cranbrook region, for whom I have assumed, relating to Ray's and Turner's informants, an Upper Kutenai affiliation.

(3) Fernie Band. This group, according to Turney-High (1941:19) was considered a subband of the Tobacco Plains unit, generally hunting with it and never entirely independent of it socially, both points in agreement with Schaeffer's data above. Accordingly, he believes that it should not be regarded as equivalent in standing with the Tobacco Plains and other apparently quite separate bands. But it was located--to judge from the designation--some 50 miles above the mouth of the Tobacco River (20 miles up the Kootenai River and then 30 miles up the Elk River). This seems to me to be a very considerable distance and suggests a substantial measure of economic, political, and social separateness. For these reasons and because it must be the same group as Schaeffer's gakawakamitu'kinik which he regards as an old true band for all its intermarriage links with the Tobacco Plains people, I elect to assign it full band status.

In Turney-High's reconstructions, this band is considered to have probably been the first of the Upper Kutenai bands to have budded off from the Tobacco Plains area, where the "original" first Kutenai resided (Turney-High 1941:15).

(4) Tobacco Plains Band: ȧa'kanoxónek, 'people of the place of the flying head.' These people, Turney-High's Tobacco Plains informants contended, represented the "real Kutenai mother band." (Turney-High 1941:14-16, 19, 153)

The extent of the area normally exploited by this band in their subsistence activities is not recorded. But we are told of one event that occurred when Tobacco Plains people "went to the berrying ground at Libby and, to their surprise, found . . . [Lower Kutenai whom they had never previously seen berry-picking] there . . ." (Turney-High 1941:15-16). The context makes it plain that the Lower Kutenai tribe as a whole, not particular members of the division, is referred to. Nevertheless, Turney-High raises no questions about this tradition as an historical truth. On the other hand, other Turney-High data demonstrate fairly close socio-economic relationships between the Tobacco Plains group and the Lower Kutenai in traditional times. So this tradition appears to be one of the more improbable of Turney-High's research findings.

(5) Jennings Band. The Kutenai term for this band is obscure, if one were to judge from Turney-High's data. At one point, in a curiously twisting manner, he (Turney-High 1941:19) seems to indicate its native name to have been a·kiyének (a·kíyi, 'arrow village' + -nek, 'people of' [Turney-High 1941:16]), which the evidence of other ethnographers reveals was indeed the case.

Elsewhere, however, Turney-High (1941:16) reports that an old village at the junction of the Yaak River, considerably farther downstream, was said to have carried this designation:

"One term for an arrow is a·k, and the Yaak River is often alluded to as an arrow issuing from the bow, which is the great bend of the Kootenay. This village was then . . . called a·kíyi, or Arrowville, the old center of the people who now live at Dayton." From this village name and the Dayton reference (see Flathead Lake band section below) one might conclude that these Yaak Valley people, for some reason, left that area to establish themselves anew in the Libby-Jennings sector (contrary to Turney-High's postulated direction of Upper Kutenai expansion) or at least to contribute so large a population increment to an already extant Jennings band that the term a·kiyének term was transferred to the now combined group.[23] Unfortunately, I have discovered nothing from other sources to indicate that this was so. Rather the a·kiyének are placed solely in the vicinity of the mouth of Fisher River. It is precisely here, in fact, that the Kootenai River executes a genuinely dramatic bend, the most notable for a great many river miles. And here, moreover, the Fisher could easily be seen as a stream springing from a river bow--certainly a far more apt image for this region than at the Yaak. And yet it is difficult not to see in the "Yaak" River an a·k derivation. Without additional evidence of some sort, it seems futile to speculate further concerning possible resolutions of Turney-High's perplexing and tangled information.

At any rate, the Jennings band is said by Turney-High to represent a bud-off from the Tobacco Plains Kutenai. But whether it was a somewhat late separation, post-dating the Upper and Lower Division, or the very first group to split from the Upper Kutenai, initiating a series of subsequent fissions that ultimately led to the formation of the Lower division, is not clear, for Turney-High's informants were not of one mind on this point. The first of these historical explanations is, incidentally, favored by Turney-High.

Finally, Turney-High (1941:16) notes: "The a·kíyi band as such is extinct today, although the Libby-Jennings survivors at Flathead Lake and elsewhere occasionally use this term for self-identification."

(6) Libby Band. The native name for this group is not reported by Turney-High, although it might be inferred from his snarled and murky statements that this band, as well as that in the Jennings bend of the Kootenai, was referred to as the a·kiyének (e.g., Turney-High 1941:16).

This band was formed, in the view of Turney-High's (1941:19) informants, by a division of the Jennings band--perhaps most of this group--moving farther downriver to colonize the Libby sector. The close relationship of this group and the Jennings unit is made clear by Turney-High's (1941:15, 16) occasional use of the term "Libby-Jennings band"

and his observation that the two groups might almost be called Middle Kutenai rather than being included as segments of the Upper Division. Together, these Libby and Jennings units were "not as old as . . . the Bonners-Creston bands" nor were they ever as "populous or important . . . [as] some of the . . . [other bands]." (Turney-High 1941:16)

About 1850 the majority of this Libby band migrated for some unknown reason to join a group of Lower Kutenai, who had also decided to relocate, "around St. Eugene Mission, or Cranbrook, B.C., and Creston" (Turney-High 1941:16-17).

(7) Flathead Lake (or Somers-Dayton-Elmo) Band: Lower Kut. kùpkawɬtskənúkənek, 'people who live on the bay' (i.e., the bay on which Elmo is located), or less commonly a_a'kɬtskánek, 'people of the fish weir' (at mouth of Dayton Creek). Whatever the case with other bands of comparatively recent origin and those that, according to other data, have merely reoccupied territory of extinct bands, the circumstances attendant upon the formation of this new band are rather clear. The group represents a Kutenai population thrust south to the northern and western side of Flathead Lake. The people involved--termed "Chief Kustata's people" by Turney-High--were principally members of the Libby and Jennings groups. Without doubt, he reports, "the true a·kíyi survivors are the Dayton-Elmo band . . . ." (Turney-High 1941: 15, 16, 17-18).

The period of this southward movement is, on the other hand, quite clouded, at least as seen from Turney-High's information. From the early ethnographic findings regarding the Pend Oreille tribe, one would conclude that the Kutenai population flow into the area was subsequent to the first White contact and that it moved into traditional Pend Oreille territory. Thus Teit (1930:308) writes:

> The Pend d'Oreilles occupied all the Flathead Lake and Flathead River country, the little Bitterroot, [and] the Pend d'Oreille River [i.e., Clark Fork] west to about Plains, . . .

One would also be led to believe that perhaps permanent Kutenai residence and certainly the actual formation of a band-type organization in the region even date from the beginning of the reservation period. For Turney-High (1941:15) remarks: "After the reservation system was instituted, . . several strictly modern bands like that of Elmo came into existence."

But Turney-High also reports Kutenai traditions that bear on their settling west of Flathead Lake. One tradition: this movement occurred just after "the first Pend d'Oreille, or Kalispel, had . . . come from the west around Sandpoint, Idaho, . . ." It involved the Kutenai driving "the Kalispel

away from" the western shores of the lake (Turney-High 1941:14). The second tradition: "The Kalispel first settled [near a butte just outside Somers, Montana,] when they intruded themselves into this region. After a time the Upper Kutenai became friendly with these people, although the first contacts were hostile" (Turney-High 1941:30). On first blush these traditions appear at sword's point: the first having the Kalispel in the area when the initial Kutenai settlers moved in, and the second with the Kalispel "intruding" into the region with the Kutenai presumably--but not plainly so stated--already there. But perhaps Turney-High in his turgid style is reporting that his Kutenai informants were claiming that a group of Kalispel first moved east from the Lake Pend Oreille country and, entering aboriginal Pend Oreille territory--as Teit would have it--settled in this Flathead Lake country. That soon afterward the Kutenai drifted down into the area, found "Kalispel" people there, took the region under their control, and became the Flathead Lake band of the Kutenai. This interpretation is at least not controverted by a third Turney-High (1941:162) account of these Kutenai-Kalispel hostilities: "The Upper Kutenai recount only one successful economic offensive, when they deliberately fought the Kalispel beyond the boundaries of Upper Flathead Lake because they wanted a pied-a-terre around Somers."

There are serious problems with these traditions as historical statements, even assuming that I have properly interpreted them. But the particular one of relevance here is that they argue for a substantially earlier Kutenai occupation of the Flathead Lake area than is attested to by any other evidence known to me.[24]

(8) Bonners Ferry Band. According to Turney-High (1941:15, 16, 19, 39), this group was either the "first great offshoot from the Tobacco Plains" band and the source population from which all other Lower Kutenai derived--the alternative he favors--or a later secondary split from the Jennings-Libby people. It "ordinarily hunted east towards Libby, claiming that the Cabinet Mountains had more deer than those to the west."

(9) Creston Band. Two versions of the genesis of this band are recorded by Turney-High. One: it was "a reasonably old offshoot of the Bonner's Ferry people" (Turney-High 1941:20). The other: according to Upper Kutenai informants, it was older than the Bonners Ferry unit and was, in fact, the core band of the Lower Division from which the Bonners Ferry band and others broke off. The first of these traditions of the sequencing of Lower Kutenai fragmentation events seems the more reasonable to Turney-High (1941:15, 16).

Summary

Stripped of descriptive data and diachronic speculations, these band lists may be tabulated to facilitate comparison (Table 1-1). Somewhat surprising and certainly reassuring is the consistency of the information both in terms of the Kutenai band designations and, where these facts are provided, the locations of the groups. Particularly so since we have six apparently independent, informant-derived sets of data: those of Dawson, Boas, Chamberlain, Curtis, Schaeffer, and Turney-High. Though only peripherally relevant to this study, it is of interest that Schaeffer and Turney-High alone catalog band subgroups within the Lower Kutenai Division.

It is a pity that no one but Dawson attempts to delimit, either cartographically or in detailed description, the primary range areas of the individual bands. Even when including fragments of locational information, the others report what might be termed the population focus--e.g., at Tobacco Plains, Warland, or Jennings--and, if anything more, a comment or two regarding areas customarily utilized in hunting pursuits. Consequently, the best that can be achieved in mapping band areas is to mark their population centers (Figure 1-9).

Both Schaeffer and Turney-High include a few time-level statements, some historically and ethnographically documented and others speculative to varying degrees. Those of Turney-High appear at once more limited in their historical time depth--they fail to report, for example, an aboriginal Columbia Lakes band--and more frankly speculative concerning early band fission and population movements. There is, however, considerable basic agreement between the two bodies of information at least as to late protohistoric and early postcontact band disappearances and as to the peoples that subsequently reoccupied the Columbia Lakes and Ft. Steele regions. Also tolerable agreement as to the band origin of the Kutenai people who, in more recent years, established themselves in the Flathead Lake sector.

The information concerning the Fernie Band is curiously fragmentary as presented by Teit, Schaeffer, and Turney-High. But fortunately their data are in a way partially complementary. They are, therefore, mutually clarifying.

The position of the linguistic and, to a degree, cultural dividing line between Upper and Lower Kutenai appears to have a reasonable geographical base, of which three elements--from a longer list--may be mentioned.

(a) The two divisions were in a measure isolated from one another by the knotted mountains and narrow river gorge with its dangerous fast water to which attention has already been called. But the significant point here is that no other toilsome and hazardous land or water barrier existed on the river trail between the northernmost limits of Kutenai country and Kootenay Lake. Accordingly, intercourse among the various Upper Kutenai groups was unhindered by notable terrain

Table 1-1. Kutenai Terms for Band Groupings According to Various Ethnographers. Units of Special Importance to the Present Study are Starred.

	Band Locations	Data sources								
		Dawson (1883)	Boas (1886-1888)	Chamberlain (1891)	Teit (1904-1909)	Curtis (1907-1909)	Hodge	Wissler	Schaeffer (1935)	Turney-High (1939-1940)
UPPER KUTENAI	Columbia Lakes	kootenuha	aqkisk·anū´kEnik	aqki´sk·Enū´kinik		akisknûknik	akiskenukenik	akiskemikinik	agiskenékkinik	Windermere
	Fort Steele		aqk'a´mnik	aqk'ɛ´mnik		akémnik	akamnik	akamnik	agémnik	a$_a$'k'ámnek
	Fernie				kakwagEnEtū´kEnîk				gakawakamitu´kiniR	Fernie
	Tobacco Plains*	yaket-ahno-klatak-makanay	aqk'anequ´nik	yā´k'ēt Eqkinū´qtlā´ēt ēqkta'mā´kinik or aqk'ānequ´nik		akanuhúnik	akanekunik	akanekunik	aganahó··nek	ǎ$_a$'kanoxánek
	Warland*								agukuatsu´kinik	
	Jenningn*	klanoh-klatklam (Flathead Kootanie)	aqkĭyū´nik (at Lake Pend Oreille)	aqkĭyū´nik (at Lake Pend Oreille)		akiyínnik	akiyenik	akiyenik	agiyinik	a·kiyánek
	Libby								akuakkinik	Libby
	Flathead Lake								agitskanik	kùpkaw·taka-nûkenek or a$_a$'k·tskámek
LOWER KUTENAI	Bonners Ferry									Bonners Ferry
	Creston									Creston
	? ? ? ?								yakokwa´nik	
	? ? ? ?								katsaa´tnik	
	? ? ? ?								agakawu´kinik	

NOTES:

Dates in parentheses under an ethnographer's name indicate the period of his field research.

In some lists only Kutenai terms are provided; in these cases locations have been determined by matching terms with those of other rosters where geographical placements are furnished. Where locations given by the author are out of step with the consensus, his geographical identifications are noted in parentheses under his band term.

For the Lower Kutenai bands, Schaeffer uses only native terms; Turney-High reports only locations. As yet the two sets cannot be meshed.

Four variants of obviously the same term are recorded for the Lower Kutenai as a division: akoklako (Dawson); aquqtlā´tlqō or aqugenu´kqō (on Kootenay Lake) (Boas); aqkoqtlā´tlqō (on lower Kootenai River) (Chamberlain); and akukñlañlhu (Curtis).

obstructions; and that between the two or three Lower Kutenai bands was similarly without impediment.

(b) The river distance between the band centers of Libby and Bonners Ferry was considerable: about 48 miles (Table 1-2). It is, in fact, approximately four times as far as from Libby Creek upriver to the mouth of Fisher Creek in the Jennings sector. Indeed, as Table 1-2 reveals, the Libby-Bonners Ferry interband mileage is exceeded only by the Fairmont Springs to Ft. Steele and by the Ft. Steele to Tobacco River distances. One concludes that actual distance, as well as difficult intervening topography, encouraged the Upper-Lower Kutenai break in the linguistic and cultural continuum.

The fact that river distances between the centers of the Columbia Lakes and Ft. Steele people and between the population foci of the Ft. Steele and Tobacco Plains bands were, in both instances, somewhat greater than the river separation between the Libby and Bonners Ferry groups raises the question as to why linguistic and cultural differences more or less equivalent to those between the Libby and Bonners Ferry folk failed to evolve. Part of the explanation surely lies in the facile communication links that prevailed among the northeastern bands, despite the distances involved, as noted in (a) above. And a second explanation turns on the biogeographical conditions as indicated in (c) below.

(c) The Columbia Lakes-to-Libby bands shared a very similar biogeographical environment; the Bonners Ferry and Creston bands, in turn, exploited their own very similar land forms. But the two areas were significantly different. The upper reaches of the Columbia and the Kootenai from Canal Flats to just west of Libby Creek are smoothly flowing streams confined to channels that occasionally open to form flood plains (cf. Schaeffer 1940:6). In contrast, the lower Kootenai, the country of the Bonners Ferry and Creston groups, flows "in great serpentine loops" through "a level, alluvial flood-plain" (Schaeffer 1940:6), in which in the late spring and early summer innumerable marshes and ponds develop. Moreover, the area bordering the great Kootenay Lake, matched by nothing comparable in Upper Kutenai territory, was part of the homeland of the two downriver bands. Surely these environmental factors served as a powerful force in keeping the Upper Kutenai bands together linguistically and culturally, in keeping the Lower groups essentially as one, and in differentiating the two divisions.

Finally, no attention is given in this section to possible band units among those Kutenai (the tunáxa or Kutenai tunáxa) who occupied as their home country in the late 1700s and early 1800s the eastern face of the Rockies.[25] The high plains region and the Kutenai who lived there year-round lie outside our present interest limits.

Table 1-2. Approximate Distances via Columbia River and Kootenai River Between the Principal Locations of the Various Kutenai Bands.

Band Centers	River Mileage
Fairmont Springs to Ft. Steele	56
Ft. Steele to Tobacco River	58
Tobacco River to Warland	34
Warland to Jennings	10
Jennings to Libby	12
Libby to Bonners Ferry	48
Bonners Ferry to Creston	34

Of the eight bands of the Upper Kutenai division, the Tobacco Plains, Warland, and very probably Jennings groups held territory within the Lake Koocanusa impound area and consequently are the social units of particular interest in this report. Special attention will be directed, where the data are available, to the economic base, settlement patterns, and related cultural configurations of these three groups.

Synonymy

No attempt has been made to catalog exhaustively the various terms that have been applied to the Kutenai and its two principal divisions by neighboring tribes and by Euroamerican explorers, fur traders, missionaries, government personnel, casual travelers, anthropologists, and miscellaneous others since the early 1800s. Much less to list all minor spelling variants for these separate terms that have been encountered. Collections of these designations have been made by Hodge (1910:872; 1912:742, 776-777) and from the historical records by Chance (1981:7-8). Still, the reader deserves to be informed of how I have identified such terms as I have noted and, consequently, what I have considered to represent Upper Kutenai data and have included in this report as such.

The following three lists provide these synonymy data for the Kutenai tribe as a whole, the Upper Division, and the Lower Division respectively. They serve, incidentally, to reveal the extent to which variants of the same term have been applied inconsistently and often ambiguously to more than one of these three social units.

1. Kutenai (the tribal unit)

(a) kitunáha. A term, according to Curtis (1911 7:119 fn. 1), "heard among the northern bands." He appears to be saying that it is their designation for the Kutenai as a whole, but conceivably he means only for the Columbia Lakes band as Dawson (Tolmie and Dawson 1884:map) suggests, or only for the Upper Kutenai Division as Turney-High indicates (see following Upper Kutenai section).

Variants: ktun'χa (Boas in Teit 1930:306 fn. 30).

kutona'qa (Boas 1890:806 [NARN 1974 8 (1-2):41])

For other variants see Hodge 1912:742.

(b) Kootenais (Hale 1888:197 [NARN 1974 8 (1-2):23]).

Variants: Koetenay (de Smet 1906a:357).

Cootonais (Cox 1957:109).

Cottonnahow (Findlay on 1806 map, in Spry 1963:29).

For many but not an exhaustive roster of additional variants of both the "K-" and "C-" orthography, see Hodge 1912:742.

(c) Flat Bow Indians (de Smet 1906b; map p. 114).

(d) sán'ka, ₐsán'ka. Generic term for the tribe among both the Upper and Lower Kutenai, but thought "more strictly applicable" to the Lower Division of Bonners Ferry and Creston (Turney-High 1941:12).

Variants: ksánka, the proper name of the tribe (Curtis 1911 7:119 fn. 1).

(e) skalza (Gibbs 1855:416).

Variants: skalzy (de Smet 1906a:357).

Other variants are given by Hodge (1912:742).

These terms are plainly from the Salishan designation for the Kutenai, not from the latter's name for themselves as some have claimed (cf. Chance 1981:7). Cf. Okanagan skalsi'ulk, 'Upper Kutenai' (Teit 1930:202); Kalispel sqaʔλsé, 'Kutenai' (Smith 1936-1938:909).

2. Upper Kutenai

(a) Upper Kootanais (Hodge 1910:872, from Mayne 1862:298)

Variants: Upper Kootanie (Tolmie and Dawson 1884:124B).

Upper Kootenay (Boas 1890:806 [NARN 1974 8 (1-?):41]).

Upper Kootenuha (Tolmie and Dawson 1884:124B).

And a good many others.

(b) ki'tõnã'Qa (Chamberlain 1893:550 [NARN 1974 8 (1-2):209]).

Variants: tunáx̣a, ktunáx̣a, ktonáx̣a. Often used now by the Upper Kutenai to refer to themselves, especially to the Tobacco Plains and Fernie bands. Not in use among the Lower Kutenai. (Turney-High 1941:11-12).

This term, in the form kutona'x̣a, tonã'x̣a, or tuna'x̣a, is said by Teit (1930:306) to have been the Upper Kutenai designation for the Plains Kutenai Division east of the Rockies.

Boas (Teit 1930:306 fn.30) comments that these terms are "forms of the name by which the Kutenai designate themselves ktun'x̣a."

kitunahas (Gibbs 1855:416).

kootenuha (Tolmie and Dawson 1884:124B).

Obviously this term and its variants have been used differently by various ethnographers: some for the entire Kutenai tribe and others for the Upper Kutenai alone.

(c) Kootanaes (Thompson 1925:37; 1950:27; 1962:282). As opposed to Flat Bow or Lake Indians (Lower Kutenai).

(d) Callesouilk (Work 1830, as reported in Chance 1981:8).

3. Lower Kutenai

(a) Lower Kootanais (Hodge 1912:777, from Mayne 1862:298).

Variants: Lower Kootanie (Tolmie and Dawson 1884:124B)

Lower Kootenay (Boas 1890:806 [NARN 1974 8 (1-2):41]).

Lower Kootenays (Chamberlain 1893:550 [NARN 1974 8 (1-2):209]; Wilson 1970:150).

And others.

(b) Aquqtlā'tlqō (Boas 1890:806 [NARN 1974 8 (1-2):41]).

Variants: Akuchăklactas (Hodge 1912:776, from Wilson 1866:304).

Akoklako (Tolmie and Dawson 1884:124B).

Aquqenu'kqō (Boas 1890:806 [NARN 1974 8 (1-2):41]).

Aqkōqtlā'tlqō (Chamberlain 1893:550 [NARN 1974 8 (1-2):209])

Other variants appear in Hodge 1912:776.

(c) Flat-bows (Thompson 1925:37; 1950:27; also Hodge 1912:777, from Hale 1846 6:204). A term commonly used in early years. Hodge reports that it is "said to be a translation of Āqkōqtlātl, the Kutenai name of Kootenai r., but this is doubtful."

Variants: Arcs-a-plats (de Smet 1906b:197).

Flachbogen (Hodge 1912:777, quoting Berghaus 1852:map 17).

Other variants are listed in Hodge 1912:777.

(d) Lake Indians: (Thompson 1950:36, 55; 1962:282, 283; also Hodge 1912:777, quoting from MacLean 1896:138, who quotes Henry 1811 [1809?]).

(e) Silaquilaque (Work 1830, as reported in Chance 1981:8).

(f) Kertani (Hodge 1912:777, from Kingsley 1883 6:140). I suspect a misprint for Kutani.

Population

From an ethnographic perspective, the population figures of interest are those that estimate the late precontact numbers. But the problems inherent in arriving at such a figure for the Kutenai are substantial. Three of these difficulties may be commented upon.

First, the Kutenai population encountered by David Thompson's men when they first made their way over the Rockies had already been reduced to some unknown extent by the epidemic of smallpox that had reached them about 1780-1781.[26] It appears to have arrived among the Jennings band from the Plains--probably from the Blackfeet--and may have spread from them to the other Kutenai bands (Curtis 1911 7:119). There is, of course, no guarantee that this was the initial such scourge of remote Euroamerican genesis to have affected the tribe.

Second, as noted above, the Kutenai territory was vast and contorted by mountainous terrain and almost unbroken forests, and their basic socio-economic groups were small, roving, and often widely scattered. This was particularly the case with the Upper Division, many members of which were frequently absent from their home country on bison-hunting expeditions. These facts are statistically expressed in Kroeber's (1939:138, 142) population density figures. These compute the aboriginal Kutenai population density at 2.01/100 km^2. While slightly above the 1.50/100 km^2 estimate for the Salishan groups immediately to the south, it is far below that for every other sector of the Plateau and the general Columbia-Fraser average of 7.15/100 km^2. As a consequence of the biogecenvironment and their small, widely dispersed social groups, the total Kutenai population was not easily estimated by the early fur traders.

Third, although the Kutenai continued many of the elements of their life patterns--including those of the subsistence and settlement domain--until the late 1800s, they obviously experienced in late protohistoric times and after initial Western contact serious social disruptive influences. The nature of these pressures need not be explored here; it is their consequences that are of concern. As documented above, the Windermere, Ft. Steele, and Fernie bands quite quickly disintegrated. While some of these people presumably joined other, surviving bands, it may be doubted that these groups would have disappeared if they had retained a sufficiently large population to be viable.[27] The later case of the Jennings and Libby bands is different and not relevant inasmuch as, while these units vanished as social entities, their members merely redistributed themselves into other areas of the Kutenai country and down into the Flathead Lake territory of the Pend Oreille.

The result of these difficulties (and others of lesser importance but with the same thrust) is that all figures presented by traders,

missionaries, and government personnel during the initial five decades following Western contact, as well as those of later anthropologists manipulating these early estimates, must be considered only as approximations of varying--and generally undeterminable--accuracy.

Chance (1981:7, 21-27) has collected population estimates for the Kutenai from a number of early historical sources and has analyzed these in terms of the extent to which they appear to report full tribal counts and suggest population stability through the nineteenth century. These data need not be reproduced here. But it is relevant that the approximately 900 person figure of Thompson's unpublished manuscript of about 1810 and the 630 population estimate of Work in 1829-1830 appear both to Chance and to me to be probably the "most accurate representations of the entire population" for their two time periods. In fact, considering, as Chance (1981:21) observes, that the Work numbers may not include infants and are based on information from chiefs who may have counted badly or even excluded certain bands, the two estimates are not spectacularly divergent. Certainly it would be rash to interpret these data as certifying to a notable Kutenai population reduction in the two decades separating the two counts.

It is of interest that Chance's (1981:17) analysis of the admittedly defective data led him to the following summary:

> The most general conclusion one can draw from the population estimates is that the Kutenai did not suffer any dramatic diminution in numbers in the last century, or if they did, they were able to make up the losses. Except for an influenza epidemic of 1849-50 . . . , a famine of 1851-52 . . . , and "high mortality" among the Kutenai in 1865 . . . , we know of no unusual mortality, not even any smallpox epidemics. But this only means that our data are very sketchy.

Because such an analysis would lead us too far afield, there is little to be gained from an examination of each population figure reported by Chance for the 1810-1855 period for the purpose of testing his conclusion. But it is worth noting that Chance's evaluation points in quite a different direction from the band disappearance data to which I have alluded. In any event, even the earliest of the fur trader population approximations postdate by three decades the 1780-1781 epidemic.

The two most scholarly anthropological attempts toward estimating aboriginal Kutenai population size are those of Mooney and, largely using Mooney's data, of Kroeber. Mooney (1928:27) places the number at 1,200 in 1780, immediately antedating the effects of the first known epidemic. This figure is accepted by Kroeber (1939:138) as probably substantially accurate, although, in accordance with his own research, he revises many of Mooney's approximations for other tribes.

In summary, it appears from the best of the early historical estimates that the number of Kutenai in both divisions and all bands was not far from 1,000 at the beginning of the nineteenth century. And that

30 years earlier, before the arrival of smallpox, that the number may have been somewhat larger, say about 1,200.

In light of these data, Curtis' (1911 7:120) estimate seems wildly extravagant. According to him, Myers, his field researcher, reported that his Kutenai informants, on the basis of tradition, estimated that "at the beginning of the historic period . . . [the Kutenai] numbered seven hundred lodges, or about five thousand persons." Plainly this total was arrived at by estimating the number of dwellings--the most visible person-aggregates in a native Plateau group--and then applying to this figure an average of about seven persons per lodge. This method of population computation had a respectable ancestry within the earlier fur trading community (cf. Thompson's [1962:345-346] estimate for the Rock Island Salish; also Chance 1981:25).

Turney-High (1941:122), for his part, states that the 1940 Kutenai population was "just a little under one fourth their former strength." This, as I interpret it, indicates an aboriginal tribal count of approximately 5,000 persons. Little attention needs to be paid to this figure, for Turney-High is silent on the source of his information. One may suspect that it is drawn from Curtis' data, though the latter's report is not cited in Turney-High's list of references.

No credible estimates of the relative numbers of Upper Kutenai in comparison with those of the Lower Division are known to me, either in the early historic documents or in anthropological reconstructions for the precontact period. However, both Work in 1830 and Warre and Vavasour in 1845, the latter supposedly deriving their not very reliable figures from Hudson's Bay Company records, estimate the Upper group as slightly more numerous than the downriver people (Chance 1981:22-23, 25). If band numbers are of any significance in this context, as I suspect they are, they point strongly in the same direction.

The Natural Environment

To understand the subsistence and settlement patterns of the Upper Kutenai and to comprehend the modifications in these patterns that occurred in late protohistoric and early historic times through contact with peoples beyond their borders, certain overarching features of their natural environment must be kept in mind. These are, in brief, the principal topographic, climatic, and bioenvironmental characteristics of their homeland.

Physiography

The most notable topographic features of their territory, which fell almost entirely within the Northern Rocky Mountain Physiographic Province, were the upper Kootenai and upper Columbia Valleys, the flanking mountains, and within the valleys the upper Kootenai and upper Columbia Rivers.

The valleys, comprising end-to-end the southern portion of the Rocky Mountain Trench, trend generally north and south and include much of the territory of the Upper Kutenai. On the floor of this huge glacial trough were streams, lakes, forests, and occasional bunchgrass prairies, with their fish, game, and edible plant varieties. In it were most of the principal winter and summer camps of the Upper bands. And along these valleys ran the trails that linked these geographically separated concentrations of the Upper Kutenai people.

Within this great trench were the two rivers of primary importance to the Upper Division. The principal river was, of course, the Kootenai. Rising near the northern tip of Upper Kutenai country, it flowed southward down the Kootenai Valley, swiftly at its headwaters and generally rather placidly through most of the year in its middle length. Then, breaking abruptly toward the west, it skirted the southern limits of the Purcell Mountains[13] to leave the country of the Upper Division between Libby and Bonners Ferry. This stream and its various small tributaries furnished the nonanadromous fish that added importantly to the protein fraction of the Indian diet. Salmonid fish, barred by the falls and turbulent water of the Kootenai River below Kootenay Lake, were unavailable in this stream to the Upper people. But in the far north the situation was different.

The headwaters of the Columbia River drained the northern--and apparently less used--half of the country claimed by the Upper Kutenai. In the Columbia and Windermere Lakes, from which the great river takes its source, salmon, still edible after having fought their long, difficult way up the river from the sea, could be caught in some numbers in late summer and early autumn.

The Kutenai being canoe people, particularly in pre-horse times, these two rivers provided a highway alternative to the land trails. They gave access to distant hunting, fishing, and gathering areas and furnished the means for returning food burdens to settlement sites. And they allowed relatively constant contact among the Upper bands and, indeed, via the lower reaches of the Kootenai River, intercourse, though not without considerable difficulty, between the Upper and Lower groups of the tribe.

Two towering mountain chains flanked the trench: the main Rocky Mountain mass forming the east wall and the hardly less awesome Purcell Mountains along the western side. On these mountain slopes, forests climbed to the tree line. There they yielded, through a narrow zone of scrub growth, to alpine barrens and finally the craggy peaks that especially in the Rockies reached to elevations in excess of 10,000 feet. In the narrow mountain valleys and mountain-side timber were also game and plant resources that contributed meaningfully to Upper Kutenai subsistence and technological requirements. Through a number of high passes between the formidable rocky crests ran the trails that permitted the Upper Kutenai to wind their way between the Kootenai Valley and the high plains on their annual bison hunts.

In a subsequent section, the distribution of the subsistence resources in the several principal vegetative zones of Upper Kutenai country will be examined in detail.

Climatic Features

The climatic data of particular relevance to an understanding of the traditional bioresources of the Upper Kutenai appear to be those of temperature and precipitation, for their combined influence on the native floral and faunal communities was direct and important. Without question both deserve a more extended and sophisticated analysis than that attempted here. Nevertheless, the summary that follows suggests their principal parameters and more or less adequately responds to our most immediate needs.

Temperature

According to the available records, mean annual temperatures as well as extreme maximum and extreme minimum temperatures differed surprisingly little between the Golden region at the northernmost boundary of Upper Kutenai country and the Cranbrook and Fernie sectors (Table 1-3). This is illustrated, for example, by the summer temperature figures. Winters, however, were a slight exception to this generalization, being not quite as cold in the south. The Libby area, on the other hand, was perceptibly warmer in winter and hotter in summer than in the Kootenai Valley farther north. The homeland of the Lower Kutenai was still warmer in the cold season, though its temperatures were evidently not much different from those of Libby in summer.

In summary, it appears that there were, in temperature terms, essentially two climatic areas within Kutenai territory, at least at the elevation of the upper Columbia, lower Elk, and Kootenai Valleys, one from Golden south through Cranbrook and Fernie, and the other from Libby west to Kootenay Lake. In view of the particular interest of this study in the Lake Koocanusa region, it is unfortunate that temperature data are unavailable for both Tobacco Plains and Jennings.[28] Because of the elevated masses of the Purcell and Salish Mountains between Tobacco Plains and the Jennings-Libby sector, it may be reasonably supposed that the temperature characteristics of the Tobacco Valley resembled those of the Cranbrook country to the north, while those of Jennings were more similar to those of Libby. For this supposition, however, I have as yet no hard data.

Whether these two slightly divergent temperature configurations by themselves exerted any material differential effect on the subsistence resources of the two areas and, derivatively, on the adaptive settlement patterns of the Kutenai may be questioned. Nonetheless, it is of interest that the affinity of the Libby sector--and presumably also of the Jennings region--in these temperature criteria with the Lower Kutenai country is consistent with the ethnographic testimony that at least certain of the Libby-Jennings subsistence patterns resembled those

Table 1-3. Elevation and Temperature Data for Selected Localities in Traditional Kutenai Territory, Ordered up the Columbia and then Down the Kootenai River.

	Localities	Elevation (Feet)	Temperature (Degrees Fahrenheit)												
			Mean Daily			Mean Daily Maximum			Mean Daily Minimum			Extreme Maximum		Extreme Minimum	
			Coldest Month	Warmest Month	Mean Annual	Coldest Month	Warmest Month	Mean Annual	Coldest Month	Warmest Month	Mean Annual	Lowest Month	Highest Month	Lowest Month	Highest Month
Upper Kutenai	Golden	2,583	12.6	64.4	40.7	20.6	80.8	52.7	4.5	48.0	28.6	47	104	-51	28
	Radium Hot Springs	2,658	13.2	62.2	39.1	19.7	78.3	50.1	6.6	46.1	28.1	45	98	-27	33
	Cranbrook	3,020	16.0	64.0	41.1	24.8	80.6	53.3	7.1	47.4	29.0	50	102	-42	32
	Fernie	3,313	17.1	61.6	40.1	24.2	76.5	50.7	9.4	46.7	29.5	51	97	-43	32
	Libby	2,055	21.5	67.7	45.2	30.8	90.0	60.2	12.2	45.3	30.2		109	-46	
Lower Kutenai	Bonners Ferry	1,773	23.0	63.8	44.3	32.0	81.7	57.2	14.1	45.9	31.4		99	-25	
	Creston		24.6	67.0	45.6	30.5	81.1	55.2	18.8	52.9	35.9	54	103	-27	35

Note: Without exception the coldest mean daily temperatures occurred in all locations in January, and the warmest in July. In every case the lowest extreme maximum temperatures were reached in January. The extreme maximum temperatures occurred in July everywhere except in Fernie, where a high of 97 degrees was reached in June, as compared with highs of 96 degrees in July and 95 in August. The extreme minimum temperatures occurred at all sites in January, except at Radium Hot Springs (-27 degrees) and Fernie (-43 degrees), both December recordings. The highest extreme minimum temperature was measured everywhere in July with the exception of Cranbrook, where the 32 degree reading was recorded in August.

Sources: Elevation data are taken from BCGTB 1957. Temperature data for Canadian locations are for the period 1941-1970 and are extracted from BCDA (c. 1971:7-36). The Libby information relates to the period 1931-1952 and comes from USDC, Weather Bureau (1965:22, 41-49). The Bonners Ferry data cover a period of uncertain length terminating at the end of 1930, and are drawn from USDA, Weather Bureau (c. 1931:5, 10-11).

of the Bonners Ferry-Creston bands more than they resembled those of the other Upper Kutenai groups.

The thrust of these data is clearly that within the homeland of the Upper Kutenai from Golden south to Cranbrook--and it may be assumed to Tobacco River--the meaningful temperature variations occurred not on a north-south dimension but with altitudinal changes from the valley floor up the mountain flanks to the peaks high above. This suggests that in normal years the harvesting periods of specific vegetable foods that grew widely in or close to the valley bottoms differed little from the Golden sector down to Cranbrook and presumably Tobacco Plains. Hence it would appear that, other things equal, the Upper Division bands above Jennings had little occasion to travel north and south out of their individual band ranges to exploit commonly occurring plant resources, but considerable incentive to move up the tributary valleys and neighboring mountain slopes in their own country as the root and berry harvest advanced in response to differences in altitude and sun-shade exposure. On the other hand, there may have been some slight advantage for Tobacco Plains folk to travel downriver into the Jennings-Libby district to take advantage of slightly earlier harvest seasons, as it may have been rewarding for the two southern bands to journey north to Tobacco Plains following the plant gathering periods in their own homeland.

Precipitation

In Upper Kutenai territory, now including even the Libby area, the average annual precipitation was nearly identical, north and south, within the limits of the low valley bottoms of the upper Columbia and the Kootenai: slightly in excess of 18.5 inches at Golden and approaching 18 inches at Libby (Table 1-4). Again it is assumed that the Tobacco Plains figure deviated little from these measurements.[29]

As in the case of temperature, the truly significant variation in precipitation was related primarily to elevation, at least east of the upper Columbia and Kootenai Valleys: rainfall, snowfall, and average annual precipitation were all notably greater in the larger lateral valleys and the higher mountains. This is clearly illustrated by the figures for Fernie on the Elk River toward the towering Rockies (Table 1-4). At Fernie, in contrast, the rainfall, snowfall, and total yearly precipitation all reached amounts more than twice as great as in the upper Columbia and Kootenai lowlands proper.

The Libby sector, as already noted, was one with the rest of the Upper Kutenai Valley country in mean annual precipitation. This was not so, however, for the Lower Kutenai area. This downstream region received about as much snow as the upper Columbia and Kootenai Valleys above--Fernie excepted--but enough additional rainfall to bring its total annual precipitation somewhat above that of the two principal valleys from Golden to Libby. Still the depth of the average annual fall was only half as great as in the Fernie district.

Table 1-4. Precipitation Data for Selected Localities in Traditional Kutenai Territory, Ordered Up the Columbia River and then Down the Kootenai River.

	Localities	Precipitation (Inches)								
		Mean Rainfall			Mean Snowfall			Mean Total Precipitation		
		Driest Month	Wettest Month	Mean Annual	Highest Month	No Snow Months	Mean Annual	Highest Month	Lowest Month	Mean Annual
Upper Kutenai	Golden	0.16	1.57	10.50	22.5	June-Sept.	80.2	2.55	0.87	18.60
	Radium Hot Springs	Trace	3.03	13.72	15.0	June-Sept.	63.9	3.03	0.85	20.12
	Cranbrook	0.22	2.17	10.25	17.9	June-Aug.	70.2	2.17	0.92	17.23
	Fernie	1.45	3.86	28.00	39.2	June-Aug.	145.2	5.99	1.45	42.58
	Libby				16.2	June-Aug.	55.6	2.47	0.54	17.86
Lower Kutenai	Bonners Ferry				24.1	May-Aug.	66.2	3.37	1.03	21.81
	Creston	0.74	2.21	15.22	18.7	June-Sept.	57.4	2.66	0.86	21.00

Note: The month with the least rainfall is January at all locations--not surprising considering the mean temperatures of the month--except at Fernie where it is July. The month with the heaviest rainfall is June with Fernie again the exception: there it is October. January everywhere sees the heaviest snowfall. When rainfall and snowfall are combined to yield a total precipitation figure, the results prove to be notably diverse: the month of greatest precipitation is January at Creston, June at Radium Hot Springs and Cranbrook, November at Bonners Ferry, and December at Golden, Fernie, and Libby. The months with the least total precipitation are March at Golden and Radium Hot Springs, April at Cranbrook and Bonners Ferry, and July at Fernie, Libby, and Creston.

Sources: The Canadian figures are for the period 1941-1970 and are extracted from BCDA (c. 1971:37-51). The Libby data are for 1931-1952 and are derived from USDC, Weather Bureau (1965:22,41). The Bonners Ferry information refers to an indefinite period ending at the close of 1930 and comes from USDA, Weather Bureau (c. 1931:5, 10).

The seasons of greatest and least precipitation were somewhat less uniform through the Kutenai territory than were other precipitation features. In general, late autumn and winter were the months of heaviest fall, and spring and early summer the times of least precipitation. It follows that a very significant fraction of the annual precipitation struck the ground as snow (Table 1-4). Indeed, as Schaeffer (1940:9) observes, roughly a third of the yearly moisture was in the form of snow. Particularly at higher elevations, it covered the ground, as ice choked the rivers, for many months.

Summary

The upshot of these temperature and precipitation facts is obvious. The lower valleys of the Upper Kutenai country were normally areas of seasonal temperature extremes: summers were warm--with a number of truly hot days--and winters were cold, reaching at times genuinely frigid temperatures. They were likewise regions of very moderate rainfall and a considerable amount of snowfall in view of the total annual precipitation. As elevations increased--at least toward the Continental Divide--average temperatures decreased summer and winter, though one had to climb above Fernie to experience this condition, and precipitation (both rain and snow) increased notably, in this instance even at altitudes no greater than that at Fernie.

In bioenvironmental terms, the semi-arid valley bottoms like those at Cranbrook, Tobacco Plains, and Libby and the nearby well-watered, timbered high valleys and mountain slopes provided a range of plant and animal subsistence resources. During the open seasons the exploitation of these presented no consistent weather-related problems. But under full winter conditions, canoe travel even on the upper Columbia and Kootenai Rivers was either difficult or impossible: snowshoes provided the essential answer. The plant and animal subsistence resources varied greatly, of course, by season and Upper Kutenai techniques for gathering the former and taking the latter and their settlement patterns associated with these varied activities differed seasonally accordingly. The cold period of the year with its deep snows, for example, required special hunting methods.

How these temperature and precipitation characteristics were directly reflected in the bioenvironment and consequently in the plant and animal foods utilized, in the methods by which these foods were obtained and processed, and in the activity-related social and residential groupings of the Upper Kutenai themselves are considered in the following sections.

Bioenvironmental Types

There are two sets of environmental analyses that deserve attention, the comparatively recent, sophisticated biogeoclimatic formulation of Krajina (1969) and an older, floristic one adopted by Schaeffer in his descriptive ethnographic treatment of the Kutenai.

While both are four-zonal structures and both are tied to altitudinal differences, they differ sufficiently in detail to make unwise any attempt to merge them into a single zonal construct. Accordingly, the two divergent environmental perspectives are first examined with particular attention to the tree data, the important element common to both systems, and the two are correlated to the degree possible. Then what little is known about subsistence resources and, at a later point, settlement patterns in relation to these environmental zones is summarized.

Krajina's (1969:2-41, plate 1-1 facing p. 16) study is in terms of biogeoclimatic zones. According to his geographical plotting of these zones, five occur in the territory of the Kutenai, four in Upper Kutenai country. For each zone he provides a list of characteristic tree types. Since these are generally identified only by taxonomic binomials, I have boldly inserted into his data common term equivalents derived from Turner's (1978) botanical study.

The four zones of the Upper Kutenai area are these:[30]

(a) Ponderosa Pine-Bunchgrass Zone. This occupies the main Kootenai Valley and adjacent low foothills from the Canadian border north to a point not far south of Columbia Lake. This, the warmest and driest part of Kutenai country, is characterized primarily by ponderosa pine (Pinus ponderosa) in semi-open forests and by semi-arid areas of sagebrush (Artemisia tridentata), and bitter brush--also termed antelope bush--(Purshia tridentata) associations.

(b) Interior Douglas-Fir Zone. This zone is found at slightly higher elevations than (a), back from the Kootenai River and up the principal tributaries like the Bull, Elk, and Moyie rivers. A few miles south of Columbia Lake it actually takes over the Kootenai Valley floor from ponderosa pine and bunchgrass, and thence extends northward down the upper Columbia Valley to beyond the northern borders of Kutenai territory. The characteristic common coniferous trees are the Interior Douglas fir (Pseudotsuga menziesii), ponderosa pine, white pine (Pinus monticola), grand fir (Abies grandis), lodgepole pine (Pinus contorta), western larch (Larix occidentalis), white spruce (Picea glauca), and western red cedar (Thuja plicata). The deciduous trembling aspen (Populus tremuloides), balsam popular (P. balsamifera), Rocky Mountain maple (Acer glabrum), and western white birch (Betula papyrifera) are frequently to be seen. To this latter series Turner (1978:18) adds black cottonwood (Populus trichocarpa).

(c) Engelmann Spruce-Subalpine Fir Zone. This zone occurs at still greater altitudes, including in the major high valleys that interfinger with the most elevated ranges. The most typical trees are Engelmann spruce (Picea engelmannii), subalpine fir (Abies lasiocarpa), lodgepole pine, white-bark pine (Pinus albicaulis), and (Larix lyallii).[31] At more lofty

altitudes within this zone the trees tend to clump and be separated by areas of open parkland.

(d) Alpine Tundra Zone. This biogeoclimatic zone is found at the tops of the high isolated mountains and continuously along the crests of the loftiest ranges, the Rockies and Purcell Mountains. Here no trees thrive, for the area comprises the inhospitable land above the treeline. Nevertheless, a few conifers, like Engelmann spruce, subalpine fir, white-bark pine, and Larix lyallii develop in especially favorable areas. Even some woody angiosperms grow in such protected localities.

The four zones are not extended by Krajina into the Kutenai country south of the Canadian border. Presumably there the Kootenai Valley and flanking mountains repeat the pattern of the valley immediate to the north of the boundary in the Tobacco Plains region.

While the environmental details of the Lower Kutenai country lie beyond the scope of this report, it may be noted that the low-to-high altitude sequence, from about Creston north to Kootenay Lake and west following the Kootenai River below the lake shifts to Interior Western Hemlock Zone, followed by zones (b), (c), and (d) above. The Ponderosa Pine-Bunchgrass Zone disappears. At the river level this is the wettest and most heavily forested sector of the Kutenai homeland, the climax tree being, as the name of the zone implies, the western hemlock (Tsuga heterophylla).

As one would anticipate from the climatic data already presented, the mean annual temperature falls, the annual total precipitation rises, and the annual snowfall increases as one moves upward in elevation through the four zones of the Upper Kutenai territory. The seasonal precipitation situation seems, however, to be less patterned. These few selected climatic facts are shown in Table 1-5.

The geoclimatic variations were not only of critical importance to the arboreal biota: they were obviously of central significance to the plant and animal life utilized by the Upper Kutenai in their subsistence activities and their technological pursuits. To this matter of central concern to this study we shall presently return.

As observed above, Schaeffer's (1940:10-12) view of the bioenvironment is in terms of the floristic approach popular at the time of his research. Unfortunately, however, the tree varieties which he considers typical of the separate zones are identified only by their common, work-a-day names, which frequently differ from those recorded by Turner and others. After each of these tree terms I provide within brackets, rashly in some instances, what I believe to be its proper taxonomic binomial as an aid to cross-referencing with Krajina's tree species. These determinations are drawn principally from Piper and Beattie (1914), Whitford and Craig (1918), and Turner (1978).

Schaeffer's data are as follows:

Table 1-5. Climatic Characteristics of the Four Biogeoclimatic Zones Occurring in the Traditional Territory of the Upper Kutenai, as these Zones are Plotted by Krajina (1969). The Elevation of Zone C is Placed by Turner (1978:17) at 4,000-7,200 Feet.

Climatic Variables	Zones			
	A	B	C	D
	Ponderosa Pine-Bunchgrass	Interior Douglas-Fir	Engelmann Spruce-Subalpine Fir	Alpine Tundra
Elevation	900-2,500 feet	1,000-4,500 feet	4,200-7,500 feet	Over 7,500 feet
Mean annual temperature	42-50°F	40-48°F	33-39°F	25-29°F
Annual total precipitation	7.4-14 inches	14-22 inches	16-72 inches	28-100 inches
Annual snowfall	20-60 inches	30-70 inches	69-400 inches	209-770 inches
Precipitation by season	No data	wet summer; dry spring	wet winter dry summer	wet summer; dry autumn or spring

(a) Transition Zone. Ranging from 2,000 to 3,500 feet in elevation, "this vegetation belt comprises the lowest portion of the . . . [Kootenai Valley] and adjoining foothill country." It is characterized by bunchgrass [Agropyron spicatum] plains bordered and connected by semi-open forests of yellow pine [Pinus ponderosa]. In more humid sections of the Kootenai Valley and lower foothills are "stands of Douglas fir [Pseudotsuga menziesii] . . . [and] western larch [Larix occidentalis]." And bordering the small creeks in the Moyie-Yaak region, an area of heavier precipitation, occur forests of western cedar [Thuja plicata] and western hemlock [Tsuga heterophylla].

(b) Canadian Zone. The most extensive and heavily forested of the four life belts, this zone extends from the higher foothills to altitudes of 6,000-7,000 feet. The most characteristic tree species is:

> . . . Engelmann Spruce [Picea engelmannii] . . . with stands of lodgepole pine [Pinus contorta], alipine fir [Abies lasiocarpa], mountain maple [Acer glabrum] and poplar [Populus sp.]. At lower levels yellow cedar [= western red cedar, Thuja plicata (?)], western hemlock,[32] western larch, Canada spruce [Picea canadensis] and paper birch [Betula papyrifera] also occur.

(c) Hudsonian Zone. This floristic zone, extending "from 6000 to 7000 feet . . . on cold slopes, and from 7000 to 8000 feet on warmer exposures," forms a narrow belt around the mountain peaks.

> [It] . . . is characterized by more open than timbered areas, including cliffs, snowbanks and rock-slides. Snow slides are of frequent occurrence . . . . The representative trees are white-bark pine [Pinus albicaulis], alpine larch or tamarack [Larix laricina] and dwarfed forms of Engelmann spruce and alpine fir. Shrubby vegetation is scarce.

(d) Arctic-Alpine Zone. Capping the peaks and extending "on cold slopes below many of the mountain passes to 7000-8000 feet," this zone

> . . . lies entirely above timber line and includes most of the glaciers and snow fields, and great expanses of barren cliff and rock. For most of the year it is covered with snow but during the short summer it is carpeted with alpine flowers and dwarf willows.

How are these two environmental formulations to be related? It is obvious from the extensive tree data presented above--and to some extent from the simple elevational range facts--that there is no simple one-to-one correlation between the four zones of the two sets. Rather they appear to mesh substantially as follows, Schaeffer's (S) formulation being keyed to Krajina's (K) more wide-ranging and sophisticated analysis (Table 1-6):

S (a) = K (a) plus the lowest segment of K (b).

S (b) = middle and upper elevations of K (b) plus lower and middle segments of K (c).

S (c) = upper altitudes of K (c) plus lower, stunted-tree part of K (d).

S (d) = that segment of K (d) lying entirely above the uppermost of the dwarfed trees.

This, in brief, was the natural environment of the homeland of the Upper Kutenai around which they fashioned their adaptive lifeways. In the view of Turney-High (1941:200), who knew well the country of the Flathead:

> As a well-stocked game region, full of berries, etc., the Upper Kutenai range was just as good as the Bitter Root Valley of the Flathead, except, perhaps, in bitter root. In comparison, the Kutenai range provided fish far superior to anything the Flathead knew.

I must, in general, concur. But as we shall see, the native richness of the Kootenai and upper Columbia basins, especially when viewed from a long-term perspective, was no guarantee of full stomachs.

The Plains

Once the horse was acquired and the full horse complex adopted, the Upper Kutenai commenced the warm season bison treks from the Kootenai Valley over the mountain defiles to the foothills of the Rockies. From that time to the 1870s,[33] this area of high plains, mountain tongues, and shallow stream headwaters must be considered an integral part of the group's resource arena. There they hunted not only the bison but also the pronghorn antelope, often in company with neighboring Salishan parties and all too frequently in sanguinary contests with the Blackfoot, Piegan, and other western Plains tribes. More is to be said subsequently on this bison hunting aspect of Upper Kutenai subsistence culture.

Table 1-6. Floral Characteristics of Krajina's Zones Compared with the Major Floral Zones of Schaeffer as these Relate to Upper Kutenai Country.

Krajina's Biogeoclimatic Zones	Schaeffer's Floristic Zones
(a) Ponderosa Pine-Bunchgrass Zone: 900-2,500 feet	(a) Transition Zone: 2,000-3,500 feet
Char: Pinus ponderosa sage brush (Artemisia tridentata) bitter brush (Purshia tridentata)	Char: yellow pine [Pinus ponderosa] bunch grass [Agropyron spicatum]
Uncom: Pseudotsuga menziesii	Uncom: Douglas-fir [Pseudotsuga menziesii] western cedar [Thuja plicata]
V. rare: Thuja plicata	
(b) Interior Douglas-Fir Zone: 1,000-4,500 feet	
Char: Pseudotsuga menziesii (D) (W) Pinus ponderosa (D) (W) P. monticola (W) P. contorta (W) Abies grandis (W) Larix occidentalis (W) Thuja plicata (W) Picea glauca (W) Populus tremuloides P. balsamifera Acer glabrum Betula papyrifera	(b) Canadian Zone: Higher foothills to 6,000-7,000 feet Char: Lodgepole pine [Pinus contorta] western larch [Larix occidentalis] (L) yellow cedar [Thuja plicata(?)] (L) Canada spruce [Picea canadensis] (L) poplar [Populus sp.] mountain maple [Acer glabrum] paper birch [Betula papyrifera] (L)
Rare: Picea engelmannii (W) Abies lasiocarpa (W)	Engelmann spruce [Picea engelmannii] alpine fir [Abies lasiocarpa]
V. rare: Tsuga heterophylla (W)	western hemlock [Tsuga heterophylla] (L)
(c) Engelmann Spruce-Subalpine Fir Zone: 4,200-7,500 feet	
Char: Picea engelmannii Abies lasiocarpa Pinus contorta P. monticola P. albicaulis P. flexilis Larix lyallii	(c) Hudsonian Zone: 6,000-8,000 feet Char: Engelmann spruce alpine fir white-bark pine [Pinus albicaulis] alpine larch [Larix laricina]
Rare: Tsuga mertensiana Pseudotsuga menziesii Tsuga heterophylla Thuja plicata	
(d) Alpine Tundra Zone: over 7,500 feet	
Char: Picea engelmannii Abies lasiocarpa Pinus albicaulis Larix lyallii	(d) Arctic-Alpine Zone: 7,000-8,000 feet
(all above stunted)	

Key: Char. = characteristic trees of the zone; Uncom = uncommon. (D) = dry area; (W) = wet area; (L) = at lower levels.

Note: To Schaeffer's popular tree terms I have appended in brackets what I know or believe to be their taxonomic binomials to facilitate comparison with Krajina's list. On the basis of these data it appears that Schaeffer's (a) zone is roughly equivalent to all of Krajina's (a) zone and to the lower segment of the latter's (b) zone; Schaeffer's (b) zone to the middle and upper levels of Krajina's (b) zone and to the lower and middle segments of the latter's (c) zone; Schaeffer's (c) zone to the upper part of Krajina's (c) zone and the lower, stunted-tree fraction of the latter's (d) zone; and Schaeffer's (d) zone to that sector of Krajina's (d) zone that lies wholly above growing trees.

Subsistence and Settlement Correlates

With its striking elevational differences from low valleys to towering peaks, its major altitudinally related variations in temperature and even precipitation, and consequently its procession of vegetation belts from stream-side valley bottoms up to the high tree line and well beyond, the Upper Kutenai homeland provided a great range of subsistence resources. In traditional times these edible plant and animal types were, of course, not neglected by the people.

We shall return to this vegetative life-zone formulation at later points in this study. Specifically, the distribution of the food resources of the Upper Kutenai among the four zones and, therefore, the extent to which subsistence pursuits were associated with each vegetative belt are discussed in the subsistence section that follows. Similarly, the degree to which Upper Kutenai settlement sites were functionally related to these particular plant and animal distributions and so were tied through them to the four biozones is examined in the later settlement section of this chapter.

The Early Kutenai-Euroâmerican Web

Any extended discussion of the early relationships between the Kutenai and Euroamericans lies beyond the scope of this study and is in any event unnecessary since the subject, especially its trading aspects, has been thoroughly explored by Chance (1981:28-71). Nevertheless, a précis of the events of the first three-quarters of a century of contact is useful at this point. It identifies the threads that wove the Kutenai and Whites together, in some ways loosely and in others closely, during this early period. It suggests the degree to which the Kutenai found it possible, or even essential, to continue their traditional lifeways. It provides an outline into which to link such specific ethnohistorical data as appear relevant to our interests. And it assists in evaluating the degree to which later ethnographic data are properly descriptive of Kutenai culture at the time of first Western contact. The summary that follows borrows heavily from Chance's study.

The Kutenai may have first encountered Europeans on the Plains, possibly in 1792 when Peter Fidler of the Hudson's Bay Company approached the eastern front of the Continental Divide near Crowsnest Pass. At any rate, early in the 1790s members of the tribe initiated a concerted effort to reach the westernmost trading posts on the North Saskatchewan, constantly contending in the process with hostile Blackfoot bands opposed to their securing commodities and especially guns from this source. In 1798 one such small party, accompanied on this occasion by friendly Piegan, finally reached the most advanced post, beginning a Kutenai-fur company exchange relationship that, with its locus soon shifted to the Kootenai Valley, prevailed until 1871. For their part, the North West Company and Hudson's Bay Company, vigorous competitors, continued to push westward toward the Rockies and the Kutenai homeland. By the turn of the century both had established posts on the North Sasktchewan not far east of the mountains.

In 1800, at last, two of David Thompson's North West men, Legacé and Leblanc, crossed the divide and spent the subsequent winter in Kutenai territory, probably somewhere north of Windermere Lake (Chance 1981:29-30). This initial mountain crossing was not followed, however, by others in the immediately succeeding years. But the Kutenai pressed on with their attempts, still frequently thwarted by Piegan, to trade at the North Saskatchewan posts.

In 1807 David Thompson himself made his way over the Divide by way of Howse Pass and constructed a log fur-post (Kootenae House), the first within Kutenai borders, where Toby Creek flows into the Columbia just north of Windermere Lake (Thompson 1925:26; Chance 1981:31-32). This establishment he had the foresight to stockade well, for the Piegan now carried west of the Divide their efforts to prevent traders from bringing firearms to the Kutenai. Although Thompson's initial buildings were evidently of some substance, the trading posts that were constructed in the Upper Columbia and Kootenai country during the following six decades were not firmly placed trading establishments of consequence, as they were elsewhere in the Plateau. As Chance (1981:90) explains, the Kutenai fur enterprise was one of "constant movement of men, horses, canoes, and trading posts, and with traders as often as not travelling about trying to collect the last fur of the season."

In 1808, with the aim of exploring the area and determining its fur potential, Thompson ascended the Columbia to its source lake, crossed Canal Flats to the Kootenai River, and descended that stream to Kootenay Lake. The final leg of his return northward was made not by canoe back up the upper Kootenai but by horse up the Moyie River Valley. While he wintered some months later at Kootenae House, he dispatched Finan McDonald below to pass the cold season in the "Lake Indian country." Apparently, however, McDonald pitched his camp somewhere in the Jennings to Bonners Ferry segment of the river. Its precise location is a matter of debate (Chance 1981:33) and, accordingly, is of some interest to the present study. It has been placed "almost opposite Libby" (White in Thompson 1950:234); "above Kootenai Falls in Montana (at the mouth of Rainey Creek, probably)" (Elliott 1926:284); and on a terrace that extends south and southeast of the mouth of Rainy Creek (Chance 1981:34-35, 39), which would site it "a half-dozen or so miles" downriver from Jennings (USGS Kalispell quadrangle 1957). If any one of these locations is accurate, McDonald failed to follow Thompson's charge to winter with the Lower Kutenai, remaining instead among Upper Division bands though somewhat downstream from Lake Koocanusa.

With Thompson's discovery in 1811 of the all-water route down the Columbia River from the Boat Encampment at the entrance of Canoe River where the cross-mountain trail through Athabasca Pass first reaches the Columbia (cf. Palliser in Spry 1968: pocket map), the Kootenai Valley tumbled at once into a trade and transportation hinterland that persisted until the close of the fur trading period. "Posts" were generally insignificant, often nothing more than two or three small and illy-maintained log huts or even tents. They were frequently shifted in their location: they were sited twice in the country of the Lower Kutenai; usually in that of the Upper Division; and once--in the late

1860s--in both areas simultaneously (cf. Chance 1981:36ff, 93, 96). And they were typically staffed by no more than a single trader with a handful of Company employees, if he was fortunate. Indeed, it appears from the fragmentary records of the time that from early 1809 until at least late in 1811 and again perhaps from 1814 to the mid-1820s, the Kutenai were often compelled to exchange their furs for Western goods at posts in the country of neighboring tribes, there being sometimes no posts and resident traders within their own borders. Of these nearby trading "houses," the most significant and convenient for the Upper Kutenai was that near Thompson Falls on the Clark Fork in the easternmost quarter of Kalispel country, which was erected by Thompson in 1809; for the Lower Division they were first those at the junction of the Little Spokane and Spokane Rivers in Spokan country--that of the North West Company established in 1810 and of the Pacific Fur Company in 1812 (Elliott 1926:289)--and, beginning in 1826 when the Spokane center was finally abandoned by the Hudson's Bay Company, at Kettle Falls on the Columbia on the border between Colville and Lakes territories.

For two very brief periods--one in the winter of 1812-1813 and the other in 1828-1829--American traders, first of the Pacific Fur Company and later of the Missouri Fur Company, plied their bartering activities briefly within the Kutenai's southern borders. Otherwise the tribe knew within their territory only Canadian fur traders with their trappers of varied origins, initially those of the North West Company and then, with its demise, of the Hudson's Bay Company. Indeed, it is important to an understanding of early Kutenai-Euroamerican relationships to recognize that once the latter firm had swallowed the former, it exerted every effort to keep not only all possible competing companies but also free trappers from entering the Kootenai Valley.

The locations of the various trading camps and posts that existed within the Kutenai country from 1800 to 1871 have been painstakingly deduced by Chance (1981:92-96), to the extent discoverable from the fragmentary published and archival records of the time. Those in or near the Lake Koocanusa area are listed in the next segment of this present study.

In the summer of 1841 the Kutenai saw their first group of immigrant homesteaders, under the leadership of Sinclair, passing down the Kootenai Valley, as they headed westward from the Red River Colony. And in this same year they encountered George Simpson (1847), on an inspection tour of the Hudson's Bay establishments, when, after crossing the Rockies via Simpson Pass, he likewise journeyed through their country (Elliott 1926:291; Spry 1968:xlv, xlix fn. 4, lxxix, 355 fn. 1).

Ever since their first interaction with traders of British extraction and with their Canadian French and eastern Indian complement, the Kutenai had been exposed to some degree to the simple and more obvious aspects of Christian doctrine and ritual, mainly those of Catholicism. And to varying extents they had borrowed what they saw and were told about them. As early as 1841 members of the tribe experienced face-to-face contact with Christian missionaries, though not yet in their own homeland. In that year a party, while in the Bitterroot

Valley of Flathead country, met de Smet (1906a:319) at his new mission and were baptized. In April of the following year a Kutenai camp, consisting of some 30 lodges according to de Smet (1906a:357-360) and located by my calculations on the plains north of Flathead Lake, was visited briefly by this same peripatetic proselytizer. In 1845 de Smet (1906b:142-143, 191-192, 199-204), traveling up the Kootenai Valley, established the first stations among the Kutenai bands: the Assumption at Bonners Ferry and the Sacred Heart at Tobacco Plains. Missionary activities presumably continued at some level from that time forward. We are informed, for example, of the building of a chapel at the Sacred Heart mission in 1857 or 1858 at the Tobacco River mouth, near a trading post that then existed in the area. It could hardly, however, have been much more imposing than the usual post, for in 1858 it was seen by Blakiston (1858 quoted in Chance 1981:62) as a diminutive, chimney-less log house and two years later by Alden (1867:553 quoted by Chance 1981:68) as a pitiful structure of unchinked logs with a bark and mud roof not without its full quota of holes.

In 1854 the Kutenai observed a second party of Red River immigrants descending the Kootenai River and stopping briefly at Tobacco Plains, en route to new homes farther to the south and west. At that time it was averred by a member of the group, clearly, however, with some slight hyperbole, that no other Euroamericans were to be found in the whole Kutenai land (Campbell 1916:192; Chance 1981:61).

The late 1850s was a difficult period for many eastern Plateau tribes. Open hostilities erupted between a number of groups--notably the Spokan, Coeur d'Alene, and Palus--and the American military. But the Kutenai appear not to have participated in these confrontations or, for that matter, in any earlier or later organized encounters of violence with Whites.

During the summer of 1858 and the months that followed, segments of the Kutenai country both east and west of the main river were crisscrossed by the Palliser "exploring" expedition. Although these areas "had for the most part been traversed by the fur traders for decades" (Chance 1981:62-63), the records of this group (cf. Spry 1968) yield useful fragments of bioenvironmental and ethnographic data for the period.

During these closing years of the 1850s a number of new immigrant parties passed through Kutenai country, coming from the high Plains and heading west to the lower Columbia. Among these were two groups of Red River emigrants led by James Sinclair, one in 1854 and the second in 1858, both parties bound for the lower Columbia country (Spry 1963:38-39). And in 1859 Augustus Thibodo (1940:323-335) and his companions entered the Kootenai Valley via a pass not far above the international border, rested briefly at Tobacco Plains, descended the Kootenai to Bonners Ferry, crossed over to Lake Pend Oreille, and moved on south to Walla Walla. Thibodo's diary reveals that other small groups bent on settling in the lower Columbia region had within the past year traveled the same general trail down the Kootenai Valley. Also in 1859 the first of the gold seekers crossed the Rockies and passed

through Kutenai territory, heading for reported rich strikes beyond (Spry 1963:39).

The decade of the 1860s thrust the Kutenai into contact with two new categories of Euroamericans, the first relatively brief and the second persisting into the early 1870s. In 1860-1861 they found the Boundary Survey Commission in the southern part of their territory, pursuing their task of defining the precise location of the international border. And in 1863 they were confronted with the first serious White encroachment into their land, the appearance of miners drawn by gold discoveries on Wildhorse Creek near Ft. Steele (Chance 1981:69). How great was this influx of miners and how extensive their influence on Kutenai life I do not yet know. But in any event by 1871 the gold bubble had burst and the last of the gold seekers had departed. And in that same year the Kutenai watched the Hudson's Bay Company, after a period of miscalculation and mismanagement in the Kootenai Valley, fold the last of its trading posts and withdraw permanently from their country.

The first White homesteaders to appear in the Kutenai territory arrived only a few years before the close of the century.

In the sections that follow the impact of certain of these historical contacts, from the first fur barterers to the final settlers, on those Kutenai life patterns of concern to this study are alluded to. And the ethnohistorical footnotes that enrich certain aspects of the ethnographic data are tied to the framework of this cursory historical summary.

Fur Post Locations: 1800-1871

The importance of distinguishing archaeologically between true Kutenai occupation sites of early postcontact times and fur trading posts, which might be expected to have associated with them some evidences of Kutenai presence, is obvious. To assist in differentiating between the two, I append to the preceding discussion the following roster of posts within or close to the boundaries of the Lake Koocanusa district. All but one--number (8) below--were either North West Company or, later, Hudson's Bay Company establishments. My data on post locations, certain or probable, are extracted exclusively from Chance's (1981:92-98) carefully researched catalog of "Kootenay Posts" for the 1800-1871 period, in the preparation of which much archival material as well as the published sources cited below were surveyed. Additional information for each post on the company men who served as postmasters, on the structures that comprised the premises, and similar details, where known or reasonably estimated, are to be found in Chance's discussion.

Posts within the Lake Area

(1) East Tobacco Plains post of Berland: c. 1839-1852. Located "at the mouth of the Tobacco River on the right bank; well back from the left bank of the Kootenay." (Cf. de Smet 1848)

(2) West Tobacco Plains post of Berland and Linklater: c. 1852-1858. Situated "on the right bank of the Kootenay River, most likely at the mouth of Dodge Creek." (Cf. Campbell 1916; Johnson 1969)

(3) Young Creek Post, which may have existed in the late 1850s at the mouth of Young Creek on the "right bank of Kootenay, just south of the 49th parallel" and immediately upstream from the confluence of Dodge Creek. (Cf. Johnson 1950:14; 1969:332-333)

(4) Mission post of Linklater: c. 1857-1860. Located at Lake Livermore (cf. USGS Rexford Quadrangle 1963), a "pond . . . on the right bank of the mouth of the Tobacco River, back from the left bank of the Kootenay." It was adjacent to the Sacred Heart of Mary mission, and probably on the same site as the East Tobacco Plains post ([1] above). (Johnson 1969; Spry 1968; Thibodo 1940:326-330)

(5) North Tobacco Plains post of Linklater: c. 1858-1866. Location, still within Tobacco Plains, reported variously "from one-quarter to one mile north of the 49th parallel, and probably on the left bank of the Kootenay." (Chance 1981:62; cf. Hamilton 1900)

From these facts it is apparent that no posts were maintained by either the North West Company or the Hudson's Bay Company within the boundaries of the Lake Koocanusa area until 1839. But once bartering centers were established inside the lake region, some trading presence was continued on a "permanent" basis until about 1866.

Posts below the Lake Area

Immediately downstream from the southern limits of Lake Koocanusa were either four or five posts. Chance (1981:93-94) identifies and locates these as follows:

(6) The North West Company house of McDonald and McMillan: winter of 1808-1809 only. Situated at "or a little south of the mouth of Rainy Creek, right bank of the Kootenay River between Libby and Jennings." Rainy Creek flows into the Kootenai approximately 8 miles downriver from the mouth of Fisher River. (Cf. Elliott 1925:284-285; Thompson 1950)

(7) Montour House of the North West Company: from winter of 1812-1813 to probably at least 1823. Probably situated "at

the flats across from the Fisher mouth; right bank of the Kootenay River."[34] (Cf. Cox 1831; Ross 1966)

(8) Payette House of the Pacific Fur Company: winter of 1812-1813. Location unknown; "alleged by Jacob Meyers to have been at mouth of Rainy Creek" (see [6] above). (Cf. Cox 1831)

(9) Kittson House: late 1820s. Location uncertain, but probably either on the site of Montour House or at Libby. (Cf. Elliott 1914; Work 1830)

(10) "Kootanie Fort": 1830s. Probably identical with Kittson House. Probably located across from the mouth of Fisher River. (Cf. Ross' map of 1849 [in Thwaites 1904])

The data above reveal that from 1808 to the 1830s, trading facilities at some level were available to the Kutenai at the confluence of Rainy Creek or Fisher River during three periods: the winter of 1808-1809; from the winter of 1812-1813 to probably at least 1823; and finally from the late 1820s (if Kittson House was not at Libby) into the 1830s. Indeed, during the 1812-1813 cold season there may have been two posts, competitors and perhaps not far from each other, in the area. But the region was evidently abandoned permanently by the traders as a post location in the late 1830s with their removal up the Kootenai River to the Tobacco Plains Valley. During those early years when there were no means for bartering furs for trade goods in their own land, the Kutenai were compelled to trek to posts in the country of their Salishan neighbors to the south for this purpose.

Posts above the Lake Area

According to Chance (1981:96) three or possibly four trading establishments were located in the Kootenai Valley immediately upriver from the upper limits of Lake Koocanusa:

(11) Phillip's post: c. 1866-1871. Located at Wildhorse Creek at or near Ft. Steele. (Cf. Johnson 1950, 1969)

(12) "Fisherville" post: c. 1868 or 1869 to 1870 or 1871. Location is unknown, but "presumably near Cranbrook."

(13) Perry Creek post: c. 1868-1870. Situated probably "at the mouth of Perry Creek, just south of Porteous, B.C." To this point I have been unable to locate either Perry Creek or the community of Porteous. On the assumption that the post was somewhere in the Ft. Steele area, it is included in this list.

(14) "Trading Post": c. 1868-1870. Location unknown, but possibly the same as (12) above; it is plainly not the same establishment as (13) above.

It appears, then, that no posts existed just above the northern limits of the lake pool until very late in the trading period, after gold discovery in the region. Then a cabin or two were erected where Ft. Steele now stands to serve as trading headquarters from approximately 1866 to 1871, and one and possibly more posts were established probably near Cranbrook, where bartering activities were carried out from about 1868 to 1870 or 1871.

Summary

A review of the above data from a geographical-temporal viewpoint and the perspectives of the territory of the Upper Kutenai discloses a clear four-phase sequence:

(a) In 1800 and again in 1807 Kutenai-Euroamerican trade was carried out, so far as the Kutenai homeland is concerned, exclusively in the upper Columbia region in the extreme north. These trading localities, in use before exploration of the Columbia River to the north and the Kootenai Valley to the south, were not far from the western termini of the trails through Kicking Horse Pass and Howse Pass. Apparently the Tobi Creek post continued in occasional use, perhaps until as late as 1841.

(b) From time to time in the 1808 to 1830s period the posts were near the mouth of Rainy Creek, Libby Creek, or Fisher River immediately downstream from the present Lake Koocanusa region. This was the most convenient location to intercept Kutenai who had in mind to travel south into eastern Kalispel, Pend Oreille, and Flathead country to trade with the local Salishans or with American traders. The location also had the advantage of placing the traders where they could most readily barter bison meat, hides, and grease to satisfy their domestic needs from those Indian groups to the south who had a greater supply of these commodities than the Kutenai.

(c) From 1839 until about 1866, the posts, maintained continuously, were in the Tobacco Plains region within the general compass of the present Lake Koocanusa. Here at last the traders were in the center of the territory of the Upper Kutenai and among the most populous bands of the Upper Division. They were likewise with those Kutenai groups which, by this time, were the most devoted bison hunters and so procurers of those Plains products that the traders previously secured from the more southern Salishan tribes.

(d) Finally, from 1866 to 1871 the Company establishments were situated in the Cranbrook-Ft. Steele district north of the Canadian border and of Lake Koocanusa. This late northern move was, of course, directly related to the fact that Tobacco Plains fell just south of the newly defined international boundary.

It is of more than incidental interest that the desire or need for trade articles of Western manufacture must have only rarely taken the Upper Kutenai into the territory of the Lower Division. Upper folk undoubtedly sometimes passed through it in very early years en route to Kullyspell House on Lake Pend Oreille or to the posts at the junction of the Little Spokane and Spokane Rivers, and they certainly traveled through it two decades later when journeying westward to barter at Fort Colvile. But only twice to our knowledge--and on each occasion for only brief periods--were there posts situated within Lower Kutenai boundaries. The first, in 1811-1812, was at Bonners Ferry; the second, from 1868 or the following year to 1871, was probably located at Creston near the south end of Kootenay Lake (Elliott 1926:286, 288; Chance 1981:93, 96). It would be odd if the virtually continuous and immediate involvement of the Upper peoples with traders in their midst, as compared with the less frequent and more remote relationship of the Lower Division, failed in some measure to contribute to the erosion of the cultural conservatism which persisted among the Lower bands through the nineteenth century.

CHAPTER 2: DESCRIPTIVE DATA

In this section are discussed such data as exist on the seasonal round of the Upper Kutenai and their methods of securing and processing their principal food substances, and such information as is available on their shelter forms and the clustering of these into settlement complexes of various types.

Seasonal Round

No coherent, inclusive summary of the seasonal food round of the Upper Kutenai appears to exist in the anthropological literature. The formulation that follows has been compiled largely from fragments of data imbedded in the reports of Schaeffer (1940), Turney-High (1941:53-55), and Turner (1978).

Schaeffer's data have the merit of dealing to some extent with the broad range of hunting, fishing, and gathering pursuits. Bison hunting is accorded distinctly secondary attention. But his information is scattered in bits and asides through his description of Upper Kutenai subsistence activities. Consequently, they do not pretend to portray the full picture of the annual cycle.

Turney-High attempts a brief, structured presentation of the Kutenai seasonal procession as related to their game, fish, and food plant resources. It emphasizes, however, the bison hunting aspect of the Upper Kutenai subsistence pattern, having the bands pass east over the mountain defiles no less than three times annually. While recognizing rather parenthetically warm-season utilization of the Kutenai homeland, he fails to integrate and measure the relative significance of these two food sources. And in other respects his formulation is something less than a full and well-rounded statement.

As a botanist, Turner (1978:31-33) finds her interests exclusively in the vegetative segment of the native food economy and writes as though the Kutenai--even the Upper Division--were in their own valley country throughout the year. Moreover, her overview of the traditional plant harvesting sequence relates not to the Kutenai per se, but broadly to all the native groups of interior British Columbia. Accordingly, these data are usable only when they are confirmed or made presumptively relevant to the Kutenai by specific Kutenai information included in her detailed descriptions of the individual plants utilized by the interior natives. In any event, one conclusion is absolutely certain: even in the most intensive bison-hunting times some families, for whatever reason, must have remained behind to exploit in their home valleys and hills the growing-season resources concerning which Turner provides information.

Under these perplexing circumstances, the attempt made here to assemble and interrelate the relevant data from Schaeffer, Turney-High, and Turner and to present them in the four seasonal summaries that follow cannot be considered notably successful. Among other deficiencies, they suffer from obvious omissions that cannot be rectified and inconsistencies that are unresolvable.

But the greatest difficulty in organizing such data as are available is the consequence of the fact that--barring the break for the Plains on the part of those groups who went for bison--the Upper Kutenai seem not to have followed a yearly round pattern like that of the central Plateau Salishans: i.e., one segmenting the year into a limited sequence of relatively distinct periods of intensive, focused, and different subsistence activities. Rather the upriver bands hunted and fished to a varying but still significant degree throughout the year and their root digging and berrying activities involved a broad spectrum of plants as they ripened during the growing season. This different resource management strategy is clearly a functional response to a very different resource environment, one without fine salmon fisheries, large camas fields, and rich bitterroot grounds.

As a result the Upper Kutenai annual round has the appearance of excessive fragmentation and even of disorganization. But it is, in fact, a measure of the degree to which these upriver bands, to maximize their subsistence potential, were compelled to be particularly sensitive to almost day-by-day changes in their physical environment as the season wore on and to take advantage of a wide range of subtle floral and faunal responses to these changes. In short, the Upper Kutenai subsistence round must be viewed as a complex, well-orchestrated adaptation to the realities of their bioworld.

Finally, three notes of a procedural nature:

(1) Nowhere in the meager ethnographic literature relating to the Kutenai is there to my knowledge a formal statement describing their concept of the procession of the seasons and meshing it with either our four season construct or our twelve Western months. It is true that Schaeffer (1940:45) reports that in

the Tobacco Plains region the "summer gathering season" began with the first digging of bitterroot. But whether this reflects the traditional Upper Kutenai view of a seasonal division in the year's march we do not know. Accordingly, I have, as a data organizational device, arbitrarily separated the continuous flow of upriver Kutenai food-securing activities into our four seasons which, with some attention to their bioclimatological environment, I have linked with our monthly calendar. Under these circumstances, it is hardly necessary to emphasize that what is important in the data that follow is the steady parade of subsistence-securing tasks, not the months to which they are linked and even less the season categories with which they are associated.

(2) Because this section attempts to describe the flow of Upper Kutenai subsistence activities through a typical twelve-month period, data not linked explicitly or circumstantially to specific seasons are, in general, not included in the following survey. Such is the case for instance, with the statement that deer were stalked by hunters wearing headdress and robe disguises (Schaeffer 1940:22): we are not informed when during the year this hunting method was practiced.

(3) A detailed catalog of the seasonal availability of Upper Kutenai food plants is to be found in Tables 2-5 and 2-6.

Spring

In March, with the beginning of the new growing season,[35] the Kutenai eagerly collected the first of the edible green shoots to provide a welcome change from the predominantly dried food diet of the winter months and a reassuring addition to the dwindling food stores. Generally the earliest of these were the shoots of the balsamroot.[36] Although still below the ground surface, these were found from the sere stalks of the previous year, dug up, and eaten fresh. (Turner 1978:32)

The early spring also saw the Kutenai at their first open-season fishing grounds. Trout were taken in great numbers in weirs fitted with "basket" traps. The season among the Upper Kutenai lasted only about ten days, for they "refused to eat . . . fish except during the spawning season. After that they thought the fish poor, thin, and unfit for food." But during this brief period "over a thousand fine trout [could be expected as the catch] at each weir." (Turney-High 1941:52, 53)

In April the first of the caribou hunting began with the objective of securing the animal fat that had been missing in the winter diet (Schaeffer 1940:27). And as soon as the last of the winter snow had disappeared, both deer and elk began to be driven down from higher elevations to waiting hunters, an activity that continued through the remainder of the spring (Schaeffer 1940:22).

In April and early May the advanced-season roots were ready for digging, if Turner's (1978:32) generalized southern British Columbia data are accurate for the Kutenai.[37] Among these early roots were balsamroot and a little later biscuitroot, mariposa lily corms, water parsnip, and nodding onions. In April, too, and in May, additional greens were at the proper stage for collecting. These included young cow-parsnip stalks and leaf stems and the stems of the water parsnip (Turner 1978:32, 95). These were dug as the fishing by the men continued.

As the season moved forward into early May, the trout fishing period came to a close (Turney-High 1941:53). Suckers and ling were now speared at night by the Tobacco Plains people (Schaeffer 1940:41). Women turned their attention to the serious root digging season. The first of these May roots of importance was bitterroot, the ripening of which marked for the Tobacco Plains band, Schaeffer (1940:45) states explicitly, the beginning of the year's true root-collecting season. During this gathering period the different families of the camp scattered to the various root grounds (Schaeffer 1940:46). The bitterroot areas in the Tobacco Plains vicinity even frequently attracted women from the Columbia Lakes country, root gatherers who later moved farther downriver to the Libby sector to dig camas with that band (Schaeffer 1940:44). In May also pine cambium was removed from trees and eaten (Schaeffer 1940:44).

Toward the end of May, the bitterroot harvest came to its end and the women of the Tobacco Plains and Jennings region began to gather, clean, and pit-roast their year's supply of camas (Schaeffer 1940:46-47). In late May also yellow avalanche lily corms, if, in fact, available to the Upper Kutenai, apparently came into season at lower elevations (Turner 1978:32, 81-82).[38]

While the women were busy collecting and preparing bitterroot and camas, the men continued their hunting for deer (Schaeffer 1940:46; Turney-High 1941:53). In late spring before the rivers rose with melt water, white-tailed deer were taken in drives and the women of the camp had to find time to prepare and dry the resulting meat (Schaeffer 1940:10, 17-18, 21).

In late May as well as in June additional root products of minor importance became available. Among these were spring beauty corms, tiger lily bulbs,[39] and yampah (Turner 1978:32).

Sometime during the spring--presumably late in the season since the activity continued into the summer--schools of suckers were taken in traps by individual families of the Tobacco Plains band in nearby small, shallow, spring-fed lakes (Schaeffer 1940:33).

Finally, a footnote concerning one non-food plant of more than passing importance to the Kutenai: i.e., tobacco which I presume was planted some time during the spring. Here we have only Turney-High's (1941:172) observation that there "was considerable migration during tobacco planting season," this season, unfortunately, not being

calendrically defined. Because of the high significance-level of this plant in Kutenai culture, the planting process, which was carried out in only a very few localities, must have taken some considerable time from the Kutenai subsistence quest, as Turney-High seems to intimate by directing attention to the "migration" aspect of the task.

Summer

In mid-June groups of Upper Kutenai--after horses were acquired according to Schaeffer--customarily went over the Rockies to the high Plains to make their summer bison hunt. Parties included both women and children and never numbered fewer then 80 lodges, thus insuring adequate defense against possible Piegan and Blood attack. Typically they remained close to the eastern flank of the mountains, just beyond the timber. There the several Kutenai groups--from Tobacco Plains and from the Libby-Jennings-Flathead Lake bands--joined to camp together. Occasionally a few Kutenai from Bonners Ferry became part of the hunt group, as did people from the Coeur d'Alene and Spokan tribes. With rare exceptions, all the meat that could be handled was secured in less than 4 weeks: two or three pack-horse loads in parfleches for an average man and five loads for a man wealthy in horses. These were wholly meat expeditions; the object was not to secure robes or hides. (Schaeffer 1940:24; Turney-High 1941:53-54)

How the Upper Kutenai who chose not to journey over to bison country, or found it impossible for some reason to do so, spent the early and mid-summer months is not explicitly described in the literature. Nevertheless, from the data presented in the following subsistence section, it is evident that they devoted the period to some combination of hunting, fishing, and gathering activities, unquestionably varying with the location and, to some degree, the predilections of individual bands and families.

Nor is it clear where the people of the Upper Division maintained their camps during the first weeks of summer. For the Lower Kutenai, Schaeffer (1940:33-34) reports that, as the river rose in early summer with the increasing flow of mountain melt-water, the Bonners Ferry Kutenai moved their lodges back to the higher sections of the Kootenai Valley. Owing to a generally different river-side topography in Upper Kutenai country, the influence of the snowpack runoff was appreciably less upon the Upper people. Even so, it would be surprising if this seasonal fluctuation in water elevation was totally without effect upon their early summer occupation sites. At any rate, by late July or early August, the river level was again falling.

The summer subsistence pattern of the upriver division must have looked essentially as follows:

During the early summer while the tributaries of the larger rivers and lakes were first rising with the flood waters and then falling, fish were taken with weirs and traps (Schaeffer 1940:31). Trout, char, and whitefish were all caught during this period of summer freshet

(Schaeffer 1940:31). While the water was still high, fish were taken by the Jennings people as the fish moved up Ashley Creek and other such small streams in their vicinity (Schaeffer 1940:32). In the summer season schools of suckers continued to be trapped by the Tobacco Plains people in the nearby shallow lakes as in late spring (Schaeffer 1940:33).

In July, during the recession of the flood water in the area, whitefish were caught by Upper Kutenai in the north along the creeks that emptied into the Columbia Lakes (Schaeffer 1940:32). Also during the summer, the Michel Prairie band came back west over the Rockies to fish (Schaeffer 1940:30).

Fishing, however, did not occupy the full subsistence attention of the Upper Division during the early and middle summer. Especially in July and August both white-tailed and mule deer, as well as an occasional bear, were taken by Tobacco Plains hunters through the fire surround procedure (Schaeffer 1940:17). Elk were killed in special hunts during this season. And both deer and elk continued to be driven down from higher altitudes to waiting bowmen, as they had been during the spring (Schaeffer 1940:22). Moose were in their best condition in July, but were hunted through the summer (Schaeffer 1940:28). Caribou, too, were hunted through the warm season, indeed until they began their annual rutting (Schaeffer 1940:27). Bighorn sheep were also taken in summer time (Schaeffer 1940:29).

The berrying season had actually begun in a small way in June when early varieties of serviceberries and strawberries became available. But by July, Turner (1978:32) reports:

> . . . different species of berries were ripening in quick succession, beginning with Saskatoons [serviceberries] and soapberries, followed by wild raspberries, blackcaps (Rubus leucodermis), low-elevation blueberries (Vaccinium spp.), black hawthorn berries (Crataegus douglasii), thimbleberries (Rubus parviflorus), "red willow" berries [red-osier dogwood berries], and wild gooseberries and currants (Ribes spp.).

Schaeffer (1940:42, 43) speaks specifically of July and early August as the period when serviceberries were picked, dried, and stored.

Now back in their Kootenai Valley homeland, the Upper people who had gone to bison in early summer moved into the mid-summer life pattern already being followed by their stay-at-home kinsmen. They scattered into small family groups to berry during the mid- and late-summer weeks. While the men relaxed to some degree, the women set to gathering these fruit in earnest and to putting the harvest away for the coming cold season. (Turney-High 1941:54).

Toward the close of summer, according to Turner's (1978:32-33) general plant maturation calendar which appears to apply to the Kootenai Valley:

> . . . the berries of the upper elevations, such as the mountain blueberries and huckleberries (Vaccinium spp.), began to ripen, as did white-bark pine nuts. The women frequently made trips into the mountains at this time to gather them, and also to pick the black tree lichen, although this could be collected at any time during the summer. At lower elevations, balsamroot seeds and blue elderberries (Sambucus cerulea) were ripe and ready to harvest.

As summer moved toward its end, Schaeffer (1940:39) reports,

> . . . certain families travelled northward from Tobacco Plains for the salmon season. The fish began to arrive in this region in August, the run, or runs continuing until September or October. Often a few families would reach the upper Columbia at the beginning of the migration season and send news to Tobacco Plains on the size of the run. If there were prospects of an abundance of salmon, other groups would hasten north to take part in the catch.

Normally they remained in this northern sector of their homeland for several weeks: i.e., through August and September (Schaeffer 1940:30, 39-40).

Those Upper Kutenai who went to the Plains for their fall bison hunt after the introduction of the horse, began their trek in late July or early August (Schaeffer 1940:24, 27; cf. Turney-High 1941:54).

> Parties of a few families from the different Upper Kutenai groups would move eastward . . . for elk hunting in the foothill country. The season lasted about a month, after which the Kutenai crossed the divide and assembled in the eastern foothills for the fall bison hunt. (Schaeffer 1940:23)

In early September these Plains-bound hunting parties from Tobacco Plains stopped for a day or so on their way to take char at various localities (Schaeffer 1940:40). Likewise while still on the western face of the Divide or in the high mountains themselves, these groups hunted bighorn sheep and mountain goat (Schaeffer 1940:29).

The upriver people who remained in their homeland continued to hunt deer, caribou, and moose (Schaeffer 1940:23, 27, 28). Late summer and early fall were also the principal times of the year when elk were hunted. This elk season got underway when the stamen of the Indian paint brush was no longer sweet to the taste. At this time the elk were still in higher elevations at the edge of the timber (Schaeffer 1940:23).

The women, for their part, focused their attention on the late-season subsistence plant products already mentioned. In September, Schaeffer (1940:42-43, 44) notes in particular, they collected and roasted white-pine seeds, some of which were eaten at once, but also

turned their attention to the gathering, crushing, and storing of chokecherries as an important activity. In this same month, the men, among other food acquisition tasks, harpooned char as these fish moved downstream (Schaeffer 1940:40).

Autumn

With the arrival of autumn, a new set of berries ripened. Among these were:

> . . . bog cranberries (Vaccinium oxycoccus), high-bush cranberries (Viburnum edule), wild rose hips (Rosa spp.), . . . and kinnikinnick berries. . . . These could be harvested even after a heavy frost; in fact, they became softer and sweeter after being frozen. (Turner 1978:33)

All of these varieties were gathered by Upper Kutenai women.

Men were busy catching trout and char in affluents of the Kootenai and Elk Rivers as these fish moved back to the main rivers and likewise taking them along the North Fork of the Flathead River (Schaeffer 1940:32). In October the numbers of salmon that could be caught in the Columbia Lakes area declined to the point where the take was no longer worth the effort, so the Tobacco Plains families who had traveled north for the season returned home.

Fall was also the time of some hunting activity. Deer were taken in drives with the aid of dogs, were chased down from the hills to waiting hunters below, and were frequently run down by individual hunters assisted by their dogs (Schaeffer 1940:17, 18, 22). Elk were hunted for food in early fall until the breeding period began and then by individual hunters (Schaeffer 1940:22, 23), principally I assume for their hides. Caribou, too, were killed until they began mating and the females to some extent even during that season (Schaeffer 1940:27).

By the time the first snow fell, the Upper Kutenai parties which had crossed the mountains on their fall bison hunt, Turney-High (1941:54-55) reports, were back home--presumably with hides and robes as well as meat though this is not explicitly attested to.

The quantities of foods of various kinds--plant, game, and fish--commonly prepared for winter use by an average Upper Kutenai family are not reported. But perhaps some feeling for amounts can be gained from Turner's (1978:33) general data for the interior Southern British Columbia groups as a whole. By late fall the vegetable foods made ready and stored away for winter consumption typically included, she states, 200 pounds of yellow avalanche lily corms or dried bitterroot, 100 pounds or more of dried serviceberries,

> . . . as well as dried cakes of soapberries, blueberries, raspberries, 'red willow' berries [i.e., berries of the red-

> osier dogwood], black hawthorn berries, and others, a large supply of black tree lichen loaves, . . . not to mention several sacks of balsamroot seeds and white-bark pine nuts.

At the very least, the use of all of these plant products is attested to for the Upper Kutenai.

Winter

For as long as the Upper Kutenai can remember, they wintered west of the Rocky chain in their own valleys, living largely on the dried food stored up during the previous harvesting and fishing months (Turney-High 1941:55; Turner 1978:33).

Still, these prepared stores were supplemented by occasional fresh game secured in the vicinity of the winter camps. Deer were often run down by hunters using dogs to good advantage (Schaeffer 1940:17). Elk were hunted routinely by men wearing snowshoes and with the aid of their dogs (Schaeffer 1940:23-24, 28). Caribou were hunted on moonlit nights (Schaeffer 1940:27). Moose were pursued by the Tobacco Plains band and bighorn sheep were also considered fair winter game (Schaeffer 1940:28, 29).

Winter communal drives for deer, generally three or four in number, were certainly carried out with brief breaks between them by the Lower Kutenai, but apparently not by the Upper Division in recent traditional times (Schaeffer 1940:18-21). After the last of these drives the large Lower Kutenai camp fragmented into several small camps, each with "a small number of families which scattered out along the [Kootenai] river" (Schaeffer 1940:21). Whether this dispersed small-camp arrangement was the general all-winter pattern among the upriver Kutenai is not indicated by Schaeffer. For what it is worth, I suspect, as noted below in greater detail, that it was the case in the pre-equine period, that it was supplanted in later traditional time for various reasons by larger, all-winter communities.

In the period some time prior to the introduction of the horse, according to Schaeffer (1940:24) most Upper Kutenai bands remained west of the Rockies all winter. In fact, only the Michel Prairie Kutenai habitually went east to live on bison throughout the colder months. Later but still before horses were acquired, other bands of the upriver division, Schaeffer reports, adopted this same winter pattern. Presumably, however, it was not quite the same as that of the Michel Prairie people: in the case of these other groups Schaeffer is apparently referring to brief winter journeys east of the Divide, not to full winter residence on the east-facing slopes. Turney-High (1941:55, 66) must be alluding to these short-term hunting expeditions when stating that a mid-winter bison hunt was routinely made by the upstream Kutenai for meat. On such occasions hunters and their wives, he remarks, undertook these cross-mountain treks on snowshoes, without either riding or pack animals even after these became available. In spite of hunting afoot, the chase itself was not particularly difficult,

for the bison, not wanting to abandon their trails and find themselves in deep snow, were quite easily approached. When encountered, elk were likewise killed on the Plains (Schaeffer 1940:23). And both the Tobacco Plains people and the Michel Prairie band took some fish while in the eastern foothills of the Rockies (Schaeffer 1940:30). Meat secured during this winter-hunt period was necessarily packed home on the backs of the people themselves.

With the return of the hunters from the Plains, the Upper Kutenai normally passed the remainder of the winter period quietly and uneventfully (Turney-High 1941:55). If food supplies dwindled dangerously, certain fall berries (viz., bog and high-bush cranberries, wild rose hips, and kinnikinnick berries) could still be gathered on the bushes to add to the depleted larder (Turney 1978:33). Lichen was frequently gathered in times of scarcity and boiled with the stomach contents of the fool hen and even its droppings (Schaeffer 1940:42).

While not as prominent a winter subsistence activity among the Upper Kutenai in recent traditional times as with the downriver bands, these upstream people fished to some extent through the winter season, particularly when food became scarce. Even eels may have been caught by these eastern bands, though they were certainly not an important food (Schaeffer 1940:31).

Daily Routine

There are virtually no ethnographic data describing the daily routine followed by the Upper Kutenai during each of the several seasons. But the following observations by Schaeffer (1940:38) outline the activity pattern that prevailed during what may be supposed to have been a relatively typical mid-summer day among the Lower Kutenai.

> After the [morning] meal [of fish from the communal weir] the men left camp immediately to engage in the day's hunt while the women, after carrying their share of the fish to their lodges, began the task of drying it in the sun. By noon most women had completed their work of preparing the fish, and the more diligent would spent the afternoon gathering service berries in the neighboring hills. The hunters returned by nightfall to reset their traps for the next day's supply of fish.

While explicitly descriptive of the Lower Kutenai situation and although fishing among the upriver division decreased in importance as hunting increased following the arrival of the horse and particularly after the first White contact (Schaeffer 1940:30), there is good reason to assume that much the same pattern of varied activities prevailed on a daily basis among the Upper bands. This conclusion is supported, for example, by the fact that the harvesting of vegetable products evidently received continual attention--except by the away-from-home bison hunters--during the entire warm season, even while game and fish were never neglected as food sources.

Food Scarcity

In spite of the broad range of plant and animal foods secured and utilized by the Upper Kutenai throughout the year, there were without question periods of general food scarcity. What is more remarkable, they occurred even in mid-summer, for we have historical documentation of just such situations.

In mid-August, 1841, when Simpson (1847:135-136) was traveling down the Moyie Valley, he met "thirty or forty . . . miserable . . . [Kootonais who] were very grateful for some victuals and a little tobacco. . . . They declared that they were starving, while, even if their tongues had been silent, their haggard faces and emaciated bodies would have told the same melancholy tale." On the afternoon of the same day, when farther down the valley, he encountered "about fifty or sixty of the same tribe, all starving like those that had gone before them, . . ." his remarks make it plain that, at least in his view, he was describing not a temporary situation of short rations, but a condition that had been dogging these people for some time. I suspect that these parties were Lower Kutenai in affiliation, in which case the relevance of these data to this report might be questioned; but it is conceivable that they were Upper Kutenai returning to their own territory.

Information on food insufficiency in winter is not available, for this was, by and large, not a season when travelers journeyed through the Kutenai country and so left a record of the status of the Kutenai food resources at this time of the year. Still if bands were going hungry during the richest food acquisition season, they surely must have faced hard times when fresh food resources were naturally very limited.

The Subsistence Domain

The selection of a specific set of plants and animals as proper food sources from the total spectrum of nutritionally possible resources in a given physical environment, the acquisition of these food substances, and the processing of these materials into edible or at least more appealing foods represent one of the most fundamental adaptive complexes of a group's culture. The first of these three subjects, seen from the traditional Upper Kutenai perspective, is dealt with in the subsection immediately following. The procurement and preparation processes of the Upper Division are treated together in the second subsection.

Before turning to these data, it is appropriate to make explicit one irksome problem inherent in an attempt to collate and analyze the published historical and ethnographic information relating to mammalian, fish, and plant types that played their roles in the Upper Kutenai food supply. As might be anticipated from the fact that we are dealing with a span of some 175 years, with remarks recorded from the period of first exploration to the present, and with data reported by authors of widely varying interests and backgrounds, different terms are frequently used

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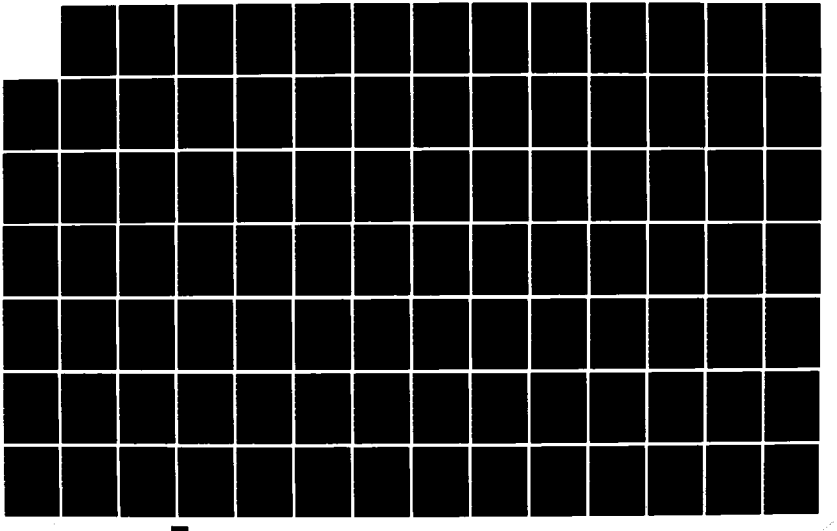

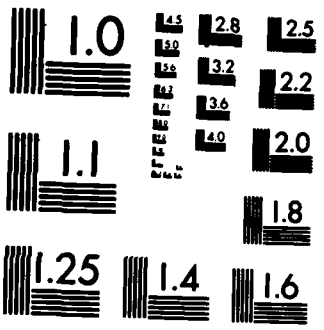
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for the same form, the same term is employed for different forms, and terms are used which do not permit of a confident identification. David Thompson (1950, 1962), for example, uses "chevruil" for mule deer (Odocoileus hemionus), "red deer" for elk (i.e., wapiti) (Cervus canadensis), "reindeer" for caribou (Rangifer arcticus montanus), "antelope" apparently sometimes for the pronghorned antelope (Antilocapra americana) and at times for the mule deer, and "deer" seemingly indifferently for either the mule deer and the white-tailed deer (Odocoileus virginianus).

This makes difficult and at times more than moderately shaky the bringing together of information from different sources, whether from early fur trader personnel or later ethnographers. Where taxonomic binomials are provided, these are reproduced here in parentheses; but there is no warrant that these are not outmoded or even wholly mistaken identifications. In a few instances I have hazarded--and placed within brackets to mark my authorship--taxonomic identifications that seem both current and correct. But in most cases, particularly for plants, common English designators are so varied, so loosely applied, and otherwise so slippery that it would appear to be a disservice to even suggest possible scientific binomials.

The difficulty of melding data from several ethnographers is at times substantially reduced by their recording of Kutenai language equivalents for animals, fish, and plants. Although linguistic material as such has no place in this present study, the Kutenai terms for these bioforms comprise an exception. For when the same term appears in different ethnographies, it can be assumed, whatever the English gloss and unless either the ethnographer or the informant slipped in matching Kutenai term with bioform, that the animal or plant type described is the same in the two accounts, at least in Kutenai eyes. These Kutenai transcriptions are reproduced here verbatim with whatever orthographic eccentricities they may possess.[40] For all their technical imperfections, these transcriptions are for the most part sufficiently close approximations to the Kutenai lexemes to demonstrate their identity, and this is the single fact of interest here. To keep the linguistic record straight, terms identified in the sources as Upper Kutenai or Lower Kutenai dialect manifestations are marked "UK" and "LK" respectively. Those described, either explicitly or inferentially, as merely Kutenai forms, dialect unnoted, are preceded by no code designation, unless a "K" is required to avoid misunderstandings in the immediate context.

Upper Kutenai Food-Nonfood Classification

How the Upper Kutenai separated their animal and plant world into the two categories of "food" and "nonfood" is of some considerable interest. It is not a trivial matter, for it relates directly to the adaptation of a group to its natural environment. Nor is the content of these two categories obvious: witness the Crow non-use of fish, though they abound in their streams (Murdock 1934:267); the Maidu extensive utilization of worms, crickets, and grasshoppers (Kroeber 1925:409); and

the Sanpoil refusal to eat dogs (Ray 1932:90, 1942:124), though more than a few French voyageurs preferred their flesh to salmon (Gass 1958:175).

The following itemized paragraphs outline the animal groups that were regarded by the Upper Kutenai, from the vantage point of their unique culture, as "proper" foods, not all, of course, of equal merit. And they indicate those classes that, on present evidence, were considered "inedible." The data are drawn largely from four ethnographic studies (Curtis 1911 7:173; Schaeffer 1940:12-29; Turney-High 1941:35-41; Ray 1942:116-117, 118, 124, 130). It goes without saying that the information is nonexhaustive; yet it is sufficiently full, in my judgment, to allow the principal parameters of the Upper Kutenai food-nonfood orientation to be plotted.

(a) Mammals. Virtually all mammals commonly occurring in their country were killed and eaten by the Upper Kutenai with varying degrees of relish. The use-nonuse data can be presented most clearly and economically in tabular form (Table 2-1), particularly since no single source is complete. The data on the dog, it will be noted, are contradictory. With this single exception they are convincingly in agreement.

(b) Birds. As Turney-High (1941:41, 42) reports, "almost every conceivable bird they could shoot" was eaten by the Upper Kutenai. This, however, was not the case with the loon (Turney-High 1941:42) and the crow, magpie, meadlowlark, raven, and robin (Ray 1942:130) (Table 2-2). The information regarding eagles is not of a piece: eagles are said by Ray (1942:130) never to have been used as food, while young eagles are reported by Turney-High (1941:41) to have been often eaten. The eggs of the crow and loon were thought to be not fit food (Ray 1942:131).

(c) Fish. We are told of no fish that were avoided as food except, perhaps, the eel. Eels are said by Ray (1942:130) not to have been eaten, but are explicitly reported by Schaeffer (1940:31) to have been taken in winter, though they were an unimportant food. Since Schaeffer does not relate this observation to either Kutenai division and Ray's information appears generally to be descriptive of the Upper Kutenai, it is conceivable that the former is describing a Lower Kutenai pattern and the latter an Upper unit practice. In any event, eels were evidently no more than a trivial subsistence item.

(d) Reptiles. While turtles may have been eaten, all other reptiles were considered "nonfoods" (Ray 1942:130).

(e) Amphibians. None were thought to be fit human food. Frogs are specifically mentioned as having been avoided (Ray:1942:130).

Table 2-1. Animals Eaten (and Not Eaten) by the Kutenai, According to Curtis (1911), Schaeffer (1940), Turney-High (1941), and Ray (1942).

Animal[a]	Data source[b]			
	Curtis	Schaeffer	Turney-High	Ray
Badger	+			
Bear, black	+			+
Bear, grizzly	+			
Beaver	+		R	+
Bighorn sheep	+	+		H
Caribou	+	+	+	+
Coyote	-			-
Deer, black-tail	+	+	+	+
Deer, white-tail	+	+		
Dog	+			-
Elk	+	+	+	+
Fox	-			-
Gopher			+	
Ground hog				H
Lynx			R	H
Mink	-			-
Moose	+	+	+	+
Mountain goat	+	+	+	+
Mountain lion	+			
Muskrat	+		+	
Otter	+			
Rabbit (jack)	+			+
Rabbit (snowshoe)	+			
Raccoon				H
Skunk	-			H
Weasel	-			
Wildcat	+			H
Wolf	-			-

[a] Antelope and bison are not included since they were found in totally insignificant numbers, if at all, in traditional times west of the Rockies in Kutenai country.

[b] Key to abbreviations: + eaten; - not eaten; ? questionable, date contradictory; R rarely eaten, eaten only when very hungry; H hunted but whether eaten is not indicated.

Table 2-2. Birds Eaten (and Not Eaten) by the Kutenai, According to Curtis (1911), Schaeffer (1940), Turney-High (1941), and Ray (1942).

Bird	Data source[a]			
	Curtis	Schaeffer	Turney-High	Ray
Buzzard	-			
Crane			+	
Crow	-			
Duck			+	H
Eagle	-		+	H
Fool Hen			+	
Goose			+	H
Grouse				H
Loon			-	
Meadow lark	+			
Owl	+			
Raven	-			
Sea gull			R	O
Swan				H

[a]Key to abbreviations: + eaten; - not eaten; ? questionable, data contradictory; R rarely eaten, eaten only when very hungry; H hunted but whether eaten is not indicated; O absent in Kutenai country.

(f) Invertebrates. Caterpillars, slugs, grasshoppers, and yellowjacket larvae are explicitly reported to have been rejected as foods. So also freshwater clams (Ray 1942:130).

It is of comparative interest that certain of these animal forms that were eschewed as food by the Upper Kutenai were considered edible among neighboring Plateau peoples. Such was specifically the case, for example, for freshwater clams, coyotes, and wolves (cf. Ray 1942:130).

The Kutenai are reported to have tamed and kept as pets no wild animals: none of the deer, bear, raccoons, beaver, coyotes, wolves, foxes, and certain birds that were sometimes held in captivity in other Plateau tribes (Ray 1942:124). The holding of such animals by nearby peoples within their settlement perimeters is widely reported, in fact, not only by ethnographers (e.g., Cline et al. 1938:34 for the Southern Okanagan) but also by the earliest explorers and traders (e.g., Lewis and Clark [1905 4:320] for a native group on the Columbia River just downstream from the mouth of the Walla Walla River; and Ross [1956:27] for the Kittitas in 1814).

Assuming the accuracy of these data on the nonuse of certain animal classes as food and on the nonkeeping of wild animals as camp pets, these facts are not without meaning for archaeology. The occurrence of these forms in archaeological contexts would suggest careful thought. It would necessarily imply, it would appear, either a food-nonfood classification for an earlier period that differed from that ethnographically reported, or the holding of these animals as pets, if by nature tamable, contrary to ethnographic findings, or the utilization of parts of these animals for some purpose other than subsistence.

Unfortunately, plant information comparable to the above animal data is either not available or, by its very character, is patently less reliable.

Procurement and Processing Techniques

Described in this section are the particular methods utilized by the Upper Kutenai in acquiring and preparing their subsistence supplies. Treated separately are those associated with hunting, fishing, and gathering, the three activity classes wholly responsible for the maintenance of their provender year-round. Except in the fishing section where, necessarily as explained below, the orientation is from the viewpoint of the devices employed in taking the fish, minimal attention is devoted to details of the material culture associated with the subsistence quest. This would require major further study, for the data are nowhere gathered together in the published ethnographic literature.[41]

No food was procured routinely or in quantity from domestic animals. As with other Plateau groups, the Upper Kutenai possessed many dogs, surely true in pre-horse times as well as later. However, as noted above, the question as to whether they were consumed as food is

moot, Curtis (1911 7:173 fn. 3) stating categorically that this was the case, while Ray (1942:124) reports the reverse. Horses, acquired in late precontact times, were apparently considered a food source, if I interpret Curtis' (1911 7:173) data aright; but they were obviously not commonly eaten. No other animals were held in domestication.

Similarly, the Upper Kutenai, for all their early contact with Upper Missouri tribes, cultivated no food crops during the traditional period. Unquestionably some burning-off of the countryside occurred, with a consequent complex set of short-term influences on their food resources: e.g., an increased deer population through richer browse and more prolific berry yields. But whether the Upper Kutenai deliberately kindled such fires with these objectives in mind is not clear.

It is certain, however, that in pre-fur trader times the Upper Kutenai possessed small fields where, by primitive horticultural techniques, they raised from seed a form of native tobacco for smoking purposes (Turney-High 1941:171-172). These fields were most notably north of Eureka in the Tobacco Plains region, which, of course, derived its name from these old native patches (Turney-High 1941:172; Smiley 1975:2). Plainly these plots were located within the general Lake Koocanusa country. But other "main planting areas" have been reported for tracts in the vicinity of the town of Fortine in the Tobacco River Valley, at McGinnis Meadows, and at the junction of West Fisher River with Fisher River. And also at Spotted Bear on the South Fork of the Flathead River, which, according to tradition, may have been planting grounds of the legendary Tunaxa from east of the Rockies (Smiley 1975:2). According to Turney-High (1941:172), there was one cultivation site at "the lower reaches of the Mission Mountains" to the east of Flathead Lake and another tobacco locality "far to the westward"; in these two areas the members of the Flathead band raised their tobacco. Off to the northeast in the Elk River country at Michel, north of the international border, was still another tobacco cultivation area. Here, another tradition avers, the Tunaxa came west over the Rockies to plant their smoking supplies (Smiley 1975:2). In the ownership and attending of these special plots, the Upper Kutenai were virtually or truly unique among Plateau tribes (Ray 1942:187). Indeed, the cultivation of tobacco was unknown even among the Lower Kutenai (Smiley 1975:3).

How the three food groups acquired by the hunting, fishing, and gathering processes ranked in relative importance is unknown. The question is in any case far from a simple one. For one must ask, important in what terms? In total quantity, surely not a very meaningful measure? In the eyes of the Western nutritionist or in the traditional native view? If in nutritional terms, according to which particular constituent elements and, in view of the changing diet by season, at what times of the year? Quantifiable data are required not only on amounts secured, but with regard to the season in which the foods were obtained, the preservation techniques used if they were not consumed fresh, the methods by which they were prepared for consumption, and so on. Data of these complex kinds, integrating essential nutritional and cultural components, are, to the best of my understanding, not to be found for the Upper Kutenai.

There exists a very limited literature detailing analyses of the purely nutritional properties of certain specific foods that had their place in the traditional Upper Kutenai diet. Unfortunately, I have been unable to pursue this specialist material exhaustively. But a few notes relating to such findings are included below where appropriate.

Still, on the basis of an impressionistic weighing of such facts as are at hand, it seems safe to conclude that the Upper Kutenai--even without considering the bison addition to their diet--relied more heavily on game than nearby tribes, much less on fish than those neighboring groups with rich anadromous fish resources conveniently at their elbow, and less on plant foods, particularly roots of the important camas-bitterroot varieties, than the Salishan tribes to their south and west.

It is a matter of no surprise that the Upper Kutenai man provided his family with game and fish foods and that the woman, for her part, gathered the vegetable foods, preserved all foods not consumed fresh, and prepared the meals (Turney-High 1941:133). What is more, so far as hunting is concerned, this was not simply the normal course of events but the rule. For Upper Kutenai women are said to have taken no part whatever in hunting pursuits (Ray 1942:123), as they sometimes did to a minor degree among nearby Salishan tribes (Smith 1936-1938).

Hunting

Hunting was a highly important activity among the Upper Kutenai, both for the food it yielded and for the skins and other products it supplied for the fashioning of essential material culture objects. In light of this fact, it is regrettable that our data regarding the game secured, the hunting methods utilized, and the procedures followed in butchering the animals and processing the meat either for immediate eating or for later consumption are not more comprehensive and detailed.

Hunting in the Kootanai-Upper Columbia Basin

The information compiled in this section is drawn primarily from Schaeffer (1940:12-29), Turney-High (1941:35-44), and Ray (1942:116-131).

Virtually all of the available descriptive material is oriented around the pursuit of specific animals, since native methods of taking game were compelled to take into consideration a complex of interrelated facts that differed from animal to animal. But Ray (1942) also briefly describes three quite specific techniques not keyed to individual animal types: viz., deadfalls, pitfalls, and the use of dogs. These data are summarized in the following paragraphs.

Deadfalls were constructed for both large and small game. They consisted of a weight with one end on the ground and the other supported by a single vertical pole, cut in half part way down its length.

Between the cut ends of this pole was inserted the inner end of a horizontal trigger bar, pinched in place by the weight above. From the free outer end of this bar a cord led to bait placed under the elevated end of the weight, which, when the bait was disturbed, fell on the animal. (Ray 1942:121, Fig. 936 following p. 258).

Pitfalls were likewise used for both large and small animals. These were loosely covered holes, without impaling devices of any sort, into which unsuspecting animals fell. (Ray 1942:121)

That dogs were employed as valued assistants in certain hunting activities seems perfectly clear, even though Ray's (1942:123, 124) information has its murky aspects. On the one hand, he reports that they were used in "all hunting," were trained on deer parts, wore collars of deer hoofs, were rolled in fresh bear and beaver skins as training procedures, and were given "scent." All this seems convincing and plain enough. But on the other hand, he seems to state that the employment of dogs in taking deer, mountain goats, bear, and ground hogs was individually and specifically denied by his Kutenai informants. In light of his detailed affirmative information and the categorically supportive hunting descriptions of Schaeffer (1940:18, 21), it can only be assumed that Ray's negative data must represent culture-element transcription errors of some kind.

In the view of the Kutenai, there was normally no difficulty in taking what animals were needed to satisfy their food and other requirements. As Turney-High (1941:122) reports:

> Game was so abundant that the hunters could never make an impression on the animal population until they received firearms. No one ever was greatly concerned about getting enough for his family. When this could not be done, it was through the machinations of the enemy or a malevolent shaman, and not because of pressure of population on natural resources. One only needed to expend a reasonable amount of energy at work.

Hard straits, however, were evidently of sufficently frequent occurrence, particularly in winter, for the Upper Kutenai to have possessed a patterned technique for negating the inimical influence of the shaman, bringing the deer back, and alleviating the tormenting hunger of the people. The shamans of the band gathered and, while the ordinary people watched, performed the rite that Turney-High (1941:186) terms the "Fir Tree Ceremony."

Deer

Deer, Turney-High (1941:39) writes, were the most important game animals for the Upper Kutenai in hunts carried out in their own territory. While they are not assigned explicit primacy by Schaeffer (1940:17-23) and Ray (1942:116-117), the many techniques for taking them that they record emphasize their high level of importance in Upper Kutenai subsistence economy.

Two species of deer--white-tailed and mule--were found in the territory of the Upper Division. They were, however, not everywhere abundant, nor were they always numerous where they sometimes were. This was particularly so for the white-tailed variety. These are said to have been abundant in the Tobacco Plains area about five generations before 1940, "prior to the adoption of horse culture and organized bison hunting activities" (Schaeffer 1940:16). Then for many years they are reported to have left this region, never being seen north of Olney on the Stillwater River and compelling the Tobacco Plains band to go down the Kootenai River to the territory of the Jennings band to hunt them. They are said to have been usually abundant in the Yaak Valley, an area commonly hunted over by the Bonner Kutenai. About 1850 they began to return to the Tobacco Plains sector and soon increased greatly in numbers. As late as 1905 white-tailed deer were limited in the Canadian country of the Upper Kutenai to the Elk and White River valleys in summer; in winter they drifted down into the Kootenai Valley. Even in the early period, however, when they were present in numbers in the Tobacco Plains region, they appear to have been restricted to the southern part of the Upper Kutenai country. Mule deer, on the other hand, have evidently ranged throughout the entire territory of the Upper Division--and much farther north--for a very long time. (Schaeffer 1940:15-16)

Schaeffer's comment concerning the departure of the white-tailed animals from the southeastern corner of the Upper Kutenai area calls for a frankly speculative comment. Perhaps Schaeffer and his informants are correct: he observes that Teit (1900:230) reports a tradition of a similar fluctuation in deer population among the Thompson Indians. On the other hand, as Chance (1981:76) has discovered, the numbers of deer slaughtered annually in the early 1800s to satisfy the fur traders' requirements for skins is staggering. One may be forgiven for suspecting that the deer--or at least their skins--left the Kutenai homeland largely in the traders' watercraft or on the backs of their horses.[42]

Several different hunting techniques were employed by the Upper Kutenai in taking deer. These, according to Schaeffer, included several methods requiring the cooperation of hunters in organized parties. Indeed, when a group drive had been planned, no man was permitted, under severe penalty, to hunt alone within the area of the coming activity, and the entire camp shared in the kill. Group hunting for deer seems confirmed by Ray (1942:116, 117). In contrast, deer hunting, Turney-High asserts, was exclusively an individual activity among the Upper Division; while no communal, organized drives were held in their own country, they were routinely invited by the Lower Kutenai to join them in their drives. The discrepancy between these two statements may, in my judgment, be explained by the data on the changing abundance of the white-tailed variety through time presented above. Schaeffer must have reference to the very early (and perhaps also the post-1850 period), when he writes that "deer were sufficiently abundant in the Tobacco Plains region, so that they could be hunted by means of the deer drive" (Schaeffer 1940:16). Turney-High, for his part, may perhaps be discussing the situation between, say, 1800 and 1850, when white-tailed

deer were apparently either wholly absent or at least very scarce in the area. In any event, the following are the deer hunting methods described for the Upper Kutenai by Schaeffer (1940:17-23) with a few supplementary notes from Turney-High (1941:39, 70) and Ray (1942:117).

"Long ago" the fire surround was used by the Tobacco Plains band to take white-tailed and mule deer and other animals (specifically bear) during July and August, while the Lower Kutenai were devoting all their energies to fishing. Under the direction of a drive leader, the hunt was carried out by the men of a camp in a flat area where the deer were known to be plentiful. A number of men, carrying lighted pine-wood torches, moved out in two curving lines so as to describe a circle, igniting the brush and trees along the way but leaving an unfired area where they started. Other men with bows and arrows took up positions "at intervals around the fire circle to shoot any animals that might attempt to escape through the flames." Still other bowman were stationed by the opening to kill deer that circled around inside the flaming ring and made for the break in the fire.

Communally organized drives for white-tailed deer were employed in spring "long ago" by the Upper Kutenai in the Tobacco Plains sector before the rivers rose from the mountain melt-water. The deer were found, the does fawning, on exposed marshy islands covered with willow thickets and small trees. The game was driven by men, moving in an arc or nearly complete circle, from one end of the island to the other, where men with their weapons were concealed behind brush blinds. When one island had been hunted over, the party moved on to the next.

A somewhat different type of drive was also carried out by the Tobacco Plains and Jennings bands both during the snow-free periods of the year and after the snow had fallen in autumn and in winter. With the assistance of dogs, both white-tailed and mule deer were driven down from the hill slopes to their runways, along which hunters were stationed. When snow was on the ground, the men wore snowshoes and were not appreciably hindered by the white fall, while the deer were bothered by the crusty surface.

A variant drive technique, recalled by one of Schaeffer's informants, was once used by the Jennings people when it proved impossible to take deer by the usual drive method. Hunters with firearms but with no dogs formed a long line, each man in sight of those on either side of him. In this formation they advanced through the brush, killing the animals as they came upon them.

Drives were likewise held in winter in narrow valleys leading off from deer yarding areas. Drivers lined up at the lower end of the valley. Shouting and keeping in line, they moved forward, flushing the game to men positioned along the deer runways and finally to other men placed in a line across the upper end of the valley. These latter bowmen attempted to demoralize the animals temporarily by killing the herd leader first. All of the hunters wore snowshoes; the deer, however, forced to abandon the areas where they had kept the snow beaten down, floundered through the deep drifts up the valley. The meat was

divided among the camp and the women fell to preparing and drying it. Three or four such drives within a few days of one another were usually sufficient to provide the winters' supply and to close the communal driving season. Most of the meat was stored away in log caches for use in March, "the period of scarcity, at which time much of it was removed for use. As soon as the ice broke up in the streams, the balance was transported downriver in canoes." The significance of this last sentence is not clear to me, but I take it to signify that the Tobacco Plains Kutenai (the focus of much of Schaeffer's data) maintained camps through much of the winter in areas somewhat farther up the Kootenai River than the sites of at least their spring camps. In view of the special interests of this study, it is a shame that Schaeffer is not more precise and detailed in his information here.

Certain of the above data presented by Schaeffer is confirmed in the most skeletal form conceivable by Ray's (1942:116-117) culture trait notes. They affirm for the Kutenai (presumably the Upper Kutenai) drives under leaders that forced animals by hunters stationed along trails, game surrounds, and the brush-burning method, all surely applying to deer though the material does not say as much. They likewise report three Kutenai hunting techniques not described by Schaeffer: viz, (a) driving game into artificial enclosures and there dispatching them; (b) driving animals through narrow passes where they were shot; and (c) driving game onto thin ice. While Schaeffer makes no mention of this last procedure for either Kutenai division, he reports a Lower Kutenai winter practice of driving deer with dogs into an ice-free stretch of the Kootenai River and then killing them as they swam to the ice edge to climb out.

In this general context it may be mentioned that I have discovered no reference in the Kutenai literature to driving deer, in warmer seasons, into water where they could be killed from canoes. Its apparent absence among the Upper Kutenai is surprising in view of the fact that they were a noted canoe people, used dogs otherwise in driving deer, and had Salishan neighbors among whom this elemental hunting method was a common practice.

Deer were taken by individual Kutenai hunters with bow and arrow as weapons, as Schaeffer (1940:22), Turney-High (1941:70), and Ray (1942:117-123, 151) agree. They were stalked by moonlight; run down in the snow by hunters on snowshoes; and sometimes stalked until close enough for hunters to club them to death (Ray). During the day deer were shot from trees as they frequented their salt licks (Ray); at night they were killed by men lying in wait behind brush blinds near the licks (Schaeffer). They were shot, at least sometimes, with arrows tipped with bone points and with self-tipped arrows (Ray). Deer were attracted to hunters by calls of some kind (Ray). They were tracked by dogs accompanying hunters; often, in fact, they were actually brought down by the dogs alone (Turney-High). White-tailed deer are reported to have been shot by hunters who paddled "quietly by the swampland and islands of the Kootenai River," until they were within bow distance of the animals (Schaeffer).

Deer were caught in spring-pole nooses hung from a tree limb over their trails (Ray). They were likewise snared, but precisely how (as different from the spring noose arrangement) is not made clear by Ray.

Whether deer were taken by men in deer disguise is somewhat uncertain. According to Ray, Kutenai hunters never wore head and hide disguises in pursuing these animals. On the other hand, Schaeffer reports unequivocally that on occasion Kutenai hunters disguised themselves when out for deer by concealing themselves under a headdress made of the skin of a deer's head, ears erect, and with a deerskin robe over their body. My inclinations are to follow Schaeffer.

According to Ray's Kutenai informants, neither deer nets nor substantial deer fences for controlling and directing the animals' movements were in use among the group. However, a deer "fence" (Ray's quotes) consisting of a row of small fires was used in some manner not explained by Ray. He considers it to have been a "ritual device." Perhaps, I conjecture, diminutive blazes were minimally functional but largely ceremonial features of the occasional deer drive.

Animals, among which deer must surely be included, were often killed by having their neck broken (Ray 1942:118).

Concerning the processing of venison into an edible form, we are told only that deer meat was dried on racks in essentially the same manner as fish (Turney-High 1941:38).

And as for the meat in its comestible form, we know only a few trivial details. Specifically that deer marrow was mixed with pulverized meat (Ray 1942:139). And that venison broth was drunk as a special food by women after childbirth (Ray 1942:196).

Deer were not only providers of meat. Their skins were light in weight and so were thought to be particularly suited for women's clothing. They were, however, also used for men's garments. (Turney-High 1941:79, 90-91)

One of the important areas of Indian-land relationship concerning which Plateau ethnologists know distressingly little is the extent to which native groups following traditional cultural patterns exerted exhaustive pressures on their biophysical environment. This is the case even for the essentials of life: food, shelter, and clothing. How many deer, for example, would have been required annually by an Upper Kutenai camp of 100 adults--children and adolescents are omitted for the sake of simplicity--to satisfy basic clothing needs. A very rough response to this question may be suggested by two fragments of Turney-High data, extended by several speculations of rather different levels of certainty.

(a) Among the Upper Kutenai, we are told, two deer skins were required to make a man's shirt--they were of the generic Plains type--the first for the body of the shirt and the second for the sleeves and very full collar. Two buckskins

were likewise needed in fashioning the woman's dress. (Turney-High 1941:90-91)

(b) We do not know the number of skins required for the making of the remaining items of a typical total basic dress. However, it might be roughly estimated as the equivalent of one additional deer skin for each sex: e.g., one hide for a man's clout, leggings, and moccasins.

(c) "Upper Kutenai men wore their skin shirts regardless of season" and, with minor exceptions, irrespective of the activities in which they were engaged (Turney-High 1941:90). This ethnographic generalization is consistent with a fragment of circumstantial evidence from Wilson (1970:153): when encamped at Tobacco Plains on July 21, 1861, he was visited by "two or three of the Northern Kootenays [surely men], . . . clothed in deerskin with a buffalo robe wrapped round the body." If males wore clothing year-round, it may safely be assumed to have been similarly true for women also. Obviously, clothing received a substantial amount of use wear.

(d) We are not informed as to the use-life of the typical Upper Kutenai garment. Without supportive ethnographic evidence but with the data of (c) in mind, we may accept as a not unreasonable estimate one full set of clothing each six months.

These data from Turney-High and these frankly rather arbitrary approximations lead to a very provisional conclusion: something on the order of 600 buckskins would have been required yearly by an Upper Kutenai camp of 100 adults (50 men and 50 women) to satisfy at a minimal level their essential clothing needs. In this context, it must be remembered, of course, that the animals furnishing the hides were also an important food source as well as a significant provider of secondary byproducts of value. Six hundred deer, though representing no more than 12 animals per hunter per year, seems like a very considerable number of animals for any single local area to bear and still maintain its deer carrying capacity.

Rough estimates though these are, they appear meaningful or at least suggestive in several directions. They underscore the need for a high level of mobility on the part of an Upper Kutenai population under their traditional pattern of life. They hint at the social and cultural effects of the introduction among the group of the horse and gun that made possible the gross short-term overhunting of the Kootenai Valley region documented by Chance (1981:76). They suggest, too, the possibility that the two warm season bison hunts on the Plains for meat supplies were not only made possible by the possession of the horse and gun, but were even made necessary by their possession and the resultant overhunting in the Upper Kutenai country. They emphasize also the very serious additional bioenvironmental pressures generated by the fur enterprises for food and for skins as important trade items and later to an even increased degree by white immigrant groups.

Elk

Elk (wapiti) appear to have been quite widely distributed throughout Upper Kutenai territory, although their numbers varied considerably from area to area. In general, they were most numerous in the foothills of the Rockies and especially on the eastern face of these mountains (Schaeffer 1940:13). During at least a part of the first half of the nineteenth century, they were evidently abundant also in the valley immediately north of Windermere Lake, for in 1859 Hector (Spry 1968:459) of the Palliser Expedition observed:

> Elk or wapiti must at one time have been very numerous in this district, as we saw a great many antlers lying on the ground, and sometimes the Indians had piled them in heaps of 50 or 60 together; . . .

Although these particular data may be too recent to be very meaningful in the context of this study, it is of some interest that in 1905 scattered elk herds were reported along the White, Bull, and Elk tributaries of the upper Kootenai River. In 1918 they ranged in significant numbers along the South Fork of the Flathead River. (Schaeffer 1940:13 fn. 1)

Nor have elk been consistent in their abundance in Kutenai country through time. Prior to five generations before 1940, Schaeffer (1940:16) states on the basis of informant testimony, and before the introduction of the horse culture, elk were scarce in the Tobacco Plains region. But with the disappearance of deer for many years (v. deer section above), elk became more numerous. Then as the deer population gradually grew beginning about 1850, elk again "were seen less frequently."

On this same point, referring to the Columbia Valley just below Windermere Lake, Hector (Spry 1968:459) reported in late September of 1859 that he had "not seen a single track of an elk yet in the valley, and but only a few of the smaller deer," in spite of all the antler evidence of an earlier large elk population. The decimation of the elk he attributed to the open woods and limited valley width, which permitted the Kutenai, once having acquired guns, to slaughter the animals in great numbers. However, in light of Schaeffer's data, perhaps the upper Columbia Valley decline had a more complex etiology, generally coinciding, in part at least, with that of the Tobacco Plains region.

Elk were hunted by the Upper Kutenai mainly in late summer and early fall before the rutting season had adversely affected the meat and prior to the Indians' departure on their autumn bison trek.

> Parties of a few families from the different Upper Kutenai groups would move eastward in late July or August for elk hunting in the foothill country. The season lasted for about a month, after which the Kutenai crossed the divide and assembled in the eastern foothills for the fall bison hunt. (Schaeffer 1940:23)

Elk that were encountered east of the Rockies while bison were being pursued were also killed, both for meat and for hides that were used principally for lodge covers. The hides of bull elk taken at this time were also employed, once the Kutenai returned to their own country west of the Divide, "to make skin canoes, by which the store of meat was ferried homeward" (Schaeffer 1940:23).

While summer was the principal elk hunting season, they were also taken to some extent in winter. Long ago, families from Tobacco Plains regularly journeyed in the cold season up the Kootenai River and then down the Columbia as far as Golden to hunt these animals as well as moose. (Schaeffer 1940:28)

Elk were taken by a variety of techniques. They were stalked and killed by individual hunters when they chanced on them. They were also taken by hunters lying in wait by salt licks at night, though apparently not very frequently killed in this way. During the rutting season solitary males were called within range with tubular whistles fashioned of a stalk of wild rhubarb, presumably cow parsnip (Heracleum lanatum which, according to Turner (1978:95, 97), is often referred to today as "wild rhubarb." Female elk were enticed to hunters by leaf calls (Ray 1942:122).

Elk were also hunted by men in parties, although Turney-High seems to imply that this was not so. In late summer when they were feeding at higher elevations along the edge of the timber, they were started "towards their runways at lower altitudes" by hunters and were shot by other hunters stationed along their trails as they ran past. Elk were sometimes taken in drives of this type that were conducted primarily for deer. When a herd was chanced upon by a hunting party, the leader--an old female--was killed first if possible "to demoralize the others" (Schaeffer 1940:19, 22, 23).

Herd kills of these kinds may well have provided the material for the antler heaps seen by Hector (v.s.) in the Upper Columbia Valley.[43] On the other hand, they may have been the product of several smaller, perhaps even individual, kills, since collection of the antlers must have followed the killing of the animals for some reason, whatever the dimensions of the hunt. At any rate, as Chance (1981:89) points out, the number of elk secured in the vicinity of the piles, particularly if they were group hunts, must have been greater than the number of antlers would indicate, since females would surely have been taken too and they are devoid of these cranial structures.

Dogs were considered to be of great assistance in hunting elk.

> In winter hunters aided by dogs pursued elk on showshoes, over crusted snow. The latter would bring the game to a halt while the hunters approached within bow shot. (Schaeffer 1940:23)

Elk, Schaeffer (1940:17) observes, were never hunted by means of a fire surround: during the months when deer were taken by this method, elk were ranging at higher altitudes.

During more recent years, elk were often pursued by men on horseback, but they proved difficult to overtake.

Elk meat, though eaten, was not in favor according to Turney-High. However, these animals are listed by Curtis together with deer and caribou among the Kutenai food mammals, as though their flesh was neither disliked nor unimportant in the traditional diet. And, as noted above, elk meat was brought all the way home from the bison country, which would hardly have been the case, one would suppose, if it has been ill thought-of.

Elk skins "were treated and cured like bison hides, except that their inferior . . . [hair] was always removed" (Turney-High 1941:80). Because they were particularly tough, they were considered, Turney-High observes, to make even better robes and tipi covers than bison hides. Indeed, the mantles and blankets of the Kutenai, Curtis writes, were usually of elk skin (except in cold weather) rather than of buffalo skin. They were likewise employed as canoe covering material. (Curtis 1911 7:126-127, 167, 173; Schaeffer 1940:23-24; Turney-High 1941:39, 70, 79, 80; Ray 1942:122)

Caribou

According to Turney-High (1941:39-40, 79, 80), woodland caribou appear not to have been very important for the Upper Kutenai either for their flesh or for the other products they yielded. Rather they were valued as animals that could always be counted upon when other food animals were scarce. They were often to be found nearby, for they were given to congregating around human camps. Still, as he himself notes (see below), the Upper Division sometimes made hunting journeys specifically for these animals.

The data of Schaeffer (1940:26-28) are considerably more revealing, showing that Turney-High's information is only fractionally accurate. Precisely as one would project on historical-theoretical grounds, three periods of caribou hunting must be recognized for even the comparatively recent past.

(a) Before the beginning of extensive bison hunting on the Plains, caribou were evidently not an insignificant element in the meat diet. Some Tobacco Plains parties were accustomed to hunt them along the lower Yaak River, then an important caribou range.[44] Hunting groups first traveled westward through the Purcell Mountains to the upper reaches of the Yaak, then down that stream through the caribou habitat, and finally home along the northern bank of the Kootenai River.

Hunting in this same area is probably alluded to by Turney-High (1941:39-40), who, however, specifies no time span for his data. The Tobacco Plains and Libby bands, he reports, frequently went for animals "on the caribou grounds somewhere between Tobacco Plains and Yakt." By "Yakt" he seems to be

speaking not of the Yaak River but of a community of "Yakt" and its vicinity.[45] I conclude that he is virtually certainly referring either to the tiny settlement of Yakt at the mouth of the Yaak River or perhaps to the village of Yaak on the Yaak farther north. In either case he would be placing the hunting range in the southern end of the Purcell Mountains between Tobacco Plains and the lower and middle reaches of the Yaak. This would bring his caribou grounds into close agreement with Schaeffer's data, although--probably by an insignificant twist of language--Turney-High appears to describe a mountainous hunting terrain while Schaeffer speaks of the Yaak Valley itself. At any rate, this caribou area visited by Tobacco Plains and Libby parties is said by Turney-High to have been also hunted over by Lower Kutenai groups, for the Upper Kutenai are reported to have encountered there caribou hunters from the Bonners Ferry and Creston regions.

(b) Caribou hunting on the Yaak range, Schaeffer observes, declined "with the rise of bison hunting." During this time "Tobacco Plains hunters seldom crossed the main river [i.e., the Kootenai] to hunt." Translated into more understandable terms, this signifies that parties kept to the east, southeast, and south of the river, the all important bison chase taking them, of course, far off to the east.

(c) Following the appearance of the fur traders, leading native trappers to work the territory north and west of the Kootenai River, caribou hunting once again "assumed importance as a source of food." It might also be added that this increase in the significance of caribou might be partly explained as one consequence of a major overhunting of deer encouraged by the traders (cf. Chance 1981:76).

Caribou, Turney-High reports, were killed by individual hunters. Because these animals are said to have been gentle, stupid, approachable without difficulty, and hence easily shot with bow and arrow and later even guns, communal efforts were unnecessary. Schaeffer concurs in the matter of the animal's behavioral traits, noting that they "were less shy than most big game species and frequently would not run after being fired upon."[46] He likewise affirms that they were stalked: his specific statement is phrased in terms of the Lower Kutenai but is surely applicable as well to the Upper Division.

One gathers from Schaeffer's information, however, that caribou were likewise pursued by hunting groups, contrary to Turney-High's statement. The Tobacco Plains Kutenai,

> . . . upon sighting a herd of caribou,[47] would shoot as many as possible before the animals took flight. Then, since the alarmed caribou would travel in an extensive circle, the hunters would remain in the immediate vicinity for them to return, often securing another shot before the animals fled.

> In winter during moonlit nights, . . . [hunters] after locating the feeding grounds of a herd of caribou built a big fire close by of moss-covered trees and branches. The crackling noise made by the burning moss and dry branches was believed to bear a resemblance to the peculiar sounds which customarily emanate from the hooves of these animals in movement.[48] Any animal, bedded down in the neighborhood, began quietly to move in the direction of the fire, attracted by the crackling sounds. As the animals were seen to be drawing near, more fuel was added to the fire to increase the noise, and to lure them within bow shot.
>
> No other hunting methods were known.[49]

Caribou meat, Turney-High states sharply to the point, was considered palatable. Schaeffer gives us more. These animals were the "first of the larger game animals to reach prime condition in the spring. They were hunted in April by many [Upper Kutenai] who felt the need of animal fat after a winter living on a protein diet." (Note Schaeffer's use of the qualifier "many," which further flies in the face of Turney-High's contention that caribou were of trivial importance to the upper Kutenai.) Caribou continued to yield good meat until the breeding season, when males were "so strongly affected as to be almost repugnant to the Kutenai. Females were less affected in this way." Any meat not consumed at once was dried in the same manner as bison flesh.

On the usefulness of caribou hides, Schaeffer and Turney-High are rather at odds. The former reports that the hides were very thin and therefore difficult for the women to work and tan, though they were used to some extent, at least by the Lower Kutenai, for clothing. Turney-High, on the other hand, states that their hides were used whenever tough skins were required, including for tipi covers. With the hair removed, they were also considered excellent for moccasins, particularly those for men, and good for leggings. With the hair left intact, they made unexcelled blankets and soft robes, the best of any of the deer group of animals.

Mammals of Lesser Importance

Deer, elk, and caribou--and bison from the Plains about which more later--were the important food animals. But other animals were also secured for their flesh, although accounting for only an insignificant part of Upper Kutenai subsistence.

Moose

Moose provided a certain amount of flesh food to the Upper Kutenai (Curtis 1911 7:167, 173; Schaeffer 1940:13-14, 28-29; Turney-High 1941:41, 70, 79, 80; Ray 1942:122). Their meat was, in fact, appreciated, but, Turney-High notes, these animals were "too hard to hunt to become a vital part of . . . [the Upper Kutenai] economy." Schaeffer agrees:

> Of the . . . large game animals, the moose . . . was one of least importance as a food resource to the Kutenai, particularly after the adoption of the horse. Not only is this animal relatively solitary and non-gregarious but the difficulty of stalking it, in comparison with deer and elk, is considerable.

Long ago moose were particularly numerous, so far as the Kutenai country was concerned, in the western foothills of the main Rocky range, "especially around Michel Prairie, in the region of Columbia Lakes, and to the north." But they also occurred "in the wooded, swampy valleys" of the west-facing slopes in the Glacier Park region according to Baillie-Grohman (1907:31, quoted by Schaeffer 1940:14). The moose hunted by the Kutenai around Golden may have been the northern variety of the animal.

Moose were hunted by the Upper Kutenai in both summer and winter while elk were being taken. In summer, Schaeffer notes, they "were fat and in the best condition at serviceberry time (July). At this time the flesh was considered very palatable but with the onset of the rutting season in September, the animals lost weight rapidly." According to Turney-High, moose were fat in August and were killed in hunts for them specifically only in this season. In winter, Schaeffer was told, Tobacco Plains families regularly traveled up the Kootenai River and down the Columbia as far as the Golden area to hunt moose as well as elk. This statement does not quite square with Turney-High's comment that, except in summer, moose were killed only when chance brought them to a hunter's attention.

Little is known of special techniques used in taking these animals. They were stalked, of course, when hunters came upon them. Beyond this we are told only that moose calls, evidently not of the whistle type that were favored with male elk, were employed to attract the animals to waiting hunters. And that dogs are said to have been of great help in hunting moose.

How the meat was normally prepared is not described. However, in the simple "first fruits" rite conducted with the killing of the first moose in summer, the best meat parts were boiled--the nose (esteemed for its flavor), tongue, heart, flanks, and a rib or two--for the men and the less choice portions for the women. The antlers, then in velvet, were roasted over coals to prepare the tender covering that was greatly relished.

The meat was also dried. For in mid-August of 1841, Simpson's (1847:131) party was given "a considerable quantity of dried moose" by the Kutenai who were occupying a camp of six or eight lodges "10 or 12 miles" up the Kootenai River from the mouth of the St. Mary River. Simpson adds: "Hungry as we were, this meat was so dry and tough as to be scarcely eatable." One may suspect that the Kutenai themselves possessed superior methods of preparing this food for eating than were known--or were available--to Simpson and his group.

Like caribou, elk, and bison, according to Turney-High, moose hides were tough and were used wherever this property was desirable, as for tipi covers. They were prepared as bison hides were. Not only the hides, Schaeffer observes, but also the antlers "and other parts" were put in specific uses, but these uses are not explained.

Mountain Goat

Mountain goats, Schaeffer (1940:13) reports, appear to have shared with elk the distinction of having been the most widespread of the large game animals through the Kutenai country. In general, they occurred in the higher elevations in both the Rockies and the Selkirks. More specifically, "in the Flathead and East Kootenay country" in the 1880s they were numerous in the westernmost of the three parallel ranges of the Rockies--that which forms the eastern wall of "the Upper Kootenay and Flathead valleys"--and on the western slope of the central mountain chain (Baillie-Grohman 1907:116-117). And in 1905 they "were abundant around the headwaters of the Kootenai, White, Bull, and Elk rivers" (Schaeffer 1940:13 fn. 2, quoting Osborn c.1905:225).

Mountain goats were pursued for their meat, which was considered very fine except during the breeding season when it was overly musky.[50] They were also hunted in late summer when their skins, then with fine hair, made splendid robes and blankets for cold weather use. According to Schaeffer, they were taken in September while families were en route across the mountains to the Plains for bison, the mountain goats at higher elevations than bighorn sheep. In winter, according to Turney-High, no attempt was made to pursue them over their icy crags. And in spring their pelts were thought to be too poor to make hunting worthwhile.

Goats were stalked by individual hunters, who found them, because of their intelligence, very difficult to approach: only expert bowmen could kill them owing to the distances from which they had to shoot.[51] They were not taken in spring pole snares,[52] or either attracted or frightened out of their resting places by calls of any sort, or pursued with dogs. (Curtis 1911 7:126:127, 167, 173; Schaeffer 1940:13, 29; Turney-High 1941:40-41, 113; Ray 1942:120, 122, 123)

Bighorn Sheep

Bighorn sheep were evidently not common game among the Upper Kutenai. Nevertheless they were hunted in certain areas for both their meat and their skins.

The animals were plentiful west of Flathead Lake and along the Kootenai River south of Rexford, the latter river stretch, of course, in the very heart of the Lake Koocanusa region. They also occurred in the high country of the Continental Divide from "the extreme headwaters of Elk river, through Kananaskis pass south to the head of Flathead river" (Osborn 1905:224-225, summarized by Schaeffer 1940:14). More

specifically, they were numerous in the vicinity of Waterton Lake and Glacier National Park where they were hunted by Tobacco Plains and Jennings families, "at the base of a large plateau near Elko" on the Elk River in British Columbia, and still farther north around the Columbia Lakes where they descended "to lower and warmer altitudes along the valley in winter" (Schaeffer 1940:29). In all of these areas they were pursued by Upper Kutenai hunting parties.

Bighorn sheep were also taken when, in September, groups were on their way through the high mountains via Crowsnest and other passes to the Plains to hunt bison. Then they were found at lower elevations while, apparently in the same general areas, mountain goats were shot at higher altitudes.

The methods by which bighorns were hunted are only cursorily described. In winter, they were killed by hunters who, climbing above them, drove:

> . . . them into drifts at lower levels. There the animals were easily stabbed. In summer . . . it was possible to drive the bucks into heavy timber and undergrowth where their horns becoming entangled, they could be caught. Bighorn also visited salt licks, near which hunters would lie in wait. (Schaeffer 1940:29)

Sometimes, Ray (1942:117, 123) reports, they were driven over cliffs. They were, however, never hunted with the assistance of dogs.[53]

Their skins, Turney-High states, were light in weight like those of deer. But they were also tough and so were considered superior for women's clothing. (Curtis 1911 7:173; Schaeffer 1940:29; Turney-High 1941:79; Ray 1942:117)

Other Mammals

The ethnographic information relating to the hunting of animals of lesser subsistence importance is surprisingly thin. That which exists is assembled in the following sections.

• During summer months--July and August for the Tobacco Plains people--bear were occasionally taken in the fire surround that was carried out more specifically for deer (Schaeffer 1940:17).

Hibernating bear were smoked out of their holes and killed. They were also dragged from their den by a hunter who entered their lair for this purpose. Sometimes a split stick was twisted in their hair and used to draw them outside the den. (Ray 1942:117-118)

Bear were not stalked with spears as reported for the Chilcotin (Ray 1942:117).

• As with bear, so also foxes, skunks, and raccoons[54] were also driven from their holes with smoke and then dispatched. On the other hand porcupine were said not to have been secured in this manner. (Ray 1942:117-118)

• Coyotes were likewise smoked from their dens. They were not taken in spring pole snares (Ray 1942:118, 120): the fact of the matter is, I suspect, that these wary and sagacious animals could not easily be so taken.

• Wolves were likewise obviously hunted to some degree. For Ray (1942:127) reports the tanning of their skins with the hair left adhering to them.

• Lynx were killed primarily for their skin, but they were eaten in times of hunger (Turney-High 1941:40). How these animals were taken is not reported by Ray (1942:120), but, according to his informants, they were not caught in spring pole snares.

• Wildcat (i.e., bobcat?) are mentioned by Ray (1942:120) only to note that they were not snared by the Kutenai in spring pole devices.

• Beaver were eaten but only seldom. Occasionally they were taken for their musk and apparently also for their kidneys, the latter used as medicine. But only after the inception of the fur trade were they hunted seriously. Their dams were destroyed and the animals speared or clubbed to death. In winter they were netted under the ice. (Turney-High 1941:40; Ray 1942:117, 119, 120)

Concerning beaver Simpson (1847:134) records a useful observation while descending the Moyie Valley in the middle of August, 1841: "The banks of the river showed good signs of beaver, that animal having been carefully protected against destructive waste by the comparatively thrifty and provident Kootonais; . . ." If this was, in fact, a conscious Upper Kutenai policy, it would be of interest in comprehending the Kutenai-land relationship to understand the Kutenai explanation for this cultural behavior. Was it, for example, to guarantee a supply of edible animals that could be relatively easily taken in emergency situations?

• Muskrat, though taken mainly for their pelts, were often eaten. After being skinned, they were boiled for food. (Turney-High 1941:41)

• Gophers were killed in summer when they were extremely numerous and could easily be shot. When, as the summer progressed, they became very fat, they were considered excellent food. The hair was singed off, the viscera removed, and the meat boiled. But the season was short, for they began their hibernation in late August. (Turney-High 1941:41)

• Ground hogs were drowned out of their holes, not smoked out. In hunting these animals, dogs appear to have played no role among the Upper Kutenai. (Ray 1942:118, 123)

• Rabbits--and other small animals--were snared with a spring pole suspended from a tree limb over the animal's path. They were also dragged from their burrows and shot with bone-pointed and self-tipped arrows. Rabbits were, however, not netted, nor were they "called" as was the practice among some Plateau tribes. (Ray 1942:118, 120, 122, 151)

• Badger were eaten by the Kutenai according to Curtis (1911 7:173), but no data on the techniques employed by the Upper Kutenai to capture them are available.

As to the quality of badger meat as a food--at least from the viewpoint of one White man--we have Thibodo's (1940:319) journal entry of October 6, 1859. There he writes: "Had a badger bouillon for supper, it has a strong smell but is very good eating, for a hungry man."

Avian Game

Birds comprised a not insignificant Upper Kutenai food resource, although not nearly as important as among the Lower Division.

Waterfowl were the most common birds in the diet of the Upper Kutenai. Turney-High (1941:41-42) avers that no bird decoys were used by this upper group in capturing these fowl--a statement contradicted by Ray's data (v.i.)--and that no organized bird hunts were carried out by them, both important Lower Kutenai waterfowl hunting techniques. These facts indicate to him the lesser emphasis placed by the Upper Division on water birds as compared with the Lower people. This is undoubtedly true, a circumstance surely not unrelated to the presence of particularly extensive flood-plain ponds and marshes in the lower Kootenai Valley. Still Ray's (1942:117, 120-123, 151, 153) data, which presumably relate to the Upper Kutenai in particular, imply a much wider spectrum of waterfowl hunting techniques than Turney-High allows for. He notes that birds were taken with bone-tipped arrows, with self-pointed arrows, and with slingshots fashioned of buckskin with buckskin cords.

Within the waterfowl class, cranes were considered the most palatable, but were very difficult to secure. Ducks and geese, too, were thought to be very good food. (Turney-High 1941:41)

Ducks, geese, and swans were snared in devices placed on floating logs with a decoy nearby. Water birds were also shot from brush blinds and from canoes covered with boughs. Stuffed duckskins answered for decoys, but whether these lured only ducks or also other types of water birds as well is not made clear. Waterfowl were also clubbed when molting and when encountered on ice. (Ray 1942:121, 122, 123)

According to Turney-High (1941:41), adult ducks, like cranes, were found hard to kill, partly for the reason that the Upper Kutenai conducted no organized duck hunts. In fact, they were taken in numbers

only during their flightless molting season. Young ducks, yet unable to fly, were pursued in canoes until fatigued and easily "picked from the water with the hands." Ray's (1942) material appears to generally confirm the relative unimportance of these birds: it includes, as we note, no more than a passing observation or two that demonstrate that ducks were in fact occasionally hunted successfully.

Certainly referring primarily to the Lower Kutenai, in view of the general thrust of his waterfowl hunting data, but surely also to the Upper Division to some degree, Turney-High (1941:44) reports that ducks were very fat in the fall and their oil was highly prized by the Kutenai:

> . . . as a condiment for dried berries, all kinds of meat, but especially for dried duck meat itself. Ducks are dry eating . . . , but when artificially dried their own fat improves their food qualities enormously. The skins were carefully put away in bark buckets, together with any surface fat scraped away in the dressing, and the drippings caught during the drying process. If kept in a cold place, this fat should last throughout the winter. The containers were examined from time to time, and the spoiled grease carefully scraped and ladled away.

Ducks were roasted in preparation for eating, according to a rather back-handed comment of Ray (1942:191). They may well have been prepared by other techniques also.

Geese were evidently caught in some numbers, even by the Upper Kutenai. They were shot with bow and arrow without difficulty during the summer when the birds came on land to eat grass (Turney-High 1941:42). These fowl--rarely ducks--were likewise taken in riverbank nets, stretched between poles set vertically in the ground and connected at their tops with a cross pole. The net was arranged so its bottom touched the ground, where decoys were placed. When the birds flew into the net, it was doubled by some sort of pulley device at each end.[55] Geese were also hunted at night, by a technique unfortunately not described (Ray 1942:117, 120).

Sea gulls, attracted to the numerous lakes and streams of the area, were eaten when other foods were scarce. (Turney-High 1941:41)

Land birds were noosed in spring pole snares, and at least grouse in snares arranged on logs and on the snow. Some snares were attached to moveable weights. (Ray 1942:120-121) These data contradict Turney-High's (1941:42) contention that the Upper Kutenai made use of no bird traps or snares of any kind, a situation which, incidentally, would be wholly atypical of their region of the Plateau.

Only one land bird is specifically mentioned as having been taken wholly for food. Fool hens--identified by Turney-High (1941:27) as the western spruce partridge--were knocked from branches with sticks or were caught by slipping a noose attached to a pole over their necks (Turney-

High 1941:41). These methods argue for such incredible tameness and stupidity on the part of these birds that they might well be questioned were not identical testimony available from neighboring Indian groups.

Ray's noose and snare data obviously point strongly to the taking of land birds of the grouse, prairie chicken, quail type as well as fool hens.

As commented upon above, the data regarding the use of eagles for food are inconsistent. While Ray (1942:130) categorically states that they were not so used, both Turney-High (1941:41, 178, 181) and Curtis (1911 7:134 fn. 1) report that young eagles were frequently eaten, although eagles were taken primarily for their feathers. Their bones were also used in fashioning whistles employed in certain ceremonies (Curtis 1911 7:135, 137).

Eagles were sometimes caught by hand in caves in the rocks, enticed to the openings by well-placed bait, and immature birds were removed from their nests (Ray 1942:121-122).[56] It is unclear whether these strong and vicious birds were caught by hunters concealed in brush-covered pits so as to seize their legs when they alighted to capture meat bait placed on the brush. Turney-High (1941:41) writes that this method was practiced; Ray's (1942:121) Kutenai informants denied its use.

Bird Eggs

While the collecting and processing of bird eggs among the Upper Kutenai might most appropriately be discussed with other subsistence gathering pursuits, that segment of the food quest focuses in this study entirely on the vegetative resources of the division. Accordingly, the extremely meager data relating to the use of avian eggs are presented here.

The ethnographic literature is silent on the extent to which bird eggs were eaten, the varieties preferred, tolerated, and avoided, the localities where eggs were obtained, and related matters. But they must have been consumed to some degree. For we are told that they were boiled, roasted, and cooked in earth ovens (Ray 1942:138, 140).

Hunting on the Plains

Bison were beyond a doubt the game that attracted the Upper Kutenai to the high Plains. Antelope, however, were also taken to some minimal degree. Surely still other animals must have occasionally been killed when encountered by hunters: particularly bear, deer, and elk in the thickets and timber of the river bottoms, animals so numerous along the streams of the western Plains that Lewis and Clark (1905 2:271, 287, 298, 306, etc.) and Whitehouse (Thwaites 1905 7:84-87, 92, 95, etc.) frequently allude to them. But apparently this other game was normally consumed on the spot, for not a whisper concerning the Kutenai taking of

it appears in the ethnographic literature. Evidently, then, only bison and to a slight extent antelope yielded products that were commonly brought back to Kutenai country and accordingly that influenced the life of the Upper people within their own borders.

Bison

Bison were important to the Upper Kutenai not only as a source of fresh and dried meat but also for their hides and for their ribs that were employed in fashioning hide scrapers. Indeed, they were to them, according to Turney-High, the "game animal of chief economic and emotional importance." This generalization, however, requires qualification, for bison hunting by the Upper Kutenai must be viewed within a time framework. And here the independent data of Schaeffer (1940:24-26) and Turney-High (1941:35-38, 56, 60, 79-80, 87) are in surprising conformity, though the information of the latter is cursory and a trifle muddled.

Inasmuch as only an occasional stray was to be found in the Kutenai territory west of the Divide (Schaeffer 1940:14; Ray 1942;119), bison hunting required a journey to the eastern slopes of the Rockies.[57] Even in the pre-horse period, the pattern of treks eastward for these hunts was apparently well established among at least some Upper Kutenai groups.

> The Michell Prairie Kutenai are said to have shifted back and forth across the Rockies seasonally, subsisting upon these animals during the colder months of the year. The inception of bison hunting by Tobacco Plains hunters is set by tradition about five generations . . . [before 1940], or prior to the adoption of horse culture. The event is connected there with the slaying of the leader in deer drives . . . , thus forcing people to turn eastward to seek food. (Schaeffer 1940:24)

During the early period antedating the arrival of the horse, bison were hunted only in the winter months by the Upper Kutenai, including those of Tobacco Plains. This pattern is explicable as an adaptation to the bison habit of moving up into the elevated eastern foothills in winter in search of protection from the weather and of snow-free grazing (Schaeffer 1940:15). There they could often be located by hunting parties. Nevertheless, such groups were not infrequently compelled "to travel along the east bench of the Rockies a considerable distance before any herds were sighted" (Schaeffer 1940:25). Winter treks to the east continued "among the Kutenai through most of the last century and . . . [were] not abandoned until the extermination of these animals in the 1870's" (Schaeffer 1940:24). Snowshoes were an invaluable item of material culture on these cold season journeys (Schaeffer 1940:9; Turney-High 1941:66).

With the appearance of the horse permitting travel with greater ease, the bison hunting pattern expanded into other seasons. Summer and

fall hunts, Schaeffer and Turney-High agree, "either alone or in company with large groups of Salishan allies, became the vogue among the Kutenai." Somewhat at variance with this information is that of Ray (1942:119), who reports that the Upper Kutenai made several trips to the bison grounds yearly, but all in summer.

One ethnohistorical note contributes an item of interest in this context. While camped on the morning of July 22, 1861, on the Tobacco River near its mouth, Wilson (1970:153-154) was visited by "an immense number of Indians, all on horseback," from their village on the Tobacco Plains. They informed him "that they had just come in from their spring buffalo hunt, which must have been very successful from the number of tongues and humps we saw; . . ." And on the following day, near the source of the Tobacco River, he "met an Indian and his wife returning from the Buffalo plains after a successful hunt, to judge from the quantity of jerked meat they had." This presents convincing testimony to the extent to which the Tobacco Plains people engaged in bison hunting in the mid-1800s and of the subsistence importance of the journey to them. Beyond this, it appears to give evidence of spring bison treks as an addition to those of summer and fall reported by Schaeffer, Turney-High, and Ray. It is conceivable, however, that Wilson was somehow led astray in his seasonal statement. Considering the rather late July date of his observation, he may in fact have witnessed the return of an early summer hunt, for one may question whether in the 1860s, when Plains tribes were still actively hostile, a Kutenai group would have remained east of the Divide for several months. Still, the Flathead were observed in mid-April of 1851 going east for bison (Owen 1927 1:29).

From these ethnographic and ethnohistorical data it is apparent that the number of annual bison hunting journeys and their seasonal range increased with the acquisition of horses. Presumably this increase from the limited winter hunts of earlier times was in some measure fostered during the first half of the nineteenth century by the scarcity of meat and hides in the Kootenai Valley to which attention has already been called. And it was further encouraged both by the securing of firearms and by the adoption of the practice of joining Salishan groups to the south for the hunt, both of which permitted the Kutenai to defend themselves more successfully against the still hostile Plains tribes.

There are few data, either ethnographic or ethnohistorical, detailing the specific trails followed by Upper Kutenai bison hunters out of the Lake Koocanusa region and over the Continental Divide to the Plains country. Plainly, however, there were several convenient to them and used according to circumstances. Among these, it is known, were Crowsnest Pass and Kootenay Pass (specifically North Kootenay Pass).

Because of the peculiar conditions created by bison hunts so distant from the Kootenai Valley, the unparalleled size of the animal, and the special economic needs filled by bison meat and hides, the methods employed in the pursuit and butchering process are considered beyond the interest scope of this study. Suffice it to observe that in pre-horse times the winter hunting was:

> . . . largely unorganized and [methods] differed little from those used by individuals for deer and elk. Informants denied that any of the cooperative practices of the Plains tribes were customary among the Kutenai, except for a vague tradition of impounding bison by the Michel Prairie group. (Schaeffer 1940:24-25)

As Schaeffer correctly footnotes, Alexander Henry (1897:690-691) saw a bison pound at the headwaters of the Saskatchewan which he attributed to the Kutenai. In winter animals were also

> . . . taken within the lower valleys of the eastern slopes by . . . [being driven] into snowdrifts where they were easily killed. Less frequently dogs were employed to drive the animals out upon foothill river or lake ice. Some hunters were able to drive small herds within range by merely directing their movements by means of a robe. (Schaeffer 1940:25)

In the later period when horses were taken to the Plains, bison were killed by hunting parties making a "concerted charge upon the herd" (Schaeffer 1940:25). This is what Turney-High refers to when he describes bison hunting as communal ventures, although the actual dispatching of the animals was achieved by mounted hunters separately running individual animals down. The bison approached on these charges were shot with bows and arrows and later guns, but were never killed with lances. Apparently in later times animals were also driven over cliffs, but, Schaeffer comments, whether this was likewise a practice in the pre-equine period is uncertain. Interestingly, Schaeffer's (1940:25) own information leads one to suppose that it was. For he reports that in addition to moving a herd by waving a robe as noted already, some men--fast runners--could run beside a running herd and "turn them in the desired direction." If this was the case, there is no obvious reason why these men in pre-horse times could not have driven animal bands over cliffs to their death.[58] According to Ray's (1942:119) fragmented trait list information, bison were hunted by Kutenai on horseback or on foot and were either surrounded or driven into natural corrals at the foot of cliffs.

Some meat was used fresh but most was dried and brought back over the mountains on pack animals (Turney-High 1941:37; Ray 1942:119). The processing of the meat as described by Turney-High (1941:38) is of particular interest, even though it was an activity pursued on the Plains. For these dried provisions added materially to the foods that were obtained within the valley homeland itself and must be fully considered in comprehending the year-round subsistence supply of the Upper Kutenai.[59] Turney-High writes:

> The Kutenai never kept [bison] meat in small chunks or in the form of "jerked meat." The desiccated meat was always pulverized, as it packed better and took up less room in the parfleches.

> In making this pemmican, a flat rock was covered with a soft tanned hide, which was kept [exclusively] for this purpose. . . . The hide was folded over the meat to keep it from scattering, and then pounded with the common stone maul.
>
> The Kutenai never mixed berries or fruit with their pemmican. They did, however, mix it with a strong powder of wild peppermint (má'ta). . . . It gives the pemmican a strong flavor which they enjoyed as a condiment, but its principal function was to serve as a preservative. It was also a repellent to flies, which otherwise would hover around the caches.

Whether bison grease was packed and brought back over the mountains for later consumption is not indicated in the ethnographic sources. But on the chance that it was, Turney-High's (1941:37) brief description of its processing is worth noting: bison bones, especially long bones, were crushed and the mash was "rendered for the grease which, . . . [the Kutenai] say, 'is the best lard you ever tasted.'"

Excluded from consideration here are foods derived from bison that may be assumed to have been eaten only fresh and hence exclusively on the Plains: e.g., tripe that was eaten mixed with berries (Ray 1942:139).

The meager data relating to the use of skins and other non-food bison parts are reviewed in a later section. However, certain of the data of Turney-High and Ray are somewhat contradictory and so deserve the fuller discussion that can be accorded them at this point.

- According to Turney-High (1941:37, 79-80), bison hides were the favorite skins of the Upper Kutenai "because of their versatility. They [were] heavy enough for lodge covers, . . ." Neither horns nor hoofs, however, were considered of any value.

- According to Ray (1942:119), however, bison hides were only occasionally tanned for use as tipi covers, elk skins having been the usual covering material. This implies that the desire for the meat was the principal economic motivation for the Plains journey. Ray (1942:140, 141) also reports the technological use of bison horns (v.i.).

One may suspect that both ethnographers may be correct so far as the hides matter is concerned, the difference between their reports being perhaps related to different time periods. Specifically that Ray may refer to a period when elk were plentiful in the Kootenai Valley; Turney-High, when they were scarce. Possibly in addition, Ray may have reference to an earlier time phase when too few pack horses were at hand to transport in numbers the heavy, bulky hides over the Divide; Turney-High, to a rather later time when horses had become plentiful.

It would be of some considerable interest to know the amount of meat that a fully-loaded horse could transport back from the Plains.

Unfortunately, I have found as yet no credible data on this point. Nothing at least beyond an 1861 comment by Wilson (1970:154):

> It is astonishing what a tremendous weight the Indians manage to carry on their ponies; I should think that each horse had between 2000 and 3000 lbs. of [jerked] meat and skins hanging to his back, on top of which the riders were perched like huge monkies.

Even assuming substantial exaggeration on Wilson's part, it is evident that the Upper Kutenai horse was able to make its way homeward under a very considerable burden. In actual fact, the usefulness of even more detailed information of this kind in establishing the amount of meat returned by, let us say, a family's string of 10 pack horses would be debatable. For the figures would surely be tainted by such variables as the amount of baggage devoted to bison hides, the extent to which small children and camp gear were also loaded aboard these horses, the condition of the animals, and the state of the trail. Nevertheless, it would be interesting information.

Antelope

As with bison, Upper Kutenai traditions tell of the former occurrence of antelope in the valleys within the Rocky chain and even on the prairies west of Flathead Lake (Schaeffer 1940:14, 15). But their numbers west of the Continental Divide in Kutenai country were evidently insignificant. Accordingly, whatever hunting of these animals occurred took place when parties were out on the Plains.

Antelope were, in fact, considered unimportant game by the Upper Kutenai. They are said to have been hunted without difficulty: "they could be attracted within bowshot by waving a gun case or robe in the air" and could be overtaken on a fast horse and knocked down (Schaeffer 1940:26). But the animals were small and so yielded little meat--at least in comparison with the bison. Consequently, their flesh was eaten only occasionally and, I infer, never dried for later consumption and packed back over the mountains. Moreover, their hides "were considered of little value" (Schaeffer 1940:26). Why the Kutenai regarded the skins so disparagingly is not altogether plain, since both the northern Plains tribes and the upper Salmon and Lemhi River Shoshoni encountered by Lewis and Clark (1905 1:247; 2:376-377; 3:4, 10; 5:298) put them to good use in fashioning clothing, at least leggings and robes.[60] (See also Curtis 1911 7:173; Ray 1942:116.)

Non-Subsistence Uses of Faunal Materials

The preceding pages have detailed the extent to which individual animals within the wider Upper Kutenai subsistence environment are known to have been hunted as food sources. But most--possibly even all--animals that were taken for food (as well as certain other forms considered inedible) provided raw materials that were used in fashioning

material culture objects and employed in still other ways that responded to non-subsistence needs. How as hunting motivations these food and non-food needs for individual native animal forms balanced out on a relative-importance scale is, however, by no means transparent.

- Was the subsistence goal invariably the primary one? Were marmots--an arbitrary example--secured mainly for food, primarily for their skins, or for both reasons equally?

- Did the principal motivation vary between food and non-food objectives depending on the season? As, it may be supposed, with the mountain goat which was not eaten during its breeding period and so, if killed during that time of year, was presumably taken with non-alimentary purposes in mind.

- Did the motivation shift between the need for food and those that answered other than food requirements according to circumstances of the band at the time or even of the individual family? For instance, a family at one moment facing a hard winter with a dwindling food supply as against at another time confronted with the impending crisis of childbirth and so with the need for special faunal materials associated with such an event.

This listing of possible motivational variables could obviously be easily expanded. But for the most part we lack the ethnographic detail necessary to evaluate and respond substantively to questions of these kinds. In one sense these issues are not of notable consequence for the present study, as we are not concerned with the purely technological domain of Upper Kutenai traditional culture, even that relating directly to the subsistence and settlement aspects of their life pattern.[61] Nor are we concerned with other non-food utilizations of animal products. But in another sense these issues are of central interest: to comprehend the full role of hunting activities in the broad context of the Upper Kutenai lifeways, it would be informative to possess precisely these data. Even with the meager facts available it is possible to demonstrate that faunal remains recovered archaeologically in traditional Kutenai country do not necessarily testify to the subsistence utilization of these animals. The data that follow may at least suggest to archaeologists various ways in which osseous and other animals remains uncovered in site contexts might be interpreted within the framework of traditional Kutenai culture.

Secondly, these data also reveal the very considerable extent to which early postcontact overhunting, especially of deer and elk--the consequence in part of the introduction of horses and firearms and the demands of fur company personnel--must have influenced a wide spectrum of the non-subsistence life patterns of the Upper Kutenai. One glance at the many and varied needs served by deer, incomplete though the list surely is, indicates how thoroughly the early nineteenth century scarcity of this animal must have affected the people. They illustrate further the degree to which the consequent wholesale diversion of Upper Kutenai attention from the pursuit of intraterritorial animal types to bison hunting must have impacted much of the life style of the eastern bands.

The following cullings from the ethnographic literature relate exclusively to specific animal types and their other than food uses. Because this report is not a study of technology as such, no attention is directed to the utilizations of antler, bone, skin, and other faunal products where no identification of the specific animal source is provided; no attention, for example, to "horn" points for single-pronged spears, curved "horn" chisels, animal skull spoons and bowls, and bird wing-bone awls for piercing ears for ornaments (Ray 1942:112, 141, 142, 146, 171). The data are presented by animal type rather than by artifact class (e.g., scrapers, spoons) or by material substance (e.g., antler, bone, skin), thus reversing customary ethnographic and archaeological approaches. This arrangement of the facts permits them to be viewed as a natural extension of the previous subsistence discussion.

In the lists that follow the animal types appear alphabetically within each of the three categories of mammals, avifauna, and miscellaneous other forms. But within each animal entry those anatomical parts that might most conceivably leave their evidence in archaeological sites are entered first.

Mammals

(1) Antelope

- Hide. Considered of little value (Schaeffer 1940:26).

(2) Beaver

- Teeth. Used in bracelets worn by women (Ray 1942:172). Two "long canine teeth" (surely incisors are meant) bound together to form a ring used in a game (Turney-High 1941:160).

- Skin. Fresh skin rolled around dogs in training them to hunt (Ray 1942:124).

- Grease. Frequently mentioned in myths as a particularly choice food (Chamberlain 1893:576 [NARN 1974 8 (1-2):222]).

- Musk. Used as medicine (Turney-High 1941:94 Ray 1942:119). Mixed with mild grease and certain dried and pulverized flowers to make pomade (Turney-High 1941:40, 94). Rubbed secretly on rival's race horse to weaken it and make it lose race (Turney-High 1941:101).

- Stomach. Examined in divination (Ray (1942:254).

(3) Bighorn Sheep

• Horn. Used in making harpoon point. Used in making scraper for removing cambium for food. Used in making cup, ladle, large spoon with short handle, and spliced bow. Used in some way magically to bring rain. (Schaeffer 1940:56; Turney-High 1941:50; Ray 1942:132, 140, 149, 254)

• Skin. Used in making superior women's clothing, since tough but not heavy. Used in making moccasins, hair inside. (Turney-High 1941:79; Ray 1942:168)

• Fat. Lump of fat between horns of ram thrown in fire in winter to cause snow storm and in spring to turn weather colder and so prevent snow melt and rising streams (Turney-High 1941:99).

• Testes. Placed in water to produce snow (Turney-High 1941:99; Ray 1942:254).

• Tallow. Used as cosmetic (Ray 1942:172).

• Oil. Used as hair dressing (Ray 1942:170).

(4) Bison

• Bone. Used in making tools: e.g., rib ground into drawknife shape and used in fleshing and scraping hides (Turney-High 1941:37, 80).

• Horn. Used as water carrier and in making spoons and drinking cups (Schaeffer 1940:56; Ray 1942:140, 141).

• Hide. Used both tanned with hair intact and tanned with hair removed. Used in making moccasins and heavy robe; quiver; packstrap and rope; bridle; tipi covering (Turney-High: important; Ray: unimportant), dwelling floor covering, and sweat lodge frame covering. Used in making parfleches for storing dried serviceberry cakes, bitterroot, salmon, and other dried foods and in making containers for storing dried salmon eggs. Neck hide of bull used in making wide rawhide belt used as "armor." Used as robe to wrap corpse. (Schaeffer 1940:43, 45, 46; Turney-High 1941:51, 56, 60, 73, 79, 80; Ray 1942:119, 124, 127, 135, 147, 151, 153, 168, 178, 180, 216; Wilson 1970:153)

• Scrotum. Used as bag or other container (Schaeffer 1940:56).

• Hair. Used in making cordage (Ray 1942:162), though only very recently (Turney-High 1941:73).

• Marrow. Used as cosmetic (Ray 1941:172).

• Stomach. Fat from second stomach used ritually to bring snow and cold and so to force bison to seek shelter within the foothills (Schaeffer 1940:25).

• Hoof. Not used in any way (Turney-High 1941:37).

(5) Black Bear[62]

• Bone. Used as sewing awl. Rib used as scraper for removing cambium for food. Sacrum fashioned into dish. (Schaeffer 1940:56; Ray 1942:132, 147)

• Teeth. Worn on necklace and as pendant from hair and clothing (Chamberlain 1893:570, 571 [NARN 1974 8 (1-2):219]).

• Claws. As with teeth above.

• Skin. Used tanned with hair left in place. Fresh skin rolled around dog to train it to hunt. (Ray 1942:124, 127)

• Gut. Two lengths twined together to make bowstring of highest quality (Turney-High 1941:83).

• Tallow. Used as cosmetic (Ray 1942:172).

• Grease. Applied as final step in curing hide rope (Turney-High 1941:75-76). Rubbed on flint nodule before percussion in flake production "to make it crack the way you want it to" (Turney-High 1941:87-88).

• Oil. Used to bathe infant immediately after birth (Ray 1942:196).

(6) Caribou

• Bone. Rib used as scraper in removing cambium for food (Ray 1942:132).

• Skin. Very thin; therefore difficult to work and tan (Schaeffer 1940:28). Excellent for whenever tough hide was needed: e.g., fine for moccasins and lodge covers; good for leggings and other men's clothing. Skin with hair made unexcelled blankets and soft robes. (Turney-High 1941:40, 79, 80). Used in making moccasins (Ray 1942:168).

• Hair. Used for wrapping foot inside moccasin (Ray 1942:168).

(7) Cougar

• Bone. Used in making flute and whistle (Turney-High 1941:102).

• Claws. Used in making necklace rattles (Ray 1942:186).

• Skin. Used in making arrow quiver (Schaeffer 1940:57).

(8) Coyote

• Bone. Used in fashioning flute and whistle (Turney-High 1941:102).

• Skin. Made into broad band worn around forehead and sides of head, leaving top bare (Chamberlain 1893:569 [NARN 1974 8 (1-2):218]).

(9) Deer

• Antler. Used in making inside barbs of three-pronged fish spear (Ray 1942:113). Used as cross-handle of digging stick, passing through hole in the stick (Turney-High 1941:33). Made into "knives" and "axes" (Chamberlain 1893:567 [NARN 1974 8 (1-2):217]).

• Skull. Made into spoons (Schaeffer 1940:56).

• Bone. Used in making sharp-angled fishhook; lower leg bone used in making central prong of leister. Rib used in making scraper for removing cambium for food. Rib or leg bone used as hide scraper. Used in fashioning sewing awl. Made into six-hole courting flute. Ankle-joint bone made into buzzer toy. Burned, pulverized in mortar, and used in treating sore eyes. Extra bone in "arm" of black-tailed deer forecasted hard winter. (Chamberlain 1893:573 [NARN 1974 8 (1-2):220]; Schaeffer 1940:41, 44; Turney-High 1941:98; Ray 1942:110, 125, 132, 147, 184, 187)

• Hoof. Used in collar worn by dog in training to hunt (Ray 1942:124). Used as dancing rattle and as rattle pendants on clothing (Ray 1942:186); perhaps dewclaws, not hoof, are intended.

• Dewclaws. Used as rattles on thongs hung from wand, and attached to belts and anklets, to string hanging in front of shaman's ritual blanket, and to thongs wrapped around shaman's fist (Turney-High 1941:102, 174, 185, 186).

• Skin. Soup of skin shavings forbidden to girl during puberty isolation (implying otherwise eaten). Used both tanned with hair removed and tanned with hair intact. Used to wrap knob handle of digging stick and shaft of flint drill.

Used as surface on which berries were mashed. Used in making guard to protect wrist from bowstring snap and in making slingshot with buckskin cords. Used in fashioning bag pillow; robes used as tipi floor covering. Used in making shirt (two skins), woman's dress (two skins); man's breechcloth, leggings, waist string to support clout and leggings; "garter" supporting woman's cold weather leggings; moccasins; cape fastened with wooden or bone pins; and headband. Used with hair intact in making moccasins, hair inside. Used in making small bag which held beaver musk perfume. Fawnskin used as seamless container. Used as packstrap; skin square sometimes used in wrapping burden to make carrying package. Used in making braided cordage. Used to cover small stone head and wooden handle of war club, in fashioning buckskin club filled with rocks, and in making bag for carrying wooden club inset with small flint fragments. Used to cover saddle frame. Used as saddle blanket and as blanket on which infant was delivered at birth, in making bag for holding naval string, in fashioning fine hair-robe for wrapping infant immediately after birth, and as belt for binding mother's abdomen after childbirth. Used in making thongs that tied infant to old style cradleboard (Chamberlain); that lashed together the old-style birch bark cradleboard (Turney-High). Used in making more recent stiff cradleboard cover and hood. Used in fashioning mourning bands worn around wrists and ankles. Used in making shinny ball and ball for "popgun"; used as surface on which dice game was played; used as strings wrapped around beaver teeth ring employed in athletic contests and to tie colored beads to ring. Used in making clothing for sundance "doll." Used in fashioning drumhead and as wrapping for drumstick head. (Boas 1890:842 [NARN 1974 8 (1-2):59]; Chamberlain 1893:557, 558, 561, 568, 569 [NARN 1974 8 (1-2):212, 213, 214, 218]; Schaeffer 1940:56; Turney-High 1941:60, 72, 74, 79, 86, 87, 90, 91, 94, 103, 113, 114, 160, 178; Ray 1942:124, 143, 145, 146, 147, 148, 152, 153, 162, 164, 165, 166, 167, 168, 179, 182, 183, 184, 185, 194, 195, 199, 222; Wilson 1970:153).

• Head and Skin. Head and skin robe worn as disguise by hunters stalking deer (Schaeffer 1940:17, 22).

• Hair. Used for wrapping foot inside moccasin and as filling for buckskin shinny ball (Ray 1942:168, 182).

• Sinew. Made into bowstring. Two sinews along cannon bone foretold in fall severe winter. (Chamberlain 1893:564 [NARN 1974 8 (1-2):216]; Turney-High 1941:98)

• Marrow. Used as cosmetic (Ray 1942:172).

• Brains. Used in curing skins (Chamberlain 1893:568 [NARN 1974 8 (1-2):218]; Ray 1942:125).

• Oil. Used in bathing infant following birth (Ray 1942:196).

(10) Elk

• Antler. Used as chisel to work wood and to pry bark off tree for canoe covering. Made into "knives" and "axes." Used as inferior type of root digging stick, as long handle of stone adz employed in dehairing hides, and as club combined with quirt. Used as saddle frame. (Chamberlain 1893:567 [NARN 1974 8 (1-2):217]; Turney-High 1941:33, 67, 74, 102, 113; Ray 1942:125, 152)

• Bone. Rib used in making hide scraper (Ray 1942:125).

• Skin. Skin shavings apparently made into soup (see Deer above). Hide more important to Kutenai than elk meat. Invariably dressed with hair removed according to Turney-High and Ray. Used principally for lodge covering, for which they were superior to bison hides. Used in making moccasins, thongs that served as packstrap ends, bridle, and apron employed as "armor." Hide of bull elk used to cover skin canoe. Made better robe than bison hide, according to Turney-High, which suggests dressing with hair intact contrary to statement above. (Boas 1890:842 [NARN 1974 8 (1-2):59]; Schaeffer 1940:23, 58; Turney-High 1941:39, 56, 73, 79, 80; Ray 1942:124, 127, 147, 153, 168, 178)

• Paunch. Container for bear's grease (Turney-High 1941:87).

(11) Grizzly Bear

• Bone. Small bone of leg made into "needle-like" charm worn by men (Chamberlain 1893:571 [NARN 1974 8 (1-2):219]).

• Skull. Placed behind altar in grizzly bear ceremony (Turney-High 1941:184).

• Paw. Front paws placed beside skull in grizzly bear ceremony (Turney-High 1941:184).

• Claw. Used as necklace rattles (Ray 1942:186).

(12) Lynx

• Bone. Used in making sewing awl and in making flute and whistle (Turney-High 1941:102, 147).

• Pelt. Much more important than flesh for food (Turney-High 1941:41).

(13) Marmot

• Skin. Entire skin used in fashioning sewed robe employed as clothing and in making sewed blanket (Ray 1942:164, 166).

(14) Moose

• Antler. Made into eating plates and used in other ways (Schaeffer 1940:29, 56).

• Bone. Small bone of leg made into needles and awls (Chamberlain 1893:567 [NARN 1974 8 (1-2):217])

• Hide. Used in making shirt and leggings. Used as fine lodge covers and in making bridle. Used to shield canoe bow against damage from floating ice. (Chamberlain 1893:569 [NARN 1974 8 (1-2):218]; Schaeffer 1940:29, 59; Turney-High 1941:73, 79, 80)

(15) Mountain Goat

• Horn. Used in making harpoon point and sometimes in making inside barbs of three-pronged fish spear. Occasionally used in making cup and spoon. (Schaeffer 1940:40; Ray 1942:113, 140, 141)

• Skin. Late summer hide made very fine robe (Turney-High 1941:40); strips made into blanket (Ray 1942:164). Used as lodge floor covering. Used to wrap infant immediately after birth. Rump skin used in making wide rawhide belt employed as "armor." (Turney-High 1941:60, 113; Ray 1942:153)

• Hair. "Little black tuft" under horns thrown on fire to cause snow (Turney-High 1941:99).

• Stomach. Used as temporary water carrier (Ray 1942:140).

(16) Muskrat

• Skin. Fur pelt more important than flesh for food (Turney-High 1941:41).

(17) Otter

• Skin. Strip of fur tied into hair lock by woman chief of Crazy Owl Society to mark her role (Turney-High 1941:157).

• Nose. Immersed in water and water drunk by woman when complications occurred in childbirth (Ray 1942:195).

• Grease. From tail used as medicine for consumption, coughs, colds, sore chest, etc. (Chamberlain 1893:574 [NARN 1974 8 (1-2):221]).

(18) Porcupine

• Quills. Use in embroidering clothing said to have been unknown until just before White contact; never important among Kutenai (Turney-High 1941:90). Used to ornament buckskin shirt, leggings, perhaps moccasins, and to decorate buckskin cradleboard and tubular pipe-bag (Ray 1942:165, 167, 168, 188, 200).

(19) Rabbit

• Skin. Whole skins sewed into robe used as clothing (Ray 1942:166).

• Hair. Hair (and droppings) thrown on fire in winter to produce cold wind and heavy snow (Turney-High 1941:99).

(20) Raccoon[54]

• Skin. Whole skins sewed into blanket (Ray 1942:164).

(21) Skunk

• Skin. Made into little caps (Chamberlain 1893:569 [NARN 1974 8 (1-2):218]).

(22) Weasel

• Skin. Narrow strips attached as ornaments to various parts of dress. White tail twined around end of women's braids on dress occasions. (Chamberlain 1893:569 [NARN 1974 8 (1-2):218]; Turney-High 1941:94)

(23) Wolf

• Skin. Made into head band (see Coyote above). Tanned with hair left intact and used in some way not described. (Chamberlain 1893:569 [NARN 1974 8 (1-2):218]; Ray 1942:127)

Birds

(1) Chickenhawk

• Feathers. Tail feathers used in fletching arrows. Highly prized as personal ornaments. (Chamberlain 1893:570 [NARN 1974 8 (1-2):219]; Turney-High 1941:85)

(2) Duck

• Skin. Stuffed duckskin used as hunting decoy (Ray 1942:122).

• Feathers. Used in fletching and in filling pillows (Turney-High 1941:43; Ray 1942:150, 179).

(3) Eagle

• Feathers. Highly prized. Used in fletching. Worn in hair by men on warpath.[63] Attached to lance used as symbol by head Crazy Dog chief when soliciting "gifts" from village lodges and when leading his men in battle. Used as part of headdress of sacred sun dance "doll." (Turney-High 1941:41, 156, 162, 178, 181; Ray 1942:150, 226)

• Wing. Used to brush away annoying mosquitoes (Wilson 1970:161).[64]

(4) Fool Hen

• Feathers. Used in fletching (Ray 1942:150).

(5) Goose

• Feathers. Used in fletching (Ray 1942:150).

(6) Grouse

• Feathers. Used in fletching (Ray 1942:150).

(7) Hawk

• Feathers. Used in fletching (Ray 1942:150).

(8) Loon

• Skin and Feathers. Made into "very beautiful" caps (Chamberlain 1893:569 [Narn 1974 8 (1-2):218]).

(9) Meadowlark

• Beak. Placed in infant's mouth to aid its speech (Ray 1942:197).

(10) Owl

• Feathers. Highly prized as personal ornaments (Chamberlain 1893:570 [NARN 1974 8 (1-2):219]).

(11) Swan

• Bone. Used in making tubular whistle (Ray 1942:186).

(12) Woodpecker

• Feathers. Used in making headdress of sacred sun dance "doll" (Turney-High 1941:178).

Miscellaneous Other Forms

(1) Freshwater Clam

• Shell. Used as spoon and for carrying coals. Used in making beads strung into necklaces and fashioning ear and wrist ornaments. Used to ornament buckskin shirt. (Chamberlain 1893:570, 571 [NARN 1974 8 (1-2):219]; Ray 1942:141, 144, 165, 172)

(2) Turtle

• Carapace. Used as food dish (Schaeffer 1940:56).

• Heart. Dried, pulverized, mixed with white clay, and used to magically bring success in fishing, lure game to hunters, aid in breaking horses, and produce good luck in gambling (Schaeffer 1940:25-26; Turney-High 1941:100).

Faunal Associations with Life-Zones

In the preceding discussion of the hunting strategies of the Upper Kutenai, observations have been included where such are available on the distribution of the various animal forms within the geographical perimeters of the division. It remains to suggest how these animals appear to have been distributed altitudinally, or more precisely in terms of the Transition, Canadian, Hudsonian, and Arctic-Alpine life-zones, the principal characteristics of which have been outlined in the earlier background section of this chapter.[65]

The following data relate directly to these animal/life-zone correlations within Upper Kutenai territory and are derived largely from Schaeffer (1940:10-12). This is, of course, not a technical zoological source. As a fractional substitute for such a study with a specific Kootenai Valley focus, I append here the material in Table 2-3. Extracted from Dalquest's (1948) comprehensive and meticulous report on the mammals of Washington, these data summarize the associational patterns of the animals known to have been of subsistence significance to the Upper Kutenai with the floristic life-zones occurring in the northeasternmost corner of Washington. This region is geographically adjacent to Lower Kutenai territory and apparently ecologically very similar to the Upper Kutenai area, for within it the same four life zones are recognized. One caution, however: the fact that animals reported in Kutenai ethnographies and in Dalquest are referred to by the same popular designations does not necessarily signify that the species in the two areas were identical, though this is a reasonable assumption.

Table 2-3. Life-Zone Distribution of Mammalian Forms in the Northeasternmost Corner of Washington State Compiled from Dalquest (1948). These Forms are Either Known or Believed to have been Hunted by the Upper Kutenai in their Own Country Farther to the Northeast.

Mammalian Varieties	Life Zones[a]					Notes
	Arid-timbered Transition	Arid-grasslands Transition	Canadian	Hudsonian	Arctic-Alpine	
Beaver (Castor canadensis leucodonta) (43, 321, 322)[b]	A		C			
Bighorn sheep (Ovis canadensis canadensis) (45, 405-406)	A	A	A	A		
Black bear (Ursus americanus cinnamomum) (41, 175, 176)	A		C			
Bobcat (Lynx rufus pallescens) (42, 243)	A	C	C			
Canadian lynx (Lynx canadensis) (42, 239, 240)			R			
Caribou (Rangifer arcticus montanus) (404)[c]						
Cougar (Felis concolor missoulensis) (42, 235-237)	C		C			(1)
Coyote (Canis latrans incolatus) (42, 227, 230)	A	C	A			
Elk (Cervus canadensis nelsoni) (45, 393-394)	C		A			(2)
Hoary marmot (Marmota caligata cascadensis) (42, 265-266)			R	A	A	(3)

Table 2-3. (Continued)

Mammalian Varieties	Life Zones[a]					Notes
	Arid timbered Transition	Arid-grasslands Transition	Canadian	Hudsonian	Arctic-Alpine	
Moose (Alce americana shirasi) (403-404)[c]						
Mountain goat (Oreamnos americanus missoulae) (407-409)			C?	A	A	(4)
Mule deer (Odocoileus hemionus hemionus) (45, 396, 402-403)	A		A	C		(5)
Muskrat (Ondatra zibethicus osoyoosensis) (44, 360, 362)	A					
Pika (cony) (Ochotona princeps cuppes) (44, 377-379)				A		(6)
Porcupine (Erethizon dorsatum) (44, 374-376)	A	R	A	R		
Snowshoe rabbit (Lepus americanus pineus) (45, 382-385)	C		A	C		
White-tailed deer (Odocoileus virginianus ochrourus) (45, 395-398)	A					(7)
Woodchuck (Marmota monax petrensis) (42, 263)			R			
Yellow-bellied marmot (Marmota flaviventris avara) (42, 263-264)	R	C				

Table 2-3. (Continued)

[a]Key to abbreviations: A = abundant; C = common; R = rare.

[b]Numbers within parentheses are page citations in Dalquest.

[c]No data available.

Notes: (1) Active in both winter and summer. Zonally ranges from Transition through Canadian to Hudsonian.

(2) Ascend to open meadows of Hudsonian zone in early summer and return to dense forests of Transition and lower Canadian zones with winter snows.

(3) Rarely found below Hudsonian zone; most common in talus slopes at lower edge of Arctic-Alpine zone.

(4) An animal of high mountains, favoring the bare-rock cliffs and rock-strewn slopes of the Arctic-Alpine and Hudsonian zones. Where extensive, open rocky areas occur, they descend to Canadian zone. Even in winter, goats keep to high cliffs, where steep slopes and strong winds keep snow from the plants they feed on.

(5) Occur in open forest. In summer, they may be in higher, rough, and rugged country; in open yellow-pine forests with extensive grassy slopes; even in dense larch and lodgepole pine forests. In late summer they gather in bands of 10 or 20 or more. In winter when hungry, they gather in herds.

(6) Live only in talus slides and rock piles.

(7) Range from valleys into forests of larch and cottonwood of Transition zone. Habitat includes denser forest and brushy areas; rarely found in open forest. Prefer habitat that is dense and difficult to traverse. Shy and silent, fleeing soundlessly when approached.

Nor, if the forms were the same, can it necessarily be assumed that their biohabitat and behavioral patterns were identical.

If the Dalquest data are, in fact, applicable to the Kutenai country, the timbered portion of the Transition Zone in the valley bottom and on lower mountain slopes furnished both mule and white-tailed deer in considerable numbers and some elk, as well as many bear, bighorn sheep, and smaller animals of lesser subsistence significance. The grasslands phase of this zone was far less well supplied with game important in the provender of the Upper Kutenai. Schaeffer notes for this zone only that it provided winter range for animals--and Dalquest mentions elk in this connection--that descended to the area from the higher, colder elevations they occupied during the warmer seasons, an important observation.

The Canadian Zone, Schaeffer reports, was of particular importance because of its rich game potential and supply of fur-bearing animals. Dalquest's information plainly confirms and emphasizes this wealth of faunal life. Interestingly, white-tailed deer were no longer present, though mule deer remained numerous; and elk were more common than at the lower elevations of the Transition Zone. It would seem that Schaeffer is correct in reporting that much of the Upper Kutenai hunting activity was carried out in and among the forests of this vegetation belt.

In the higher and colder Hudsonian Zone, Schaeffer writes, were found a number of animals of which some subsistence use was made: viz., mountain goat and bighorn sheep as well as the lesser hoary marmot, pika (cony), and ptarmigan. Dalquest's catalog is splendidly consistent. His list makes no mention of the ptarmigan, for avifauna was not his concern. And he shows bighorn sheep as having been not only abundant in this life zone but also plentiful in belts of lower elevation. As Schaeffer observes, from time to time Upper Kutenai hunting parties climbed to areas within this ecological zone to hunt its faunal forms.

No animals, according to Schaeffer (confirmed by Dalquest), were restricted to the Arctic-Alpine Zone. But in summer mountain goat and bighorn sheep spent the daylight hours among its crags, returning at night to the upper edge of the Hudsonian Zone to feed. In winter the goats remained generally on its wind-swept ridges. In summer ptarmigan frequented this high region. The occurrence of bighorn sheep in this plant environment and, of course, again of the ptarmigan is not verified by Dalquest's data. But surely Schaeffer is not wide of the mark in reporting that, except at infrequent intervals, these spectacularly inhospitable heights were avoided by the Upper Kutenai.

So much for the mammal/life-zone associations reported for or probably extrapolatable to the aboriginal country of the upriver Kutenai.[66] At a later point in this study the data of this section are integrated with the zonal associations of the fish and plant resources and of the Upper Kutenai occupation sites.

Fishing

Upper Kutenai fishing activities cannot be described effectively on the basis of the ethnographic data available in a format parallel to activities relating to hunting and plant collecting. Whereas the latter are for the most part organized in ethnographic accounts around specific animals and plants, the fishing information is by and large structured according to a material culture-activity approach. Often enough, in fact, we are not even told the kinds of fish taken with a particular device or by this or that technique.

There is a sound reason for this special approach in this fishing instance: more frequently than not the same or a similar material culture item and associated technique were employed in taking quite different varieties of fish, either at the same time or in different locations or seasons. Accordingly, there is no alternative to presenting the bulk of the descriptive information relating to Upper Kutenai fishing from this dissimilar perspective.

Particularly notable in the material at hand is the infrequency of full agreement on details. This suggests to me less the fallibility of the memories of Kutenai informants than the existence in early Kutenai culture of many variant fishing methods, keyed to particular local conditions, time of year, kind of fish caught, and so on. On a broader level, it implies further a fine-tuning of Kutenai subsistence culture to the varying configurations of the physical environment of their homeland.

In the aboriginal period fishing appears to have been an important Upper Kutenai source of food, even though substantially less significant than among the Lower Division where fish comprised the staple diet. In fact, long ago, Schaeffer's (1940:30) informants reported,

> . . . even the bison hunters of Michel Prairie engaged in fishing at times. They were said to have taken fish in White Swan Lake during the summer excursion west of the Rockies, and occasionally, in winter, along the streams of the eastern slopes.

Whiteswan Lake is located off the middle reach of the White River, a southeastern tributary of the Kootenai River, almost due east of Canal Flats (Esso 1958; IMW Kootenay Lake quadrangle 1969, where it is shown but not named; Anon 1941).

Later, after White contact according to Schaeffer (1940:31), tradition suggests a material decrease in the importance of fish.

> [The] . . . Upper Kutenai were . . . [less] dependent upon the rivers for their supply of food, especially during the period of late winter, . . . Such factors as the introduction of firearms and the horse, along with the increased stimulation to trap and hunt by the fur traders, served to shift the economy of these Kutenai from a fishing-hunting base to one grounded predominately in hunting.

Indeed, in the case of the upriver Kutenai in the historic period:

> . . . except for the spearing of salmon at Columbia Lakes, fishing was largely done to secure change in a diet that otherwise consisted predominately of animal flesh, or during seasons of scarcity, to eke out a scanty food supply. (Schaeffer 1940:30)

Among the Upper Kutenai bands and even individual families, there were, in fact, considerable differences in the extent to which fish contributed to their subsistence. At Tobacco Plains the importance of fishing depended on the preferences of the family: some "spent several weeks in salmon fishing on the headwaters of the Columbia," while others "were content to take fish in small quantities irregularly throughout the year." This same band also fished at times in the streams on the eastern flank of the Rockies: in Oldman River, for example, they caught a particular fish "described as a 'duck-bill' variety which frequently severed the line with its teeth" (Schaeffer 1940:30-31). Oldman River, just northeast and east of Crowsnest Pass, is also termed "Race Track River," according to Schaeffer; on some maps it appears as "Livingstone River."

Among the Jennings band, fishing was probably more important than with the Tobacco Plains people, "particularly before they joined their neighbors to the north in travelling eastward for bison" (Schaeffer 1940:30). Here, in passing, is further evidence of the beginning of a culture tilt away from a more typically Lower Kutenai orientation and toward that of the Upper Division.

In terms of the fish types taken there were notable differences between the two Kutenai divisions. The Upper group, for example, secured more salmon, catching them in Windermere Lake and Columbia Lake at the headwaters of the Columbia River in the northern extremity of their territory. The Lower Division, from whose country salmon were blocked by insurmountable river barriers below Kootenay Lake, depended more heavily on the non-anadromous fish of their own streams and lakes and especially their ponds and meadow sloughs that were widely flooded by the high spring river runoff. Accordingly, the Upper Kutenai were more adept at fish spearing and less skillful at fashioning and using weirs and traps. The upriver people were also more competent at line fishing, especially through the ice. (Schaeffer 1940:31; Turney-High 1941:44-45, 50)

The number of fish varieties taken by the Kutenai according to Turney-High, Schaeffer, and Ray seems quite typical for a Plateau tribe.

Turney-High's (1941:44-45, 50, 51) list fails to differentiate between fish caught by the Upper and Lower Divisions. There is, however, nothing to suggest that all types mentioned were not taken by the upriver people to varying extents. He includes the following in his roster:

- bull trout (tu'x̣uł).[67]

- peamouth (ú'pat!-na'na), eaten only in times of hunger.

- salmon (swa'q!$_u$mu),[68] prized but not a staple and taken only when moving upriver to spawn.

- squawfish (q!ɔ'yu), a very bony fish with coarse flesh and inferior flavor and taken only when food was scarce.

- sucker, economically important and taken in two varieties: one ('t!atsi'əkat!) in summer when it had two red stripes along its sides and the other (q!ɔ'mi) throughout the year but considered best in July.

- trout (qú:$_i$stet!) in more than one variety and the most important fish in subsistence terms.

- whitefish (ma'tit!) caught in autumn.

- an unidentified variety (e'pat!)

In his listing Schaeffer (1940:31), too, generally makes no attempt to distinguish between the two Kutenai divisions, an unfortunate circumstance in light of the special interests of this study. Agreeing with Turney-High, he records the following as Kutenai food fish:[69] char (Turney-High's bull trout, as Schaeffer's partial recording of the Kutenai term demonstrates); an unidentified variety that is either Turney-High's peamouth or his unidentified fish e'pat!; salmon; Turney-High's second sucker type; trout; and whitefish. Char, trout, and whitefish "were [the] important varieties, taken principally during the period of the summer freshet." He mentions neither squawfish nor the red-striped suckers. But, unremarked upon by Turney-High, Schaeffer (1940:41) notes that "ling" were taken in summer by the Tobacco Plains people.[70] And also that eels were caught in winter (cf. Ray below), but whether by only one or by both divisions he does not state; at any rate they were an unimportant fish. Shellfish, he observes, were not used for food by the Kutenai.

Ray's (1942:104, 112) culture element data confirm for the Kutenai salmon (especially "dog salmon"), squawfish, suckers, trout, and whitefish. Like Schaeffer, he adds char to this list, but states flatly that eels were not eaten by the Kutenai.

A few fragments of information regarding certain Upper Kutenai fish are recorded by Chamberlain in his Kutenai texts or lexicon or by Boas in his Kutenai text collection. These are of interest in that they in part confirm and in part supplement the data of Turney-High, Schaeffer, and Ray.

- The following data agree with the glosses provided by Turney-High and Schaeffer.

  tóñoł (Chamberlain), 'char.' (Boas 1918:44, 336, 357)

  swáq!$_a$mo (Boas), 'salmon.' (Boas 1918:176, 338, 376)

q!úme (Boas), 'sucker.' (Boas 1918:76, 348, 362)

qústɬt! (Chamberlain), 'trout.' (Boas 1918:38-39, 347, 384)

The circumstantial evidence in the myths for the fishing of salmon and trout is reported below. There are no data in this material to testify to the taking of suckers and char.

• The word list includes one fish mentioned by Schaeffer and Ray without the Upper Kutenai equivalent: i.e., a_a'kółə·m (Chamberlain), 'eel' (Boas 1918:360).[71] Unfortunately, there is no textual framework that might clarify the contradictory positions of Schaeffer and Ray as to whether this fish was an upper Kutenai food.

• Two varieties of fish are noted for which there are no obvious matches in the Turney-High or Schaeffer reports. Both remain unidentified.

a_a'kamo·kin (Chamberlain). (Boas 1918:321, 362)

k!ɬ́k!o$_u$m' (Boas). A fish with a large head and thin tail. (Boas 1918:78, 226, 345, 362)

Whether either of these two was a subsistence fish cannot be determined from the data.

Salmon deserve special attention because of (1) their restricted seasonality in Upper Kutenai country, (2) the very limited sector of Upper Division territory in which they were available, and (3) the fact that they were an important food source for some families of the Upper bands. These three matters are individually expanded upon in the following sections.

(1) They were obtainable only in late summer and early autumn.

(2) Blocked by Bonnington Falls[72] on the Kootenai River below Kootenay Lake from ascending the river farther, they were to be secured only in the northeasternmost corner of the Upper Division homeland, at their spawning beds at the source of the Columbia River some 1,150 miles from the sea.[73]

The prodigious numbers of salmon attracted to these beds are described by Baillie-Grohman (1907:206-207) colorfully and, one may suspect, not without some hyperbole. He writes:

> Forty years ago the number of fish who reached these beds was so great that the receding waters [from the snow melt freshets] . . . would leave millions of dead salmon strewn along the banks, emitting a stench that could be smelt miles off, and which never failed to attract great numbers of bears. To count fifty of these animals within a hour's paddle was, in those days, so the Indians say, an ordinary

> event, a circumstance that appears to be confirmed by the fact that the nearest Hudson Bay Post that drew its supplies of this pelt exclusively from this region ordinarily baled from 800 to 1000 bear skins every year, and this at a time when these Indians had few firearms, . . . The Salmon, by the time they reached this remote spot, after their long journey . . . were wretched looking objects. . . . According to the Indians, and I have elicited the opinion of a good many during my long stay in this locality, none returned to the ocean after spawning, . . .

Without being apprised of his data source, Baillie-Grohman's Hudson's Bay "facts" in particular may reasonably be suspect, both because Chance (1981) stresses the dearth of detailed trading records from the various Kootenay posts and because, as reported above, the last Company post in the Kutenai homeland was abandoned in 1871, some years before Baillie-Grohman's arrival in the country. The remainder of his account seems entirely credible, some possible stretching of his numbers aside.

According to Schaeffer (1940:39 fn. 1), Baillie-Grohman secured those of his facts attributed to Indians "from Kutenai informants in the 80's." This date is certainly generally accurate, for this was the period when Baillie-Grohman was resident in the Canal Flats area (Graham 1963:69-71). On the other hand, Baillie-Grohman appears not to identify his informants as Kutenai in affiliation; accordingly, they may well have been Shuswap of the Kinbasket group who, as we have observed, settled in the Columbia Lakes region some decades prior to the 1880s. Kutenai or Shuswap, the Indian informants to which Baillie-Grohman refers were doubtless well acquainted with the earlier salmon runs at the headwaters of the Columbia.

These spawning grounds are described in cursory fashion by Thompson (1962:274) as shallow trenches about a foot in length, dug by the female salmon in gravel in "shoal swift clear water." Still visible some 80 years later, Baillie-Grohman (1907:274) writes:

> The countless ridges in the gravel bottom of the young Columbia where it emerges from the mother lake [Windermere Lake], . . . gave in 1887 still silent evidence of the vast quantity of fish [that spawned here]. . . . These salmon beds extended for three or four miles, ridge following ridge, the depth of water on the top of each crest, at the time, hardly exceeding a foot.

These natural history fragments make wholly believable Schaeffer's description of Upper Kutenai taking salmon with

the aid of simple dams, with seines, and by harpoons cast by wading men (see below). In contrast, they make highly improbable Turney-High's claim that in salmon fishing harpoons were invariably thrown from canoes.

(3) Concerning the subsistence use of these fish by Upper Kutenai bands, we have several ethnographic and historical accounts, unfortunately all brief.

First, the ethnographic data include the following two statements, one by Schaeffer and a very short note by Turney-High.

(a) Schaeffer writes:

> Towards the close of summer certain families travelled northward from Tobacco Plains for the salmon season. The fish began to arrive in this region in August, the run, or runs continuing until September or October. Often a few families would reach the upper Columbia at the beginning of the migration season and send news to Tobacco Plains on the size of the run. If there were prospects of an abundance of salmon, other groups would hasten north to take part in the catch.
>
> The fishing parties made their first camp near Briscol in August, and after taking salmon there for a time, moved up the Columbia to the fishing site near Fairmont Springs. During August and September the run was usually of some size and of good quality but by October, the fish began to decline both in condition and numbers. The season was closed with a small catch made at the site near Athalmer. (Schaeffer 1940:39-40)

Schaeffer's "Briscol" is surely to be equated with the town of Brisco (IMW Kootenay Lake quadrangle 1969), approximately 25 straight-line miles down the Columbia from the northern tip of Windermere Lake; Fairmont Hot Springs lies on the stream connecting Columbia Lake with Windermere Lake (IMW, Kootenay Lake quadrangle 1969) or, according to other maps, where that stream enters Windermere Lake; and Athalmer is located where the Columbia River leaves Windermere Lake. Hence, if Schaeffer's sequence is accurate, the Kutenai went upriver (south) from Brisco to Fairmont Hot Springs, and then back north to Athalmer.

(b) Regarding salmon fishing in general, Turney-High (1941:50, 51) states only that "the Upper Kutenai fished

> for salmon near Windermere," where "salmon spawned in the marshes and sloughs" from which the Columbia River takes its origin. In this Lake Windermere region, members of the Upper Division were "generally" joined by Lower Kutenai parties, even though these downriver people likewise salmon fished to a lesser extent down the Kootenai River in the Nelson area.

As a geographic footnote to the above data, it is of interest that Teit (1909:460 fn. 5) records "Salmon Lake" as an alternative designation for Windermere Lake.

Second, the scanty historical information that has come down to us supports much of the natural history and ethnographic data already outlined and provides in addition certain useful time-depth and other relevant insights. Three specific accounts are worth nothing here.

(a) The earliest reference to the taking of salmon by native groups in the upper Columbia sector, presumably Upper Kutenai, occurs in David Thompson's journals. In the fall of 1807, at his newly established "Kootanae House" beside Toby Creek immediately downstream from Windermere Lake, Thompson (1962:274; see also 273 fn. 3) observed:

> At length the Salmon made their appearance, and for about three weeks we lived on them. At first they were in tolerable condition . . . and several weighed twenty-five pounds. But as the spawning went on upon a gravel bank a short distance above us, they became poor and not eatable. . . . The Indians affirm, and there is every reason to believe them, that not a single Salmon, of the myriads that come up the River, ever returns to the sea: the shores of the River, after the spawning season, were covered with them, in a lean dying state, yet even in this state, many of the Indians eat them.

(b) In mid-August 2 years later (1809) Thompson (1962:295) set out to travel down the Kootenai River once more. First moving up the Columbia the short distance to its source lakes, his party managed to spear "a few tolerably good Salmon . . . in the lower [Windermere] Lake." On August 20, with the Canal Flats portage behind him, he embarked on "McGillivray's [Kootenai] River" and began his descent of that stream, already out of the salmon country.

(c) On September 17, 1859, after a trying crossing of Howse Pass and descent of the western slope along Blaeberry River, Hector (Spry 1968:454) of the Palliser Expedition arrived at the Columbia River. Describing his

impressions of the river between the Blaeberry mouth and a point a mile or slightly more downstream where he encamped, he writes:

> Along the banks we found a good many dead salmon, which had, no doubt, been worn out by their long ascent from the sea.
>
> We afterwards saw them all the way to the source of the Columbia at the two lakes [Windermere Lake and Columbia Lake].

The following day, starting up the Columbia toward these lakes, Hector (Spry 1968:455-456) soon encountered:

> . . . a couple of Shouswap Indians . . . [who] had come up the river in a rough "dug out" wooden canoe. . . . They . . . gave us some of the flesh of a black bear they had just killed on the bank of the river as he was feeding on the dead salmon.

On October 2, Hector (Spry 1968:460-461) reached Columbia Lake, the Canal Flats, and finally, across this "level tract," the Kootenai River. There he "found two families of Kootanie Indians . . . drying salmon, which they had caught in the Columbia Lakes, there being none in the Kootanie River, as they cannot pass the great falls that occur close to where it joins the Columbia."

These historical data raise no serious questions concerning the accuracy of the ethnographic information. Nonetheless, they fail--an interesting point--to provide clear circumstantial evidence for any large-scale movement of Upper Kutenai to these autumn salmon grounds. This is the case even for the initial decade of the nineteenth century, prior to significant trade influence, although Thompson speaks rather vaguely of "many Indians" collecting spent fish. Were the Upper Kutenai by the early 1800s so decimated by epidemics that any notable northward movement of the people was physically impossible? Did such traveling occur only in precontact times, or then and again in the 1800s after the population had had an opportunity to build once more? For the present, however, it would appear that the ethnographic reports must be accepted as fundamentally accurate, although their time-line is uncertain. The relevant historical references identified to this point appear too few to argue convincingly against them.

Sturgeon ethnographic data are not completely consistent, but the upshot appears plain enough. According to Schaeffer's (1940:31) informants, sturgeon occurred "in the main [Kootenai] river below but rarely above Kootenai Falls." These fish (wi·'yaɬ), Turney-High

(1941:45-46) reports, were caught by the Lower Kutenai, among whom it was an important fish. Obliquely, he seems to imply that it was exclusively a Lower Division fish variety, thus agreeing comfortably with Schaeffer's data. That sturgeon occurred in Kootenay Lake and were regularly taken by the Lower Kutenai for food is made unequivocably plain by de Smet ([1847] 1906b:199). According to Ray (1942:104) on the other hand, sturgeon were entirely absent in Kutenai country.

It must be concluded from the straightforward records of Schaeffer, Turney-High, and de Smet that sturgeon were present in Lower Kutenai territory and were taken by them in some numbers. But that, in contrast, they were absent--or effectively so--in the country of the Upper Kutenai. As a not irrelevant footnote to this issue, it may be asked how Ray could have been misled by his informants. It may be conjectured (as his bison-hunting data intimate) that his information was derived primarily from members of the upriver division, who naturally spoke chiefly in terms of the territory familiar to them.

Fishing Devices and Techniques

Several fishing methods are reported for the Upper Kutenai, or non-specifically for the tribe with the presumption that the Upper Division either is the unit in question or at least shared the technique with the downriver people. These are hook and line, gorge and line, weirs with funnel or open basket traps, dams with traps, basket traps at waterfalls, spears, and harpoons. The data concerning fish nets are contradictory: Schaeffer and Ray report their use, while Turney-High (1941:75) states that they were not employed among the Kutenai.

The data that follow are drawn principally from Schaeffer (1940:31-41), Turney-High (1941:44-52), and Ray (1942:104-116). Schaeffer's information is richer in its cultural-behavioral context, but less comprehensive in describing variant fishing methods. Turney-High's material is not without ambiguities, but its general thrust is clear. Ray's information, as already noted, is presented in an item-by-item trait list, making it difficult in some instances to assemble the individual elements into organic total constructs. In addition, Ray fails to differentiate between the two tribal divisions, but for reasons already explained his data appear to relate principally to the Upper Kutenai.

Hook and Line

Hooks were employed to catch small fish at night. These were sharp-angled devices of deer or, on occasion, of other kinds of bone and had a single point.[74] Additional construction details are lacking. The lines were of Indian hemp, twined on the thigh. (Turney-High 1941:76; Ray 1942:110-111)

The only ethnographic data of which I am aware relating specifically to Upper Kutenai fishing with hook and line are to be found

in a myth transcribed by Chamberlain (Boas 1918:38-39). The people are described as having been winter fishing for trout with hook and line through holes in the ice and as having caught many of these fish. Through this mundane background are interwoven mythic elements involving Coyote and his wife, Trout, that are of no concern to this study.

Trout were actually obtainable--though perhaps in Kutenai eyes only in unrewarding quantities--in the Kootenai River at least toward the close of summer. When "encamped at the commencement of the second Kootonais Lake" (i.e., the northern tip of Columbia Lake) in mid-August, 1841, Simpson's (1847:128) party caught "for supper a few small trout of excellent flavour." It seems safe to assume that they were taken in the stream flowing from the lake, not in the lake itself, if for no other reason than because Simpson's group was traveling by land. And again, when just south of the Skookumchuck River, Simpson (1847:129) reports: "The Kootonais [River] . . . afforded us a highly agreeable addition to our meal, in the shape of some fine trout." Presumably the party's angling method was by hook and line, though this is not made explicit.

Hooks were baited with worms; grasshoppers; wasps; eggs of whitefish, trout, and sometimes salmon; and fish-tail meat. (Ray 1942:111-112)

Gorge and Line

Although Ray (1942:111) reports that the gorge was not in use among the Kutenai, Turney-High (1941:45) provides a relatively circumstantial description of this simple lure that, considering its currency among nearby tribes, has the ring of accuracy.

According to Turney-High, the gorge, used for all trout, was fashioned of two pieces of fine bone with one end ground to a well sharpened point and the other rounded. The two, apparently transversely grooved, were crossed, lashed together with fine line, and tied to a line of Indian hemp at the crossing point. The bait was bound to the pointed ends, but the fish was expected to swallow the entire lure. In winter, the device was dropped through a hole in the ice; in summer it was cast and drawn in with a wobbling motion. (Turney-High 1941:45, 76)

Weir and Trap

The weir and trap were used by the Upper Kutenai to catch fish "during the rise and fall of flood waters in the tributaries of the larger rivers and lakes" (Schaeffer 1940:31). This arrangement, when constructed for trout, was the most productive fishing method in use among the Upper people (Turney-High 1941:46-47, 52).

Owing to the differences in natural conditions, Schaeffer (1940:31-32) reports, the weir and trap of the Upper and Lower Divisions differed somewhat in construction and operation details. In Upper Kutenai country the streams were shallow and swift; accordingly, the

framework consisted of a row of four-pole supports (not simply single vertical poles) against which wickerwork screens were placed. And the trap itself was more commonly an open basket affair rather than a funnel trap. In the basket arrangement char, whitefish, and large varieties of trout were taken. In the funnel trap, on the other hand, smaller species (e.g., ling and suckers) were caught. With the funnel variety evidently in mind, Turney-High (1941:46-47, 52) states that trout were the fish most common taken in the weir and trap.

Throughout the Upper Kutenai area, good basket trap sites were numerous: along the creeks emptying into the Columbia Lakes where whitefish were caught as the flood water receded in July; in the tributaries of the Kootenai and Elk Rivers, where trout and char were taken when they were moving back to the main river in the autumn; along the North Fork of the Flathead; along Ashley Creek and the other streams where the Jennings band caught fish moving upstream during high water. (Schaeffer 1940:32) Ashley Creek flows into Flathead River from the west after meandering across the lowland just north of Flathead Lake (USGS Kalispell quadrangle 1957). It is, of course, well south of the traditional Kutenai homeland, though within the perimeters of the area taken over relatively recently by the Flathead Lake band.

The Upper Kutenai weir with the open basket trap is described in detail by Schaeffer (1940:32-33). In summary, it was constructed across a constricted part of a stream in water 3 to 5 feet deep. In very swift currents, the frame was set "at right angles to the stream" (i.e., apparently straight across the stream). Otherwise, it was fashioned in two sections, each "extending at an acute angle from the banks, in the direction of the current" (i.e., I gather, with the apex of the V pointing downstream), these two wings guiding the fish toward the trap set at the V point. The frame consisted of a number of four-pole supports, lashed together at their tops and with bases spread, set in a row across the stream. Horizontally across these supports were tied two rows of heavy poles. Against these poles were lashed woven mats of willow branches. To the center four-pole support was attached a wickerwork, "boat-shaped" trap, about 3 feet wide at the top and from 7 to 12 feet long, so arranged that the rear side projected above the water behind the weir. A ramp of some sort, not described by Schaeffer, was constructed in front of the trap. Beside it was built a platform on which a man could stand. In use, fish were driven up the ramp to the trap by one man using a laced "racket." They were killed by a second man standing on the platform and wielding a wooden club, and were removed from the trap by this same man. Throughout the night relays of men tended the trap.

The weir and funnel trap, primarily a Lower Kutenai device, was occasionally put into service by the Upper bands (Schaeffer 1940:33).

> In the small, shallow spring-fed lakes of the Tobacco Plains region, this device was employed in spring and summer to intercept schools of suckers, moving regularly from one end of the lake to the other. Individual families, camped nearby, fished for brief periods in this way at Sophies and Edwards

> lakes. Across a narrow portion of the lake a crude weir of closely-set, vertical poles was built and the funnel trap attached to an opening. After a school of fish were observed to pass by, the trap was fastened in position at nightfall at the proper depth for their return. It was emptied the following morning.

Sophie Lake, a small body of water, lies on the plain about one mile east of Lake Koocanusa in the Tobacco Plains region (USGS Kalispell quadrangle 1957). Edwards Lake has not been located, but is presumed to be one of the other small lakes in the same general sector, possibly now known officially under some other designation.

What is evidently essentially the same vertical pole, conical trap construction is described by Turney-High (1941:46-47, 48, 49) for the Upper Kutenai on the basis of information from the Elmo band. He writes, however, as though it was the usual Upper Division weir and trap, a statement out-of-joint with Schaeffer's data above. It was, Turney-High states, a rather weak affair, built across the mouths of shallow lateral streams. Two silverberry or ocean spray fences of straight sticks were driven vertically into the stream bed, so as to form a V in the middle of the current, pointing upstream. The stakes were bound together with cording of the cambium of Indian hemp, these lashing lines running horizontally to interweave the stakes in courses "somewhat more than six inches apart." Into the opening at the apex of the two wing fences was bound a cylindrical trap with an internal funnel, both woven of withes of willow, Indian hemp, or silverberry. The entrance of the trap was directed downstream. These weirs were constructed exclusively by men as individuals, not as communal projects. Those who built the structure "owned" the fish taken, but with an explicit understanding with the band chief, from whom permission had been received to utilize the stream as a weir site, that the catch would be shared with a number of other families of the band.

How may one reconcile Turney-High's designation of this conical trap weir as the common Upper Kutenai type and Schaeffer's relegation of it to a position almost insignificantly secondary to the open basket weir? The key, I suggest, lies in Turney-High's clear implication that the device he describes was constructed where the water was only weakly flowing. This being so, the weir type at least conforms precisely to Schaeffer's generalization that the vertical pole and conical trap weir was associated with relatively sluggish streams rather than with fast-flowing currents. And the possibility is raised that Turney-High's information is descriptive not of the Upper Kutenai pattern as a whole, in spite of his statement to this effect, but rather of the common weir type of the Flathead Lake band of the Somers, Dayton, Elmo area, the group from which he acquired his information. On the basis of stream pattern details shown on the USGS Kalispell quadrangle (1957) and Wallace quadrangle (1956), it would appear that there are a significant number of relatively sluggish watercourses along the northern and western sides of Flathead Lake and that these would permit Turney-High's simple weir and funnel trap to be a common fishing construction. If so, these Flathead Lake people would, of course, have resembled the Lower

Kutenai in their usual weir and trap device, as described by Schaeffer above, rather than their closer kinsmen of the Upper Division.

Weirs with accompanying traps are also described by Ray (1941:104-107). As I sort his data out, they were put to use for both large and small fish. In one type a frame was fashioned of stakes driven into the stream bed or occasionally of tripods where the bottom was soft. Against this frame was placed a removable fencing of twined willow withes. A second type was a fixed weir of a series of stakes bound together with spruce root lashings. These two types of weirs (always single barriers, never in pairs) were built straight across small streams, the poles of the frame, if not tripods, slanting upstream from bottom up. Both types were evidently provided with a conical double-funnel trap of splints and hoops bound together. Fish were removed from the trap by untying the splints at the small end. These weirs were fitted with no scaffolds, but a log bridge was put in place parallel to the weir, presumably (not explained by Ray) as a base from which to operate when building or repairing the structure and when removing the fish. Occasionally these straight weirs were constructed with a separate wing barrier inclining from one bank toward the weir at a point close to the other bank, obviously, although not indicated by Ray, designed to direct the fish toward the trap in the weir.

In a third form, according to Ray, the weir consisted of two partial barriers arranged at an angle with the bank and converging to a point, invariably aiming downstream. At this apex was placed a double-funnel trap. This is surely the variety described above by Turney-High.

Note that these data of Ray's third type and those of Turney-High descriptive of the same weir variety differ in the direction toward which the weir V pointed. Although Ray's account fails to specify the direction toward which the open end of the conical trap faced, it may be presumed that, consistent with the point of the weir pair, the trap opening was likewise reversed.[75] This inconsistency is not, however, necessarily indicative of an error on the part of either ethnographer. Turney-High's orientations would seem to have been appropriate, to mention but one circumstance, when small lateral streams were flooding from the main river and the fish were moving upward into these tributary watercourses. That of Ray, in contrast, would have been effective later in the season when the water level of the small tributaries was falling, allowing the point of the V to be directed downstream and the opening of the trap to face upstream against the current so as to secure fish now heading back to the deeper water of the river. Turney-High (1941:52) reports that trout, the principal Upper Kutenai fish, were caught only in the early spring when spawning. If so, one must conclude that Ray's weir with its upstream-facing trap saw service for some other fish types, like, perhaps, suckers, although Ray's data fail to make this point. Extrapolating from the summer fishing practices of neighboring tribes inhabiting similar ecological niches, it would be surprising if both weir/trap orientations were not employed during the course of the open fishing season. But the bothersome feature of the data is that Turney-High implies and Ray states unequivocally that the weir V direction they individually describe was the only one in use among the Upper Kutenai (Turney-High) and Kutenai (Ray).

A simpler barrier was sometimes in use in association with the trap device. This was a dam of rocks or occasionally brush that was built straight across a stream and was provided with a double-funnel trap (Ray 1942:106).

It was customary for the Upper Kutenai to be invited by members of Lower Division bands to join them in their more extensive weir and trap fishing activities (Turney-High 1941:44).

Fish Dams

While no traps of any sort were employed by the Kutenai in catching salmon (Turney-High 1941:50), a statement which the data of neither Schaeffer nor Ray dispute, weirs were built by the Upper Kutenai at Athalmer--at the outlet of Windermere Lake--according to Schaeffer's (1940:40) informants "for salmon to enter." After the entrance was closed, the fish "were easily secured inside"--by being harpooned, if one can judge from the larger context of this statement. Plainly what we have here is a kind of dam of weir construction, not one of rocks, brush, or similar materials, and without an accompanying trap fixture of any variety.

These statements are overtly inconsistent with Turney-High's (1941:50) contention that dams were never built by the Kutenai to aid in taking salmon. However, Schaeffer's data are perfectly straightforward and reasonable and, I think, may confidently be followed.

This is particularly the case since in an Upper Kutenai myth recorded by Boas (1918:177, 179) Coyote is said to have saved Sparrow, the village chief, and his people from starvation by instructing salmon to enter a weir they had constructed in the Columbia Lakes area. From this impounding dam the fish are described as having been removed with spears and dried.

Waterfall Basket Trap

A waterfall basket trap was used by the Upper Kutenai in relatively recent times, having borrowed it from the Lower Division, when fish were moving downstream in autumn. A weir like that employed with the conical trap was built by two men above the falls so as to direct the fish to "a break of the waterfall."[76] Two mats, each 10 feet square, were fashioned of warps and wefts of fir switches split with a flint knife. They were curved into partial cylinders with a lengthwise four-foot opening along the top and strengthened in this concave, trough shape by wooden hoops. Whether the ends were somehow closed is not stated. One basket was suspended from a heavy fir tree placed across the stream so as to hang at the apex of the fence under the falls and precisely where the "break of the falls" occurred. Just below, a second log was placed with another hanging trap, so set as to catch any fish that failed to fall into the first basket. The two men who owned the device scooped the fish out of the traps with nets on the end of long poles. Some of

the fish they kept and the rest distributed under the same arrangement as prevailed with the weirs and conical traps described above. (Turney-High 1941:47-48)

Nets

Not mentioned by Turney-High (1941), bag nets are described by Ray (1942:108-109) for the Kutenai. Used for small fish, these were conical devices about 12 feet long, fashioned of willow bark or Indian hemp cord and furnished with weights. Such a net was dragged by three canoes, following a fourth canoe with beaters to frighten the fish toward it.[77]

Seines are reported by Schaeffer (1940:40) to have been used to some extent by the Upper Kutenai for salmon. However, beyond the fact that they were stretched "across a shallow place to confine" the fish, no details are known.

Gill nets and dip nets of both the scoop type and the vertical lift variety were unknown among the Kutenai (Ray 1942:109-110).

Spears

While not included by Turney-High (1941) in his list of Kutenai fishing implements, spears are specifically reported by Schaeffer and Ray. In most respects the descriptions are in agreement, yet they are sufficiently complementary to suggest that they should not be conflated.

According to Schaeffer (1940:41), the three-pronged leister:

> . . . was used largely in spearing smaller fish from a canoe by torch-light at night. In May suckers and ling were taken by this method by Tobacco Plains Kutenai at the mouth of Gold Creek. [Gold Creek enters the Kootenai River from the west about 4 miles north of the international border (Whitford and Craig 1918:end map; shown but not named on IMW Kootenay Lake quadrangle 1969).]

The point consisted of a central sharpened element about 6 inches long, made of a deer lower-leg bone, and of two side prongs, approximately 8 inches in length, fasioned of serviceberry wood and so placed that they projected at a slight angle from the central element. To the end of each of these side pieces was bound a sharpened bone barb "so as to project inward at an angle towards the central prong." This composite point was inserted in a cleft in the end of a wooden shaft, about 10 feet long, and wrapped tightly in place with sinew.

Three-pronged leisters are also described by Ray (1942:111, 113-114), largely confirming Schaeffer's data. They were used for small fish--not for salmon--both working through ice on the rivers and in night fishing from canoes. The central point was of bone and was fixed firmly to the pole shaft. The two lateral points of wood were provided

with a bone, deer antler, or sometimes mountain-goat horn barb on the inside, point directed upward toward the lashing. This was a thrusting spear, not one that was thrown. It was not used from platforms. In winter spearing, crushed fish eggs were placed in the water to attract fish to the fishing site.

Harpoons

Harpoons were used, Schaeffer (1940:40) reports, in taking the larger varieties of fish, including salmon and char. The device is described rather differently by Schaeffer, Turney-High, and Ray.

According to Schaeffer (1940:40-41), the point was of mountain-goat horn, heated near a fire to soften it, cut with two lengthwise slits at the base, and then barbed by having the two side pieces spread outward. "The distal end was ground upon a stone to a very sharp point." The center section remaining after the barbs were spread was fitted to a wooden shaft, 16 or 18 feet in length. The point was tied to the shaft by a braided horse-hair line, one end secured through a hole in the base of the point and the other fastened to the shaft. In use, the harpoon was thrown; the head was soon dislodged from the shaft by the struggles of the fish; and the shaft, tied loosely to the point, served as a drag to fatigue the fish. Such a harpoon point was carried by most hunters "as part of their regular travel equipment" and used by them as opportunities arose, the point being fitted to "a wooden shaft cut at the spot for this purpose."

As Turney-High (1941:50) describes the point, it consisted of the tip of a bighorn sheep horn "with the outside scraped away," sometimes ground to a sharper point. It bore no barbs, these being considered unnecessary. A long sinew line was tied through a hole bored in the point near its butt end. Into the open end of the point a pole handle was fitted sufficiently loosely to allow it to fall free from the point when a fish was struck and the fish to be brought in with the line alone.

According to Ray (1942:112), the harpoon point was a single-prong affair, round in cross section, made of an animal leg-bone or of horn.[78] This point was fitted into a separate one-piece butt, which separated from the pole shaft so the line, held in the hand, could be drawn in with the catch.

Obviously the above three accounts of the harpoon construction describe two different methods of uniting the head and shaft and two techniques for playing the fish and bringing it in: one by Schaeffer and the other by Turney-High and Ray.

As already indicated, salmon were taken by the Upper Kutenai in their own territory only when the fish were spawning in the headwaters of the Columbia, specifically in the Columbia Lakes area and immediately downriver. This occurred in late summer and early fall. Harpoons were used to secure the fish, but precisely how they were employed is described rather differently by Schaeffer and Turney-High.

• With the harpoon, Schaeffer (1940:40) writes, men of the Upper Kutenai bands caught salmon during their run by wading out "into the shallow waters of the spawning beds" or by spearing them "from the shore."

• Harpoons used for salmon, Turney-High (1941:50) reports, were invariably thrown from canoes. Fishing was an individual activity, a very productive fishing method, carried out at night. The fisherman, with torch in his left hand and harpoon in his right, paddled out into the stream and drifted in "reasonably quiet water." When a salmon was struck, the pole fell in the canoe and the fish was drawn in with the line.

The harpoon was also used to impale char:

> . . . charr of some size were speared with this implement during their movement downstream in September. Fall hunting parties from Tobacco Plains, on their way to the bison range, caught charr in this way along the north fork of the Flathead, or at the junctions of the Wigwam, or Lodgepole, with the Elk [River]. The fishing was usually limited to one day. Several men would drive charr towards shallow water where others waited to spear them. (Schaeffer 1940:40)

The Wigwam reaches the left, southern bank of the Elk River about 5 miles below Elko and approximately 10 miles upstream from the union of the Elk with the Kootenai River. Lodgepole Creek enters the Wigwam from the northeast some 6 miles above the mouth of the Wigwam (Anon 1941).

Miscellaneous Fishing Data

Fish poison was unknown to the Kutenai (Ray 1942:114).

Fish were killed by breaking their necks or by bleeding them. They were carried in rawhide sacks which served as creels, or were strung on withe loops and carried on the back. (Ray 1942:114, 115)

Women sometimes caught fish, using any of the methods known to the Kutenai except spearing (Ray 1942:115), and presumably harpooning.

Fishing Techniques and Fish Varieties

It has been observed that the ethnographic accounts provide precious little information on the fish types taken by the Upper Kutenai by the various methods described. From the preceding material such data as exist concerning this functional association have been extracted and assembled in Table 2-4.

Table 2-4. Fish Varieties and Fishing Techniques of the Upper Kutenai as Noted in Several Ethnographic Sources. These Data are Surely Not Exhaustive.

Fish variety	Fishing techniques								
	Hook and line	Gorge and line	Weir and funnel trap	Weir and basket trap	Dams	Waterfall basket trap	Nets	Spears	Harpoons
Char (bull trout)				x					x
Eels									
e´pat!									
Ling			x					x	
Peamouth									
Salmon					x		x		x
Squawfish									
Suckers			x					x	
Trout		x		x					
Whitefish				x					
Small fish			x				x	x	
Larger fish									x
Large fish			x						

Fish Processing

Very little information is available on Upper Kutenai techniques of processing fish. It is reported, however, that the cleaning, dressing, smoking, and drying operations were entirely women's work.

Trout were dried for later consumption (Ray 1942:135). According to Turney-High (1941:51, plate III), two methods were in use:

(a) The fish were hung from rectangular racks constructed around a fire. This, however, was not the better method--it was employed only in cloudy or rainy weather--since it dried the fish too quickly, rendering them dry, stiff, and difficult to cook later. Moreover, all the fat and most of the flavor were lost. And, to cap it, the Kutenai did not enjoy fish with a smoke taste.

(b) The fish were sun-cured. Around a four-pole tipi-like frame four poles were lashed horizontally some distance above the ground. From these latter poles the fish were suspended to dry in the sun. Because this process caused the loss of neither fat nor flavor, it was the preferred method. But it was unfortunately difficult to put into practice during the early spring trout season, for then the sun shone infrequently in the Upper Kutenai country.

In the case of salmon, the head and sides were first cut off with a stone knife and then the flesh, spread open by cross sticks, was hung from a pole to dry (Ray 1942:134-135). Turney-High (1941:51) provides additional details. As the initial stage in the process, he reports, they were about half-dried in the sun and then dried by a fire to the final, proper level.

> Salmon dried entirely by the fire was considered of poor flavor, dry, stiff, and too crumbly to keep well. Properly prepared salmon would last without spoiling until needed.

Whether salmon flesh was ever reduced to "powder" by the Upper Kutenai is a matter of debate. Turney-High (1941:51) states categorically that salmon were never pulverized by them into fish pemmican. Such treatment was thought to spoil the fine salmon flavor and convert the flesh into "sawdust." Ray (1942:139), on the other hand, reports with equal certainty that salmon meat was pulverized. Considering the frequency with which dried salmon received this treatment in the salmon regions of the Plateau, it would be surprising if the Upper Kutenai failed to preserve the meat in this manner. Yet Ray (1942:139) himself observes that neither the Shuswap nor the Chilcotin to the northwest of the Kutenai pulverized salmon flesh. So perhaps Turney-High is correct. Or, alternatively, possibly some culture change occurred in relatively recent times and both ethnographers are reporting the facts for different time periods.

We know almost nothing specifically about how salmon was made ready for eating. We are told only that "properly dried salmon was often eaten raw [since] the sun [had] cooked it already" (Turney-High 1941:52). And, as trivial bits of information, that dried salmon was occasionally mixed with pulverized meat and dried salmon broth was given to women following childbirth (Ray 1942:139, 196).

Salmon eggs, too, were dried for later eating. To keep them from deteriorating, they were placed in bison-hide containers and buried in bark-lined pits until needed. When eaten, these eggs were mixed with kinnikinnick berries.[79] (Ray 1942:135, 139)

All salmon bones, including those resulting from the first-salmon ceremony, were routinely thrown back into the river[80] (Ray 1942:116, 129). This patterned behavior is not without archaeological significance. For even if soil conditions in an occupation site were favorable for the preserving of such skeletal material, osseous evidence for salmon fishing could not be anticipated in a traditional Upper Kutenai site. Conversely, the discovery of such bones in a precontact time frame within recent Upper Kutenai country would presumably indicate either a pre-Kutenai population or a cultural norm among earlier Kutenai people different from that in more recent times.

Like trout and salmon, whitefish, too, were dried (Ray 1942:135).

In early times the Upper Kutenai evidently stored their dried fish for subsequent use in cedar boxes more or less like those, approximately 4 feet square, used by the Lower Division. But gradually they "tended more and more towards the Plains parfleche." (Turney-High 1941:51)

Finally, the following observations relating to the preparation of fish in general for immediate eating are of some interest, particularly because they are not without archaeological relevance:

> Kutenai preferred boiled to baked or broiled fish[,] . . . actually disliking broiled and baked foods. They also had a marked dislike for fresh foods of any kind. They always preferred cured fish and only ate fresh meat and fish when they were very hungry. Fish, like most foods, were boiled in wooded bowls. (Turney-High 1941:52)

This predilection for boiled foods suggests that fire-exposed boiling stones might be particularly in evidence in Kutenai occupation areas.

Fishing Activities and Life Zones

There are no data defining the association of Upper Kutenai fishing sites with environmental life zones. However, a review of the specific fishing localities referred to in the preceding ethnographic notes reveals that surely most, perhaps even all, fish-taking was carried out in streams and lakes in valley bottoms. This points to an essentially one-to-one correlation of Upper Kutenai fishing activities with the

Transition Zone. Further, it seems clear that both its Timbered and the Grasslands phases provided fishing localities. Those, for example, up the Elk River (as at the confluence of the Wigwam) were evidently in forested terrain; those in the immediate Tobacco Plains area (as at Sophie Lake) were plainly in a grasslands environment.

This suggests that traditional Upper Kutenai fishing sites may reasonably be anticipated archaeologically in appropriate locations within the Lake Koocanusa pool area. It is unfortunate that the ethnographic literature fails to record explicitly the geographical position of such sites.

Plant Collecting

Most of the reliable information available on Kutenai plant usage in a subsistence context is to be found imbedded in two accounts: in Turner's (1978) comprehensive study of the food plants of the Indians of interior British Columbia, and in Hart's (1976) research on the native plants utilized in various ways by the Kutenai, Flathead, and a number of northwestern Plains tribes.[81] These materials serve as the basis of the following summary.

The incorporation of Turner's data in this present study poses certain problems which may well be made specific:

(a) In some cases they report only that a particular plant was in general use as a subsistence resource among the interior Indians of British Columbia. Unless there is some circumstantial indication that this was specifically true of the Kutenai, the plant is not included as a Kutenai food.

(b) For the most part Turner's Kutenai statements fail to differentiate between the Upper and Lower Divisions. It is presumed, however, that most, if not all, of her extensive informant data was derived from Upper Kutenai Indians, for the Kutenai informants to which she expresses particular appreciation are two at St. Mary's Mission, Cranbrook, and a third at Tobacco Plains (Turner 1978:5). Accordingly, all of her Kutenai information is included in this section on the assumption that it relates either to the Upper Division alone or to that unit as well as to the Lower Division.

(c) The majority of Turner's material dealing specifically with the Kutenai testifies only to the fact that a particular plant was traditionally used by the group. Normally it provides next to nothing more for the Kutenai in particular, no data, for example, on harvesting season and methods, on processing techniques, and the like. Some such background information is reported for the "interior Indians" of British Columbia as a group, both in a brief introductory section (Turner 1978:29-31) and under many individual plants. But again data of this kind are incorporated into this report only when

reasonably convincing evidence is at hand that they apply to the Kutenai explicitly.

Hart, too, fails to distinguish between the upriver and downriver Kutenai in his ethnobotanical record. But while he furnishes no information on the traditional divison and band affiliation of his principal Kutenai informants, he remarks that three of the seven hailed from Big Arm--on the western shore of Flathead Lake--and two from Hot Springs--in the Little Bitterroot Valley, approximately 25 miles roughly southwest of the southern end of Flathead Lake. This fact and the fact that he evidently obtained his ethnobotanical information exclusively on reservations and in nearby areas within the limits of Montana (Hart 1976:iii) lead to the conclusion that his Kutenai data came primarily or even entirely from members of the Flathead Lake band. As we have seen, this band was formed in large part by people from the old Jennings and Libby bands, and, therefore, by people with predominantly Upper Kutenai linguistic and cultural ties, even if not entirely devoid of Lower Kutenai traits. Accordingly all of Hart's Kutenai data are assumed to relate to the Upper Kutenai and, where they concern the subsistence sector, they find their place in this present study.

Commendably, Hart often indicates the tribe to which the individual items of his basic use data relate, thus making explicit when information pertains to the Kutenai. But unfortunately he appears not infrequently to fail to distinguish between his own field findings and ethnobotanical facts culled from earlier sources. As a consequence, except when a conclusion of borrowing is inescapable (v. note 103), one cannot determine when statements similar to those of predecessors represent a carrying forward of preceding findings and when original field information, thus corroborating antecedent data. In fairness to Hart, his 1976 publication is largely popular in treatment--though prepared with care and skill from a botanical viewpoint--where such pedantry as citations would not be appreciated.[82]

Finally, there is a third difficulty inherent in the use of Hart's study. Virtually all of his information on the preparation of food plants for storage and consumption are general accounts for the "Indians of western Montana." The extent to which they apply in detail to the Kutenai is left unreported. Accordingly, few of these data are to be found in this present report, even though the information might, of course, be accurate for the Kutenai. Again in fairness to Hart, a series of minimally differing, tribally specific processing statements for the same food would surely extend well beyond acceptable limits for a popular publication and the patience of its readers.

Data from Schaeffer (1940), Turney-High (1941), Ray (1942), and other sources that confirm and enrich or that run counter to the statements of Turner or Hart are included wherever they exist.

Before focusing on the specific plant information, a few general comments are in order. Speaking broadly of the Indians of southern British Columbia, Turner (1978:23) reports that plant foods, while much more significant than in the central and northern parts of the province,

were less important than "animal products (notable large mammals and fish) . . . in terms of quantities consumed." To this statement I add the footnote that, as observed above, one may question the extent to which relative quantities of foods eaten annually is a centrally important variable in native dietary assessments.

And she writes further:

> The carbohydrate component of the Indian diet . . . was considerably greater for the Indians of the southern Interior [than among the coastal natives]. These [interior] people utilized a wide variety of starch- and sugar-containing underground parts, as well as some seeds and nuts, and black tree lichen. The last has a substantial starch content. . . .
>
> Vegetable protein was in extremely short supply, but this shortage was amply compensated for by the abundance of animals protein. Fish or meat was eaten with almost every vegetable dish. Green vegetables, such as the sprouts of cow parsnip (Heracleum lanatum) and balsamroot (Balsamorhiza sagittata), . . . and the nutrient-rich cambium of lodgepole pine and other trees provided vitamins and minerals, . . .
>
> Certain roots, especially balsamroot and bitter-root, were often considered as dessert foods, and were cooked and eaten after a main course as a special treat. . . .
>
> [A] . . . "sweet" enjoyed by the Kootenay Indians . . . was a liquid syrup collected from certain trees of western larch. (Turner 1978:23-25)

Because a native plant often parades under various popular rames and botanically different plants are not infrequently referred to by identical "common" names, the Kutenai terms for plants noted in this section are recorded when available in the ethnographic sources. It is assumed that, when two ethnographers record the same Kutenai term for plants, these plants are probably the same.[83]

It may be wondered why brief habitat information is included as an addendum to the descriptive material that follows. As stated above, one of the principal objectives of this study is to attempt to relate the Upper Kutenai, specifically their subsistence and settlement patterns, to their bioenvironment. Because there is generally little ethnographic information as to the localities where the Kutenai obtained their various food plants, data on the particular habitat requirements favored by these plants and their geographical and altitudinal distribution generally provide the only basis for estimating broadly where the Kutenai must have trekked to secure these foods. We shall devote particular attention to this subject in a later section of this study.

Underground Plant Parts: Roots, Bulbs, Rhizomes, and Tubers

In general, these plant parts--for convenience all referred to as "roots" in this broad discussion--were evidently not held in as high esteem as among the Salishan groups to the south. One may suspect that this reflects a lesser availability of the really important roots--like bitterroot and especially camas--in the Kutenai environment. But it may likewise reflect the generally northern cultural orientation of the Kutenai to which Schaeffer (1940:49ff.) has called attention, as opposed to a modified southern, Great Basin-like orientation of the Salishan tribes, at least as far as plant utilization is concerned. The two--the environment and the orientation--may, of course, go hand in hand in a mutually supportive relationship.

Nevertheless, as Ray (1942:131) observes, roots were extensively utilized by the Kutenai, although he specifies none except incidentally in connection with food preparation procedures. As already noted, Turner (1978:23-25) avers that a wide variety of roots formed a part of the traditional Kutenai diet, and she, like Hart, gives us a respectable amount of root food information, though surely incomplete because of her pattern of generalization without attributing data specifically to the Kutenai. Schaeffer's (1940) field research yielded minimal data on the Kutenai use of roots as foods. And Turney-High reports only that bitterroot and camas provided the Kutenai with a certain amount of subsistence resources.[84]

Bitterroot

Four principal sets of data relating to bitterroot collecting and processing are available: those of Schaeffer (1940:44-47) and Turney-High (194[illegible]:23, 33-34), both ethnographers, and those of Hart (1976:46-49) and Turner (1978:174-179), two botanists. This information has been integrated to the degree possible, with data sources identified by the author's name alone, unless pages other than those indicated above are involved. Pulling the data together in this fashion makes for a less polished presentation, but I conjecture that it is important to be aware of the source of each information fragment. In general no effort is made to evaluate the facts presented where differences occur. One might assume that, by and large, the ethnographers should be followed where ethnographic statements are made and Hart and Turner where the data are primarily botanical in nature.

Bitterroot (Lewisia rediviva, "sand rose, desert rose, rock rose, spatlum, spitlum"; K. nəkʔímpsu [Turney-High], UK. nakámchu [Curtis 1911 7:174]) produces a fleshy, edible taproot (Turner) that is bitter and starchy (Turney-High). According to Turner and Turney-High, it was the most important subsistence root of the Upper Kutenai. Still, on informant testimony, Schaeffer reports that bitterroot was unknown to the Kutenai until about the time when the first horse was seen.[85] The Kutenai were taught how to gather and prepare it for food by their Salishan neighbors. At first, in fact, the Kutenai did not appreciate

its distinctive taste. This tradition of recency is not explicitly confirmed by Turney-High, but see his comments regarding bitterroot rituals below.

Even though its use was significant, at least in recent years, the plant was evidently limited in its distribution within the larger Kutenai area. It was much more common in the more arid Upper Kutenai country than farther downriver: the Lower Division secured most of their small supply from the Upper people by trade (Turney-High). Presumably Turner is referring to this same exchange network when she writes that "the southern Kootenay [traded bitterroot] to the Northern Kootenay," though it is conceivable that she is alluding to a trade relationship between the Upper Kutenai of the Libby-Jennings/Tobacco Plains region and those likewise Upper groups that resided farther up the Kootenai River in British Columbia. Whatever the case there, women from the Columbia Lakes[17] area are said to have frequently traveled down the Kootenai Valley in summer to dig bitterroot at Tobacco Plains (Schaeffer).

As to the areas within and near Upper Kutenai country that were most productive of bitterroot: "The arid regions around Fort Steele and Tobacco Plains were ideal" for the plant, and the area of the Little Bitterroot Valley west of Flathead River and Flathead Lake--in what I consider to have been traditional Pend Oreille territory--was sufficiently rich in the root to have attracted the Libby and Jennings bands (Turney-High).

Schaeffer reports that in the wider Tobacco Plains sector bitterroot was found in several different prairies and, in fact, as far north as Cranbrook, confirming in detail Turney-High's distribution observation, the Little Bitterroot area aside. He also tells us of a Kutenai tradition that explains how bitterroot came to grow natively in this part of Upper Kutenai territory. In brief, a woman, originally from bitterroot country to the south, became dissatisfied with the Columbia Lakes region of her husband. She returned home, discarding as she traveled "bitterroot both at St. Eugenes (Cranbrook) and at Tobacco Plains, with the consequence that it is to be found in these localities today.

In general, plants growing at higher elevations yield "larger, less bitter roots than those of the dry desert lowlands and valleys" (Turner).

Bitterroot were best dug immediately before the plants flowered: i.e., from early to late May depending on the elevation, according to Turner. But Turney-High reports that they were dug exclusively in spring "when . . . in flower," a statement that in the space of a half-dozen words succeeds in fighting Turner's data on three scores: the spring vs. May collecting season, the digging when flowering vs. before that event, and the botanical point of the plant blooming in spring vs. in late May or even subsequent to that month. Supporting Turner's digging month data, Schaeffer observes that in the Tobacco Plains region the ripening root was collected in May, initiating the annual root-

digging season. Toward the end of May, bitterroot was no longer available (Schaeffer).[86]

During the period when the root was collected, Schaeffer reports, families scattered to the different root grounds. Camps were pitched adjacent to the root localities. Most of the women of the camp busied themselves at their digging pursuit, accompanied by a few men to protect them against enemies and grizzlies. Most men, however, continued to hunt deer.

Two types of digging stick were in use. One was a willow stick, 3 feet long, with the lower end pointed and fire-hardened and the other end fitted with a deer antler cross-handle passed through a hole in the stick. The second and less preferred variety was made of a piece of elk antler, about 15 inches long, cut so as to include "the crotch of one prong." Having no handle and being of lesser length, it made for slower digging. This tool was used wholly by women, who attempted to gather "at least the equivalent of two grain sacks per season" (Turney-High). Turner observes only that the usual digging stick had a curving tip and a cross handle.

Bitterroot gathering, Schaeffer tells us:

> . . . was tedious work and (unless the plants grew very abundantly) it required three or four day's labor to fill a fifty pound sack. Each family tried to gather as much as possible for use during the coming winter. It was calculated that two ordinary parfleches of the dried roots would last two people through the winter, since it was not eaten every day.

The useless vegetative top of the plant was twisted off as the root was removed from the ground (Hart).

The way in which the root was processed, after a quantity was dug, is described by Schaeffer, Turney-High, Hart, and Turner, each in a partial and somewhat complementary fashion. Schaeffer writes:

> Bitterroot was peeled as soon as it was dug during the greater part of the season. Towards the close of the period the outer skin became difficult to remove without first being soaked in water. The roots were spread out upon a piece of old lodge cover to dry in the sun for one or two days. After this they were packed in parfleche bags and cached upon tree platforms.

Turney-High notes only that bitterroot were processed by being sun dried on a robe.

After the digging for a day was completed, Hart writes, the roots were peeled and washed and the "inner core or 'heart,' believed to be the part responsible for much of the bitter taste," was removed. The roots were then dried, often to be "kept . . . for a year or two before eating, in which case they became less bitter."

Turner offers the following description of customary preparation methods which, paralleling the above data on so many points, I take to apply either to the Kutenai specifically or to them and nearby tribes to the south:

> The roots are immediately cleaned of leaves and buds and peeled by rolling them between the hands or on a rock to loosen the skin, then pulling it off in one piece. [A small red-orange structure, inside the root near the top] . . . is removed immediately by splitting open the top of the root and pulling it out with the fingers. It is said to be, along with the skin, the bitterest part of the root which, if not removed, would make the entire root too bitter to eat.
>
> The . . . roots [are] . . . strung on strings or sticks or spread out on mats to dry for several days. After this they will keep all year, . . . They were formerly stored in fibre bags which were sometimes buried in earth pits lined with pine needles.

The process by which bitterroot were prepared for actual consumption is noted by Turney-High. When eaten, they were either boiled or, preferably, put "into a stew with meat." In neither the dry nor the boiled form were they ever pounded into a meal and shaped into cakes.

According to Hart:

> Indians ate them plain, mixed them with berries like serviceberries or huckleberries, added them to meat or bone marrow, or used them to thicken gravy. For a sweet treat they added powdered camas bulbs. . . . Indians regarded bitterroots as a luxury food, offering variety to their otherwise meaty diet. They often carried them on trips, however, since they are light and easy to carry but quite nutritious.

Writing in broad terms concerning the preparation techniques that immediately preceded the eating of bitterroot in the southern British Columbia Plateau and so presumably applying to the Kutenai, Turner notes that, once cleaned, peeled, and deprived of their red-orange embryo structure, they were sometimes eaten fresh, after being baked or boiled a short time. Dried roots "were boiled or steamed in small earth pits and were almost always mixed with other foods," especially with serviceberries. Roots that had been dried were not eaten without further preparation since they swelled up in the stomach.

According to Turney-High, the Kutenai deny having observed any first fruits ceremony for bitterroot in "the old days," which emphasizes the lesser importance of the root than among the neighboring Salishan groups south of them and supports the argument for a comparatively recent recognition of the availability of the root in their country and of its nutritive properties. The recently practiced rites are thought to represent a borrowing from the Flathead, a point neither confirmed

nor denied by Schaeffer. Schaeffer, Turney-High, and Hart all provide descriptions of these rituals, which, however, appear to be without significance for this survey.

The nutritional merit of the bitterroot has long been recognized. Though based on field observation rather than on a proper food-value analysis, Palmer's (1847:407) report of the mid-nineteenth century is of interest. He wrote that the root "contains so much concentrated nutriment that a single ounce in the dried state is sufficient for a meal" (Spinden 1908:204).

Palmer right or wrong, a recent scientific evaluation of the nutritive properties of bitterroot reveals that it is a "good source of vitamin C," (120 gm provides approximately two-thirds of the recommended adult allowance), although, when dried, the vitamin content decreases greatly to about a third of the amount originally present. "However, the amount of vitamin C retained is still enough to make a significant contribution to the diet." (Hilty et al. 1980:9, 20, 23; see also Benson et al. 1973:145, 146)

Bitterroot grows in gravelly and sandy dry soil from sagebrush plains to foothills and lower mountains (Hart 1976:49; Turner 1978:175).

Camas

According to Turner (1978:77-78), the distribution of blue camas bulbs (Camassia quamash "sweet camas, edible camas, black camas") within British Columbia to the east of the Cascades is very limited. She appears to imply--but does not actually affirm--that it was to be found in Kutenai country and was dug by the Upper Kutenai, although other interior British Columbia tribes had to secure it through trade from neighboring groups in Washington, Idaho, and Montana.

That camas grew in several sectors of Upper Kutenai country is attested to, however, by other evidence, although it was obviously neither a very abundant root nor, apparently, one of very high quality. Turney-High (1941:34) reports that camas (Quamasia quamash UK. x̱ápeɪ [Boas 1918:356; Turney-High 1941:34], ȟápǐ [Curtis 1911 7:174]), which favors more arid areas, was available to the Upper Kutenai. Whether the more desirable sweet variety (Q. esculenta LK. sx̱aí'yuk [Turney-High 1941:34]), which grows in moist soil, also occurred in the territory of the Upper Division is not clear from Turney-High's summary.[87]

Schaeffer (1940:44, 47) provides more explicit locational information. Two varieties of camas, one which ripened earlier and was smaller than the other, grew in Kutenai country, but only in a certain few areas. Specifically, it could be found around Tobacco Plains and also along the Wigwam River, a small, southern tributary of the lower Elk River--where the Michel Prairie Kutenai appear to have gathered it--but even in these two areas the plants were undersized. Sometime after the use of the root was learned, it was discovered also in the Rexford sector, where it was collected by the Tobacco Plains people. It

evidently grew, too, in the Libby region, for the Columbia Lakes Kutenai women are stated to have often traveled south to dig camas in this area after gathering bitterroot in the Tobacco Plains region.

The existence of camas grounds in the Tobacco Plains, Rexford, and Libby country is likewise attested to by Hart (1976:15), if his data are not derived from Schaeffer's ethnographic account.

The Kutenai are said to have had two mythic explanations for the occurrence of camas in their homeland (Hart 1976:14): in one, Coyote received these bulbs from Moose; in the other, Coyote distributed camas over the countryside by defecating, his feces transmuting into the bulbs.[88] While etiological myths of these sorts afford no proof of the antiquity of an element in the cultural corpus of a group, these particular myths as well as the clear and specific camas-ground data reviewed above demonstrate that the camas plant was by no means absent in traditional Kutenai territory. At the same time, however, the bulb was surely lacking in the more northern sectors of Upper Kutenai country (e.g., Hart 1976:15-16). The absence of camas in the north is "explained" by a Kutenai legend recorded by Schaeffer (1940:44-45): the presumably Salishan wife of a Columbia Lakes Kutenai, unhappy in her northern home, headed southward to her native country with a sack of camas she had evidently brought up the Kootenai with her and, being very fond of the bulb herself, refused to drop any as she traveled to take root and provide camas for the Kutenai.[89] Certainly the root was nowhere in Kutenai territory as abundant as in the home area of their Salishan neighbors to the south and southwest.

The comparative scarcity of camas and its relatively poor quality within Kutenai territory may help to explain four facts:

(a) Why camas is scarcely mentioned as a Kutenai subsistence resource by Schaeffer, Turney-High, and Ray, all of whom wrote a third of a century before Hart and Turner. According to Schaeffer (1940:44) the use of camas--like bitterroot--was unknown to the Kutenai "long ago," until, in fact, about when they saw their first horse. Their techniques for gathering and preparing the bulb as food were then learned from the "adjacent Salish." It is conceivable that the informants of Schaeffer, Turney-High, and Ray were recalling the more traditional times: before the Kutenai fully developed their own small-scale, second-rate grounds and in particular prior to the Kutenai expansion to the south (v. [c] below).

(b) Why, Schaeffer (1940:44) indicates, Tobacco Plains and Jennings women secured the root through direct trade with the Pend Oreille once the two tribes became friendly. (Cf. Hart 1976:16; Turner 1978:77.) Indeed, the Kutenai, in turn, passed camas on to the Blackfeet during their periods of peace with those people (Hart 1976:16).

(c) Why, according to Schaeffer (1940:44, 46), Kutenai women, after relations with the Pend Oreille became peaceable, began

to dig the bulb both on small scattered prairies on the very southern borders of their country and more particularly outside their traditional tribal land.

According to Schaeffer (1940:44), from time to time digging parties from Tobacco Plains visited the Glacier Park region, which appears to have been located just within the southeastern boundary of Kutenai territory. And in more recent years the Tobacco Plains group collected the root at Columbia Falls--on the Flathead River above Flathead Lake--and along Flathead River itself in old Pend Oreille country. Gatherers from the Jennings sector of the Kootenai Valley dug large amounts of camas at Pleasant Valley and Camas Prairie--both west of Flathead Lake--and in grassy places along the South Fork of the Flathead River--east of Flathead Lake--all in my opinion inside the aboriginal Pend Oreille boundaries. "A generation or two later," Schaeffer (1940:46) continues, "as they gradually extended their territory east and south, the roots were found in greater abundance and size near Kalispell and the region west of Flathead Lake." These grounds lay even farther within traditional Pend Oreille country. One clearly sees here a gradual extending of the Kutenai camas gathering activities southward and southeastward, ever deeper into the old Pend Oreille homeland. It would not seem unreasonable to speculate that it was in some measure the presence of these finer camas grounds that attracted the Jennings and Libby Kutenai to take up year-round residence in these new regions, once they were left little used by the Pend Oreille owing, at least in part, to their decimation by Blackfoot marauders and epidemics.

For what it is worth, Hart (1976:15) also writes of the Kutenai digging camas at Pleasant Valley, Hot Springs (where the root grew small but was especially appreciated because of its sweetness), and Kalispell; in Glacier Park west of the Continental Divide, and along the South Fork of the Flathead River. Hot Springs is just north of Camas Prairie. Hence every one of these areas is mentioned in Schaeffer's earlier account, from which, indeed, Hart may have drawn his information.

(d) Why, as with bitterroot, camas was obviously of lesser importance to the Kutenai bands in their aboriginal country than to the Pend Oreille and Flathead. In light of this fact--and, I may add, of the apparent relative recency of the use of the bulb as food--it may have been the object of no religious observances in early times while its utilization was still new. In fact, the recent simple rituals conducted by the Kutenai as a first-fruit ceremony are themselves, tradition holds, borrowings from the Salish. (Turney-High 1941:34)

The collecting season for camas is quite clear. In the interior southern British Columbia region it was "dug after the plant had flowered--from May to early August depending upon the elevation" (Turner 1978:78). According to Schaeffer (1940:46), the roots were collected "towards the end of May" after the bitterroot season had come to a close.

Hart (1976:16), for his part, reports that camas was generally dug in June, "but this varied from one place to another and depended upon altitude and seasonal weather conditions, especially precipitation and temperature." It is claimed that the bulbs were sweetest and peeled more easily when the flowering time had already passed.

"Quantities" of both varieties of camas were gathered (Schaeffer 1940:47). They were dug with the same implement as bitterroot, before the summer sun dried out the ground and digging became difficult (Turney-High 1941:34).

In regard to camas processing techniques, we have a series of observations by Schaeffer, a skeletal description by Ray, a brief note by Turney-High, and general statements by Hart and Turner. According to Schaeffer (1940:47) the roots were spread on lodge covers to dry for several days, during which period they were cleaned of earth. They were then "roasted"--"steamed," I think, would be more accurate--the two varieties being prepared at the same time and identically, except that the smaller kind was frequently mixed with wet tree lichen in alternating layers. The two varieties were, however, cooked in separate pits. Each family steamed its own camas individually.

The process is described by Schaeffer (1940:47). A pit, 4 to 6 feet wide and approximately 1.5 feet deep, was excavated with digging sticks.

> The bottom was covered with stones, upon which a hot fire was built. After the latter had burned down, the ashes were cleaned off and earth scattered about to smother any remaining coals. Then layers of willow branches, sunflower stalks and leaves, and finally, grass, were placed in the pit. The camas was then placed on top of the grass and covered with successive layers of the same materials, ending with fir or spruce bark and a layer of earth. A small quantity of water was conducted to the hot rocks by means of a hollow tube of willow bark or a hole formed by thrusting a stick into the pit. A large fire of pine branches was built on top of the pit and kept burning for three days. Although men might aid in gathering the firewood, they were not permitted near the roasting pits, else the camas would not be roasted properly. Upon removal the camas was spread out to dry for five or six days; the moss and camas mixture for three days. . . . Some of the camas was then mashed and with a quantity of the whole roots, was stored away for future use.

According to Ray (1942:137-138), the earth oven was used to cook roots. Camas are not specifically mentioned; indeed, only "wild onions" are referred to. But on the strength of the categorical camas information of Schaeffer and Turney-High, Ray's pit-cooking notes are included here. The pit, he reports, was about 30 inches deep, an abnormally great depth for the Plateau. No rocks were used to "pave" the depression and no fire was built in the bottom to burn down and provide under-heat for the food above.[90] A floor of pine needles, however, was spread over the bottom beneath the food to be cooked. Over the food was placed a layer of bark, usually fir but sometimes spruce, and then a capping of earth. On top of the pile the cooking fire was finally built.

For his part, Turney-High (1941:33) notes that the Kutenai cooked camas as the Flathead did. His (Turney-High 1937:127) Flathead data do not differ significantly from Schaeffer's details of the Kutenai process, except that they report the spreading over the hot rocks of sod and grasses, thoroughly drenched with water to produce steam, and the use of more sod over the camas and under the earth cover to seal in the heated moisture. (Question: would not the utilization of sod over the hot rock base be impractical, preventing the heat from moving upward into the camas pile? Sod over the camas, on the other hand, is reasonable and was, for example, a Kalispel practice.) Turney-High (1941:33-34) adds that the same black lichen was used by the Kutenai as among the Flathead, "with the addition of wild onion. When baked into a porridge by this hot pit method, camas can be kept for two years. There is no difference in flavor or quality between the fresh-baked camas and that which has been aged."

Here, for what it is worth, is Turner's (1978:78) contribution to the subject. Without attributing her information to the Kutenai specifically, she notes that camas were cleaned, destemmed, and either mat-dried or pit-steamed for up to 3 days until hard and slightly black.

Hart's (1976:16-17) description of the digging and cooking process is detailed but, as noted above, is said to pertain "to most Indian groups." Consequently, except for the following few notes of special interest not reported, I believe, by others, it is not reproduced here. Camas was cooked "at digging camps, especially on higher ground among the adjacent pines, which furnished firewood." The same pits tended to be used year after year. Early pits were circular; later ones, rectangular, apparently attributable to European influence. The size of the pit was directly proportional to the amount of camas cooked: in recent years pits have grown smaller as camas decreased in importance. (Here we appear to be confronted with a small logical inconsistency with the year-after-year use statement. But these observations of Hart are all generalizations.)

Surely referring of the final preparation of camas for eating and not of the pit steaming procedure and speaking in general terms but presumably with some relevance to the Kutenai, Turner (1978:78) writes:

> Sometimes they were cooked and eaten with . . . [black tree lichen] (Alectoria fremontii), nodding onions (Allium cernuum), bitter-root (Lewisia redivia), deer meat, or salmon.

Laboratory tests demonstrate that C. quamash possesses worthwhile nutritional substances. One cup (about 150 gm) of freshly-steamed, moist bulbs provides "about one-tenth the Recommended Dietary Allowance of vitamin C." This ascorbic acid content is, however, destroyed in the drying or pit steaming process. Likewise it appears to be "a good source of iron, although iron from plant sources is not always available to the body." (Hilty et al. 1980:8, 21, 23; see also Benson et al. 1973:145, 146, where additional nutritional content data are summarized.)

Citing biochemical research at the University of Michigan but without sharing his source, Hart (1976:17-18) states that camas contains no starch but much insulin, a non-reducing sugar indigestible to humans until broken down to fructose in the baking process.

Camas grows in moist meadows and even swampy fields, but especially those that become dry by late spring (Hart 1976:18, Turner 1978:77).

Other Underground Plant Forms

• Nodding Onion. The small, spherical, brownish bulb of the nodding onion (Allium cernuum), Turner (1978:68-71) reports, was eaten by the Upper Kutenai. They were gathered in large quantities from May to July before the flowers appeared. Speaking generally but apparently with relevance to the Kutenai as well as other interior British Columbia tribes, Turner reports that they "could be eaten raw, leaves and all, but usually they were cleaned, bundled, or woven together by their leaves, and steam-cooked in underground pits overnight."

The data of Hart (1976:10), generalized for the Upper Kutenai and the neighboring tribes, complement the above and, assuming his long gathering season information applies in toto to the Kutenai, are somewhat at variance with it. These crisp bulbs, he states, were both a staple and a condiment to the Kutenai. They were gathered from spring through early autumn and were eaten raw or more commonly "as an ingredient in soups, stews, and meat dishes."

Little information is added to the above statements by Turney-High's (1941:33, 34) ethnographic notes. He writes only that wild onions (UK. sx̌aí'yug; Curtis [1911 7:174] records UK. sn̓aíyuk)[91] were collected and mixed with camas in the cooking process and were also added to "black moss" (i.e., lichen) in cooking the latter.

Ray's (1942:138) data are equally terse: "wild onions," he observes, were gathered by the Upper Kutenai and cooked in earth ovens. While achieving little more, this statement independently confirms the Kutenai use of these bulbs.

Nodding onions are to be found "usually in open ground, generally from low to middle elevations on plains, hills, and mountain slopes" (Hart 1976:10). Or as Turner (1978:69) puts it not too differently: they grow in rocky crevices and in sandy soil, open woods, and exposed areas.

• Wild Chives. Undoubtedly wild chives (Allium schoenoprasum), which are native to the Kootenai Valley, were eaten by the Upper Kutenai, according to Turner (1978:71). This utilization conclusion is, however, evidently a deduction at some level on her part, rather than an ethnographically documented fact.

• Biscuitroot. The Turner (1978:101-102) data on the roots of the biscuitroot (Lomatium canbyi, L. cous, and L. farinosum, "desert parsley, hog-fennel, cous, white camas, camas") seem rather unclear to me. She writes: "None of these species actually occurs within . . . [British Columbia], although they are found in . . . northern Idaho, and western Montana. . . .their edible roots were known through trading to the Canadian Okanagan and probably the Kootenay as well." So far the meaning is unambiguous: the Kutenai--at least those north of the international line--probably secured biscuitroot as an item of trade. But then she adds: the roots "were commonly used by the Southern Okanagan, Flathead, Kalispel, Nez Perce, Kootenay, and other peoples of the northwestern United States." Since the first four tribes in this enumeration are known to have dug these roots in their own country, it would appear that Turner is here reporting the same for the Kutenai. Perhaps, however, only the Kutenai groups of Montana and Idaho.

On the assumption that the Upper Kutenai had at least some biscuitroot resources within their territory, Turner's (1978:101-102) brief and unfortunately general collecting and preparation data are worth noting. Biscuitroot "were dug along with bitter-root in April and May, . . . and eaten raw, boiled, or steam-cooked in pits." They were sun-dried on mats, "after which they were often pounded into flour and formed into small round cakes. The dried roots could be stored up to three years."

Hart's (1976:26-27) rather extensive notes on biscuitroot testify explicitly to the use of the roots of several species of this plant by the Nez Perce, Flathead, and western Plains tribes, but are mute on its utilization by the Kutenai. Accordingly, no clarification of Turner's ambiguity is to be found in his data.

Lomatium cous contains consequential amounts of vitamin C, one cup (c. 290 gm) of the fresh root providing about a third of the Recommended Dietary Allowance. The dried product, however, loses all of this vitamin element. The root also "contains amounts of iron that may make significant contributions to the diet," one cup yielding approximately one-third of the recommended adult allowance for a man and about one-fifth of the allowance for a woman. (Hilty et al. 1980:11, 20, 23; see also Benson et al. 1973:145, 146)

Fresh L. canbyi possesses a higher vitamin C content than L. cous: one cup (c. 130 gm) yields "about half the Recommended Dietary Allowance." The dried root, as with L. cous, contains no vitamin C. (Hilty et al. 1980:12, 20, 23; cf. Benson et al. 1973:145)

Biscuitroot occurs on dry ground in more arid areas: on dry rocky slopes and foothills, often with sagebrush (Hart 1976:27; Turner 1978:101).

• Balsamroot. The roots, young shoots, bud-stems, and seeds of the balsamroot (Balsamorhiza sagittata, "spring sunflower, wild sunflower") were popular foods among the Upper Kutenai. Here only the thick, deep-seated taproot is of concern; the other plant parts are discussed elsewhere in their separate sections.

From March to April, after the season for gathering the shoots had passed, the large roots were dug:

> . . . just as the leaves began to show above the ground. They could also be dug later, but became stringy as the plants matured. They were beaten to loosen the tough outer skin, then peeled, and the white inner part steam-cooked overnight. . . . [They were] eaten immediately or threaded on a string or stick and dried. They were often regarded as a treat or dessert."

Still later in the season the buds and seeds were gathered (Turner 1978:115-119) (v.i.).

The plant is to be found on "open, dry hillsides and flats, from lowlands to moderate elevations in the mountains" (Turner 1978:116; cf. Hart 1976:20).

• Mule's Ears. The roots of "mule's ears" (Wyethia amplexicaulis), similar to balsamroot, may have been eaten by the Upper Kutenai, as they certainly were by the Flathead (Turner 1978:119).

The plant grows abundantly in wet meadows in the northeastern corner of Washington (Piper and Beattie 1914:277), and so it would not be surprising if it occurs under the same conditions in at least some parts of the Upper Kutenai country.

• Yampah. The slender, spindle-shaped roots of the yampah (Perideridia gairdneri, "wild caraway, false caraway, Indian carrot, wild carrot"), "sweet and anise-flavoured," were dug by the Upper Kutenai in May and June, when bitterroot were being collected (Turner 1978:111-113).

Hart (1976:65) fails to relate his "yampa" information to the Kutenai, and even to mention specifically its use by the tribe. But with Turner's assurances that it was, in fact, an Upper Kutenai

subsistence plant, Hart's data seem of interest. It was, he observes, normally dug in spring or early summer, best when the plant was in flower.

Without referring to the Kutenai in particular, Turner reports that these roots were eaten raw or were boiled or pit-steamed. "Sometimes the cooked roots were dried and mixed with powdered dry deer meat as a special treat." Raw roots were stored for winter "by packing them in an earth pit lined with pine needles or cottonwood bark to protect them from frost and rodents."

Continuing his general remarks, Hart reports that raw "yampa" possess "a delicious, sweet, and nutty flavor without any bitterness," one quite like cultivated carrots. While sometimes eaten raw, they were also boiled for immediate consumption or dried for winter food.

To the Upper Kutenai diet yampah contributed some carotene (provitamin A), iron (one cup [c. 100 gm] of roots contains about one-half of the Recommended Dietary Allowance for men and one-third for women), and vitamin C (one cup of fresh roots provides between one-third and one-half of the Recommended Dietary Allowance; dried roots possess virtually no ascorbic acid) (Hilty et al. 1980:13-14, 21, 23; see Benson et al. 1973:145, 146 for additional nutritive information).

The habitat information is not completely consistent. Hart describes the plant as one of "moist, grassy meadows"; Turner reports it to be found in "dry, open woods and meadows, from lowlands to moderate elevations in the mountains."

• Water Parsnip. Water parsnip (Sium suave, "swamp parsnip, wild carrot, wild saccharin") yielded sweet, finger-like roots that were dug by the Upper Kutenai "in spring and early summer, washed, and eaten raw or steam-cooked. The new roots are crisp and delicious with a definite 'carroty' flavour; some Kutenai call them 'wild saccharin.'"

These roots were obtained by the Kutenai at Bains Lake.[92] (Turner 1978:113-115)

The plant grows in "swampy places and shallow water around the edges of lakes and ponds" (Turner 1978:113).

• Tiger Lily. The large, strong-tasting, peppery, and bitter bulbs of the tiger lily (Lilium columbianum, "Columbia lily, panther lily") were dug by the Upper Kutenai in late summer and fall, as late as November.

Writing broadly of how these bulbs were prepared for consumption among the groups that used them, Turner (1978:87-90) reports that, owing to their bitter taste, they were never eaten raw. They were boiled, "sometimes in two changes of water," or steam cooked for several hours.

> If enough [bulbs] were obtained, they could be dried in the sun after cooking, either whole or mashed in thin cakes, and stored for winter. They were often boiled and eaten with other foods, such as deer meat, fish, fermented salmon roe, or Saskatoon berries [serviceberries].

This lily grows in "damp open woods and meadows" from valley bottoms to subalpine elevations (Turner 1978:87).

• Wood Lily. The Upper Kutenai "ate the bulbs of the wood lily (Lilium philadelphicum)," found in open woods and grassy places. Turner (1978:87-90) conveys the impression that this plant was rather uncommon in the Kootenai country.

• Yellow Avalanche Lily. The slender, starchy corms of the yellow avalanche lily (Erythronium grandiflorum, "yellow dog-tooth violet, snow lily, dog-tooth lily, glacier lily, Indian sweet potato, Indian potato") were widely eaten as an important food by Indian groups to the west of the Kutenai. The Kutenai also, according to Turner (1978:80-82), may have used them, but this has not been confirmed. If this was the case, they were dug in the valley bottoms in April and May and at higher elevations and on north-facing slopes not until later in the summer.

For what it may be worth, usual modes of preparation of the corms for immediate use involved steam-cooking, roasting in hot ashes, or boiling for a brief period. To preserve the roots:

> . . . for winter, they were allowed to soften for a few days, peeled, then threaded on a string of twisted red cedar or Rocky Mountain maple bark and hung up to dry, until they were hard and brown. . . . The corms could also be dried unstrung and stored in sacks. Before being eaten the dried corms were soaked until they had regained most of their moisture, then boiled or steam-cooked in underground pits until they were soft and chocolate-brown.

Hart (1976:24) provides no information to demonstrate that these crisp, white bulbs were utilized by the Kutenai. He merely notes that they "served only as an occasional food source to the Indian tribes of our [western Montana] region." Their "occasional" use was partly, he speculates, because of the difficulty in digging them.

Against the possibility that later information will reveal clear Kutenai use of these plant parts, it maybe added that this lily "inhabits sagebrush slopes, montane forests, and moist subalpine and alpine meadows" (Hart 1976:24). Curiously, Turner's (1978:81) observations, relating to southern British Columbia in general, appear somewhat inconsistent. She writes of the plant growing on the one hand in valley bottoms and higher ridges and slopes (as noted above) and on the other hand "in mountains and high valleys." I suspect that both of her statements are valid but individually incomplete, that this lily occurs in an unusual variety of habitats, much as Hart indicates.

• Mariposa Lily. The small tapering corms of the mariposa lily (Calochortus macrocarpus, "desert lily, lavender lily, sego lily, sagebrush mariposa, wild gladiola, sweet onion, wild potato") were eaten by the Upper Kutenai. These roots were dug from April to June, generally before the plant flowered. "They were commonly eaten raw, being crisp and sweet, or, if enough could be collected, threaded and dried, with or without being steam-cooked first." (Turner 1978:73-75)

This plant favors dry hillsides and plains and usually occurs in light sandy soil (Turner 1978:75).

• Three-spot Tulip. The corms of the "three-spot tulip" (C. apiculatus), which grew in the Rocky Mountain Trench from Windermere south, were also eaten by the Upper Kutenai (Turner 1978:75).

• Bugleweed. The bugleweed (Lycopus uniflorus, "water horehound") produces a small, thickened tuber that may have been eaten by the Upper Kutenai as it certainly was by Salishan groups farther west. Washed and steamcooked in pits, these roots "are said to have a sweet, pleasant taste, reminiscent of a mild radish." (Turner 1978:168-170)

This plant is said to be found along stream banks and in marshes and peatbogs from lowlands to upper elevations (Turner 1978:168).

• Spring Beauty. The small, round corms of the spring beauty (Claytonia lanceolata, "Indian potato"), brown-skinned but white inside, were an important carbohydrate source to the Upper Kutenai, by whom they were eaten in large quantities. They were dug--they grew shallowly--with a short digging stick, generally "just after the plants had flowered, from late May to late June, depending on elevation. If harvested earlier, they are too watery."

If only a small amount was gathered, they were cooked immediately: washed and "then steamed in underground pits or boiled like potatoes with very little water. . . . If many corms were dug at one time, they could be stored for later use," smoke dried, dried by being spread on mats or cooked, mashed, and formed into "cakes, which were slowly dehydrated." The corms were also collected in the fall, when they were somewhat sweeter. (Turner 1978:172-174)

Hart's (1976:29) descriptive statements are curiously at variance with those of Turner reported above. He observes:

> After a long and hard winter, when they [i.e., the Kutenai and Flathead] were sustained only by meat and various dried roots, tubers, bulbs, and berries, Indians welcomed the sight of spring beauty, the first crop which they dug in early spring. They ate some of these crisp, tuberlike corms fresh; others they washed and boiled, just like potatoes. Apparently Indians did not dry and store them for future use, since they were too small to gather in sufficient quantity.

At this point I do not comprehend how to evaluate these two quite different sets of data.

The habitat information, on the other hand, is admirably consistent. Turner (1978:172) states: "[The spring beauty occurs on] dry sagebrush foothills to damp alpine meadows, [and is] often abundant near snowbanks." Similarly, Hart (1976:29) observes: "The plant is found normally in moist soil, from lower foothills and open mountain slopes to alpine meadows, frequently below snowbanks."

• Elk Thistle. According to Hart (1976:13), the roots of the elk thistle (Cirsium scariosum), were eaten by the Upper Kutenai, "sometimes raw but usually baked in a fire pit for several hours to make them more palatable."

On the other hand, the use of thistle (Cirsium sp.) parts by the Upper Kutenai as subsistence resources is not supported by Turner (1978:121), who reports that apparently neither the roots nor the stalks of these plants were recognized as food by them.

C. scariosum grows "widespread in mountain meadows and other moist places" (Hart 1976:13).

Berries and Other Fruits

Berries provided an important addition to the meat and fish diet of the Upper Kutenai. Rather general statements, brief but of some interest, are provided by Turney-High, Ray, and Schaeffer.

According to Turney-High (1941:34), three kinds of berries were considered of economic consequence, possessing sufficient substance to permit drying for winter consumption: serviceberry, huckleberry, and chokecherry. The drying process consisted of spreading the berries on a clean robe in the sun. "Berries were frequently made into cakes." Other types of berries were collected more casually and eaten fresh.

Fruits, Ray (1942:132-133) confirms, were extensively utilized by the Upper Kutenai. Explicitly mentioned are serviceberries, huckleberries, and chokecherries as having been especially important, precisely the same berry trinity to which Turney-High calls attention.

Schaeffer (1940:42-43), for his part, states that serviceberries and chokecherries were the two principal varieties of wild fruit collected by the Kutenai. Huckleberries are placed by him in a category of second-level importance with elderberries, Oregon grape, and hawthorn fruit.

The importance of berries to the Upper Kutenai is suggested by their traditional terms for four summer "months," equated by Curtis (1911 7:168) with June through September. These are: 'ripening strawberries,' 'ripening service berries,' 'berries ripen even in the

night,' and 'ripe choke cherries.' Exactly these same four warm season months are reported by Turney-High (1941:96-97), with expectable variations in native word transcriptions and insignificant differences in translation. Interestingly, his other eight "months" are likewise nicely in accord with those of Curtis. But all twelve clearly represent, as Turney-High states, data derived from his own informant, a Flathead Lake Kutenai.[93]

The following sections present and integrate data regarding specific berries: their gathering seasons, methods of preparation and use, and other relevant information.

Serviceberries

The serviceberry (Amelanchier alnifolia, "Saskatoon berry [Turner prefers this term to serviceberry], June berry, shad-bush, shadblow"; K. sk!ɔ́mo [Turney-High 1941:34], UK. sq!úm·o· [Boas 1918:377]) is a highly variable shrub that bears fruit that are reddish-purple to dark blue when ripe and are frequently seedy. The berries vary considerably from plant to plant in size, texture, and taste (Hart 1976:9; Turner 1978:180).

Botanical taxonomy currently recognizes three varieties in British Columbia, although Indian groups distinguish many more "on the basis of habitat, blooming and ripening time, growth form, and size, colour, seediness, and taste of the berries, . . . each with its own particular advantages and disadvantages as a food." The native classifications, in Turner's view, may turn out to be more nearly correct than present botanical opinion. (Turner 1978:180-182)

As noted above, Schaeffer, Turney-High, and Ray all unequivocally classify serviceberries as one of the most important Kutenai berries. Turner (1978:180-182) favors us with no specific data for the tribe, but observes at the general level: "Of all the berries and fruits eaten by the Interior Indians of British Columbia, . . . [the serviceberry] was the most popular and widely used, especially in the southern and central Interior." This broad generalization certainly applies to the Upper Kutenai as the ethnographers' data reveal.

The gathering period for serviceberries, Turner (1978:180-182) reports for the southern interior of British Columbia, was from June through August, depending on the variety, elevation, and locality. The collecting season is narrowed by Schaeffer (1940:42) who states, with explicit reference to Kutenai country, that these berries "ripened in July and early August," and were gathered during this season "at favorable sites in the foothills along the Kootenai and its tributaries."

These ethnographic seasonal observations are confirmed by one ethnohistorical source, which likewise provides a specific gathering location within the general orbit of the Canadian segment of Lake Koocanusa. Wilson (1970:162-163) reports that on August 11, 1861, he

encamped on a small stream that I identify as either the St. Mary River itself or its lesser tributary that flows to it from the Cranbrook area. Along this stream were "service berries . . . growing in great profusion." The following day he "passed over a fine large plain" at or probably slightly south of the present Cranbrook. There he found "a few Indians . . . busy drying berries." While he is not explicit on the identity of this particular fruit, it appears probable, in light of his statement of the previous day, that they were serviceberries.

Schaeffer (1940:43) gives us a few facts concerning the preparation of serviceberries by the Kutenai.

> Serviceberries were usually dried in the sun and stored away. Less frequently the Tobacco Plains women pounded them in coiled baskets traded from the Lower Kutenai. Such receptacles were preferred to hide or bark containers, "because the berries stuck to the coiled side of the basket." An unmarked, round stone was used as a pounder. The mashed berries were then molded into cakes dried in the sun, and stored away in parfleches.

The meagerness of these data suggest the usefulness of adding Turner's broad preparation statements, even though not said to relate to the Upper Kutenai in particular. Since they do not differ to any notable extent from Schaeffer's information except to expand on them, one may presume that they cannot be far from describing the Kutenai situation:

> Various methods of drying Saskatoons were used, both for different varieties of berries and in different cultural areas. In general, they were spread on mats and dried individually, like raisins, or mashed up, boiled in baskets with hot rocks, and spread on grass, mats, or rocks to dry in cakes.[94] Sometimes they were placed on racks over a fire, or dried in the sun, although slow drying in shaded conditions was considered better. Often the juice was collected separately, and added to the drying berry cakes a little at a time, or saved and used to "marinate" other foods, such as 'black tree lichen,' bitter-roots, or even dried salmon. The dried cakes were used in numerous ways. Chunks could be broken off and fed to children as a snack or confection. They could be soaked and boiled with bitter-root or salmon eggs, cooked with tiger lily bulbs, deer meat, or bear grease, mashed with other berries such as those of red-osier dogwood (Cornus stolonifera), or they could simply be rehydrated and eaten alone as a dessert. Individual berries were cooked in soups and stews, and used as sweeteners in such dishes as 'Indian ice-cream,' made from soapberries. (Turner 1978:180-182)

Serviceberries have been "found to contain three times as much iron and copper as prunes and raisins" (Driver and Massey 1957:178, who do not cite their source).

Hart (1976:9) tells us that the serviceberry "occurs in a variety of habitats: along stream banks and moist hillsides, in woods and open places, from . . . [valley bottoms] to subalpine terrain." Differing only in terms of the moisture level favored by the shrub, Turner (1978:181) states that they grow most prolifically in dry woods and on open slopes in well-drained soil.

Chokecherries

The chokecherry (Prunus virginiana, "wild cherry, cherry"; UK. a_a'k(ɬma·k! [Boas 1918:357], UK. ak(ɬmaka [Curtis 1911 7:174], K. agíɬsmag [Turney-High 1941:34] occurs throughout the interior of British Columbia, particularly in the southern part, in two varieties.

> [One] has translucent, red fruits which are sweet and juicy, the other has dark, purple-black fruits which, unless picked when dead ripe, are astringent, . . . However, even the dark ones are pleasant-tasting, and when fully ripe or after drying and freezing, the astringency disappears, although they do tend to be constipating if too many are eaten.

Both varieties were "an extremely popular food among Interior Indian peoples." On the basis of these general distributional and native use data, one would assume traditional Kutenai utilization of this berry, though Turner (1978:191-194) does not specifically mention the tribe as a user group. As observed above, this assumption is individually confirmed by Schaeffer, Turney-High, and Ray.

The fruit, Turner (1978:191-194) reports again writing in general terms for a wider geographical area, ripens from mid-August through September. For the Kutenai specifically, Schaeffer (1940:42) states, however, that "chokecherries could not be gathered until September." Since they grow "in long clusters, [they] can be harvested quickly and easily." As with serviceberries, they were gathered at favorable localities "in the foothills along the Kootenai and its tributaries" (Schaeffer 1940:42).

A few fragments of information concerning Kutenai processing of chokecherries for subsequent consumption are supplied by Schaeffer (1940:43):

> Chokecherries were crushed upon a stone slab, set in turn upon a skin robe, formed into cakes and dried. A layer of washed [mashed?] chokecherries was also impressed upon a small, moist, reed mat. After impressions were made upon the surface with two knuckles of the hand, the mat of chokecherries was placed in the sun to dry.

Ray (1942:139) likewise reports that chokecherries, seeds and all, were macerated, made into cakes, and dried.

According to Turner (1978:191-194), writing in general terms, chokecherries "were eaten fresh as a snack or treat and were also dried in large quantities for winter. They were spread on mats and dried in the sun, like raisins, or mashed and dried in cakes."

Hart (1976:42-43) has something to say about the use and preparation of chokecherries--the pulverizing, forming into cakes, sun-drying, and all the rest--and the later conversion of these cakes into winter foods. But it is all general with nothing related specifically to the Kutenai.

Ripe, fresh chokecherries contain a significant amount of vitamin C (half again greater than cultivated cherries), one cup (c. 160 gm) furnishing "about one-third of the recommended adult allowance" (Hilty et al. 1980:15, 21, 23; see also Benson et al. 1973:145).

Chokecherries are usually found, according to Hart (1976:43) "in moist soil, especially along creeks and ravines, but also in open wooded areas of valleys, foothills, and mountainous slopes." Turner (1978:191) provides a very similar statement: they occur from "open woodlands to grasslands and clearings, particularly along watercourses."

Blueberries

Distinguishing "blueberries" from "huckleberries" without giving botanical taxonomic data for either, Schaeffer (1940:42-43) reports that the Tobacco Plains people ate blueberries fresh during the gathering season. They did not dry them, as was the case with huckleberries. I assume that these "blueberry" data apply to one or more of the following three Vaccinium species to which Turner applies the term "blueberry."

These remarks by Schaeffer suggest the possibility that the Kutenai likewise differentiated between blueberries and huckleberries. But to this point I have found no Kutenai term glossed by ethnographers or linguists as 'blueberry' and nothing to indicate that the term glossed 'huckleberry' also covered the blueberry group.

Blueberries, like other plants, were not wholly predictable in their yield from year to year. Although historic data to document this general state of affairs seem largely non-existent, we have one observation of this kind regarding "blueberries." Descending the Moyie River valley below the lake in mid-August, 1841, Simpson (1847:134), after listing a number of berries growing in the area, comments: "The blue berry, usually growing here in great abundance, had this season entirely failed."

• Canada Blueberry. The sweet, medium-sized fruit of the Canada blueberry (Vaccinium myrtilloides, "velvet-leaf blueberry, sour-top blueberry") were eaten by the Upper Kutenai, fresh or dried in cakes for winter (Turner 1978:150-151).

This shrub is found in "dry muskeg, shaded woods, and wooded rocky outcrops" (Turner 1978:150).

• Oval-leafed Blueberry. The data for the oval-leafed blueberry (Vaccinium ovalifolium, "oval-leafed bilberry, mountain blueberry, high-bush blueberry") are unclear for the Kutenai as a particular group. The dark blue berries, of good size and flavor, were, according to Turner, "commonly eaten by the southern Interior peoples [of British Columbia]." I assume without further evidence that this group included the Upper Kutenai. At any rate, Turner adds:

> These berries . . . were generally not as popular as other types of blueberries and huckleberries, having coarser seeds and tending to rot easily. They are among the first berries to ripen--sometimes as early as the first part of July--but can be found later in the season at higher elevations. They can be eaten fresh [or] dried, . . . They are usually gathered at the same time as black mountain huckleberries. (Turner 1978:153)

V. ovalifolium grows from "moist coniferous forests and along shaded streambanks to dry, open woods" (Turner 1978:153).

• Dwarf Blueberry. Dwarf blueberries (Vaccinium caespitosum, "mountain blueberry, dwarf mountain blueberry, low-bush blueberry") may be presumed to have been available to the Upper Kutenai, for Turner (1978:147-149) states:

> These berries, though small and low-growing, were extremely popular among virtually all Interior Indian peoples and were said to be the sweetest, best-flavoured kind of blueberries. They ripen from August through September, depending on elevation and latitutde.

Continuing this general discussion without relevance to specific tribal groups, she notes:

> They were usually harvested with a "comb" made of wood or salmon backbone, because they grow too close to the ground to be picked like other berries. Alternately, they could be collected by lying on the ground and putting one hand beneath them, next to the ground, placing the other hand on top, and wriggling the fingers until the berries dropped off into the lower hand. They had to be thoroughly cleaned and sorted. . . . They were eaten fresh, as a treat, or mashed and dried in cakes.

Dwarf blueberries thrive in "wet meadows to moist rocky ridges, usually at higher elevations." They are "common above timber-line." (Turner 1978:148)

Bilberries, Whortleberries, Huckleberries

In spite of the several taxonomic varieties of "huckleberries" growing in the Kutenai country and evidently utilized by them, only one Kutenai term for 'huckleberry' is reported in the ethnographic literature: UK. ɬawí·ya·ɬ (Boas 1918:366), UK. ɬlawíaɬl (Curtis 1911 7:174), K. sawi'as (Turney-High 1941:34).

Nutritional data are unavailable for these various berries individually. However, the results of one laboratory examination of one or more of this group have been published. According to Hilty et al. (1980:16, 21, 23), fresh "blue huckleberries" (Vaccinium sp.) contain a useful amount of vitamin C, one cup (c. 130 gm) "providing almost half the Recommended Dietary Allowance for an adult" (cf. Benson et al. 1973:145).

• Low Bilberry. The low bilberry (Vaccinium myrtillus, "dwarf bilberry, whortleberry") yields dark red to blue-black berries that are juicy and sweetish. A very popular fruit, they were collected by the Upper Kutenai from August to early autumn and eaten either fresh or dried. The drying process involved boiling them, kneading them, and spreading them over a small rack. (Turner 1978:151-152)

This berry, which in British Columbia is confined to the Kootenai country, grows in "moist open woods at high altitudes" (Turner 1978:152).

• Mountain Bilberry. The mountain bilberry (Vaccinium membranaceum, "black mountain huckleberry, blue or black huckleberry, twin-leafed huckleberry") is a large, sweet, dark fruit. "It was eaten when available by all Interior Indian people [of British Columbia]," presumably the Kutenai included though this fact is not so stated by Turner. They were picked from July to September depending on the elevation, the women climbing up into the higher mountains for them as the season progressed. They were consumed both fresh and dried; the drying process involved either exposing them to the sun or, if the weather was unfavorable, placing them over a small fire. (Turner 1978:149-150)

According to Schaeffer (1940:42-43), huckleberries were dried by the Kutenai for subsequent consumption. The variety is unspecified. This ethnographic observation is placed with this V. membranaceum material only because Turner lists the term "huckleberry" as a popular designation for this bilberry. Conceivably the fruit to which Schaeffer refers could instead be the red huckleberry (V. parvifolium), grouseberry (V. scoparium), or perhaps still other V. species--or, for that matter, all of these.

V. membranaceum is a shrub of "mountain slopes to dry sites in coniferous forests" (Turner 1978:150).

The Upper Kutenai also utilized as a major food the berries of a similar species (V. globulare) (Turner 1978:150). The particular habitat characteristics of this shrub are unavailable.

• Red Huckleberry. These huckleberries (Vaccinium parvifolium) may have been eaten by the Kutenai, as they certainly were--both fresh and dried--by groups in the lower Fraser drainage (Turner 1978:209).

• Grouseberry. The grouseberry (Vaccinium scoparium, "red alpine huckleberry, dwarf red whortleberry or huckleberry, small-leafed huckleberry") produced tiny, bright red, sweet berries. These were generally harvested by the Kutenai with wooden or bone combs, as in the case of V. caespitosum, because they were too small to be efficiently collected with the fingers. The Kutenai name for them, in fact, signifies 'comb.' (Turner 1978:156-158)

As the alternative term "red alpine huckleberry" implies, this plant occurs at subalpine and alpine elevations, there in open woods and on open slopes (Turner 1978:156).

Bog Cranberry

Evidently the tart, roundish berries of the bog cranberry (Vaccinium oxycoccus, "wild cranberry, moss cranberry") were in use among the Upper Kutenai. At least Turner (1978:155-156) reports that they "were eaten whenever available in all parts of the Interior." Further, they must have occurred in the Kutenai country, for she observes that the "Kootenay call them 'fool-hen's berries' because the grouse like to eat them." These fruits "were gathered from late summer to late fall, but if harvested early were usually stored until they had ripened. They were eaten raw or boiled with meat; . . ."

This species of cranberry is "restricted to muskegs and peat bogs, always in association with Sphagnum moss" (Turner 1978:155).

Elderberries

Blue elderberries (Sambucus cerulea = S. glauca)--a small, seedy, dark blue fruit--were collected by the Kutenai in late summer. It would appear that they were both eaten fresh and stored for winter as with other tribes, but this is not explicitly stated to have been the case for the Kutenai. (Turner 1978:131-133)

Red elderberries (Sambucus racemosa = S. pubens), a small and seedy fruit like the blue variety but bright red in color, were harvested, steamed or boiled, and eaten by the Upper Kutenai (Turner 1978:131-133).

Elderberries--variety undefined--are reported by Schaeffer (1940:42-43) to have been dried by the Kutenai for future use. Whether

this applies to only one of the two species noted by Turner or to both is uncertain. If to the first, it extends Turner's general statement to the Kutenai specifically; if to the second, it adds a future utilization component to Turner's record of fresh fruit use.

S. cerulea occurs "in valley bottoms and on open dry slopes"; S. racemosa, "in open swampy areas, moist clearings, and shaded forests." Both are found from valley floors "to moderate elevations in the mountains." (Turner 1978:132)

Dogwood Berry

The fleshy, clustered, pea-sized berries of the red-osier dogwood (Cornus stolonifera, "western dogwood, red-stemmed dogwood, red willow, cornel, kinnikinnick") were eaten by the Kutenai, in spite of their very bitter taste (Hart 1976:21; Turner 1978:137-138). The gathering season was from August to October (Turner 1978:138) or, as Hart (1976:21) puts it, "in late summer."

According to Turner (1978:138-139):

> Pure white berries were considered less bitter than those tinged with blue. They were usually eaten fresh and were frequently pounded and mixed with sweeter fruits, such as chokecherries or Saskatoons [serviceberries]. The Kootenay made a dish consisting of pounded dogwood berries, Saskatoons, and a little sugar [in recent years]. . . . Sometimes the berries were dried in cakes to be mixed with dried Saskatoons later in the year.

Hart (1976:21) presents data very like some of the above, which I suspect Turner may have partly borrowed from Hart's research. But Hart also calls attention to the fact that these berries were only "occasionally" eaten by Upper Kutenai, that they were not "a major food item." And he reports that they were "normally" mixed with serviceberries to sweeten them.

Red-osier dogwood is said by Hart (1976:21) to be "a shrub of meadows, boggy areas, and streambanks from valley bottoms to 7,000 feet in elevation." Turner (1978:137) defines its habitat as that of "moist soil, along streams and lake edges."

Hawthorn Berries

The berries of the hawthorn, both of the bright red variety (Crataegus columbiana, "red thornberry, red haw") and the shiny black-purple variety (C. douglasii, "black thornberry, black haw") were eaten by the Kutenai. But both are characterized by large seeds, absence of taste, and mealy texture, and hence were not highly regarded. Moreover, the Kutenai considered them to be constipating. They ripened from August to September. (Turner 1978:183-185)

Schaeffer (1940:42-43) confirms that hawthorn berries were used by the Upper Kutenai as food. More than this, they were one of the several fruits that were dried for future consumption.

Both species grow in meadows, along stream courses, and up on dry hillsides and in gullies (Turner 1978:185).

Raspberry

Wild raspberries (Rubus idaeus UK. a_a'q!úko· [Boas 1918:375], UK. kowóka kóku, 'red raspberry' [Curtis 1911 7:175]) were eaten, Turner (1978:200-201) writes, "by virtually all Interior Indian peoples, and were extremely popular everywhere." This statement, incidentally, seems internally somewhat contradictory, the "virtually" qualifier being at war with the all-encompassing "everywhere." The plant, she adds, was widespread in interior British Columbia. Quibbling aside, it is plain that wild raspberries were very widely distributed and were generally gathered and eaten by the native groups of the province. Turner, however, mentions no groups by name.

One concludes that these berries were almost certainly available in the country of the Upper Kutenai and were enjoyed by them. Fortunately Schaeffer (1940:43) removes all doubt on this score: raspberries, he reports, were eaten fresh by the Kutenai--at least by the Tobacco Plains people--during their season. And writing during his journey of 1841, Simpson (1847:131) states that a group of Kutenai whom he encountered on the Kootenai River about 10 or 12 miles north of the confluence of the St. Mary, presented his party with "some raspberries."

Continuing her general descriptive statement, tied to no specific tribal groups, Turner observes further: wild raspberries ripened in mid-July and were both eaten fresh and "commonly mashed and dried in cakes for winter storage. The immediate use practice was certainly an Upper Kutenai custom as Schaeffer notes. However, the drying for future use process is not supported by the evidence as a Kutenai pattern. Indeed, Schaeffer (1940:43) expressly states that raspberries were not processed by the Kutenai for future use.

Raspberries grow on stream banks, in open woods and clearings, and on talus slopes (Turner 1978:200).

Thimbleberry

The fruit of the thimbleberry (Rubus parviflorus), bright red when ripe, varied in taste with locality and weather conditions. At their best, they were "sweet and flavourful, though somewhat seedy." Since Turner (1978:203-204) reports that "they were eaten by all of the Indian groups of the central and southern Interior" of British Columbia, it may safely be assumed that the Upper Kutenai knew and consumed them. This is confirmed by Schaeffer (1940:43), who reports that his Tobacco Plains informants mentioned their gathering of these berries and the eating of them exclusively as a fresh fruit.

Thimbleberries, Turner states still on a geographically general level, ripened in June and July. While very popular--some people found them "superior in flavour to wild raspberries and wild strawberries"--they were so soft and juicy that they were "difficult to pick and were therefore seldom gathered in large enough quantities to be dried for winter storage. Sometimes they were mixed in with wild raspberries. . . ."

Thimbleberry shrubs favor open woods and clearings, "often forming dense thickets" (Turner 1978:203).

Blackcaps

"Blackberries," says Schaeffer (1940:43), were mentioned by his Tobacco Plains informants as having been gathered by their band and eaten fresh. They were not dried as winter food.

Failing contrary evidence, I assume that Schaeffer refers to the berries properly termed blackcaps (Rubus leucodermis, "black raspberry, blackberry (incorrect), wild loganberry"), since the true blackberry is not included in Turner's (1978:201-202) extensive list of food plants of the British Columbia Indians.[95] To Turner we are indebted for the following generic blackcap information.

Blackcaps are dark purplish-black, similar to raspberries but shorter and finer, sweet and juicy but, to some people, bland and seedy. Apparently they vary somewhat in taste by locality: from watery and tasteless to sweet and flavorful. Ripe fruit fall readily off the shrub.

> They ripen in June and July and are especially plentiful about three years after a forest fire. [They] . . . were mashed and dried in cakes like wild raspberries; . . . The dried berries were soaked in water and eaten as a dessert or mixed with dried meat or fish as a type of pemmican.

Turner gives the geographical distribution of the plant as "throughout the southern part" of interior British Columbia, which further supports the probability that Schaeffer's "blackberries" were actually blackcaps. But while she mentions that these berries were "a common food of the Lillooet, Thompson, Okanagan, and Shuswap," she fails to indicate Kutenai use of the fruit.

The blackcap grows in "open woods, burns, and clearings" (Turner 1978:201).

Strawberries

Even though failing to note the situation for the Kutenai specifically, Turner (1978:185-187) implies that wild strawberries (Fragaria vesca, "tall strawberry" with elongated fruit and F.

virginiana, "blue-leaf strawberry" with globular fruit; UK. aa'q!úko·, aa'kúq!o· [Boas 1918:381], UK. akóku [Curtis 1911 7:175]) were gathered and eaten by the Upper Kutenai. For she reports that they were a favorite fruit among all interior British Columbia Indians, especially of children. Where both varieties occur--including apparently in the Kutenai country--they were generally recognized as different but were equally well liked.[96] Confirming Turner's implication, Schaeffer (1940:43) testifies to the fact that the Tobacco Plains band gathered strawberries, a statement presumably extendible to the Upper Kutenai as a whole.

Strawberries ripen in May and June, Turner (1978:187) reports for intermontane British Columbia in general.

The Tobacco Plains band, Schaeffer (1940:43) observes, ate strawberries fresh in season, never attempting to "put them up" for later eating. But for what it is worth, Turner (1978:185-187) reports for the interior British Columbia Indians broadly that strawberries, while usually eaten fresh, were sometimes mashed and spread over grass or mats to sun-dry for later use. These desiccated cakes were cut up and eaten "straight" as a treat or were rehydrated and eaten alone or used to sweeten other foods. A handful of the dried berries filled a whole dish when soaked in water.

Strawberry plants grow widely in open woodlands and clearings (Turner 1978:187).

Currants

Although several varieties of currants were collected and eaten by various groups not distant from the Kutenai, only the sticky current (Ribes viscosissimum UK. sčsípo, 'currant' [Curtis 1911 7:174]) is mentioned as a Kutenai food and even these were eaten only infrequently. They were seldom dried or stored for winter. (Turner 1978:162-163)

Schaeffer (1940:43) reports only that wild currants were boiled and eaten."

Currents are found along shaded streams and in moist woods and thickets "at the edge of mountain meadows" (Turner 1978:162).

Gooseberries

Two species of wild gooseberry (Ribes irriguum, "mountain gooseberry" and R. oxyacanthoides, "smooth gooseberry"; UK. kǐsníti [Curtis 1911 7:174]) were widespread in interior British Columbia east of the Coast and Cascade Mountains. Presumably this means that they occurred in the Upper Kutenai territory, although Turner does not say so specifically. The round, smooth fruits--reddish purple to purplish black and "of good flavour when ripe"--were eaten where they occurred. Turner (1978:164-165) adds: ". . . in general, they were not highly

regarded and not particularly sought after or stored for winter use. . . . They have to be picked just as they are turning black; when green they are too sour, and after ripening they soon fall off the branches."

The shiny, dark purple berries of the swamp gooseberry (Ribes lacustre), though small and covered with bristles, were consumed by the Upper Kutenai both fresh and cooked (Turner 1978:166-167).

Without providing species information, Schaeffer (1940:43) notes that the Tobacco Plains band ate gooseberries fresh in season. They did not dry them for future consumption.

R. irriguum is found "in moist to dry canyons and open to wooded hillsides" (Turner 1978:164). R. oxyacanthoides "grows along streams, in prairies, and [on] lower mountains" (Turner 1978:164). R. lacustre thrives in "moist, open woods and stream banks, often on rotten stumps and damp, rocky cliffs" from valley floors to subalpine forests (Turner 1978:166).

High-bush Cranberries

The tart, round, red to orange berries of the high-bush cranberry (Viburnum edule and V. opulus, "squashberry; UK. for opulus aa'kómo· [Boas 1918:363, 385]) were gathered in late fall after they have been converted from hard and very acid fruit to a softer and sweeter--though still tart--berry by frost. V. edule berries were eaten "by all of the Interior Indian groups, wherever they were available." From the habitat information provided it appears that the Kutenai are probably to be included in this broad category of tribes. The fruit of the V. opulus, on the other hand, were used only by the Kutenai and Shuswap, the sole groups having access to them.

> High-bush cranberries were harvested in bunches or, if at an advanced state of ripeness, could be shaken onto mats or bark trays. Some people ate them raw, chewing them, swallowing the juice and discarding the large, flat seeds. (Turner 1978:134-136)

As we have noted, Turner's data do not differentiate between the Upper and Lower Kutenai, though it appears that they apply to the Upper Division rather than--or as well as--to the Lower group. Still Turney-High (1941:35) reports that the "bitter berry" (àa'kómo; Viburnus [sic] opulus), which must be this high-bush cranberry of Turner, was never eaten by the Upper Kutenai, although it was by the Lower Division.[97]

Both species occur "in moist woods and along streambanks, from valley bottoms to moderate elevations in the mountains (Turner 1978:134).

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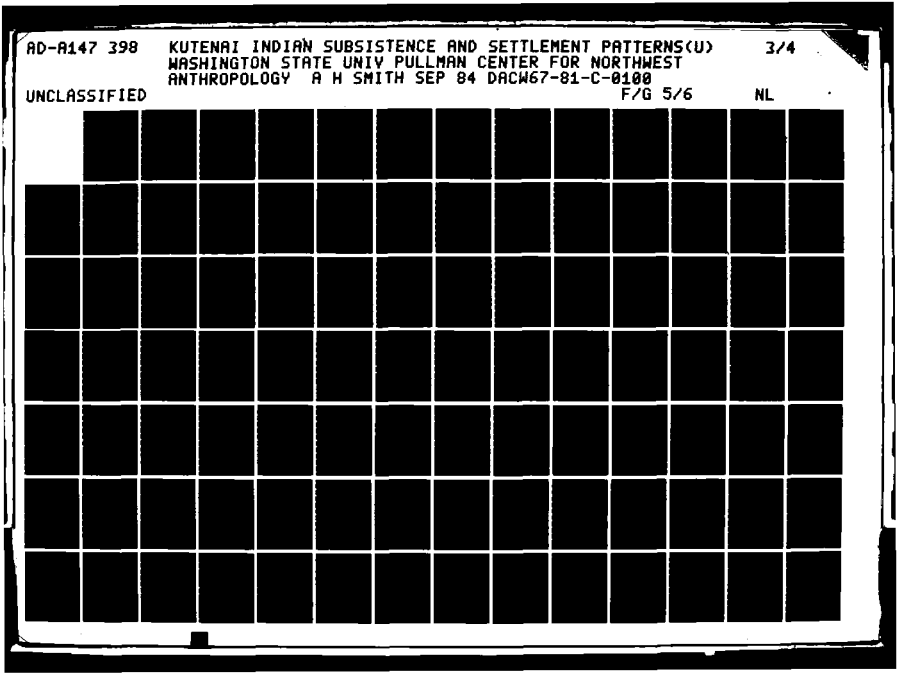

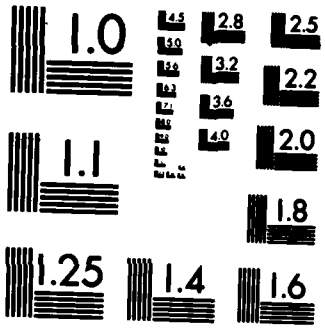
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Wild Rose Hips

The red-orange "hips" (UK. waq!ó·pe·s, q!úłwa$_a$ [Boas 1918:376]) of the wild rose (Rosa spp.) notable for their rich vitamin C content, "were eaten by various Interior Indian groups," Turner (1978:194-197) reports without mentioning the Kutenai by name. Schaeffer (1940:43), however, provides the specific Kutenai use information we need: rose hips were eaten "fresh"; they were not dried for later consumption. As explained by Turner in the following paragraph, there was in fact no occasion to preserve them for the coming winter.

In light of Schaeffer's data, the following general observations by Turner (1978:195-197) are relevant. The fruit was usually consumed "on a casual basis or in times of scarcity. . . . Only the outside rind was eaten; the prickly seeds were discarded. The fruits ripen in the late summer, but remain on the bushes over the winter, so can be gathered at any time. They are said to taste better toward spring."

Different species--Turner mentions four which appear to occur in Kutenai country--have different habitat characteristics. One grows "in open woods and hillsides"; another in shaded woods; a third in thickets and open woods; and still another "in open woods and prairies to moist meadows and creeksides." (Turner 1978:194) Hart (1976:63) adds nothing to this list of habitat types.

Oregon Grapes

The tart, deep-blue berries of the Oregon grape (both Berberis aquifolium "tall Oregon grape, tall mahonia," and B. repens, "low or creeping Oregon grape, mahonia, barberry, holly-grape"; UK. náuk [Curtis 1911 7:174]) were eaten by the Upper Kutenai. They were collected in mid-August when fully ripe and eaten fresh. (Turner 1978:124-125)

According to Schaeffer's (1940:43) Tobacco Plains informants, Oregon grape berries were gathered and "merely eaten fresh." However, elsewhere (Schaeffer 1940:42) it seems to be said that they were likewise "dried for future use."[98]

Both species are found in "dry, open, rocky areas" (Turner 1978:124).

Kinnikinnick

Kinnikinnick (Arctostaphylos uva-ursi, "bearberry") provided round, bright red, mealy berries. Apparently there was considerable variation in their flavor, some localities producing sweet berries and others dry, tasteless, insipid fruit. (Hart 1976:41; Turner 1978:143)

These berries, according to Turner (1978:143), were eaten by the Upper Kutenai either raw or cooked. Hart (1976:41) says much the same thing: kinnikinnick fruit were occasionally eaten by the Upper Kutenai, sometimes raw but preferably fried (v.i.).

Ray (1942:138, 139) gives us a bit more: kinnikinnick berries were occasionally mixed with either ground or broken animal bones in making soup, and were also mixed with salmon eggs.

The berries were "gathered from late summer until well into winter," even from under snow (Turner 1978:143). Hart (1976:41), too, observes that because they "remained on the bush all winter, they could be gathered when needed to stave off starvation . . ."

Writing in general terms of methods of preparation, Turner (1978:143) reports that, too dry to be eaten alone, these berries were fried with salmon oil or bear fat, or boiled in soups or with venison, moose, or salmon. The frying of these berries is also mentioned by Hart (1976:41), as noted immediately above, on the basis of information from a Kutenai of Hot Springs in the Little Bitterroot Valley west of Flathead Lake. Specifically, Hart writes, the fruit was placed in a frying pan with grease, held over a slow fire, popped like popcorn, and eaten in this form.

A footnote to these "frying" observations: if frying in the strict sense is intended, as appears to be the case, this preparation technique was surely not a part of traditional Kutenai culture. Possibly it is a recent substitute for some other older kinnikinnick cooking procedure in which oil or fat was an ingredient. Indeed, recognizing that food frying was not an aboriginal method, Hart (1976:41) speculates that in pre-metal pot times the berries were boiled "to make a broth" (cf. Turney-High's brief statement below).

With data gathered a generation before the informant material of Hart and Turner, Schaeffer (1940:43) may point a way out of this minor frying problem. He reports: "bear berries were boiled with animal fat, the liquid poured off, and the cooked berries put away for later use."

Kinnikinnick berries were also cooked and mixed with cooked deer liver. This mixture was then "pounded down" and rolled into balls to make a kind of pemmican. (Hart 1976:41)

According to Turney-High (1941:35), on the other hand, the berries were gathered and eaten only in times of hunger, "never systematically gathered and stored."[99] To render them edible as an emergency food, they were boiled. On the basis of Schaeffer's unequivocal storage statement and Hart's pemmican information, it may be doubted that Turney-High is correct in holding that these berries were never put away for later use.

The plant occurs on dry slopes in sandy or gravelly, well-drained soil in exposed areas. In Kutenai country it is often found in ponderosa pine forests and from valley floors to high elevations. (Hart 1976:41; Turner 1978:143)

Soapberry

The brilliantly red, bitter-tasting berries of the soapberry (Shepherdia canadensis, "buffalo-berry, russet buffalo-berry, soopolallie, foamberry, Indian ice-cream") were eaten by the Upper Kutenai as "an exquisite dessert" (Hart 1976:53).

They were gathered, Hart (1976:53) states, when ripe in mid-August by beating the berry bushes with a stick to knock the fruit onto pieces of hide. Cleaned of leaves and twigs, they were either eaten fresh or sun-dried for future use.

Schaeffer (1940:43) tells us only that the Kutenai dried foamberries and stored them away.

While Turner (1978:14, 138-141) fails to state that the Kutenai specifically made use of soapberries, this seems clearly implied by her account and is convincingly demonstrated by the data of Hart and Schaeffer as noted above. Turner describes the processing and use of these fruit more fully than does Hart:

> [These soft, translucent, orange-red berries] were not eaten like other fruits, but [were] whipped with water into a light froth, . . . The berries ripen any time from May to August, depending on elevation and latitude. They were usually harvested by placing a mat, tray, or bucket beneath the fruit-laden branches and hitting them sharply with a stick, so that the ripe berries fell onto the mat or into the container. They were then cleaned of leaves, twigs, and other debris, by hand or by rolling them down a slanted board; the leaves would stick to the board and the berries would fall into a basket or tray. The berries could be used fresh or dried for later use, by boiling them and spreading them on trays or on dried grass and placing them over a small fire or in a well-ventilated spot for several days. Sometimes the juice obtained from cooking them was collected separately and poured over the drying cakes a little at a time.

The procedure followed in preparing soapberries for eating is described in a similar but somewhat complementary manner by both Hart and Turner. According to Hart (1976:53), a few berries were put into a container with a little water and beaten with a stick with grass tied to its whipping end. This caused the liquid to froth and foam, converting it into a substance that was much appreciated by the earlier Kutenai.

Turner (1978:139-140) writes that, in making "Indian ice-cream," cold water was added to the berries and the mixture beaten with the hands or with a special beater of Rocky Mountain maple bark or some other material. After the foam began to form, serviceberries and other fruits were mixed in as sweeteners.

Soapberry bushes are found in dry, open wooded areas from lowlands to subalpine forests (Hart 1976:53; Turner 1978:138-139).

"Silver Berry"

The Tobacco Plains Kutenai, Schaeffer (1940:43) writes, reported having eaten "silver berries" fresh during the gathering season. They did not dry them or prepare them in any other way for future use.

The botanical identification of this fruit is somewhat uncertain. Without really pursuing the subject, I have encountered the following possibilities:

(1) A "silverberry" plant (Elaeagnus commutata) is reported by Turner (1978:28) to have provided fibers from which strong bags were manufactured by interior British Columbia Indians. But no mention is made of berries of any kind.

(2) A "silverberry" (Elaeagnus argentea) is described by Mathews (1915:330) as a tall shrub of the Northwest, including British Columbia specifically. The fruit of this shrub, which ripens in August, is an ovoid, mealy berry, one-third inches long, that is edible but insipid.

(3) A "silverberry" (Elaeagnus argentea) is also listed by Bailey (1960 1:1106). The fruit is oval or roundish oval, densely clothed with silvery scales, short pediceled, and one-third to one-half inch long.

(4) A "silverberry" (Elaeagnus argentea according to Turney-High 1941:75: K. kɨànukłu'uq), "a low shrub with silvery leaves and berries, ordinarily mistranslated by interpreters 'white willow,'" is noted by Turney-High (1941:64, 75). It provided a favorite fiber for rope twining, because its oily bark did not "dry out and become useless in a few days." No mention is made of the use of the fruit as food.

(5) A "buffalo-berry" (Shepherdia argentea) is described by Hart (1976:57) as a brilliant berry, "usually scarlet but sometimes yellow in color." It was regarded by the native group of eastern Montana as a fine food. These berries were gathered after an early fall freeze had sweetened them, either being picked by hand or beaten onto a "thin cover spread on the ground." They were washed with water to remove leaves and twigs and eaten fresh or dried and occasionally pulverized before drying. Often they were cooked into "a sauce to flavor buffalo meat."

Although Hart does not say as much, the implication is plain that they were a food of the area east of the Rockies. Nothing is said about their use by the Kutenai or any other Plateau groups.

(6) A "silver buffalo-berry" (Shepherdia argentea) is also mentioned by Turner (1978:211), in this case, however, in connection both with Plains tribes and with Plateau groups.

> This fruit, she observes, the "Thompson and Okanagan occasionally ate . . . fresh or dried, although they were said to be sour. The Blackfoot and various Montana groups regarded them as famine food." This last statement is, of course, sharply at variance with Hart's comment that to the Plains people Shepherdia argentea berries were "a food par excellence."

On September 15, 1859, Thibodo (1940:312) found his party in the Belly River area just north of the Canadian boundary, heading westward in a not very knowledgeable way for the Continental Divide. His journal entry for that day includes the following comment:

> Saw more timber here in a body than we have seen since we left Red River passed a great number of springs. The Silver Willow with red berries like currants very numerous, berries are delicious, taste like cranberries, . . . The wood when dry looks yellow like box wood.

At least to a non-botanist, this fruit sounds like Hart's "buffalo-berry" and Turner's "silver buffalo berry."

For the present I tentatively assume that S. argentea is Schaeffer's "silver berry" in spite of the failure of both Hart and Turner to identify its berries as a Kutenai food, indeed as a subsistence item of any eastern Plateau group.[100]

The only habitat information at hand for S. argentea reveals that it grows "along streams, rivers and low meadows in the prairie regions . . . [east of the Rockies]" (Hart 1976:57). Concerned as they are with the Plains country, these data contribute little to the certain identification of Schaeffer's "silver berry." If this fruit is, in fact, S. argentea, the data are also of no notable assistance in defining where within the special Upper Kutenai bioenvironment the shrub is to be found, except that they may imply that it occurs along the Kootenai River and perhaps the lower reaches of its tributary streams.

Unidentified Berries

In Schaeffer's (1940:43) list of berries that were eaten fresh in season by the Tobacco Plains Indians (but not dried for subsequent use) are "willow berries" and "bull berries." Neither appears under these names in Turner's (1978) compendium of food berries of the interior British Columbia Indians or in Hart's (1976) publication. To the moment, I have been unable to identify these two fruit forms taxonomically. And I have located no additional references to them and information about them, unless "willow berries" are equatable to Turney-High's "silverberries" (v. silver berry section above).

Seeds and Nuts

Seeds and nuts were not important foods among the Upper Kutenai (Ray 1942:132). The following assembles all data relating to these foods for which there is ethnographic evidence.

• Balsamroot. After the flowers of the balsamroot (Balsamorhiza sagittata, "spring sunflower, wild sunflower") had gone to seed:

> . . . the small black fruits were shaken from the dried heads [by the Upper Kutenai], spread in the sun, or roasted to dry completely, then eaten whole, 'shell' and all, or more often placed in a basket or buckskin bag and pounded into a kind of flour. This meal was eaten alone, without further preparation . . .

or in various dishes. Sometimes they were mixed with powdered dried serviceberries or combined "with deer fat or grease, and water, boiled, and formed into small cakes." (Turner 1978:115-119)

For habitat information, see this plant in the preceding roots section.

• White-bark and Ponderosa Pines. In late August and in September the large, brown seeds of the white-bark pine (Pinus albicaulis) were gathered by the Upper Kutenai from trees on the mountain ridges. The branches were shaken until the seeds fell loose from the cones or the cones themselves were collected, dried slightly, and pounded or knocked against a hard surface to free the seeds. Seed caches of small animals were also purloined of their "nuts." The seeds were either eaten immediately as a special treat or stored for winter use. (Turner 1978:55-57)

The seeds of the ponderosa pine (P. ponderosa, "yellow pine, red pine, bull pine"), which grows in dry parts of the Kootenai Valley, were gathered in the fall when they fell to the ground naturally from the cones or were taken from cones "cut down prematurely by squirrels." In this latter case, the cones were carried back to the camp and were dried until the seeds could be removed by shaking. The seeds were cracked open and eaten raw, generally as a "snack or confection": the task of gathering them was too great for the Kutenai to regard them as a real food. (Turner 1978:57, 60-62)

The seeds of pines--otherwise unspecified--were eaten by the Upper Kutenai, according to Ray (1942:132, 137). Sometimes they were parched on hot rocks. These data are obviously in phase at the most general level with the information of Turner and Schaeffer.

Only Curtis (1911 7:174) provides a Kutenai term--actually an Upper Kutenai word--for 'pine nuts': i.e., akópaⁿl. If the Kutenai distinguished terminologically among the conifers that yielded edible nuts, we are uninformed on this point.

The white-bark pine grows on ridge-tops and exposed rocky slopes from subalpine areas to timber-line, rarely below 4,000 feet (Turner 1978:55). The ponderosa species, on the other hand, favors dry warm valleys and slopes up to 3,000 feet; intolerant of shade and extreme cold, it forms open, park-like forests in the dry portion of the Kutenai country (Turner 1978:60). According to Hart (1976:51), the ponderosa comprises "a boundary between the grasslands or shrublands below and the more dense forest belt above."

• White Pine (Pinus monticola, "Western white pine" [Turner 1979:105]). Schaeffer (1940:44) presumably refers to this tree, rather than to Turner's white-bark pine (P. albicaulis), in his passing observation that in September the Kutenai roasted and ate the seeds from the cones of the "white pine." This is particularly argued for by his comment that this same tree yielded cambium in May. It is doubtful that P. albicaulis provided much, if any, cambium food, most especially in May (see "Cambium" section below), whereas the white pine (P. monticola) might easily have been a cambium source in that early month.

It is odd that Turner, while mentioning the use of white-bark pine seeds by the Upper Kutenai, fails to record their eating of white pine seeds, for they are without question edible. She (Turner 1978:211) herself reports that the seeds from partially roasted white pine cones were a subsistence resource among the Flathead.

P. monticola thrives in well-drained, sandy soil in valley bottoms and on open hillsides to elevations of approximately 3,500 feet (Turner 1979:107).

• Other Conifers. The seeds of still other conifer varieties--viz., subalpine fir (Abies lasiocarpa), white pine (Pinus monticola), and Douglas-fir (Pseudotsuga menziesii)--were occasionally eaten by some tribes of interior British Columbia. But Turner (1978:57) does not mention the Kutenai specifically as having included these particular "nuts" in their diet.

• Hazelnuts. Hazelnuts (Corylus cornuta, "wild filbert, cobnut") were gathered by the Upper Kutenai in October. They were:

> . . . buried in the ground for 10 days or more to allow the prickly husks to rot away. Sometimes this process was hastened by adding water to the hole before it was filled in, and by covering the nuts with wet mud. After the husks were removed the nuts were shelled and eaten. An easier way to obtain the nuts was to locate them, already dehusked, in squirrels' caches. (Turner 1978:126-127)

These nuts are found widespread in the Kootenai country on open rocky slopes (Turner 1978:126).

Green Vegetables: Sprouts, Stems, Leaves, and Flowers

• Cow Parsnip. The young stalks and leaf stems of the cow parsnip (Heracleum lanatum, "Indian rhubarb, wild rhubarb"; UK. wúm'a·ɬ [Boas 1918:5, 330, 375]), which grew generally through British Columbia," were used "as a green vegetable by virtually every Indian group" in the province (Turner 1978:95). While there is room in these broad distributional and utilization statements for the Upper Kutenai to have represented an exception to the pattern, this appears not to have been the case on the testimony of Schaeffer below.

In spring before flowering time, Turner continues, the stalks and stems were gathered and:

> . . . were peeled and eaten raw, or occasionally boiled, steam-cooked, or roasted for a short while. Despite its strong odour, the peeled stems are sweet and succulent, having a flavour reminiscent of celery and a texture like that of rhubarb. (Turner 1978:95)

Schaeffer's (1940:43) earlier account is briefer, but adds a bit to the above. He reports that the stalk of the wild rhubarb "was stripped of leaves and thrown into the fire. After roasting, the outer layer was removed and . . . was eaten."

This plant occurs in moist open areas and meadows, often in large patches, *from the valley bottoms to above tree-line in the mountains* (Turner 1978:95).

• Water Parsnip. The young green shoots of the water parsnip (Sium suave, "swamp parsnip, wild carrot, wild saccharin") were evidently eaten by the Upper Kutenai, if my interpretation of Turner's (1978:113-115) statement is correct. Older plants, however, were inedible.

This plant thrives in swampy areas "and shallow water around the edges of lakes and ponds" (Turner 1978:113).

• Balsamroot. The white, succulent shoots of the balsamroot (Balsamorhiza sagittata, "spring sunflower, wild sunflower") were the first parts of the plant to become available in the spring. Before they appeared above ground, they were found by the Upper Kutenai from the dead leaves and stalks of the previous year, dug up, and eaten raw. "They were a good famine food, being available when few other foods could be found." (Turner 1978:115-119)

In April and May, after the root season for the plant had passed but while:

> . . . the flower buds were still tightly closed, the bud stems were broken off, peeled, and eaten raw, steamed, or boiled. They have a pleasant nutty taste, reminiscent of the smell of young sunflower seeds. (Turner 1978:118)

Evidently Hart (1976:20) is referring to this same balsamroot food in reporting that young, immature flower stems--but apparently not the stalk supporting the leaf--were peeled and the tender inner part was eaten raw by the Upper Kutenai like celery.

The available habitat data are in close agreement. According to Turner (1978:116), balsamroot grew on "open, dry hillsides and flats, from lowlands to moderate elevations in the mountains." In Hart's (1976:20) account, it is said to have been found "in dry prairies and foothills."

• Elk Thistle. Young stems of the elk thistle (Cirsium scariosum), cut and peeled, were eaten raw by "Montana Indians," which, unless qualified in some manner, generally includes the Upper Kutenai as Hart (1976:13) employs the term.

However, Turner's (1978:121) information differs. According to her findings, thistle (Cirsium sp.) stalks were not a subsistence item among the Upper Kutenai.

This thistle variety is, according to Hart (1976:13), "widespread in mountain meadows and other moist places."

• Prickly-pear Cactus. The succulent stem segments of the prickly pear (Opuntia sp.) were a Kutenai food. The stems were thrown into a fire to burn off the formidable spines and the interior of the stem then eaten. (Schaeffer 1940:43)

Neither Hart (1976:39) nor Turner (1978:130-131) reports the use of this plant by the Kutenai as a food source. Turner, however, describes in fuller detail than Schaeffer the processing of these stems by the Interior Salish, among whom she reports it to have been an important food. Because Schaeffer's data are so meager and because Turner's general information can be presumed to have held to a full or considerable degree for those Kutenai bands that had this plant in their country, her data, though non-tribally specific, may be usefully included here:

> [Opuntia stems] were usually gathered in the spring, but in times of necessity could even be collected, from under the snow, in mid-winter. The spines were scorched-off in a hot fire, and the segments were roasted or pit-cooked, then peeled and the inner fleshy part eaten. Some people, instead of peeling them, simply squeezed the cooked segments, and the edible inner part "popped" out, . . .

No ethnographer mentions the use of the small, reddish, spiny fruit of the Opuntia by the Kutenai, although both Hart and Turner record that it was eaten by other Indian groups not distant from the Kutenai.

Opuntia grows in dry valleys and on dry hillsides (Turner 1978:130).

• Pineappleweed. The small, yellowish-green flower heads of the pineappleweed (Matricaria matricarioides) were occasionally eaten by the Upper Kutenai. It grows in dry prairies. (Hart 1976:23).

• Canada Mint. Leaves of the Canada mint (Mentha arvensis), dried and powdered, were sprinkled by the Upper Kutenai "on cooked meat as a flavouring, especially if the meat was fatty" (Turner 1978:214).

This information seems to be generally confirmed--in a way slightly expanded upon--by Turney-High's (1941:38) findings regarding "wild peppermint" (má'ta), which I presume to be Turner's Canada mint. Peppermint, he writes, was mixed in pulversized form with dried meat--specifically bison meat but apparently other meat as well--to give it a strong flavor that was appreciated by the Upper Kutenai, to aid in preserving the flesh, and to repel flies.

In regard to its insect repellent function Hart (1976:64) reports that powdered leaves of the mint (Mentha arvensis) were sprinkled "on meat and berries to repel bugs."

Fresh M. arvensis contains somewhat less calcium per mg than fresh Lomatium cous (biscuitroot) but much more than fresh Lomatium canbyi (also biscuitroot) and twice as much as fresh Perideridia gairdneri (yampah). Its magnesium content is exceptionally high. (Benson et al. 1973:145; Hilty et al. 1980:21)

The plant occurs in damp soil, especially on stream banks, at springs, and in bogs (Hart 1976:65).

Lichen

Black tree lichen (Alectoria fremontii, "black tree moss, Indian bread"; K. á:sa [Turney-High 1941:34], áñla [Curtis 1911 7:174]) was used as food by the Upper Kutenai. It had the advantage of being harvestable at any time of the year. But it had to be heat-prepared in some manner before being considered edible. To these specific data related directly to the Upper Kutenai, Turner (1978:35-39) adds a body of excellent but generalized details on gathering and preparation techniques. Since, however, these are not explicitly described as true for the Kutenai, they are omitted here. But one observation of Turner (1978:35, 37-38) is of more than moderate interest: substantial variations occurred in the flavor of lichen from area to area, even from one mountain slope to another within a small geographical compass, and

depending on the variety of tree on which it was growing.[101] Because there is nothing in the record to suggest the same high Kutenai appreciation of lichen as among the Flathead, who considered it "more of a luxury item than a staple" (Hart 1976:11), it is tempting to conclude that the Upper Kutenai country in general may have produced less desirable crops than the area to the south of them.

Schaeffer (1940:42) furnishes additional details. Growing abundantly over much of the Kutenai country, "tree moss"--obviously the black tree lichen of Turner--was an important vegetal food for the Upper Kutenai as well as the Lower Division. At Tobacco Plains "moss" and camas often were pit-cooked together--as mentioned in the camas section of this present report. At Columbia Lakes it was mixed with wild onion and pit-steamed. "Root pits were said to be numerous along the lake shores and could still be seen until late years." When food was scarce in winter, this "moss" was frequently "boiled with the stomach contents, or even the droppings, of the fool hen, for added flavor."

Little is added to this discussion by Turney-High (1941:33-34), who notes only that "black moss" was gathered by the Kutenai and "used as a condiment with the addition of wild onion."[102]

Ray (1942:137, 138) reports merely that when lichen was cooked in the earth oven, water was poured into the oven to generate the steam which contributed to the cooking process.

Describing the preparation of black tree lichen without reference to individual tribes but plainly implying its relevance for the Upper Kutenai, Hart (1976:11, 17) reports that it was cleaned and soaked in water and then baked for one or two days in an underground pit, often with camas or Douglas onions (Allium douglasii). The resulting "black, compact, and gelatinous mass" was eaten in this form, frequently with camas, or sun-dried and powdered. The powder was "mixed with powdered camas to sweeten it" and was boiled in water to make a thick mush.[103]

Chamberlain (1893, quoted by Turner 1978:39) reports that black lichen was mixed by the Kutenai with "wolf moss."[104] This last substance is "a wiry yellow-green lichen" with which black lichen commonly grows and which possesses a high concentration of dangerous vulpinic acid (Turner 1978:35). None of Turner's (1978:39) informants corroborated the fact that wolf moss was eaten by the Kutenai.

The vitamin value of black tree lichen is largely destroyed in the pit-cooking process. Even in its processed form, however, its iron content remains high, its calcium value continues to be significant, and its zinc content per milligram is greater than in any other fresh or processed native food tested by the Benson research group. (Hilty et al. 1980:17, 21; Benson et al. 1973:145, 146)

This lichen is found on tree branches, mainly on those of coniferous species such as ponderosa pine, Douglas-fir, and western larch, particularly on their upper branches and on trees growing on north-facing slopes (Turner 1978:35).

Cambium

• Lodgepole Pine. The "sweet, succulent" cambium--the layer between bark and wood--of the lodgepole pine (Pinus contorta, "black pine, jack pine, shore pine, scrub pine") was favored by the Upper Kutenai. It had to be harvested at precisely the correct time in the spring, the period varying with elevation and local climatic conditions.

> In late May or June, . . . the cambium becomes thick and juicy, after the bark is removed, and can be scraped from the wood in long, fleshy ribbons, . . . Most groups preferred to collect it at this time, using scrapers made of caribou antler, deer ulna, or black bear shoulder blade. A basket would be held at the base of the tree, and the cambium scraped off from bottom to top so none of the 'juice' would be lost.

It "was usually eaten fresh, as it was gathered, . . ." (Turner 1978:58-59)

With the aid of the preceding Turner data and comparable descriptive statements from neighboring tribes, Ray's (1942:131-132) otherwise rather murky trait list information can safely be interpreted. The Upper Kutenai, he reports, secured "sap"--i.e., cambium--from the jack or black pine [i.e., lodgepole pine].[105] The outer bark was first removed from the tree with a wooden tool. Then, with an upward motion, the sap was scraped free from the wood with an implement consisting of a caribou or deer rib or one made from a bear bone or bighorn sheep horn. The substance was collected in a basket and eaten fresh. For all its brevity, this summary confirms and slightly extends the ethnographic facts presented by Turner.

Hart (1976:52) also reports that the Upper Kutenai "ate the inner bark or cambium" of this pine. But his description of the method by which it was secured differs from that of Turner and Ray. For he states that it was "scraped off the slabs of the easily-removed bark." As noted below, Hart makes a similar statement in greater detail for the ponderosa pine and there again is at sharp variance with the data of Turner and Ray.

The lodgepole pine is a highly adaptable species, occurring, I gather, from the lower Kootenai Valley to rocky hilltops and upland plains (Hart 1976:52; Turner 1978:58).

• Ponderosa Pine. The cambium of the ponderosa pine (Pinus ponderosa, "yellow pine, red pine, bull pine") was gathered by the Upper Kutenai and eaten in the same way as that of the lodgepole pine. Turner (1978:60) continues:

> The best cambium was obtained from young trees, before they began to bear cones. It could also be taken from the twigs and branches of older trees. It was usually ready to harvest two or three weeks before lodgepole pine cambium, and could be eaten fresh or roasted.

Although the point is not made by Turner, it seems safe to assume that she saw the method by which this cambium was obtained as identical to that she describes for the lodgepole pine (v.s.).

Hart (1976:50-51) presents a more extensive and fundamentally different account so far as the gathering technique is concerned, apparently pulled in large part or even in toto from White's (1954) earlier specialized study.[106] The Kutenai, he states, secured ponderosa cambium in spring, typically early in May, when the first of the bitterroot roots were ready for gathering. In spite of the hard labor involved, the bark was removed from the tree and processed by women, often assisted by their children.[107] A cloudy, cool day was selected for the task, since sap was thought to run well under these conditions. And a tree area close to camp was usually selected. (This ethnographic note is of some archaeological relevance inasmuch as pines with a part of their lower bark removed may perhaps still be observed and may serve as a guide to a nearby camp site.) It was known that the time was right for the task because a strip had previously been removed from a test tree to allow sampling its cambium for sweetness. The bark was now removed from the trees with a strong but somewhat flexible stick, often of juniper, with one end flattened chisel-fashion, or with an elk or bison rib tool. This implement was slid under the bark until a large strip was pried off. Generally this piece was taken from only one side to avoid killing the tree.

Then with a scraper fashioned from bighorn sheep horn and with the bark strip laid over the knee or spread on the ground, the sweet inner layer was separated from the bark. This operation was normally carried out at the tree site, since the bark intact was too heavy to bring back to camp.

Some of the cambium was eaten immediately as a treat after the long winter's rations. The remainder could be kept for only a few days because it soon dried unless it was preserved for longer periods. This latter was accomplished by rolling the cambium:

> . . . into little balls and . . . [packing it] with green leaves in bags, parfleches, or bark baskets for storage. Similarly, the bark was slit and tied into knots and then placed into parfleches with green leaves or grass to prevent drying. (Hart 1976:51)

According to Ray (1942:131-132), cambium was taken from ponderosa pine by the Upper Kutenai by the same technique as he describes for the lodgepole pine (v.s.). Here his data obviously conform to those of Turner and differ basically from Hart's account.

Schaeffer (1940:44) reports only that in May the cambium layer was removed from red pine trees with a deer-rib scraper and was eaten. Nothing more.

For habitat information, see the ponderosa pine entry in the preceding section relating to seeds and nuts.

• "White Pine." According to Schaeffer (1940:44), the cambium of "white pine" was secured as food by the Kutenai. With the aid of a deer-rib scraper, it was removed from the tree in May.

It seems quite certain that this tree is white pine (Pinus monticola), not white-bark pine (P. albicaulis). P. monticola grows at much lower elevations (in Krajina's Interior Douglas-Fir Zone) than P. albicaulis (in the Hudsonian Zone or Krajina's Engelmann Spruce-Subalpine Fir Zone) where it would be much more accessible to cambium gatherers. It is also a much larger tree--50 to 100 m high, 1 to 2 m in diameter (Piper and Beattie 1914:10)--than P. albicaulis, at best a gnarled, dwarf tree seldom more than 9 m high and 5 dm in diameter (Turner 1978:55). And P. monticola, favoring lower elevations, would have been far more likely to possess harvestable cambium in May than P. albicaulis on the much higher mountain slopes.

It is not irrelevant to this conclusion that white pine (P. monticola) is reported to have been, in fact, a cambium source among the Flathead (Turner 1978:59, 211).

• Western Larch. The cambium layer of the western larch (Larix occidentalis, "tamarack") was also obtained in spring by the Upper Kutenai for its food value (Ray 1942:131-132; Turner 1978:53). These data are in agreement with Schaeffer's (1940:43) earlier brief note that tamarack "sap . . . was removed [by the Kutenai] in congealed pieces and eaten."

While mentioning the "syrup" that the Upper Kutenai drew from this tree (v.i.), Hart (1976:22) says nothing about the use of its cambium.

In light of the question already raised as to whether the cambium was secured from the inner surface of the bark or from the wood surface of the tree itself--or perhaps from both depending on the tree type or the state of the cambium--it is a pity that the actual process by which the material was recovered from the larch is not described by Schaeffer, Ray, or Turner.

This tree "grows on mid-mountain valleys and slopes which are relatively moist" (Hart 1976:22). Turner's (1978:53) two habitat statements appear somewhat inconsistent, unless it is assumed that the first is generalized for southern interior British Columbia. She writes: (a) the western larch is found in "mountain valleys and [on] lower slopes, often in somewhat swampy areas"; (b) the tree occurs on "north slopes and in higher valleys of the Kootenay . . . drainage [system]."

• Cottonwood and Trembling Aspen. The sweet inner bark of Populus trichocarpa,[108] Hart (1976:68) reports, was relished by the Upper Kutenai, who thought it sweeter than ponderosa pine cambium. The bark was peeled in spring, typically in May, when the sap was running.

> They first sampled a small portion of bark to test its sweetness, and, if suitable, they began removing large pieces with the rib of a buffalo or elk. Next they scraped off the thin, transparent sheets of cambium which still clung to the tree.

It will be perceived that here Hart describes a cambium-gathering technique that differs from the one he reports for the lodgepole and ponderosa pine, where the sweet layer was scraped from the bark rather than from the tree bole. However, the method he notes here for the cottonwood is precisely that reported by Ray and Turner for the two pine species. Unfortunately, Turner's observation for the cottonwood immediately below is insufficiently detailed to reveal whether, according to her findings, the bark or the tree itself furnished the food.

Turner's (1978:204-206) tree distributional account indicates that both black cottonwood (Populus trichocarpa) and trembling aspen (P. tremuloides, "white poplar") were native to Kutenai territory. In regard to the utilization of poplar as a Kutenai food source, she writes:

> Poplar cambium was used as food in several parts of the Interior [of British Columbia]. Black cottonwood cambium was the most widely used, but cambium from . . . trembling aspen was also eaten in some areas. Some peoples, such as the Kootenay, . . . ate poplar cambium only rarely, whereas among the . . . Flathead of Montana it was considered a great delicacy and was eaten in large quantities. It is ready to harvest in May in the southern part of the Province. . . . Often a test strip would be peeled off to see whether the cambium of a particular tree was sweet and ripe for harvesting. No attempt was made to dry or store it, it was eaten only while fresh and succulent.

Obviously Turner's estimate of a minimal Upper Kutenai utilization of poplar cambium is out of joint with Hart's record that it was "relished" by the group. One of the bothersome aspects of ethnographic data concerned with groups like the Kutenai is that both Turner and Hart may be correct in a somewhat limited sense. For example, regional differences within Kutenai territory may have prevailed: Turner, whose information was apparently derived from Cranbrook and Tobacco Plains Kutenai, may be accurately describing the situation in those areas, while Hart, who acquired his data from the Flathead Lake band, may be correctly reporting their use of cottonwood cambium. Or, as but one other alternative, time differences in the data may account for these variant ethnographic findings: unfortunately we are not informed either by Turner or Hart as to the ages of their principal informants. At present I have no means of resolving this frequency of use contradiction.

P. trichocarpa grows along watercourses, in gullies, and on floodplains at both low and high altitudes. Trembling aspen "is common

in open meadows and woods and mixed coniferous forest." (Turner 1978:205)

Tree Sap

• Western Larch. From the western larch (Larix occidentalis, "tamarack"), which grows on relatively moist, mid-mountain valleys and slopes, the Upper Kutenai secured a kind of sweet "syrup." According to Hart (1976:22), a cavity was hollowed out in the trunk, "allowing about one gallon of the sap to accumulate. Normal evaporation concentrated the syrup, making it considerably sweeter. They gathered this once or twice a year, depending upon the individual tree, and recognized that certain trees produced a sweeter sap flow than others."

Turner's (1978:25, 53) data are repetitive of--and seem certainly derived from--the above. Except that she reports that the sap was sometimes found in natural reservoirs in trees.

• Cottonwood. The sap of the cottonwood (apparently (Populus trichocarpa, "black cottonwood") was eaten by the Upper Kutenai. A portion of the tree trunk was hollowed out to create a cavity within which the sap could collect. (Hart 1976:68)

Subsistence-Peripheral Plant Usages

In this section are discussed three ways in which plant substances were utilized by the Upper Kutenai in manners that are related peripherally to or are closely associated with their subsistence usage of plants. Specifically, these are the drinking of plant decoctions as pleasurable teas, the chewing of plant substances for enjoyment, and the smoking of tobacco and other vegetable materials.

There is here, it may be said, a broader point of considerable theoretical interest. While these three plant functions may not represent true subsistence usages in Western eyes, it is not at all clear that the Upper Kutenai did not view them as parts--perhaps even integral parts--of their subsistence culture. A cognitive study of the traditional Kutenai concept of "food" or "subsistence substances" in all their dimensions might prove to be a revealing exercise.

But beyond this, it would not be surprising if at least some of the liquids ingested as teas and perhaps even some of the substances released in masticating the plant materials noted below possessed nutritive value.

On the other hand, the cultivation and use of tobacco and the smoking of its substitutes comprise a different cultural category. Although from our perspective at any rate not even peripherally a subsistence component, these plants played such a central and, for the Plateau, unique role in Upper Kutenai life--indeed, even in the seasonal

round activities of several, if not all, of their bands--that an analysis of the subsistence adaptive strategy of the group would be incomplete without a consideration of certain aspects of the smoking complex, especially of the use of tobacco.

"Teas"

A number of plants are known to have been prepared as infusions by the Upper Kutenai and drunk as "teas." Several were also considered to possess medicinal virtues--much as tea (Thea [Camellia] sinensis) among many Westerners--especially when they were prepared in stronger form. These decoctions, therefore, were frequently consumed to serve both pleasurable and health-related purposes. In the brief discussion that follows the particular curative properties of teas are not specified, being regarded as falling outside the subsistence-settlement concerns of this present study. And plants which provided liquids that appear to have answered an exclusively medicinal purpose are wholly omitted from this report.

It would appear that the Upper Kutenai themselves made a distinction between simple teas and decoctions that were believed to enhance health and, in the case of double-purpose drinks, between the tea and medicinal uses of the liquid. At least this seems to be indicated by Turner's (1978:215) statement, if she reports the native concept literally, that tea brewed from alum-root (Heuchera cylindrica) "was used as a medicine or tonic rather than as a beverage."

The plants that follow are reported, then, to have been taken as pleasurable teas.

• Rocky Mountain Juniper. Both the branches and the bluish, pungent-smelling "berries" of the Rocky Mountain juniper (Juniperus scopulorum) and the common juniper (J. communis K. a_a'kak.łúłał, a_a'kok.łúłał [recorded by Chamberlain according to Boas 1918:321, 367]) were boiled by the Upper Kutenai to produce a tea. This liquid was occasionally drunk as a beverage but much more commonly taken as a medicine. (Turner 1978:52)

The scopulorum species grows in dry plains, valleys, and lower mountains. The communis form occurs "in open woods and valleys and on dry hills and open rocky slopes from . . . [valley bottoms] to subalpine or alpine areas." (Turner 1978:51)

• Labrador Tea. Labrador tea (Ledum groenlandicum, "swamp tea, Hudson's Bay tea, muskeg tea, Indian tea, trappers' tea") is a scraggly shrub that furnished the Upper Kutenai with the ingredients for a tea-like decoction. Evidently the fresh or dried leaves were simmered to yield a drink with "a pleasant, aromatic fragrance and taste." But beyond this we cannot safely go. For example, when the leaves were picked is uncertain: Turner reports only for the native peoples of

interior British Columbia that they were obtained "from August to April, depending on the traditions of the group using them." Whether plant parts like twigs and flowers were likewise utilized by the Upper Kutenai, as documented for certain tribes, is not recorded. Nor is it known whether the Kutenai varied the tea-making procedure from the simple simmering one, as was the case in some nearby tribes. (Turner 1978:145-147)

It is possible, Turner (1978:147) states, that the use of this plant as a tea among the British Columbia Indians was not traditional. This is suggested by the many Indian names for the shrub. One Kutenai term, for instance, "is derived from 'McKay's tea,' presumably after a local Scotsman who used it. Another Kootenay name translates simply as 'peoples' tea.'"

This plant grows in "peat bogs, muskegs, and wet mountain meadows, usually in association with Sphagnum moss" (Turner 1978:145).

• Canada Mint. The leaves of the Canada mint (Mentha arvensis), fresh or dried, were made into a tea by the Upper Kutenai. This liquid was both a beverage and, in stronger concoctions, a medicine. (Turner 1978:214)

So also writes Turney-High (1941:38) for the "wild peppermint": the leaves of this plant were used in an infusion as a drink and as a favorite medicinal herb.

Habitat information may be found under the "Canada mint" item in the preceding "Green Vegetables" section.

• Snowbrush. Snowbrush (Ceanothus sanguineus, "buckbrush") leaves were used by the Upper Kutenai to make a tea that was drunk as a beverage and also as a good medicine (Turner 1978:215).

• Soapberry. From the leaves of the soapberry (Shepherdia canadensis) the upper Kutenai secured a tea (Turner 1978:140).

For alternative terms for this berry and the habitat characteristics of the plant, see the preceding "Berries and Other Fruits" section.

• Twinflower. The leaves of the twinflower (Linnaea borealis) served as the ingredients of an Upper Kutenai tea (Turner 1978:211).

• Wild Bergamot. The leaves of the wild bergamot (Monarda fistulosa), termed by the Kutenai 'dry land mint,' were used by the Upper Kutenai as they employed the leaves of the Canada mint, 'water mint.' Fresh or dried, these plant parts were "steeped in hot water to make a refreshing tea." (Turner 1978:214)

Smoking Substances

As with the drinking of teas, so the smoking of tobacco and, to some degree, of other plant materials was enjoyed by the Upper Kutenai. But smoking was not only a pleasure-generating activity. It, too, was thought to possess notable curative qualities. And, in this case, also highly significant symbolic and ritual values. In this section, however, we consider only smoking for pleasure and those particular plants that are reported to have been utilized at least in part with this objective in mind. This limited view of smoking is in keeping with the basic goals of this study and is quite sufficient to bring into focus the surprising degree to which the annual activity pattern of the Upper Kutenai took into account the special cultivation requirements of the tobacco plant. And likewise to document the strong ties that these requirements forged between the people and certain sectors of their biophysical environment.

• Tobacco. Wild tobacco (Nicotiana spp.; UK. $a_{\underline{a}}$ʻkmoqlóʻmaʻɬ, wasáq$_{\underline{a}}$naʻn (?), yáqlɛɬt [Boas 1918:13, 62, 154, 318, 328]) was cultivated and smoked by the Upper Kutenai in precontact times. Indeed, the existence of the plant among the group is explained mythologically through a gift of the seeds from the spirits in return for the smoke of the plant in ceremonial contexts (Turney-High 1941:171).

Tobacco Plains, of course, derives its name from the extensive native tobacco plantings that were maintained in the area. One reference has been located to a specific planting site in the Tobacco Plains region. In a tradition--not devoid, however, of supernatural power elements--it is said:

> The people were living on Tobacco river, near the place now called Eureka. One morning the chief announced: 'We are going to move this morning. We must go to plant tobacco seeds.' The people began to prepare for the march to Tobacco Plains, near what is now Gateway, where they always planted their tobacco. (Curtis 1911 7:152)

This site--or at least a site--north of Eureka is also referred to by Turney-High (1941:172) and Smiley (1975:2).

In spite of the traditional and historic importance of the Tobacco Plains sector in tobacco cultivation, Turney-High's (1941:172) Tobacco Plains informants believed that "the plant was first grown at Canal Flats and . . . [thought] that is where the seeds came from." These flats, of course, comprise the small, level area separating the uppermost headwaters of the Columbia River from a stretch of the upper Kootenai River.

Several localities, in addition to Tobacco Plains, are known to have been tobacco planting areas. One is said to have been at Michel's Prairie in British Columbia, where, according to tradition, the tunaxa division of the Kutenai came annually from east of the Rockies to plant

their tobacco (Turney-High 1941:18-19; Smiley 1975:2). As mentioned elsewhere, I have been unable to find this prairie on any map, but suppose it to have been on Michel Creek (Whitford and Craig 1918:large folded map) and probably in the vicinity of the present town of Michel just west of Crowsnest Pass in the middle Elk River country.

South of Tobacco Plains other cultivation fields were located west of Pleasant Valley (Schaeffer 1935 in Chalfant 1974:48) and near Fortine in the Upper Fisher Valley, at McGinnis Meadows, and where the West Fisher River meets the Fisher (Smiley 1975:2). Another was to the southeast at Spotted Bear on the South Fork of the Flathead River (Smiley 1975:2).

Two others are reported to have been used by the Flathead Lake band of the Kutenai, the group of relatively recent genesis. One of these was "as far east as the lower reaches of the Mission Mountains across the [Flathead] lake": i.e., on the east side of the Flathead Valley. The other was said to have been "far to the westward" from the lake where the band maintained its headquarters (Turney-High 1941:172). This area is not otherwise defined and the statement is, in my judgment, of very questionable validity, inasmuch as only a few miles to the west of Flathead Lake rose the very complex mass of the Cabinet and Bitterroot Mountains and the territory of the Kalispel.

According to Ray (1942:187-188), tobacco patches were owned and tended by their possessors. The plant was prepared for use by being pulverized on a flat grinding stone with a flat stone muller. It was also rubbed between the palms; although Ray does not so state, presumably this was a supplement to the powdering procedure, perhaps just before the substance was smoked. In any event, tobacco was invariably mixed with "kinnikinnick." Both "trumpet-shaped" tubular pipes of stone and elbow pipes of soapstone with a wooden stem were in use among the Upper Kutenai.

Concerning the admixture of kinnikinnick Turney-High (1941:172) essentially confirms Ray, reporting that among the Kutenai tobacco was "almost always smoked with kinnikinic."

It is probable that Arctostaphylos uva-ursi is the mixture plant to which both Ray and Turney-High have reference. But since kinnikinnick is a popular term applied to a variety of plants that were smoked natively, this identification is not a certainty.

In light of the preceding data, perhaps it is not without relevance to note Turner's (1978:218-219) general comments concerning the use of "wild" tobacco by native groups of interior British Columbia:

> There were various ways of preparing it for smoking, the most common being to gather and dry the leaves after the plants flowered, then toast and grease them to keep them from getting too dry. Smoking mixtures were often made by adding dried kinnikinnick (Arctostaphylos uva-ursi) leaves, mountain valerian (Valeriana spp.) roots and leaves, dwarf wild rose

(Rosa gymnocarpa) leaves and bark, red-osier dogwood (Cornus stolonifera) leaves, and (or) huckleberry or blueberry (Vaccinium spp.) leaves, or "Indian marijuana" (Ligusticum canbyi).

How much of this description applies specifically to the Upper Kutenai is unfortunately not revealed. Consequently, unless Kutenai specific information is available elsewhere, the vegetative additives referred to are not included in the plant list that follows.

The behavioral aspects of smoking, both as a diversion and in its more formal and ceremonial contexts, lie outside the interests of this study.

• Kinnikinnick. In precontact times, according to Turner (1978:143-144), kinnikinnick leaves (Arctostaphylos uva-ursi), "toasted beside a fire until crisp and brown," were sometimes smoked by themselves, as well as mixed with wild tobacco, "by most of the groups of the southern Interior." In this instance once more it is not made clear whether the Upper Kutenai were among these using groups. But here, Turney-High (1941:172) removes the doubt, reporting that the Kutenai on occasion smoked this plant alone even in post-tobacco times. Comparative evidence certainly suggests the conjecture that it was the common smoking material prior to the introduction of the tobacco planting complex.

Habitat information is given in the preceding "Berries and Other Fruits" section.

• Lovage. The root of the lovage (Ligusticum canbyi, "Indian marijuana, wild ginseng, wild licorice"), with its sweetish, aromatic odor, occurs in the Kutenai country and is common around Kootenay Lake. As the Kutenai used it, a few pieces were mixed with tobacco to give "the smoke a pleasant menthol taste and act as a relaxant. It can also be held in the mouth as a 'snoose' to give the same effect." (Turner 1978:98-101)

This fragrant herb grows in "moist or wet meadows and [on] stream banks at moderate to high elevations" (Hart 1976:25; Turner 1978:98).

The Upper Kutenai also used the root of a related species (L. verticillatum) similarly, but this was more commonly smoked in a medicinal capacity than for simple enjoyment (Turner 1978:98-101).

Masticatory Substances

• Western Larch. The sweet gum of the western larch (Larix occidentalis, "tamarack"), exuded from the tree and hardened, "was broken off and chewed for pleasure at any time of the year by the . . . [Upper] Koctenay" (Turner 1978:53).

For habitat information see the section relating to this tree in the "Cambium" section above.

• Douglas-Fir. Pieces of the dried sap of the Douglas-fir (Pseudotsuga menziesii, "Oregon pine, fir") were pulled from the tree by the Upper Kutenai and chewed like our chewing gum.

While not immediately pertinent to the present subject, there appears to be no more appropriate place to note that various uses of the seeds, twigs and needles, and a white, crystalline "sugar" that forms under the leaves and branches of this fir under very special conditions are known for other southern interior British Columbia tribes, according to Turner (1978:62-65), but are not reported for the Upper Kutenai.

The biogeoclimatological requirements of this tree are notably broad, such that it grows from areas that are moist to those that are very dry and from valley floors to as high as 6,000 feet in the Rocky Mountains (Turner 1978:64). It may be recalled, however, that the upper limit of the "Interior Douglas-fir" biozone is placed by Krajina at 4,500 feet (v.s.).

Plants Unused as Subsistence Resources

As already observed in connection with animal foods, it is important in assessing a group's adaptation to its environment not only to discover the resources that were utilized but also to consider the usable elements that appear to have remained untapped. This section focuses upon this latter class of plant types and materials, all available on present evidence within the traditional territory of the Upper Kutenai but apparently put to no service by the group.

The Kutenai are expressly reported not to have eaten the following:

• The root of the western skunk cabbage (Lysichitum americanum), although used by the Lillooet for food (Turner 1978:65-66).

• The taproot of the wild thistle (Cirsium hookerianum, "Hooker's thistle," and C. undulatum, "wavy-leaved or woolly thistle"), even though both were regarded as foods by nearby native groups (Turner 1978:119-121).

• The bulb of the yellowbell (Fritillaria pudica), which was eaten by other tribes of interior British Columbia (Turner 1978:86). Concerning this corm Hart (1976:25) notes only that it was consumed to a minor extent by the Indian groups of Montana; he makes no specific mention of the Kutenai.

• The orange to bright red berries of Hooker's fairy bells (Disporum hookeri) and the berries of the rough-fruited fairy bells (D. trachycarpum). These were considered inedible in spite of the fact that both were eaten by other Plateau groups to the west. (Turner 1978:78-80)

• The extremely sweet but seedy berries of the false Solomon's seal (Smilacina racemosa) and of the star-flowered Solomon's seal (S. stellata). These, however, were generally eaten and highly appreciated for their sweet taste by the Salishan tribes to the west. (Turner 1978:90-93)

• The berries of the bunchberry or dwarf dogwood (Cornus canadensis). While eaten by groups to the west, the Kutenai considered them inedible. (Turner 1978:208)

• The juicy berries of the red twinberry (Lonicera utahensis), although Okanagan hunters sometimes consumed them as an emergency source of fluid (Turner 1978:211).

• The succulent center pith of young stalks of the fireweed (Epilobium angustifolium, "willow-herb, blooming sally"; aa'kankomé·ka, a Chamberlain transcription [Boas 1918:321, 360]). This was widely enjoyed, both raw and cooked, as a spring food by groups to the west of the Kutenai. (Turner 1978:170-172)

• The young stalks of the wild thistle (Cirsium hookerianum and C. undulatum), both eaten by neighboring peoples (Turner 1978:119-121).

• The rhizome of the bracken fern (Pteridium aquilinum). At least it appears not to have been eaten by the Kutenai, even though the plant grew abundantly in their territory and it was certainly regarded as a food substance by the Lillooet, Thompson, and Carrier. (Turner 1978:49-50)

• Mushrooms, surprisingly (Turner 1978:40). Various types were considered as quite good food by other Indians of the British Columbia Plateau as well as among the Flathead (Turner 1978:39-48).

In the "tea" category, the Upper Kutenai are said not to have drunk as a beverage infusions of the leaves of the alum-root (Heuchera cylindrica). A liquid made of these leaves was drunk as a simple beverage--as distinguished from a medicine--elsewhere in the Plateau. (Turner 1978:215)

Other plants widely used for food in the British Columbia Plateau would appear to be native to Upper Kutenai territory on the basis of Turner's generalized plant distribution data. But whether they played a part in the Upper Kutenai subsistence resource base is unknown, since neither she nor other ethnobotanists or ethnographers, to my knowledge, provide information on the point. In this plant group are the fruits of the pin cherry (Prunus pensylvanica) and bitter cherry (P. emarginata). (Turner 1978:189-190)

One plant is reported to have been avoided for esthetic reasons. This was the round, bright red flower cluster of the strawberry blite (Chenopodium capitatum), which was considered by the Upper Kutenai to be a "berry." Like all other interior peoples, the Upper Kutenai did not eat these plant parts, believing that "they would make . . . [a person]

very fat, as if he were pregnant," so that his friends would laugh at him. It is possible that this is an introduced rather than a native plant. (Turner 1978:232)

Finally, the following plants, while found in Upper Kutenai country, are not known to have been used as food by the people of this division. Nor, for that matter, do I know that they were eaten by any Plateau groups. Perhaps, in fact, they were inedible.

- A berry termed tsáqa, which appears in an Upper Kutenai myth recorded by Boas (1918:58, 338, 354), who glosses it as 'partridge berry.' Its textual environment, however, is not helpful in determining whether this fruit was considered by the Upper Kutenai as a subsistence item.

- A berry termed a_a'kunó·kyo·k, glossed 'berry of Philadelphus Lewisii,' which occurs in a Kutenai word list recorded by Chamberlain and is not otherwise discussed (Boas 1918:313, 322, 373). P. lewisii is the mock-orange according to Turner (1980:108) who, while describing many of its uses among the "Okanagan-Colville," is silent on its berries.

To the above data describing unused but usable--in some cases possibly usable--plants, I append for the record the following list of plant parts that are explicitly reported not to have been consumed by the Upper Kutenai and that either are known toxicologically to be poisonous or were thought to be such by some or all of the Indian groups of interior British Columbia. These include:

- The "elongated, red, juicy, and slightly translucent" fruit of the twisted stalk (Streptopus amplexifolius). These, termed "grizzly bear's favourite food" by the Kutenai, were regarded by the tribe as poisonous and were "left . . . strictly alone." (Turner 1978:220, 223)

- The bulb of the death camas (Zygadenus venenosus, "white camas, poison camas"). Aware of its extreme toxicity, the Upper Kutenai carefully distinguished between it and the bulbs of the nodding onion (Allium cernuum), mariposa lily (Calochortus macrocarpus), blue camas (Camassia quamash), and other similar but edible forms. (Turner 1978:224, 226)

- The black, shiny berry of the twinflower honeysuckle (Lonicera involucrata, "black twinberry"). Unlike some other Plateau groups, the Kutenai did not regard this fruit as poisonous, but still did not eat it. (Turner 1978:230)

- The large, soft, white berry of the waxberry (Symphoricarpo albus, "snowberry"). These were thought to be fatally poisonous by some "Interior [British Columbia] Indian groups," and were eaten by none. While the Upper Kutenai are not specifically named by Turner (1978:230-232), the group is obviously covered by her general non-use statement.

• The round, fleshy berry of the baneberry (Actaea rubra). Usually bright red but occasionally white, this fruit is known chemically to be toxic. Not surprisingly, then, Turner (1978:232) reports that nowhere among the native groups of the British Columbia Plateau was it eaten, a statement that obviously includes the Upper Kutenai.

Subsistence Plant Harvesting and the Seasonal Procession

The collecting period data for subsistence plants, almost all provided by Turner (1978), may be plotted to suggest the general routine that the Upper Kutenai followed in harvesting these resources (Tables 2-5 and 2-6). These data are, unfortunately, only approximations. This is the consequence of a number of circumstances, among them the following:

(a) For the most part, Turner's data are normative for all native groups of interior British Columbia, not related specifically to the Upper Kutenai. The degree to which latitude and elevation differences in the territory of the various tribes are factored into her plant maturation observations is not stated in most cases. Because of the southern position and comparatively low altitude of the Kootenai Valley, the Upper Kutenai gathering periods might be presumed to have typically been near the earlier end of the harvest period indicated for each plant. But the hard facts necessary to test this assumption are not available.

(b) The extent to which, within the Kutenai territory, latitudinal and altitudinal differences and such other variables as north- vs. south-facing slopes influenced the ripening period of individual plant types that grew under such varied environmental conditions and, therefore, the collecting season of these plants is not reported.

(c) The degree to which there were significant yearly perturbations in ripening seasons is not known.

(d) It is not altogether obvious how to translate some of Turner's broad seasonal data into more precise monthly terms. On the basis of occasional hints--e.g., "in early spring, from March to April" (Turner 1978:116)--and extending these clues somewhat arbitrarily, I have, in plotting my season bars, interpreted her more general collecting statements thus:

"Early spring" = March 1

"Early summer" = June 15

"Early fall" = October 1

"Late fall" = November 15

"From July to September" = July 1 to September 1

Table 2-5. Typical Gathering Seasons for Various Roots, Bulbs, Rhizomes, and Tubers Used as Food by the Upper Kutenai. For some Plants the Harvest Period Data are Missing.

Underground plant parts	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Bitterroot*: From early May to late May depending on elevation					—							
Camas: From May to early Aug depending on elevation					—	—	—					
Nodding onions*: From May to Jul					—	—						
Biscuitroot: In Apr and May				—	—							
Balsamroot: From Mar to Apr			—									
Yampah: In May and Jun					—	—						
Water parsnip: In spring and early summer				—	—	—						
Tiger lily: In late summer and fall, as late as Nov								—	—	—	—	
Avalanche lily: In Apr and May, and later in summer in higher elevations				—	—	- -	- -	- -				
Mariposa lily: From Apr to Jun				—	—	—						
Spring beauty: From late May to late Jun depending on elevation					—	—						

*Indicates the most important food roots.

Table 2-6. Typical Gathering Seasons for Various Berries, Seeds and Nuts, Green Plants, Lichen, and Cambium Used as Food by the Upper Kutenai. Data are Missing for some Foods in these Groups.

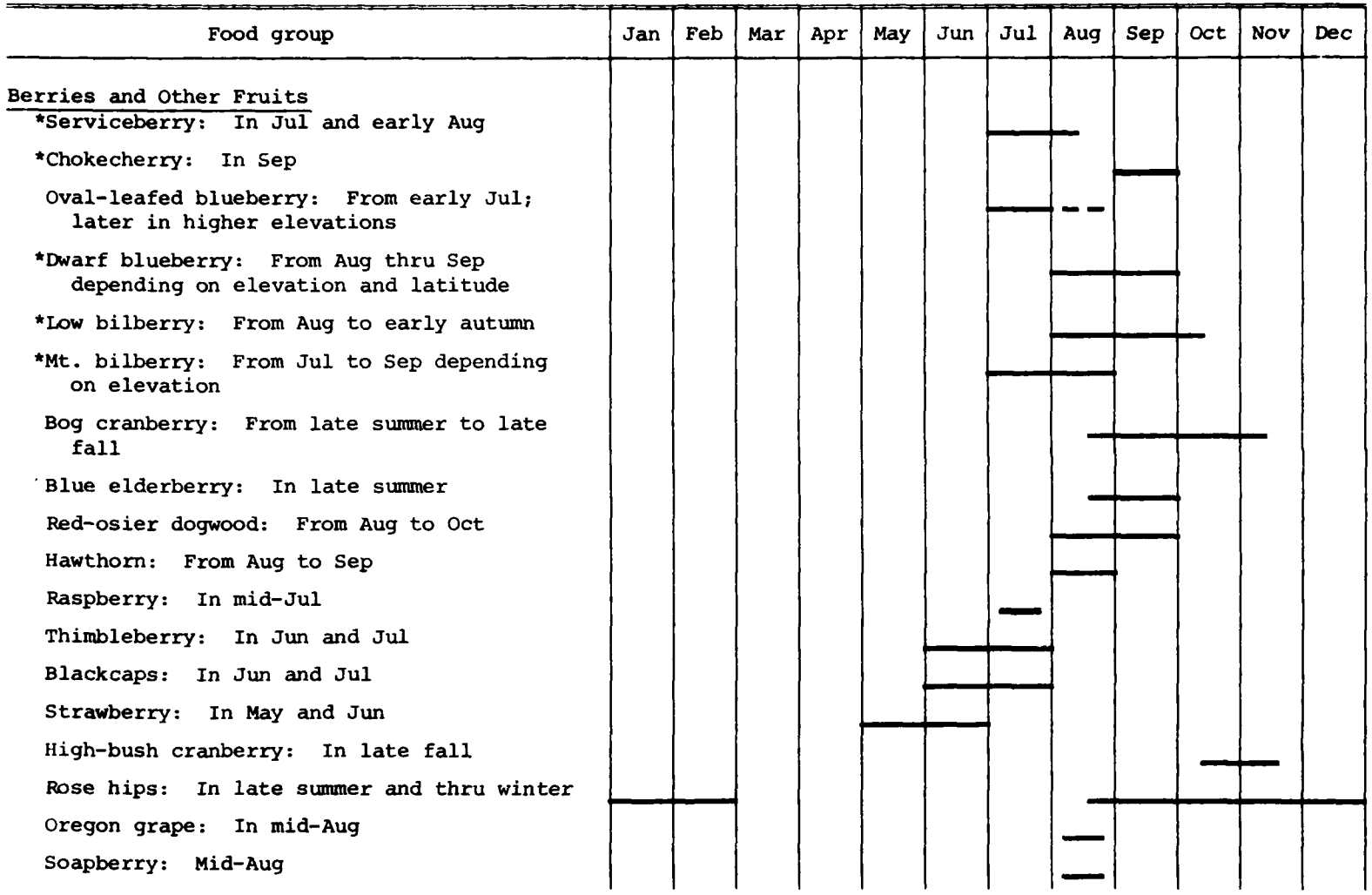

Table 2-6. (Continued)

Food group	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Berries and Other Fruits (Continued)												
Kinnikinnick: From late summer until well into winter												
Silver buffalo-berry: Early fall												
Seeds and Nuts												
White-bark pine: In late Aug and Sep												
Ponderosa pine: In fall												
White pine: In Sep												
Hazelnuts: In Oct												
Green Plants												
Cow parsnip: In spring												
Water parsnip: [In spring]												
Balsamroot: From early spring thru May												
Prickly-pear cactus: In spring												
Lichen												
Black tree lichen: Throughout year												
Cambium												
Lodgepole pine: In late May or Jun												
Ponderosa pine: In early May, 2 or 3 weeks before lodgepole pine												
White pine: In May												
Western larch: In spring												
Black cottonwood: In May												

*Indicates the fruits that appear to have been most important.

Because of these problems in aggregate, I have chosen to summarize Turner's harvesting season information for each plant in Tables 2-5 and 2-6. With this primary information, the reader may make whatever adjustment in my plottings appear appropriate.

In spite of the manifestly inadequate data, several somewhat tentative conclusions seem warranted:

- The Upper Kutenai gathering periods can be presumed to have generally fallen within the time frames marked in these two tables.

- Even recognizing that seasonal variations occurred as a result of differences in latitude, altitude, hillside slope orientation, and year-by-year seasonal fluctuations, the ordering of the gathering times of the individual plant forms would presumably have remained essentially identical from year to year. And this is the significant element in this matter for this present study.

- For the most part, the root digging period must have preceded the berrying season. Though there was a brief overlap in the root and berry ripening times, the only segment that might have been significant was that of the camas on the one hand and the serviceberry on the other. Even in this instance, however, the root seasons began much earlier. The subsistence impact of this overlap could, in consequence, have easily been minimized by careful activity planning: viz., Upper Kutenai women should have been able in normal years to complete their principal root collecting and preparation tasks before having to turn their serious attention to their berrying needs. This is of more than trivial interest, inasmuch as comparative ethnographic data reveal that in the case of some nearby native groups the two seasons overlapped to such an extent that hard choices had to be made in mid-summer between collecting roots or gathering berries. And owing to this spread of the plant ripening seasons, it was apparently possible for Upper Kutenai women to remain productive, if they chose, throughout all of the growing months of the year in harvesting their underground and fruit resources.

Subsistence Plant Resources and the Biozones

What can be said regarding the correlation of the Upper Kutenai subsistence plant resources with the "biogeoclimatic" or "floristic" zones that have been outlined above? Virtually nothing in relation to the first of these zonal systems, since Krajina, whose interests lay in other directions, provides few helpful data, and no ethnobotanical studies of the Kutenai homeland are known to me that key their findings to Krajina's belts. Even Turner (1978:17, 19), who adopts Krajina's zonal formulation, devotes little attention to the edible plant-biogeoclimatic relationships. What observations she makes on the subject are general in nature: e.g., many of the edible plant species were restricted to only "one or two of these [environmental] zones"; and the Upper Kutenai rarely had occasion to venture up into the alpine tundra country. Plainly broad statements of this sort do not contribute materially to our concerns. For what it is worth, however, the

correlations of the food plants with the four "floristic" zones attempted below may be translated after a fashion into Krajina's biogeoclimatic sequence by reference to the Schaeffer-Krajina cross-tabulation presented in the preceding "Background Data" section.

The available information concerning the occurrence of the plant foods in terms of the Transition, Canadian, Hudsonian, and Arctic-Alpine sequence is, thanks largely to Schaeffer's (1940:10-12) brief remarks, marginally richer:

- Within the Upper Kutenai country the natural bunchgrass areas of the Transition Zone were confined to the Tobacco Plains sector, to the St. Mary River region near Cranbrook, and to the area "flanking the shores of the Columbia Lakes." The remainder of the zone was characteristically an area of ponderosa forest cover. This bunchgrass and ponderosa belt supported a number of root plant and berry shrub varieties, including the important serviceberry.

- The Canadian Zone included much shrubby vegetation that yielded many species of edible berries: e.g., wild currants, thimbleberries, gooseberries, and buffalo berries, the few to which Shaeffer calls specific attention. Accordingly, much of the Kutenai gathering effort was concentrated in this zone.

- Nothing concerning plant gathering activities is reported by Schaeffer for the still higher and colder Hudsonian Zone. As noted above, however, it was occasionally visited by hunting parties and through it passed some of the higher trails over the Rockies followed by groups en route to and from the bison plains.

- The Arctic-Alpine Zone, Schaeffer notes, was avoided by the Kutenai except at infrequent intervals.

It is possible, however, to go somewhat beyond these few statements of Turner and Schaeffer in relating Upper Kutenai plant resources to biozones. By comparing plant habitat data with zonal characteristics these plants may be assigned more or less closely to their proper floristic belts, thus establishing what might be termed "zonal food-plant aggregates." A first approximation in this direction is made in Table 2-7.

The plants listed in this tabulation are those discussed in the preceding sections and are ordered as they appear there. The four "floristic" zonal formulation employed by Schaeffer is utilized rather than the "biogeoclimatic" approach of Krajina largely because supplementary zonal references that may later be discovered in botanical and ethnobotanical sources are likely to be in terms of this more widely established formulation. The individual plant habitat data of the table are drawn primarily from Turner (1978) and to a lesser extent from Hart (1976) and other sources.[109] The inclusion of these summary details provides the reader with the means for assessing conveniently the validity of my provisional zonal determinations.

Table 2-7. Upper Kutenai Food Plants (Discussed Individually and in Detail in Subsistence Section Above) with Résumé of Habitat Characteristics, as Described Primarily by Turner (1978), and Tentative Distribution According to Floristic Zones.

Food plants and habitat characteristics	Zones[a]			
	T	C	H	A-A
Roots				
Bitterroot (*Lewisia rediviva*): gravelly or sandy dry soil, from sagebrush plains to lower mountains	x	x		
Camas (*Camassia quamash*): grassy meadows and bluffs, often in moist or swampy fields	x			
Nodding onion (*Allium cernuum*): rocky crevices and sandy soil, in open woods and exposed areas, from low to middle elevations	x	x		
Biscuitroot (*Lomatium canbyi*): dry rocky slopes and foothills, often with sagebrush	x			
Balsamroot (*Balsamorhiza sagittata*): open, dry hillsides and flats, from lowlands to moderate elevations in the mountains	x	x		
Yampah (*Perideridia gairdneri*): dry, open woods and meadows, from lowlands to moderate elevations in the mountains	x	x		
Water parsnip (*Sium suave*): swampy places and shallow water around edges of lakes and ponds	x			
Tiger lily (*Lilium columbianum*): damp open woods and meadows, from Kootenai River bottom to subalpine elevations	x	x	x	
Yellow avalanche lily (*Erythronium grandiflorum*): valley bottoms, sagebrush slopes, and mountain forests, high valleys, and moist subalpine and alpine meadows	x	x	x	x
Mariposa lily (*Calochortus macrocarpus*): dry hillsides and plains, usually in light sandy soil	x			
Bugleweed (*Lycopus uniflorus*): streambanks, marshes, and peatbogs, from lowlands to upper elevations	x	x	x	
Spring beauty (*Claytonia lanceolata*): dry sagebrush foothills to damp alpine meadows, often abundant near snowbanks; usually found at higher elevations; abundant in mountain meadows	x	x	x	x

Table 2-7. (Continued)

Food plants and habitat characteristics	Zones[a]			
	T	C	H	A-A
Roots (continued)				
Elk thistle (Cirsium scariosum): mountain meadows and other moist places		x	x	
Berries and Other Fruits				
Serviceberry (Amelanchier alnifolia): stream banks, dry woods and open hillsides, from valley bottoms to subalpine areas	x	x	x	
Chokecherry (Prunus virginiana): from open woodlands to grasslands and clearings, particularly along watercourses; valley foothills and mountain slopes	x	x		
Canada blueberry (Vaccinium myrtilloides): dry muskeg, shaded woods, and wooded rocky outcrops		x	x	
Oval-leafed blueberry (Vaccinium ovalifolium): moist coniferous forests and along shaded stream banks to dry, open woods		x		
Dwarf blueberry (Vaccinium caespitosum): wet meadows to moist rocky ridges, usually at higher elevations; common above timber line		x	x	x
Low bilberry (Vaccinium myrtillus): moist open woods at high altitudes		x	x	
Mountain bilberry (Vaccinium membranaceum): mountain slopes to dry sites in coniferous forests		x	x	
Grouseberry (Vaccinium scoparium): in open woods and slopes at subalpine and alpine elevations[b]			x	x
Bog cranberry (Vaccinium oxycoccus): restricted to muskegs and peat bogs, always in association with Sphagnum moss		x	x	
Blue elderberry (Sambucus cerulea): valley bottoms and open dry slopes, from Kootenai valley lowlands to moderate elevations in mountains	x	x		
Red elderberry (S. racemosa): open swampy areas, moist clearings, and shaded forests from main valley bottom to moderate elevations in mountains	x	x		

Table 2-7. (Continued)

Food plants and habitat characteristics	Zones[a]			
	T	C	H	A-A
Berries and Other Fruits (continued)				
Red-osier dogwood (Cornus stolonifera): moist soil along streams and lake edges, from valley bottoms to near timber line	x	x	x	
Red hawthorn (Crataegus columbiana): meadows and stream courses to dry hillsides and gullies	x	x		
Black hawthorn (C. douglasii): as with red variety	x	x		
Raspberry (Rubus ideaus): stream banks, open woods, clearings, and talus slopes	x	x		
Thimbleberry (Rubus parviflorus): open woods, clearings, often forming dense thickets	x	x		
Blackcaps (Rubus leucodermis): open woods, burns, and clearings	x	x		
Strawberry (Fragaria vesca): open woodlands and clearings	x	x		
Sticky Current (Ribes viscosissimum): along shaded streams; in moist woods at edge of mountain meadows		x		
Gooseberry (Ribes irriguum): moist to dry canyons and open to wooded hillsides	x	x		
Gooseberry (Ribes oxyacanthoides): along streams, in prairies and lower mountains	x	x		
Swamp gooseberry (Ribes lacustre): moist, open woods and stream banks, often on rotten stumps and damp, rocky cliffs, from Kootenai valley bottom to subalpine forest	x	x	x	
High-bush cranberry (Viburnum edule and V. opulus): moist woods and along stream banks from Kootenai Valley bottom to moderate elevations--even to subalpine forest--in the mountains	x	x	x	
Rose (Rosa acicularis): open woods and hillsides	x	x		
Rose (R. gymnocarpa): shaded woods	x	x		
Rose (R. nutkana): thickets and open woods	x	x		

Table 2-7. (Continued)

Food plants and habitat characteristics	Zones[a]			
	T	C	H	A-A
Berries and Other Fruits (continued)				
Rose (*R. woodsii*): open woods and prairies to moist meadows and creek sides	x	x		
Oregon grape (*Berberis aquifolium* and *B. repens*): dry, open, rocky areas	x	x		
Kinnikinnick (*Arctostaphylos uva-ursi*): dry slopes, sand, and well-drained soils in exposed areas in ponderosa forests, from valley bottoms to high elevation	x	x	x	
Soapberry (*Shepherdia canadensis*): dry, open woods from lowlands to subalpine forests	x	x	x	
Silver buffalo-berry (*Shepherdia argentea*): no data				
Seeds and Nuts				
Balsamroot (*Balsamorhiza sagittata*): see "Roots" above	x	x		
White-bark pine (*Pinus albicaulis*): subalpine to timber line, on ridge tops and exposed rocky slopes; rarely below 4,000 feet; toward tree line in mountains			x	
Ponderosa pine (*Pinus ponderosa*): dry warm valleys and slopes up to 3,000 feet; intolerant of shade and extreme cold; forms open, park-like forests	x	x		
White pine (*Pinus monticola*): well-drained, sandy soils from valley floors up open slopes to about 3,500 feet	x	x		
Hazelnut (*Corylus cornuta*): open rocky slopes	x	x		
Green Plants				
Cow parsnip (*Heracleum lanatum*): moist open areas and meadows, from Kootenai Valley bottom to above tree line in mountains; often in large patches	x	x	x	x
Water parsnip (*Sium suave*): swampy places and shallow water around edges of lakes and ponds	x	x		
Balsamroot (*Balsamorhiza sagittata*): see "Roots" above	x	x		

Table 2-7. (Continued)

Food plants and habitat characteristics	Zones[a]			
	T	C	H	A-A
Green Plants (continued)				
Prickly-pear cactus (Opuntia sp.): dry valleys and dry hillsides	x			
Pineapple weed (Matricaria matricarioides): dry prairies	x			
Canada mint (Mentha arvensis): stream banks, springs, and bogs	x	x	x	
Lichen				
Black tree lichen (Alectoria fremontii): on tree branches, mainly of coniferous species like ponderosa pine (Pinus ponderosa), Douglas-fir (Pseudotsuga menziesii), and western larch (Larix occidentalis); most prevalent on north-facing slopes	x	x		
Cambium				
Lodgepole pine (Pinus contorta): highly adaptable; from low elevations to rocky hilltops and upland plains at subalpine levels; especially common in burned-over forests	x	x	x	
Ponderosa pine (Pinus ponderosa): see "Seeds and Nuts" above	x	x		
White pine (Pinus monticola): see "Seeds and Nuts" above	x	x		
Western larch (Larix occidentalis): mid-elevation and higher mountain valleys and north slopes, often in somewhat swampy areas		x	x	
Black cottonwood (Populus tricocarpa): along water-courses, gullies, and flood plains; both low and high elevations	x	x	x	
Trembling aspen (Populus tremuloides): open meadows and woods and mixed conferous forest, at low and high altitudes	x	x	x	

Table 2-7. (Continued)

Food plants and habitat characteristics	Zones[a]			
	T	C	H	A-A
Tree Sap				
Western larch (Larix occidentalis): see "Cambium" above		x	x	
Black cottonwood (Populus tricocarpa): see "Cambium" above	x	x	x	

[a]Key to abbreviations: T = Transition Zone; C = Canadian Zone; H = Hudsonian Zone; A-A = Arctic-Alpine Zone.

[b]In the Blue Mountains of southeastern Washington and neighboring Oregon Vaccinium scoparium occurs in lodgepole pine forests (Piper and Beattie 1914:188).

Owing to the imperfections of both our botanical and our ethnographic knowledge, there are admittedly serious problems inherent in this present effort. The critical data are simply too thin. Badly needed are fuller descriptions both of the typical floristic assemblages of each belt and of the habitat requirements of each subsistence plant. It is hoped that a more thorough examination of whatever botanical literature relating expressly to the Upper Kutenai country exists will permit a refinement of the data base and somewhat less conjectural zonal placements.

It is obvious that, even if these plant-to-floristic zone relationships were completely documented, our understanding of the full cultural significance of these findings would be imperfect. Speaking broadly, we need to know how the Upper Kutenai organized their harvest activities to maximize their vegetative resources in each biozone. And here we are confronted with a nearly total absence of critical ethnographic information. Required, for example, is information on the extent to which:

- the individual plants contributed to the annual food supply and time and effort were expended to procure and process these individual foods.

- the collecting of plant parts was focused upon a single plant at a particular time as against the gathering of various plants occurring in the same or proximate locations.

- collectors followed important individual plants in their ripening sequence from southern to more northern latitudes, from lower to higher elevations, and from south-facing to north-fronting slopes.

- gatherers went to an area to collect specific plants in contrast to merely collecting them when happenstance took them into the neighborhood. Plants used in preparing tea-like drinks and in smoking are assumed to have been largely gathered as a secondary activity in the subsistence acquisition process and so are excluded from Table 2-7.

- gathering was carried out in one floristic zone while the base camps were maintained in another: hypothetically, for instance, women may have devoted at least a part of their attention to berrying in the Canadian Zone while their camps continued to be at summer fishing sites in the Transition Zone.

Clearly additional ethnographic information on these and related pivotal subjects is essential for a sound socio-cultural interpretation of the botanical data of Table 2-7 and a comprehension of the Upper Kutenai subsistence strategy.

In view of these nontrivial botanical and ethnographic lacunae, the material of Table 2-7 is no more than a first step toward an understanding of traditional Upper Kutenai subsistence culture in bioenvironmental terms. Nevertheless, this information hints at several conclusions of interest.

Root plants thrived in both Transition and Canadian Zones, but apparently with an edge to the former. Important berries, in contrast, occurred significantly more richly in the Canadian than the Transition Zone, though the serviceberry and chokecherry grew in both belts. As revealed in Tables 2-5 and 2-6, most berries matured at a slightly later season than most roots. Hence one conjectures that during the early summer root-collecting time the Upper Kutenai--at least those in more recent times who were not off to buffalo--probably tended to encamp in ponderosa pine-bunchgrass areas, or at least pursued their collecting activities there. And, in contrast, that in the middle and late summer they presumably transferred their principal plant collecting attention to the berries and the Canadian and perhaps even Hudsonian environments and quite possibly moved their gathering camps to those floristic belts. Where the environment has not undergone significant change in postcontact times, micro-bioenvironmental data of this kind, especially where plants important as food sources were involved, should provide archaeologists with useful insights as to where to search for seasonal camp locations and as to how to interpret in economic functional terms what occupation sites may be discovered. Further attention will be given to these matters in the "Shelter and Subsistence Patterns" section that follows.

Food Preparation

Details of food preparation methods that relate to specific animal, fish, and plant products are to be found scattered through the preceding hunting, fishing, and plant collecting sections. In this present section are collected a number of ethnographic observations of a more general nature. They either concern a broad class of foods (e.g., blood, roots) or relate to two or even all three of the game, fish, and plant categories (e.g., eggs and lichen). Accordingly, these data can be most conveniently treated as a group in this most general section.

- Food was broiled or roasted on a tipi-like wooden frame; on inclined sticks about which the meat had been twisted; and on coals, a make-shift method for meat but usual for pine seeds in the cone (Ray 1942:137).

Food was also stone-boiled to some extent in coiled baskets, but more generally in pottery vessels (Ray 1942:136-137). These containers are described by Turney-High (1941:77-78) as having been hand-molded, exclusively sun-dried, and, while too fragile to sit on the fire or coals, quite strong enough for boiling meats and soups by the hot-stone method.[118]

- All kinds of meat were cooked in the pit oven, sometimes with the aid of steam produced by pouring water into the oven (Ray 1942:137-138). The details of this operation as described by Ray seem flawed if I comprehend them. For he appears to report that (a) no fire was ever used by the Upper Kutenai at the bottom of the earth-oven before the food was placed in the pit, and (b) no fire was kindled on top of the oven when meat was cooked. If both statements are correct, where did

the meat-cooking heat come from? This is the kind of conundrum that easily emerges when culture is fragmented into a catalog of individually tallied elements.

Animal bones were boiled and broken for their marrow (Ray 1942:136). Meat was pulverized and mixed with deer marrow or occasionally with dried salmon (Ray 1942:139). Bones were macerated for food (Ray 1942:139), but how this material was prepared for eating is not described except that both ground and broken bone, sometimes mixed with kinnikinnick berries, was made into bone soup (Ray 1942:138).

Blood was boiled with "moss" (presumably lichen), roots, and berries (Ray 1942:136).

• Roots, apparently of various kinds, were cooked in the earth oven (Ray 1942:137).

Berries were macerated on a buckskin and then dried for subsequent consumption (Ray 1942:139, 143). Berries were also mixed with bison tripe (Ray 1942:139); the preparation of this concoction for eating is not described.

Shelter Types and Settlement Patterns

In this section are discussed the means employed by the Upper Kutenai to adapt through their shelters to the requirements of their physical ambience. And beyond this, to respond to their particular socioeconomic needs through the aggregation of these structures into seasonally varying settlement units.

Shelter Types

A number of Upper Kutenai dwelling types are described in the ethnographic literature. These include the conical skin and mat tipi, the long mat lodge, the extended tipi lodge, the crude bark or bough shelter, and a remotely possible underground dwelling. To the degree that data are available, each of these structures is described in the sections that follow.

From the ethnographic literature, incomplete though it is, it seems clear that these shelters were not all of a single time period. At the end of this section an effort is made to reconstruct provisionally the changes in dwelling form and frequency that took place in late protohistoric and postcontact times.

Noted here for lack of a more appropriate place is Ray's (1942:221) observation, not without relevance to this study, that following a death a temporary dwelling in which the deceased lived was burned and a more permanent dwelling was dismantled and reerected. It is unfortunate that Ray fails to define "temporary" and "permanent" in this context. But presumably the former refers to the crude bark or bough hut and the latter to the mat or hide-covered shelters.

Bison-hide Tipi

The conical bison-skin tipi (à$_a$'kałakv'wuk) of generic Plains type, Turney-High (1941:56-61) reports, was considered the standard shelter by the Upper Kutenai in both summer and winter. The following extended description of this shelter is derived wholly from his data.

This lodge was constructed on a four-pole foundation rounded out with about 15 additional poles, the number being increased to as many as 17 in very large structures. These poles were selected with some care, but they were put to immediate use, not first cured as among neighboring Salishan groups. When erected to form the frame, they were apparently not set into holes in the ground.

The cover that was stretched over the poles consisted of eight bison hides, sewed with sinew cord into two curving strips. The individual skins were first prepared by being cut with a flint knife into truncated triangles, taking advantage of the natural shape of the hide by allowing the hind quarters of the animal to form the base of the triangle. These were then sewed together side by side to make the strip, all bases placed uniformly along the lower edge to develop automatically the desired curve. The two strips were next sewed together edge to edge. Finally a small piece of skin, often a single hide with the head down, was then sewed to the top edge of the upper strip. Turney-High, incidentally, speaks of this uppermost element as a "cone," but it would appear that it, too, must have been a strip, though a very short one, until it assumed a conical shape by having its ends pinned together over the dwelling frame with the rest of the tipi cover. At any rate this top skin was only roughly trimmed, the hind legs being left intact to function as the wind "wings" or "ears." To these legs, about at the animal's knees, were sewed loops to receive the tops of the poles that regulated the draft through the smoke opening. These protruding elements were necessary because tipis in a group of any significant size were usually arranged in a circle, some, therefore, always facing the wind in breezy weather and so requiring adjustment of the "ears" to improve the draft and avoid smoke difficulties within the tent. Along the bottom edge of the lower row of hides other loops were sewed to facilitate staking the cover to the ground. In winter approximately 20 of these stakes were employed to bring the dwelling tightly against the ground; in summer, fewer stakes answered the purpose since some air circulation was desirable.

The tipi entrance, ovoid in early days not the half-oval of recent times, was cut so its bottom fell at least 1.5 feet above the ground and the tipi cover could be tightly skewered below. This arrangement prevented ground-level drafts and resulted in a very warm winter structure.

As below the entrance so also above, the tipi cover was fastened together down the front with one edge overlapping the other. The edge to be the outer one was perforated with pairs of small holes; that to be inside, with a row of single holes. The two edges were held together with smooth wooden pins about 6 inches long, carried when traveling in a

special bag sewed to the lodge cover. In the skewering process the two edges were overlapped and a pin was passed through one hole in the outside hide, carried in back of the inner edge, and thrust out through its single hole and finally out through the second perforation in the outer skin. Normally 10 or 12 such pins were used to provide what the Upper Kutenai considered to be a much firmer bonding of the two sides than could be achieved by a thong lacing.

The entrance was closed with a square piece of hide, fitted with cross sticks at top, middle, and bottom. The upper end of this entry cover was hung from a thong sewed into the tipi cover above and on each side of the opening. And, to make the tent weather-tight, its bottom end was tied to a similar pair of thongs below and on either side of the doorway.

In cold weather an interior windbreak of untanned, sun-dried rawhide was fitted firmly against the inside of the lodge poles and fastened to them by loops sewed on the outer face of the rawhide. With the bottom edge of this hide tucked under the tipi floor covering, the structure became virtually draft-proof. This flooring, encircling the central hearth, consisted of fir boughs (omitted in summer) and then a layer of bison, mountain goat, or deer robes. Family property was distributed around the inner edge of the tent to supplement the hide windbreak. Finally, the "finest cured hides were then spread for beds."

It is unclear from Turney-High's account whether personal property was placed so as to be handy to its owner's individual sleeping location. But if so, that belonging to the father and mother of the family must have been typically at the right of the entrance--"right" presumably as one faced the structure from outside, though this is not made explicit. A married daughter and her husband--matrilocality was customary both Turney-High (1941:132, 133, 134) and Ray (1942:211) agree[111]--slept to the left of the doorway. And younger people slept toward the rear of the lodge. (Turney-High 1941:58, 60-61, 62)

Curtis (1911 7:122-123) briefly describes the bison-covered tipi thus:

> The largest lodge required the use of twenty-two poles and twelve buffalo-cow skins, and the average dwelling eighteen poles and nine skins. The door always faced eastward, even when the camp was in a circle, but at the present time when lodges are pitched in a circle they open toward the centre.

The number of poles and hides required conforms comfortably to Turney-High's information. However, the early entrance orientation toward the east represents new data.

The winter conical dwelling served on occasion as the locus of short religious rites--and even of the preliminary stages of longer ceremonies--led by the man and woman of the lodge. These events need not be described in terms of their activities and other details that lack relevance for the present study. But for the duration of the rite they altered the floor of the dwelling in a minor way but still such as

to leave, under appropriate conditions, some possible evidences in the archaeological record. It is this element that is of interest here.

The following ceremonies are of this class.

Good Health Ceremony (kankóñoñl): Preliminary Phase

There are in the literature two descriptions of an important ceremony that was held annually by the Kutenai. It is termed the "good health ceremony" by Curtis (1911 7:124, 132-140) and the "sun dance" by Turney-High (1941:178-184). Clearly the latter is on sound ground in calling attention to its genetic relationship with the Plains sun dance. In comparison with it, the Kutenai version was a much modified and attentuated rite, though one with important social and emotional content.[112]

The two accounts of Curtis and Turney-High differ sufficiently in detail--even in those traits that are of concern in this study--to argue that they should not be conflated. In the following paragraphs Curtis' record is presented first. That of Turney-High is then summarized with particular attention to its concordances and discrepancies with that of Curtis. It is worth noting that Turney-High's informant data were obtained about 30 years later than Curtis', and quite possible from Kutenai of a different band, possibly even different division.

In late winter--February--the Kutenai, Curtis (1911 7:132-136) reports, began the first stage of their annual kankóñoñl ritual "to keep disease away from their camp and to promote the health and prosperity of the tribe." The "prosperity" theme patently involved abundant game, though Curtis fails to direct explicit attention to this fact.

The initial phase of this ceremony was held in the lodge of the man or woman who that year had experienced the proper vision. Accordingly, the leadership and the lodge shifted from year to year. In preparation for the rite--or possibly as one of the first steps in it--an "altar" was fashioned within the lodge. An "elliptical space of about fourteen by twenty inches (the longer axis extending toward the door, that is, to the eastward) [was made] by removing the sod and spreading over the exposed earth powdered white clay on which were placed the embers for burning incense." It was in the back (i.e., western side) of the lodge, and sufficiently far from the rear of the lodge to allow people to pass behind it. Here, for the entire month-long duration of this introductory period of the ceremony, juniper leaves were burned continuously in a small fire to create the "incense." It would appear that this white clay ellipse with evidences of the ritual fire might well be discoverable in archaeological floor levels of some conical winter lodges.

During this early ceremonial period the camp might be moved in a highly ritual manner once or more frequently as game became scarce. On each occasion, the white clay oval and its small fire were remade in the ceremonial leader's lodge.

This initial period of the rite was followed in March by the building of a lodge for the ceremony proper (v. "Ceremonial Structures" section below).

Turney-High's account includes nothing relevant to this present study concerning this period of ritual preparation, except that it sometimes ran on for "as long as three months" and that it took place "in the rear of the Sun Dance Chief's home lodge" (Turney-High 1941:179). This latter bit of information convincingly confirms Curtis' siting of this initial ritual phase as indicated above.

Antlered Animal Ceremony (kẖlukáẖaẖl-iyámu): Preliminary Phase

This ceremony, described by Curtis (1911 7:143-146), was "performed either in late autumn or in the late winter, about February, at times when the game was difficult to find and food was scarce." It took place in the rear of the lodge of a man who had had the appropriate fasting experience. Again a white earth ellipse with its fire for purification with juniper leaf incense was created. During the night of this first part of the ritual all the people of the village visited this dwelling to purify themselves. The ceremony proper was held the following day in a special long lodge erected for the occasion (v. "Ceremonial Structures" section below).

Turney-High (1941:186-187) describes this ceremony under the designation "fir tree ceremony," termed also the "pole dance" and "great sorrow dance." It was conducted whenever game became scarce, typically in the dead of winter, and the people found themselves "in the midst of famine, particularly when deer meat was scarce," the consequence, it was thought, of actions of a hostile shaman. This account does not include reference to the preliminary phase of the rite noted by Curtis above; it describes only the main ritual in the ceremonial lodge.

Bear Ceremony (kẖlúkĭnam)

This rite was held, according to Curtis (1911 7:140-143), "every spring for the purpose of securing immunity from attack by the grizzly-bear, who soon would be coming out of his winter quarters." And also freedom from sickness thought to be caused by this animal.

It was conducted in the winter lodge of "the man who first in the course of the year dreamed of the grizzly-bear." As in the preceding ceremonies, "the whitened-earth ellipse" was prepared in this man's dwelling. No incense fire on the clay is mentioned by Curtis. Immediately behind the oval was placed a bear skull with one "skeletalized fore paw" on each side. Hardly the skull and paws, but at least the ellipse might occur archaeologically at an occasional lodge site. If no coals for incense were in fact placed on the white surface, their absence archaeologically might distinguish a lodge used for this bear rite from those associated with other ceremonies that prescribed juniper incense.

Elk-hide Tipi

A conical lodge covered with elk hides is mentioned by Curtis (1911 7:122, 167), Schaeffer (1940:23), Turney-High 1941:39, 56) and Ray (1942:178). None, however, describes this structure, except that Turney-High remarks that eight skins were required to cover it and that elk skins were thought to provide a covering superior to bison hides.

Curtis, Turney-High, and Ray all intimate that the elk-hide shelter was constructed after the fashion of the bison-hide conical lodge. This is probably quite correct for any single time period. But since the elk-covered tipi is surely of greater antiquity among the Upper Kutenai than the elaborate bison-hide dwelling described by Turney-High, it certainly must have been, in its heyday, a simpler structure without the refinements characteristic of the later Plains type of bison tipi.

According to Curtis, the elk-covered tipi was in the early traditional period the dwelling of wealthy people. Later it was generally replaced by the bison-covered tipi.

Ray, for his part, reports that the elk-skin shelter was substantially more common than the bison-skin conical lodge. In view of other evidence, it may be presumed that he is describing the situation either in pre-horse times or, less likely considering the apparent Upper Kutenai source of his information, in the country of the Lower Kutenai, who appear never to have made notable use of the bison-hide shelter (cf. Turney-High 1941:62-64).

Conical Mat Lodge

In the late 1930s the Upper Kutenai denied to Turney-High (1941:62) ever having used grass- or mat-covered tipis, even though such were known to have been "the standard summer dwelling of the Lower Kutenai." And Ray (1942:179), whose data were secured at this same period, received from his Kutenai--presumably Upper Kutenai--informants no information to indicate the earlier utilization of the matting conical shelter.

However, Curtis (1911 7:122, 167) places on record a brief note that is of special interest in this context though difficult to interpret with assurance on two scores. Regarding the old Kutenai style dwelling, in use before bison hides became common, he writes:

> The primitive type of dwelling was a tipi-frame covered with rush matting, the rushes being strung together on willow-bark thread used with a needle made of a piece of deer-bone. The number of layers of matting decreased gradually from the bottom to the top.

These were the customary dwellings of most people, though neither the very poor nor the wealthy.

Two questions arise in understanding Curtis' data. First, what were his "rushes"? Almost certainly, in my judgment, they were tules--once used according to Turney-High for covering long lodges among the Upper Kutenai--not the Indian hemp materials reported--questionably in my opinion--by Turney-High as having been utilized as shelter covering material by the Lower Kutenai. And second, assuming the considerable differences in shelter construction between the two Kutenai divisions described by Turney-High (1941:62-64), for which segment of the tribe are Curtis' data descriptive? Plainly much of his information--perhaps all of it--was secured from the Flathead Lake band. This group, as we have seen, was basically Upper Kutenai in cultural affiliation. The probabilities seem strong, therefore, that Curtis' comments relate to the Upper Division. If so, we have in them a refutation of the contention of Turney-High's informants that the Upper people never made use of the conical tule-mat lodge, an asseveration that actually appears quite unlikely in view of the occurrence among them of the mat-covered long lodge and that Turney-High himself seems to implicitly question.

Long Mat Lodge

A long, mat-covered dwelling, according to Turney-High (1941:61-62), was used by the Upper Kutenai in winter prior to the introduction--or at least dominance--of the skin conical lodge. A large shelter of this type housed 40 to 50 people, not necessarily kinsmen, and was provided with at least three hearths down the center. For warmth and to support the poles more firmly, it was placed in a pit at least 1 foot deep. When this shelter was erected, tripods were first set up in a semicircle at each end, the pole butts outside the depression. Pairs of poles, the number varying with the dwelling length, were then raised down the length of the pit. Although Turney-High fails to make the point, these poles must have been placed within the depression if it provided a firmer footing for them as he states was the case. Four horizontal rows of light poles were lashed to the end and side poles, leaving an opening for an entrance at each end. To this frame, according to Turney-High's Upper Kutenai informants, were then tied tule mats,[113] shingle fashion, leaving an opening down the length of the lodge for a smoke exit.

Concerning this long lodge with mat covering Ray (1942:174-176, 178-179) evidently obtained no information for the Kutenai. However, Curtis (1911 7:122) states: "The . . . [Bonners Ferry band] now construct their lodges, it is said, in an oblong form like those of the Nez Perces, from whom possibly they copied this style." The implication is quite plain that he saw this dwelling type as a pecularity of that one band alone. Clearly this flies in the face of Turney-High's data. In view both of the latter's explicit information and of what might be expected among the Kutenai--including the Upper Kutenai--on comparative ethnographic grounds, it seems certain that Curtis is doing no more than describing an old, general Kutenai dwelling style. And to put a still finer point on the matter, that it was not a recent borrowing from the Sahaptians to the south. Curtis may be quite correct, however, in

suggesting that this dwelling form remained in use in the early 1900s only among the Bonners Ferry people.[114]

Extended Tipi Lodge

While Ray offers no support for a long mat-covered lodge with a frame of pole-pairs as a Kutenai living structure, he reports an "extended tipi" dwelling for the tribe--and for this group alone among the many tribal units he surveyed in the course of his Plateau culture element research. This dwelling he sketchily describes as having had a frame consisting of three four-pole tipi foundations in a row. As having had a single ridgepole (evidently resting in the cross of the foundation poles) and an open smoke hole the length of the ridge. Finally as having possessed rounded ends, in each of which was an entrance. No additional structural information is reported, including the material from which the frame cover was fabricated. (Ray 1942:179)

Ray was intimately familiar with the typical central Plateau mat-covered long lodge, recording this form, in fact, in fine detail for many of the groups he investigated in his culture trait study. Accordingly, I entertain no possibility that his Kutenai informants, describing the customary Plateau, mat-covered lodge, could have been misunderstood. It is a pity that we do not have additional information regarding this unusual living structure.

Crude Conical Shelters

Rough conical shelters were in use among the Kutenai on occasion. Curtis (1911 7:122, 167) characterizes them as having been the "lodges of the very poor" in traditional times and describes them as having been "covered with bark or spruce boughs." The context of these remarks generates the conclusion that these were conical in shape and tipi-like in basic form.

Ray (1942:179) likewise notes the occasional utilization by the Kutenai--evidently the Upper Kutenai in particular--of conical, brush-covered dwellings as summer shelters.

Semisubterranean Dwelling

We have virtually no information concerning the possibility of pit dwellings among the Upper Kutenai. Indeed, according to informants in the late 1930s the Kutenai never made use of these structures (Turney-High 1941:64; Ray 1942:177).

But witness this intriguing note to be found in Curtis (1911 7:122, 167): "Low, permanent lodges were made [by the Kutenai] of willows, bark, and earth." Obviously these were not sweat lodges, because this statement is imbedded in Curtis' treatment of dwelling types, the term "permanent" would be rather inappropriate for a Kutenai sudatory as we

know it, and sweat houses are elsewhere described in Curtis' account. The qualifiers "low" and "permanent" and the construction materials mentioned seem interpretable, in my judgment, only as references to an at least partly underground lodge of some form. Whether Curtis' information is well-founded is, of course, another issue. But it may be of significance that Curtis' field researcher (W. E. Myers) secured these data 30 years before Turney-High worked with the Kutenai, although, as just observed, Curtis' information relating to long mat lodges appears to have less time depth than Turney-High's. And likewise three decades before Ray secured his Upper Kutenai information.

Dwelling Types in Diachronic Perspective

Fitting together into a rough and highly speculative diachronic framework the few hints relating to Upper Kutenai dwellings to be found in the fragmentary and not entirely consistent ethnographic accounts, a picture of this sort emerges.

In early times--viz., before the Upper Kutenai received horses and commenced their extensive bison treks to the east--the dwellings consisted of elk-covered conical lodges with ovoid doors among the wealthy, of mat-covered tipis for most people, and of rough bough and bark tipis for the poorest families. The mat-covered long lodge was apparently also in use as a winter shelter. But whether this elongated structure was typically an alternative dwelling style adopted by larger residence units, or one to which people fell back when elk were scarce, as sometimes occurred, or one used characteristically by special socially-defined figures within the band (e.g., headmen or shamans), or one constructed only for particular social events (e.g., certain ceremonials) we do not know.

Regarding the mat-covered tipi and especially the matting long lodge a further speculative note is in order. I would not be surprised if these turn out to have been more recent dwelling styles among the Upper Kutenai than the hide and bark conical structures, and to have been borrowed from nearby Salishan groups. Particularly is this likely to have been the case if the Kutenai are found to represent a comparatively recent population flow into the Kootenai Valley, especially the lower valley, as I believe possible.

At any rate, during this early period it appears that lodges were sometimes erected in a circle and sometimes not. But in either instance all entrances faced to the east.

It may be suspected that essentially these same dwelling types were in use among the Lower Kutenai, with perhaps some differing structural details (possibly including the use of fiber bundles rather than tule mats as dwelling covering material) and differing frequencies of each type (e.g., mat-covered tipis and long lodges more common and elk-hide conical dwellings less so).

With the adoption of the horse, the inception of bison hunting on a markedly increased scale, and the newly acquired ability to transport over the Rockies the heavy but valuable bison hides, the tipi fashioned after the Plains style and covered with these skins became the customary shelter at all seasons. Tipis were now commonly erected in a circle, and entrances became half-ovoid in shape and were directed toward the center of the camp circle. Correspondingly, the other older types of shelter among the Upper Kutenai were largely superceded, except for special groups--like those who for one reason or another did not bison hunt and otherwise have access to the hides of these animals--or for special occasions, as when traveling in pleasant summer weather to be away from the main camp only briefly. During this recent period the shelters of the Upper Division differed for the first time importantly from those of the Lower Kutenai.

The data regarding the extended tipi lodge and more notably the semisubterranean dwelling are so tenuous as to suggest that they be omitted at this time from any attempted reconstruction.

Settlement Patterns

There appears to be no ethnographic analysis of the typical physical location of the Upper Kutenai settlement either in general or by season, except for Turney-High's (1941:162) observation that it was customarily close to streams and in an easily defended position. And for that matter little is said concerning the normal components and organizational features of the village and camp. Here we are told only that hide tipis comprising a camp complex were typically pitched in a circle and that in its center was the chief's tent, except for its location and its frequently larger size indistinguishable from all other tipis (Turney-High 1941:58, 62, 147). The data on the various dwelling forms that precede seem to imply that a camp circle pattern almost certainly became the norm only after horses were acquired in numbers, bison hunting began as a highly important economic activity, the conical bison-hide lodge became the customary dwelling, and certain Plains cultural traits were widely adopted.

What the intrasite dwelling distribution pattern may have been prior to the adoption of the camp circle is evidently unknown. Were the individual structures more or less randomly scattered, their positions being influenced only by such social bonds as kinship and special friendships and by the existence of more or less favorable dwelling surfaces within the camp boundaries? Or were they erected in some sort of modest in-line arrangement, to the extent the terrain permitted such? Or did the dwelling distribution configuration vary in a more or less patterned manner with the topography, season, permanence of the village or camp, predominant dwelling type, and so on? The possibilities are numerous and are seemingly entirely uncommented upon by ethnographers.

The historical records are hardly more generous in their information concerning the Upper Kutenai settlement configuration. I am aware, in fact, of only two brief and singularly general descriptions of Upper Division villages.

• Near the end of August, 1858, Blakiston (in Spry 1968:573) pitched his tent near a Kutenai encampment 4 miles east across Tobacco Plains from the trading post on the Kootenai River. The Indian "lodges"--apparently six in number--"were in a pleasant situation near a small stream with some woods along it at the base of Galton's Range, . . ." This range, Spry (1968:569 fn. 5) notes, "runs south-southeast from the junction of the Wigwam and Elk between the Kootenay valley and that of Wigwam River"; it can be found on several maps (Palliser map of 1863 in Spry 1968: back pocket; Whitford and Craig 1918: end map; and Anon. 1941).

• On October 23, 1859, when encamped at Tobacco Plains near the Catholic Mission and the Hudson's Bay Company post, Thibodo (1940:328) wrote:

> It is quite a beautiful sight to be in our tent and watch the little Indian village among the trees under the hills in front of us & to see the strangely painted savages wandering about & staring at us and every now and then laughing at any little thing that happens. I never saw a people so quiet & apparently so contented as those we traded with.

Neither account, unfortunately, shares with us details about the dwellings, their particular arrangement, and the supporting structural features of the community.

From the ethnographic facts it is possible, however, to reconstruct to some degree the probable principal structural elements of the typical Upper Kutenai community, although little of how these were positioned within the settlement perimeter is discernable. In addition to the dwellings themselves, four or five components were apparently seasonally ubiquitous: the earth oven, outdoor food-drying rack, cache, sweathouse, and perhaps dog kennel. The first three were integral aspects of the subsistence domain; the fourth and fifth were functionally related to the food acquisition process in that sweating was surely considered--though not mentioned in the Kutenai ethnographic accounts--an essential prelude to serious hunting activity, and dogs provided important assistance to certain hunting pursuits. In addition, the first menstrual hut and ceremonial lodge were settlement elements under special social conditions. These seven structural forms are briefly discussed in the following sections.

Earth Ovens

Ovens placed in and above pits were used by the Upper Kutenai in roasting and steaming a variety of foods. Although those designed for cooking camas are said to have been typically in the forest near the root fields (Hart 1976:16-17), others for the preparation of less concentrated and less seasonal foods were, I assume without explicit supporting evidence, located in proximity to occupation sites of longer term. Details of these cooking structures are to be found in the preceding subsistence sections.

Drying Racks

Racks were employed by the Upper Kutenai in the food drying process, but are not well described ethnographically. It is clear, however, that there were at least two rather different types.

One type was hardly more than a simple tipi-like frame (Ray 1942:180). A structure of this kind appears in a photograph taken, I assume, in the late 1930s and published by Turney-High (1941:Plate 3).[115] It consisted of precisely such a four-pole frame, but with four additional poles running horizontally around the tetrapod several feet above the ground. Both vension and fish--and sometimes even bison meat--were suspended to dry from the horizontal poles (Turney-High 1941:38, 51). Undoubtedly a flat rack of some sort was at times placed on the horizontal poles to support roots, berries, and other foods in the drying process. But I am aware of no references to such in the relevant Kutenai literature.

The second variety was a more temporary, fence-like structure, fashioned of "rectangular racks around a fire." On these were hung strips of bison meat and occasionally fish (e.g., trout). (Turney-High 1941:38, 51)

In addition to these outside structures, other drying arrangements were provided for inside dwellings. These racks were suspended in some manner from the dwelling poles (Ray 1942:180), but details and specific uses are lacking.

Food Caches

Caches must have represented an absolutely essential component of the Upper Kutenai settlement. There are, however, few ethnographic references to such storage structures, whether for warmer seasons or for winter use. Three types are reported: one raised above ground, one placed on the ground, and one dug into the earth.

(a) Platforms were constructed in forks of tall trees to protect food supplies from marauding animals. On such platforms, for example, were placed parfleches packed with dried bitterroot. And in the safety of such structures in late summer food was stored when the camp went east over the Rockies for their fall bison hunt. (Schaeffer 1940:46; Turney-High 1941:53).

> On these elevated floors were likewise stacked other valuables. For instance, among the Lower Kutenai bundles of Indian-hemp cambium, obtained and prepared in the late spring, and other materials used in fashioning fish traps: these materials were left on the tree floors "for a year to protect . . . [them] from snow, animals, and children . . ." (Turney-High 1941:48; cf. Schaeffer 1940:35). Presumably the Upper Kutenai followed the same procedure with their Indian hemp--even though it was of inferior quality (Turney-High 1941:62)--and with other valuables.

(b) "Houses" of logs were used as storage facilities (Ray 1942:180). It is assumed that these were primarily winter structures, but Ray does not say as much. Certainly they were in use in winter. For according to Schaeffer (1940:21) deer meat taken in the communal winter drives was stored, when dried, in log caches where "it remained until March, the period of scarcity" or, if the supply was not exhausted, until the river opened and it could be transported downstream by canoe.[116]

(c) Bark-lined pits were utilized in storing food. In these, for instance, were buried bison-hide containers packed with dried salmon eggs. (Ray 1942:135)

In early times cedar boxes were utilized by Upper Kutenai bands to store dried salmon, but more and more these tended to be replaced by the parfleche (Turney-High 1941:51). Where these boxes were kept--whether on platforms, in log structures, in underground pits, or elsewhere--is not stated.

It is a pity that the meager ethnographic accounts of traditional Kutenai culture are largely silent on these structures. For they must have been common components of the more permanent Upper Kutenai settlements and essential for the carrying forward of subsistence supplies from the season of production to the later ones of use.

Sweat Lodge

Three ethnographic descriptions of the traditional Kutenai sweat lodge have appeared in print, those of Curtis, Turney-High, and Ray. While in agreement in most respects where they overlap, they differ in some details and so are best reported separately. Together they reveal that without question the Upper Kutenai structure was not notably different from the type common in the nearby Plateau.

Turney-High (1941:64-65, 177, Plate 4), whose data were apparently derived principally from the Upper Kutenai, describes the lodge in the greatest detail. Hemispherical and elliptical in ground plan, it was constructed on a frame of 10 fir boughs,[117] each bent into arch shape. Five were placed at right angles to the major axis of the ellipse; the remaining five crossed these at right angles. Each series of five varied from a low arch at each end to the highest and strongest in the center. The entrance was under one of the small arches that stood at right angles to the main axis; the center arch of the other series terminated at the top of this arch so as not to block the entrance. Both ends of each arching branch--save for the middle one that ended above the doorway--were placed in holes previously dug in the ground. To create a strong framing structure, the 10 arches were firmly bound together where they crossed.

The frame was completely covered with sod and grass and then with a high bank of earth over all. Where proper sod was unavailable, tule

mats were employed first to cover the frame. Hides never served as sweat lodge covers. The pit within the lodge to receive the hot stones was about 2 feet in diameter and 1 to 2 feet in depth.[118]

The dimensions of the sweat lodge in traditional times are not reported by Turney-High. In the late 1939-1940 period, however, the typical structure measured about 7 by 10 feet. But larger lodges evidently also occurred, for he adds that, when of greater size than the typical lodge, additional framing poles were employed. This sweat house of greater dimensions was, however, infrequently seen.

For heating the lodge, rock types that would not fracture under high temperatures and the stress of the cold water were selected. These rocks--said to have been 12 in number--were heated to maximum temperature in a large wood fire outside the structure. When satisfactorily hot, they were rolled into the lodge and the hole prepared for them. The door flap was closed as tightly as possible and the water was thrown on the stones to produce the requisite steam. (Turney-High 1941:177)

The data of Ray (1942:180-182) were obtained about 1940 and apparently from Upper Kutenai informants. The sweat lodge, he writes, was extensively utilized by Upper Kutenai of both sexes. Women used those of the men after the latter had completed their sweating, but they also possessed their own lodges. The structure consisted of a bent willow frame covered with a bison robe. Grass and fir twigs were spread over the earthen floor. The fire pit was located outside; the inner rock pit, circular in form, was apparently on either side of the entrance in small lodges and in the center of those of larger size. The entrance, round in shape, was closed by a hanging hide. Lodges were of insufficient height to permit sweaters to stand, so they squatted or lay on the floor. They varied, however, considerably in diameter: some accommodated but two persons, others as many as eight. Whatever their size and whether intended for both sexes or for women only, they were invariably located near fresh water to allow the sweating to be followed by a cold plunge. All were camp-owned and communally used.

Curtis (1911 7:123) reports only that the Kutenai "sweat-lodge was a framework of willows covered with skins or matting, and [that] men and women together employed the sweat for curative purposes; . . ." He alone appears to indicate that the two sexes used these lodges at the same time, unless his "together" means nothing more than "as well." If "together" is to be taken literally, he, like Turney-High and Ray, is obviously reporting implicitly the existence of a sweat lodge of something more than minimum dimensions.

In these three accounts nothing other than the nature of the covering material is at serious variance. Turney-High describes a heavier type of sod, grass, and earth and asserts that a skin covering was never used. On the other hand, both Ray and Curtis report only a light variety, one of skins or of skins or mats. A possible explanation is obvious: Turney-High's lodge was a comparatively permanent type; that of Ray and Curtis, a more temporary and easily constructed sweat

house. Otherwise the three descriptions are generally and helpfully complementary.

Some sweat houses were located in isolated areas. For Ray (1942:236, 237) reports that youngsters on their spirit quest were sometimes sent to these distant structures. Why they were isolated is not explained. Perhaps they were occasionally used by individual hunters, or by camps when economic activities took them seasonally to the region, or by passing travelers. Possibly, however, they were constructed specifically for the use of children on their quest, for sweating was one of the activities children were instructed to engage in while on their vigil.

To these ethnographic data, a botanical note may be appended. According to Hart (1976:71), leaves of the horsemint (Monarda fistulosa and related species, "beebalm, wild bergamont, lemon mint")--found in relatively dry to moist soil in valleys, prairies, and mountains--were placed by the Kutenai on the hot rocks to produce a pleasant fragrance.

Dog Kennel

Whether dog kennels were in use by the Upper Kutenai is not wholly certain. According to Ray (1942:123), their numerous dogs were kenneled in huts constructed like the sweat house but, I would suppose, smaller in their dimensions.

On the other hand, Turney-High (1941:70), while stating categorically that "dogs were never tolerated inside the lodge, even in the coldest weather," reports that "kennels were never made for them."

If kennels there were among the Kutenai, it is evident that dogs were not invariably or universally kept at or within their confines. For travelers encamped in the vicinity of Kutenai settlements report being greatly vexed by the depredations of these ubiquitous prowlers. Thus Blakiston (in Spry 1968:573, 575), writing of late August and early September, 1858, reports losing "hide lines, mocassins, and other articles of leather, . . . to the half-starved dogs," when he pitched his camp for 5 days "at a short distance from the lodges of the Indians" at Tobacco Plains. And Thibodo (1940:328), while at Tobacco Plains in late October, 1859, observes that "the dogs are very annoying at night." And in his diary entry of the following day he records precisely the same comment.

Nonetheless, Ray's statement, both positive and descriptive though brief, appears moderately convincing. This is particularly so since kennels were evidently not unknown among some nearby tribes (Ray 1942:123).[119] Possibly Kutenai use or non-use of kennels depended, if not on the season, on whether the settlement was a small temporary camp of a single family or a few related units or was a larger, more permanent community where roving dogs might damage the property of non-relatives. But this is patent speculation.

Menarcheal Hut

The Upper Kutenai girl's puberty structure is briefly described by both Ray and Turney-High.

According to Ray (1942:202-205), each pubescent girl was provided with her own structure. It was nothing more than a conical bark hut, positioned sufficiently far from the village or camp to prevent her from being seen during this 10-day critical period. The hut was fashioned with a platform on which she could sit and had its own fire. In spite of its simplicity, it was used in winter as well as during the warmer seasons. A year later an identical or similar hut was used for the same ritual observances, though then only for a 5-day period.

A more abbreviated but similar account is presented by Turney-High (1941:119). According to his informants, a simple bark hut, erected some distance from the settlement to guarantee satisfactory isolation, was used at the time of a girl's first menses. Inside was a low platform on which she was compelled to sit. Outside, paths of poles were provided to prevent her from touching the ground as she walked. This structure was occupied for a 7-day period and on this single occasion. Less well-to-do people, however, were reported to have been less strict in the observance of this initial isolation.

Ceremonial Structures

There was evidently no special ceremonial structure as a normal component of the Upper Kutenai settlement, summer or winter. Certain circumstances, however, required the erection and use of lodges with ritual functions on a temporary basis. As the data below reveal, there appear to have been two entirely different types of religious structures in use. One resembled in its basic structural features a particularly large tipi. The other was clearly a long lodge, presumably identical or at least similar to the ordinary early dwelling of this form with its frame of pole pairs, though whether it was mat- or hide-covered is unclear.

Tipi Form

Two ceremonies of annual occurrence required specially-constructed large shelters of this type.

Good Health Ceremony (kankó·hoɬ): Principal Phase

The initial phase of this rite, carried out in a regular dwelling, has been described in the "Skin Tipi" section above. Here we consider the principal segment of the ceremony which required the construction of a special structure. It is this structure that is of particular interest to the present study. Curtis, Turney-High, Hart, and Ray all provide information concerning it and the rite conducted within it.

According to Curtis (1911 7:136-140), this focal and all important concluding segment of the ceremony was held in March. The structure erected for it was tipi-like in form and, one infers, was used among the Kutenai only in connection with this particular ceremonial. Its distinctive features were several, to attend only to those that might conceivably leave their traces archaeologically. First, a center pole, preferably of spruce, about 6 inches thick at the base, was cut, transported, trimmed, and erected ceremonially in a specially prepared hole in the ground by the Reckless Dog Society. Four principal supporting poles, with their bases "at the semi-cardinal points of the compass," were set in place to angle up to the top of the central pole, to which they were lashed. Then the other 45 or 50 poles were placed in position "with intervals of about thirty inches between the bases, thus forming a lodge about a hundred and twenty-five feet in circumference and fifteen feet high." (The 40 foot diameter indicated appears reasonable, but, given this diameter, the height of 15 feet at the center seems much too low to create a useful interior.) Lodge hides to cover this pole framework were appropriated by the Society from village dwellings. Inside, arrangements were made for an incense fire.

The ceremony itself and its various activities--principally prayers for good health, long life, and an abundance of food--need not be detailed, for they would appear to have left no marks that could be detected in an archaeological context.

It is plain from an incident reported by Curtis (1911 7:137) that this ritual was being performed as recently as 1888.

Clearly this same ritual is also described by Turney-High (1941:178-184) under the term "sun dance." It was, he writes, "held but once a year, preferably in the spring but always in mild weather." The center pole, "some fifty feet high and eight inches thick," was ritually handled as indicated by Curtis above and placed with its base in a hole about 1 foot deep. It was supported in this vertical position by three heavy poles, arranged tripod fashion, their tips lashed to the top of the central pole and their butt ends inserted into holes in the ground. To this basic frame were added about 28 or 30 secondary poles, each twice as long as ordinary lodge poles, to create a tipi-like cone. The material for covering this structure was stripped from the lodges of the village. An "altar," said by Turney-High to have been very like that used in the grizzly bear dance (see below), was then prepared inside this oversize "tipi." The ritual dancing, praying, gift distribution, and other activities that followed for 3 days--as in the Curtis case--need not be detailed. So far as I can discern, they would have left no record for archaeological recovery.

In regard to the elements noted above, these two records are convincingly similar and complementary in their detail. But still there are differences. These include the number of chief supporting poles, an interesting variation in light of the three vs. four pole foundation patterns among groups using Plains-type tipi dwellings. It will be recalled that the Kutenai skin tipi, according to Turney-High and Ray, was constructed on a four-pole base. There is a difference also in the

number of additional frame poles. Here both approximations may be accurate, the difference being explicable in terms of the size of the community holding the ceremony. And finally and most interesting, there is a significant discrepancy in the height of the central pole and the structure itself. Turney-High's pole length may be excessive, but something on this order, converted to the height of the lodge, seems far more reasonable than Curtis' diminutive 15 feet at the structure apex. As suggested above, one must suspect an error of some sort in Curtis' figure.

In relation to the Kutenai "sundance" Hart (1976:22) reports that the center pole was of western larch. This obviously differs from Curtis' observation (v.s.) that it was preferably of spruce.

Ray (1942:253) notes only that the sun dance was a major religious ceremony of the Kutenai, one not even practiced by the neighboring Flathead.

Grizzly Bear Dance

This dance, described by Turney-High (1941:184-184), was an important ceremony. It was held "at the beginning of the berry picking season," principally to solicit the grizzly's assistance in locating berries and other food. Far from being feared as in the "Good Health Ceremony" reported by Curtis, the animal was "an especially beloved spirit insofar as he tells his people how to keep out of trouble." Of specific relevance here is the fact that the ritual was carried out in a special, very large conical tipi--not in an old-style long house--that required "from three to four large lodge covers" to encircle it.

In the far side of this lodge opposite the entrance was fashioned an altar. First an area about 5 feet long and 4 feet wide was swept clean. Then a willow rod, approximately 8 feet long, was "bent into a hairpin shape, the round end set towards the door, and staked down into shape." (Evidently Turney-High means that the bent rod was placed flat on the floor within the smooth area so its sides paralleled the sides of the area, the bent center faced the tipi doorway, and the open end was directed toward the back of the lodge.) This "hairpin" was then filled with very fine earth to the level of the rod and the upper surface made very smooth. Just behind this altar was placed a grizzly bear's skull and on each side a front paw. In the "center of the lodge before the altar" a large fire was built.

Again, the activities of the ritual proper--e.g., the placing within the lodge of the medicine bundles of every family in the camp, the ceremonial singing and dancing, and the concluding berry feast--need not be described, appearing to possess no archaeological implications.

Long Lodge Form

Two rites, one in the late fall or early winter and the other in midwinter, called for the construction of a ceremonial long lodge.

Antlered Animal Ceremony (kn̄lukáh̓an̄l-iyámu): Principal Phase

The initial part of this Upper Kutenai rite has been described in the "Skin Tipi" section supra. This concluding phase is reported by both Curtis and Turney-High.

This final segment of the ritual, a three-night event according to Curtis (1911 7:143-146), necessitated the construction of "an elongated structure, formed of the poles and coverings of three of the ordinary, conical lodges." It was provided with an entrance at the eastern end, three hearths, and an incense altar "in the extreme back."

The ceremony underway, a small fir tree was procured by two men from the mountains, brought to the lodge, and planted "in a hole already prepared near the middle fire." Once again, the specific features of the ceremony itself--involving in particular the participants stepping, coughing, and snorting like deer--are of no concern in the present context. It is, however, not without interest that on the day after the first night, the hunters made a game drive down a single gulch and killed two deer, the ritually prescribed number. On each of the following mornings, deer drives were also carried out, only a single animal, however, being killed on each of these days. On the fourth day "the restriction as to the number of deer to be killed was removed." This ceremonial deer hunt is particularly a point of interest since, as noted above, Turney-High asserts that among the Upper Kutenai, unlike the Lower Division, deer hunting was invariably an individual pursuit.

In this "hard times" ritual, according to Turney-High (1941:186-187), a long lodge was erected for the rite and a fir tree set up in the middle of the structure. On this tree, gifts from all of the people were placed. At some point in the ceremony, hunters with strong "medicine" were dispatched to search for deer. Whether individually or in parties is not detailed. The ceremonial dancing of the shamans, whistling on their flutes and shaking their rattles, the prayers to the tree to give the camp venison, and other aspects of the ritual as briefly described by Turney-High appear beyond the interest focus of this study.

The "black-tail ([mule] deer) dance" noted by Ray (1942:253) in his culture element study must be, I believe, this same ritual. It was performed during a 3-day period in midwinter under the direction of a leader who possessed the black-tailed deer spirit. Individuals sang their spirit songs and danced, impersonating the deer. There is no mention of the principal objective of the rite nor of the structure within which it took place.

Midwinter Ceremony

Once a year the Upper Kutenai constructed a special long lodge in which to conduct their 3-day midwinter rite, one paralleling in a greatly simplified form the winter spirit ceremony of the neighboring Salishan groups. This ceremony among the Kutenai appears to have possessed far less religious content than among the Salishan tribes, from which they may--informant statements are in contradiction here--have borrowed it fairly recently. (Turney-High 1941:187)

Structures Unknown in Upper Kutenai Settlements

Four types of structures that occurred within settlement units among nearby Plateau peoples appear to have been unknown among the Upper Kutenai.

- Secular Meeting Lodge. In the Upper Kutenai village and camp there was apparently no special lodge where village members met to enjoy the company of their fellows or to discuss community matters.

The chief's lodge, however, served as the gathering place for his council and was often larger than other lodges to accommodate the group.[128] This council was comprised of the men--most of the adult males of the settlement--who had attained distinction through the coup-counting system or, less commonly, through some other particularly notable action. It is reported to have gathered nightly to smoke, feast, count their coups, and discuss "military matters." (Turney-High 1941:149)

- Visitor's Lodge. There was no separate shelter set aside for the convenience of visitors, although Turney-High's (1941:124-125) informants claimed to have been aware of such among other people. Visitors--even strangers and members of other tribes--were customarily quartered with some family in the settlement, at least until they could erect their own lodge if they brought one with them.

- Parturient Hut. Among the Upper Kutenai the special parturient structure was unknown. Women bore their children in their normal dwelling in both summer and winter and remained in confinement within it for a short period after the event. (Ray 1942:193-197)

- Menstrual Lodge. There is no ethnographic mention of menstrual structures among the Upper Kutenai subsequent to the menarcheal period. And evidently for good reason, for Ray (1942:206) explicitly states that the Kutenai did not follow the custom of isolating women during normal menstrual times.

Burials

Where burials were located with reference to Upper Kutenai settlements is not revealed in the ethnographic literature. If one can

judge from efforts reportedly made to conceal their location, it may well be that (a) they were not clustered in graveyard-like complexes, and (b) they were customarily not in the immediate vicinity of villages and camps.

The data on the treatment of the corpse and on the burial procedures themselves are somewhat confusing. In fact, contradictory statements were obtained from different informants by Turney-High himself. Nevertheless, there remain certain broad areas of agreement in the ethnographic summaries. Four reports are available: those of Boas from the late 1800s, of Curtis based on information secured just prior to 1910, and of Turney-High and Ray, whose accounts were obtained from informants about or just before 1940. These four sets of data are reproduced separately in the paragraphs that follow.

Based upon his own field research, evidently among members of the Upper Division, Boas wrote:

> The dead are buried in an outstretched position. The head was probably always directed eastwards. They kill the deceased's horse and hang his property to a tree under which his grave is. The body is given its best clothing. The mourners cut off their hair, which is buried with the body. When a warrior dies, they paint his face red, and bury him between trees which are peeled and then painted red.
>
> Before the body is buried, they prophesy future events from the position of his hands. These are placed over the breast of the body, the left nearer the chin than the right. Then the body is covered with a skin, which after a few minutes is removed. (Boas 1890:842 [NARN 1974 8(1-2):59]; cf. Boas' [1889:242 (NARN 1974 8(1-2):29)] preliminary report.)

From the slight movements of the fingers and hands while under the robe, the future was read.

According to Curtis (1911 7:127, 167) the "dead [among the Upper Kutenai] were painted, dressed, and wrapped in skins, and deposited in earthen graves, on the back and with the head toward the west." For all its brevity, this account is of considerable interest inasmuch as it agrees in toto with none of the other three statements yet every one of its details finds company in at least one other report.

Turney-High (1941:119-120) favors us with two different ethnographic summaries, evidently derived from members of two different bands.

• In the memory of informants who appear to have been from the Flathead Lake band, the customary procedure was for the dead to be buried in a shallow, unlined pit dug into the ground. The body was wrapped in a robe, taken to the grave without unnecessary delay, and quickly buried. The corpse was placed in the depression either extended and flat on the back with arms at the sides or flexed, knees to chin,

and on its side; informants differed on this score. The grave was unmarked with poles or in any other way; rather it was considered desirable to hide it to the degree possible.

• According to informants from Tobacco Plains, on the other hand, the body "was wrapped in a fine robe, laid flat on the ground, covered with more robes, and then with small logs. After this the whole was covered with a cairn of stones."

Ray's (1942:103, 214-219) data, apparently relating to Upper Kutenai practices, report that the body was allowed to remain in the dwelling until the burial, which in any event was not delayed beyond the following 24 hours. It was washed, its hair was combed, and its clothing was removed and replaced inside out. The face was not painted. In an extended position and with arms over the chest, the corpse was then wrapped in a bison robe or fur blanket and tightly bound.

The burial, Ray states, took place in the locality where the death occurred, even though distant from the person's home area. The participants in the interment ritual, the details of the transport of the body to the grave site, and the ceremonies that took place appear irrelevant to the present study. But it is of interest that valuables were placed with the body and a horse was killed at the site. The burial itself was in rocks or a talus slope or perhaps in the ground--Ray's information seems unclear on this last point--"in [an] obscure spot." The corpse was placed on its back with head directed toward the west. Whether the grave was marked is in doubt, for Ray reports without explanation that (a) it was identified by poles along each side, and (b) horses were tethered on it to eradicate all signs and avoid disinterment by enemies. One may suppose that Ray is correct on both scores, that conditions of time and place dictated which of these two contradictory procedures was followed. All persons--even shamans, suicides, and twins--were buried in the same manner.

Obviously there are measurable discrepancies in the information reported above. Some of the data may, of course, be simply incorrect. On the other hand, the differences among these several ethnographic statements probably testify to a very considerable variability in burial procedures during the traditional period among bands and perhaps among individual families, and doubtless according to season, status of the deceased, location of the bereaved group at the time of the demise, and other prevailing circumstances. In part they probably also reflect the fact that burial modes among the upriver bands underwent change during the nineteenth century. It is unfortunate that the data at hand are altogether too meager to enable most variations in the four reports to be sorted out in accordance with such variables, even on a tentative basis.

Settlement Locations

In this section are assembled the published ethnohistorical and ethnographic data that relate to Upper Kutenai village and camp sites in

the Lake Koocanusa river sector and its immediate vicinity.[121] Their locations, relative importance, season of occupancy, and other relevant details are provided where these data are available. Unfortunately, as the material that follows patently discloses, astonishingly little information of this kind exists in the published literature, nothing remotely comparable to the commendably full and detailed roster that Spinden (1908), Teit (1930), Ray (1932, 1936, 1974), and others have provided for various neighboring Salishan and Sahaptian groups.

Accordingly, this present compilation is no more than an initial step toward a coherent and comprehensive ethnographic site catalog for the area. It is hoped that significantly richer and more precise data can be secured in the immediate future through a period of field research with Upper Kutenai informants.

The following are the settlement areas presently identified, ordered north to south:

(1) Near Gateway. At some location near where the small community of Gateway was formerly located, the Upper Kutenai maintained a camp for the planting of tobacco. It was used by the people who lived on Tobacco River. (Curtis 1911 7:152)

Gateway was located at the international boundary on the east side of the Kootenai River in the lower Tobacco Plains area. It is shown just north of the border by Whitford and Craig (1918: end map); precisely on the boundary in the "Sketch Map: British Columbia" (British Columbia Provincial Government 1921); and immediately south of the international line on a British Columbia census map (Anon. 1941), on a British Columbia Road Map (BCGTB 1957), and on the USGS Rexford Quadrangle (1963). I have found it on no contemporary maps.

(2) On the lower Tobacco River plains, the principal headquarters of the Tobacco Plains band.

Of the several ethnographic and historical references to Upper Kutenai encampments in the area only the following three are even moderately geographic precise:

- An Upper Kutenai settlement on Tobacco River near Eureka is mentioned in a tradition--with certain mythic elements--recorded by Curtis (1911 7:152) as the place where the people were living when the event recounted in that tradition occurred. (See "Smoking Substances" section above for the segment of the tradition in which this statement is to be found.)

- In late August, 1858, Blakiston (in Spry 1968:572-575) visited a Kutenai camp, apparently consisting of six tents, "four miles across [Tobacco] prairie on an easterly direction" from the Hudson's Bay Company post and Catholic Mission close

to the Kootenai River. In 1858 the post and mission were located "at the pond known as Lake Livermore on the right bank of the mouth of the Tobacco River, back from the left bank of the Kootenay" (Chance 1980:95; for Lake Livermore see USGS Rexford Quadrangle 1963).

• On October 23, 1859, Thibodo (1940:327-328) found a small camp of Upper Kutenai on the plain very near the site of the trading establishment and mission to which Blakiston made reference the preceding year. (For Thibodo's statement, see "Settlement Pattern" section above.)

Other ethnographic statements are geographically more general but testify to Upper Kutenai settlements somewhere on the lower Tobacco River plains. Such are the following:

• The bunch grass region of Tobacco Plains was "a native camp site during the last century" (Schaeffer 1940:11).

• Formerly "there was only one great village" in the Tobacco Plains region (Turney-High 1941:15).

A number of historical records likewise point in general terms to Upper Kutenai encampments in the lower Tobacco Valley:

• On April 26, 1808, David Thompson (1950:16), walking about on the plains east of and not far from the Kootenai River, "found the Marks of 6 Lodges who have camped here a few day's past. . . ."

• In late August of 1845 de Smet (1906b:203-204) "arrived at the Prairie du Tabac, the usual abode of the Koetenays. Their camp is situated in an immense and delightful valley, . . . On my arrival, I found about thirty lodges of Koetenays; . . ." De Smet baptized 125 of these Indians, including 20 adults.

• On July 21, 1861, Wilson (1970:153) pitched his camp on the Tobacco River, obviously near its mouth. Evidently he saw no Kutenai village in the vicinity. That evening, however, he was called upon by "two or three of the Northern Kootenays." And there was a large camp of them not far off; for in his journal entry of the following day, he notes that "news of our arrival had spread to the Indian village on the Tobacco plains and early this morning [before we had got underway] we were visited by an immense number of Indians, all on horseback, . . ."

• On August 6, 1861, Wilson (1970:160) reached the east bank of the Kootenai about 4 miles above the Tobacco River. He was "soon surrounded by Indians, who came charging along on their horses, . . ." This historical footnote, like the

preceding item, suggests that the Indian camp could not have been far from the Tobacco River confluence, but precisely where is another question.

(3) At Warland. The Warland band, which occupied the Kootenai Valley between Tweed and Warland, is said to have had its main village where the small community of Warland was once situated (Schaeffer in Chalfant 1974:47). This White settlement was located on the east bank of the Kootenai about 1.7 miles upstream from the mouth of Warland Creek (USGS Alexander Mountain quadrangle 1963).

Upriver from Gateway the nearest Upper Kutenai settlements known to me were somewhat above the northern limits of Lake Koocanusa and, consequently, are of no particular relevance to this study. Nevertheless, they may be briefly mentioned. These were the villages and camps in the St. Mary Valley area approximately 54 miles upstream from the Gateway region and those in the Fernie sector of Elk River, some 45 miles northeast of Gateway. The general ethnographic data attesting to the existence of native communities in these two areas have been summarized in the earlier band sections of this report.

For Upper Kutenai camps in the St. Mary Valley and its nearby environs, we have, to the best of my knowledge, only one brief ethnohistorical account and a single late but quite precise ethnographic observation. Lying outside the immediate Lake Koocanusa focus, these are merely noted here without extended comment.

• On August 12, 1861, Wilson (1970:162-163) encountered a "few Indians" living on a "fine large plain" which I locate at or more probably just south of the present Cranbrook. They were tending "the Kootenay chief's" small garden and livestock and were, when seen by Wilson, "busy drying berries." Obviously this describes a non-traditional situation.

• In the summer of 1891, Chamberlain (1893:549-550 [NARN 1974 8(1-2):208-209]) observed that "a large number . . . [of the band headquartered in the Ft. Steele and Mission of St. Eugène sector] camp at a place called Bummer's Flat, . . ." The exact location of this flat is still not known to me.

For the Fernie sector northeast of Gateway no early sightings of Upper Kutenai communities appear to be recorded in the published historical documents.

Downriver from the Warland region the nearest Kutenai settlements at the time of first White contact were those of the Jennings band at or near the mouth of Fisher River. Certain of the seasonal camps of this group may have been located in the Kootenai Valley immediately above Libby Dam and the southern boundary of Lake Koocanusa. Unfortunately, the particular village and camp sites occupied by these Jennings people are not revealed in the ethnographic literature. Nor are they mentioned in the historical records in print, not even in David Thompson's

journals, although it would appear from the ethnographic facts that at the beginning of the nineteenth century the Jennings folk had not yet abandoned this traditional homeland for the Flathead Lake area.

Even though these data and parallel information relating to Upper Kutenai settlements in other sectors of their territory are sadly fragmentary, they are nevertheless sufficient to suggest the generalization that the major traditional settlement areas were concentrated in the lower, rather level reaches of the valleys of principal tributaries of the Kootenai River: viz., those of the St. Mary, Tobacco, and Fisher Rivers and even smaller Libby Creek. The single notable exception was in the far north, where the Columbia Lakes people maintained their chief settlement on the small headwater stretch of the Columbia River between Columbia Lake and Windermere Lake.

In addition, there were three minor settlement areas that represent exceptions of lesser significance to this generalization:

- The area on Kootenai River occupied by the small and curiously variant group at or near the confluence of Warland Creek, a genuinely inconsequential lateral stream.

- The locus of the Fernie band some 30 miles up the Elk River from its junction with the Kootenai. This group, as we have seen, was small and either a recent derivative unit from Tobacco Plains (Turney-High 1941:19) or possibly a group identical (or perhaps in origin similar) to the Michel Prairie people mentioned next (Schaeffer in Chalfant 1974:46-47).

- The location of the Michel Prairie people in the middle Elk River sector. This may well have been, however, nothing more than the seasonal tobacco planting and regional hunting area of a group that resided most of the remainder of the year on the eastern slopes of the Rockies (Turney-High 1941:18-19). Presumably this prairie was on Michel Creek (Whitford and Craig 1918:end map) at or near the present community of Michel, approximately 9 miles west of Crowsnest Pass. Indeed, this region would have been easily reached from the high Plains, for, according to tradition, through "Crow Nest pass" ran a trail along which the Upper Kutenai traveled in early times eastward to hunt bison on the Plains (Curtis 1911 7:118).[122] It was also through this break in the towering mountains that they are said to have journeyed when they met the Shoshoni in southwestern Montana and from them captured their first horses.

It would be of more than casual interest to know whether the absence of recorded occupation areas along the lower Elk, Bull, and Skookumchuck Rivers and perhaps even some of the larger tributary creeks is merely apparent, the consequence of imperfect information, or actual, possibly the result of unfavorable natural conditions of some sort or of some social disinclination to reside in small, scattered communities. While settlement localities at significant stream confluences and at mid-stream positions in the case of larger tributaries is common enough in the Plateau, a traditional avoidance of life in small, dispersed

winter villages and seasonal camps would be unusual. In the case of the Upper Kutenai this circumstance might have developed, it appears, as a consequence of one or more of the following conditions:

• An early population reduction. The earliest certain testimony of such among the Upper Kutenai appears to be that of David Thompson (1925:45), who wrote at his winter encampment just north of Windermere Lake:

> On the evening Septr. 6th [1807] Bercier whom I had sent off to the great Band arrived with 2 Kootanaes they informed me, that a violent Distemper had taken the Flat Heads, which had communicated itself to/the Kootanaes @ Flat Bows, @ had brought the major part of them so low, as to prevent them from decamping, @ that many Children had already died of it; . . .

• The establishment of trading posts in Upper Kutenai country, however insignificant by usual fur company standards, that tended to attract upriver people to their environs.

• The constant threat in the first half of the 1800s and even later of raiding parties from groups just east of the Continental Divide. This ever-present danger can be illustrated by two historical observations, a very early one relating to the extreme northern sector of Upper Kutenai territory and a later one describing the situation at the southern border of their homeland.

(a) From his temporary post immediately north of Windermere Lake, Thompson (1925:41) reports in 1807 that "the Peagans . . . seldom fail every year to/make a Visit [to the area] @ steal Horses."

(b) Speaking of the level country along the Flathead River north of Flathead Lake, de Smet (1906a:359-360) states in 1842:

> The plain that commands a view of the lake . . . [offers] beautiful sites for villages, but the vicinity of the Black Feet must delay for a long while the good work, as they are only at two day's march from the great district occupied by these brigands, from whence they often issue to pay their neighbours predatory visits.

There are strong indications that the Pend Oreille and Flathead (but not the Kalispel, Coeur d'Alene, or Nez Perce farther from the Plains) chose, at least in postcontact times, not to fragment themselves into dispersed social units with minimum populations. It is tempting to explain this residential group preference as a tactical adjustment to the constant threat of Plains raids that were even more menacing than in the Kutenai country.

In short, one is inclined to speculate that in the pre-equine, preraiding period the Upper Kutenai may have resided in more widely dispersed smaller settlements than suggested by the ethnographic and historical records.

A minor but not necessarily trivial cultural item of relevance may be noted here, since it bears directly on the permanence of settlements in particular geographical locations. While only the individual lodge was moved to a new location following the death of an "ordinary" man or woman, an entire village is reported to have been usually relocated on the death of a chief. For this custom Turney-High provides a specific illustration:

> When Chief Kustata's brother and predecessor in office died, the entire band abandoned their old village site near Somers and migrated to the present site on Dayton Creek. (Turney-High 1941:119)

Settlements and Life Zones

How the Upper Kutenai villages and camps were positioned in terms of the four biozones of their total habitat cannot be determined with certainty from the fragmentary data at hand. Yet it cannot be doubted that the larger and more permanent sites--as opposed to temporary hunting, gathering, and especially traveling camps--were concentrated at lower elevations. This is to say in the Transition Zone. And Schaeffer (1940:11) reports as much: in the Transition Zone were "sheltered localities for summer and winter camp sites."

But more than this, it would seem that the principal communities of the largest traditional bands were headquartered in the bunchgrass phase of the Transition Zone rather than in the ponderosa pine phase. This is made explicit in a moderately roundabout manner by Schaeffer (1940:11) who observes, as we have seen: "Each one of these [grassland] prairies [viz., those at Tobacco Plains, St. Mary River, and the shores around Columbia Lakes] formed a native camp site during the last [i.e., nineteenth] century." Incidentally, that there was, in fact, a plains region in the St. Mary Valley is attested to by the place name "Joseph's Prairie" (designated aa'kɨskak.ɬéet by the Upper Kutenai [Chamberlain in Boas 1918:321, 367]) applied, according to Chamberlain, to the area where Cranbrook is now located.

The Warland, Jennings, and Libby bands along the Kootenai were likewise centered at small level plains, according to available maps. Presumably these surfaces, all at slightly lower elevations than Tobacco Plains, likewise supported significant bunchgrass growths, but I lack hard evidence on this point. It would be of some considerable theoretical interest to ascertain these vegetative facts.

The biogeographic characteristics of the Fernie and Michel Prairie areas are less certain, neither the ethnographic and historical records nor the maps at hand providing helpful information in the matter.

Whether the Fernie sector possesses a "plains" topography of any sizeable dimensions may be doubted, for it is located up the Elk River Valley. Obviously the Michel Prairie area has a level surface of some size or its name would be inappropriate. But whether such prairies as characterized either region grew to bunchgrass cover seems problematical. The 3,313 foot elevation of Fernie is appreciably greater than that of Eureka (c. 2,650 feet) and close to the upper limit of the Transition Zone which Schaeffer (1940:10) places at approximately 3,500 feet. The elevation of Michel Prairie (3,861 feet) is substantially greater than that of Fernie. Whatever the case for a bunchgrass growth, both regions must have afforded grazing of sufficient consequence for horse herds, making them attractive for settlements once the Upper Kutenai had become a mounted people.

In this context it would be of more than moderate interest to ascertain whether there were, in Upper Division territory, additional grassy plains, bunchgrass or other, of potentially useful extent for which band headquarters have not yet been identified by ethnographers. And if such are found to exist, to explore those carefully archaeologically for possible major occupation sites of protohistoric and early contact date. For what it is worth, Schaeffer (1940:11) states that bunchgrass prairies were "generally confined" to the three areas mentioned above, patently leaving open the possibility of additional plains.

At any rate, if any of these five lesser settlement foci--Warland, Jennings, Libby, Fernie, and Michel Prairie--were not in the grassland phase of the Transition Zone, they were surely located in its ponderosa pine phase. The bunchgrass vs. ponderosa characteristics of these five areas should fortunately be easily determinable through brief field reconnaissance.

The grassy plains aspect of the major Upper Kutenai settlement locations is unquestioned. But to this conclusion a footnote of some considerable importance needs to be added: the villages and camps themselves were apparently in the trees--the ponderosa pines apparently--bordering the plains, not out on these open areas themselves. Such is at least indicated by the two historical observations of the mid-1800s reported above. This arrangement appears eminently sensible, for it allowed at the same time effective oversight of the herds out on the grazing plains and the shelter and other advantages of a timbered dwelling site.

Returning to the correlation between grasslands and band headquarters in recent times, one may question whether this was likewise the case before the Upper Kutenai acquired horses in numbers and moved toward a strong bison-hunting emphasis. I suspect not or at least not to the same degree.

Bunchgrass prairies offered much in a post-horse but still traditional pattern of life. In particular large herds of these animals, essential in the new life style, could be grazed in them throughout the year (Schaeffer 1940:11). Meat, fish, and roots obtained

within the Kutenai homeland--to the extent these continued to be used as food resources in the face now of major supplies of bison flesh--could be easily transported with the assistance of pack animals from distant acquisition areas to prairie living sites. And winter residence in these comparatively open spaces was made more practicable by the bison-hide tipis with their sophisticated Plains-type "ears," "liners," and the like.

But seemingly these grassy plains would hardly have been wholly sensible locations for band headquarters and principal settlements in the pre-equine period. Their grazing potential would have been irrelevant. They would have been awkwardly removed from important hunting grounds, berry areas, and most root sources, if not from fishing sites, considering the availability of nothing more than pack and canoe transport. They would have been, one may suppose, more exposed to inclement weather, especially in winter, than ponderosa pine regions.

What, then, is provisionally suggested here is a perceptible shift in major settlement locations from ponderosa to grassland environments within the Transition Zone between the pre-horse and horse periods. This would appear to represent a hypothesis with prospects of being testable archaeologically.

The Canadian and Hudsonian Zones--hardly the Arctic-Alpine Zone--must have been the location of temporary camps which served as bases for exploiting the subsistence resources of these bioenvironments. But with the data available nothing more can be said on this point.

CHAPTER 3: DIACHRONIC RECONSTRUCTIONS OF SUBSISTENCE AND SETTLEMENT PATTERNS

Expanding upon the conjectures concerning the subsistence and settlement pattern changes associated with the introduction of the horse which were noted in the immediately preceding discussion, we may now speculate more widely regarding shifts in these two cultural domains among the Upper Kutenai over a somewhat greater time frame.[123] Specifically, from a protohistoric time-base--say, roughly A.D. 1650--to about 1900.

For this period five culture phases may be postulated on the basis of such historical and ethnographic scraps with pattern change implications as are available, with some thought to probable culture-complex interlinks and what appear to be reasonable conjectures concerning culture relationships to the bioenvironment. The highly tentative nature of these time constructs cannot be overemphasized. They will certainly require refinement and some revision. The documentation supporting them badly needs enrichment and will surely undergo correction in certain details. In short, these two sets of diachronic reconstructions will unquestionably be modified in various directions as my research progresses.[124]

Obviously the three earliest phases, all relating to protohistoric times, are especially provisional. What is more, they must remain more than a little shadowy in certain aspects until tested through urgently needed, fine-grained archaeological investigation of the late pre-White period in the Upper Kutenai region.

Subsistence Patterns Through Time

For the subsistence domain of traditional Upper Kutenai life the following five phases may be tentatively recognized from the early protohistoric period to approximately 1900.

(a) Phase 1. An early pre-horse, pre-firearms period when hunting, fishing, and plant gathering were carried out throughout the year by all Upper Kutenai bands but one wholly within their tribal territory west of the Divide. The sole patterned exception appears to have been the Michel Prairie band which even at this early date moved in their subsistence round back and forth across the Rockies.

Largely because of local bioenvironmental conditions, certain regional as well as seasonal differences occurred in the relative importance of the three fundamental food acquisition activities. The pursuit of large game and collecting of roots and berries appear to have been about equally important to both Kutenai divisions. On the other hand, without the extensive ponds, marshes, and sloughs of the downriver Kutenai, the upstream bands placed far less emphasis on seasonal waterfowl hunting and, even in these pre-bison days, somewhat less emphasis on year-round fishing. Nevertheless, fishing was, according to tradition, by no means unimportant to the Upper Kutenai in this early period, especially, perhaps, in later winter when food supplies ran low. All in all, the subsistence base of the Upper Division must have been comparatively well balanced between hunting, fishing, and the collecting of plant products, quite similar in fact--except for the differences noted--to that of the Lower Kutenai and, indeed, to that of these downriver bands even in postcontact traditional times.

Bison hunting and the various culture traits and complexes integral to the social and religious structure of the "typical" northern Plains groups had either not yet evolved or, at any rate, had not yet climbed the Rockies and touched the lives of the Upper Kutenai to any notable degree.

(b) Phase 2. A late pre-equine, pre-firearms time, presumably of relatively short duration, when the Michel Prairie practice of winter hunting for bison in the eastern foothills of the Rockies was adopted by certain of the other Upper Kutenai bands or, probably more accurately, by some individual families in these bands. Among the groups that now engaged in

this winter foot trek over the high passes were the Tobacco Plains people of the Lake Koocanusa area. However, those who borrowed this new cold season pattern pursued the bison for only a brief period, not for the entire winter as, apparently, was the custom among the Michel Prairie band.

This mid-winter bison hunting activity was of considerable importance: it represented a major expansion of the subsistence environment of the Upper Kutenai as a whole. For the first time their hunting range included the east-facing slopes of the cordillera. Precisely why this winter hunting pattern was attractive to the Upper bands is not all that evident from tradition. This is especially the case because the snowshoe journey through the mountain defiles in the dead of winter, the bison chase itself on foot, and the back-packing of the meat home, while ordinarily not considered a particularly dreadful activity chain if Turney-High's data are accurate, must still have been a very cold and generally trying experience. And a potentially dangerous one to boot, since it brought the Upper Kutenai parties into a foothills country where occasional direct confrontations with Plains groups could not be avoided.

It seems necessary to conjecture that the primary incentive for the winter bison hunt was economic, specifically the need for supplies of meat to supplement the game obtainable in the Kootenai and Upper Columbia Valleys. Nevertheless, any speculation concerning the factors that led to the adoption of the winter bison routine by the Tobacco Plains folk should at least acknowledge a tradition reported by Schaeffer (1940:24). This tradition "explains" that it commenced immediately following the murder of the band's deer-drive leader and implies the absence among the group of another man with the requisite supernational and perhaps experiential qualifications to assume these responsibilities. Considering the apparent fragility of the Kutenai historical sense where cultural origins are concerned and the general tendency of the group to attribute the appearance of new cultural behavior to a supernatural experience, this explanation fails to inspire a high level of confidence.[125] Quite possibly, however, this seasonal turn toward the utilization of Plains food resources was the consequence of one of the apparently recurrent periods of deer--and perhaps elk--scarcity that have been documented for later, post-White times and of the knowledge of the subsistence potential of the already established Michel Prairie winter hunt pattern.

As noted above, one may hypothesize that during this still pre-equestrian, pre-firearms period some contact must have occurred groups which were full-time residents on the Plains, contact that was sometimes hostile and at other times amicable. But these intergroup relations can hardly have been close and their influence on traditional Upper Kutenai life

patterns can scarcely have been great. For one thing, they took place during the coldest season of the year and when the urgent interests of the Upper folk lay in the direction of acquiring meat supplies with all possible dispatch and then hastening home. And for another, the constellation of behavioral traits that later distinguished the "typical" Plains culture still had, it would appear, not yet developed, these groups (like the Upper Kutenai) not yet possessing the horse. Accordingly, the cultural impact on the Upper Kutenai of such meetings as may have taken place can be presumed to have been minimal.

(c) Phase 3. A period that commenced with the acquisition of the horse. Having already developed some bison-chase capabilities through their earlier, shanks' mare winter hunts, the Upper Division bands employed their new riding and pack animals to expand their journeys over the Divide by one in the spring (or early summer) and another in the early autumn. Even then some members of each band must have either elected or been forced by circumstances to remain west of the Rockies to continue the at-home food exploitative patterns generally typical of the earlier two phases. But for the Upper Kutenai as a whole, hunting and the preservation and year-round availability of meat increased dramatically in their subsistence significance. This shift toward the bison chase was accompanied by a decline in the importance of fishing in their homeland west of the Rockies, especially as a late winter food source.

The effect of the acquisition of the horse on hunting in the Kootenai and upper Columbia basins would seem to have been quite different from its influence on intraboundary fishing. These animals provided their owners with the ability to make comparatively lengthy treks into more distant forests and hills to utilize their game, root, and berry resources and, what is more, to bring handily quantities of fresh and prepared foods back to the band headquarters. Importantly, the more remote of these timbered areas and mountain slopes were, it may be supposed, not only farther from the population centers along the Kootenai River and its principal tributaries than the outermost subsistence range of the earlier small camps, whose means of transport was limited to the canoe.[126] They also now for the first time included hitherto comparatively inaccessible terrain well back from the watercourses. The Upper Kutenai were, in short, now making a more complete subsistence use of their division territory.

If this postulated scouring in hunting activities of the more remote country is basically correct, it appears more than possible that this circumstance may help to explain the notable reduction in the large game supply so clearly documented for the immediate postcontact period. Presumably it would have eroded the numbers of animals in what were in earlier times remote area game reserves from which deer, elk,

and caribou had been fed down to the limited hunting range of the small, scattered camps.

The increased interest in bison brought the Upper Kutenai into closer contact with Salishan peoples to the south, groups that they had apparently seen little of previously and then generally under somewhat less than fully amicable circumstances. If tradition can be believed, these new relationships with the Pend Oreille and Flathead resulted in the discovery of the edibility of camas and bitterroot and of small grounds of these roots on the southern periphery of their own territory.

It was during this period also that small parties from Plains groups immediately east of the Divide, with their newly evolved "typical" Plains culture including both horses and firearms as well as a hypertrophied raid-prestige ethic, began to cross the Rockies on a frequent basis to harass the upriver Kutenai in their homeland, particularly for the purpose of running off horse herds. Perhaps this new and relatively constant threat exerted some effect on the subsistence activity patterns of the Upper folk: hunters may well have tended to operate less frequently individually even within their own country and somewhat more often in groups, a practice that conceivably was also encouraged by the recent acquisition of the horse.

This was likewise the period, it may be postulated, when certain Plains cultural traits of the stereotypic variety were first borrowed by Upper Kutenai bands, evidently with some considerable enthusiasm, and grafted onto the more traditional Kutenai behavioral patterns.

From these facts, some demonstrable and others hypothesized, it follows that it was during this period that the overall cultural configuration of the Upper Kutenai began to diverge notably from that of the Lower Division.

(d) Phase 4. With the appearance of the first fur traders in Upper Kutenai territory early in the nineteenth century, direct exposure to and adoption of Western cultural elements commenced. Because the Kootenai Valley became almost at once a kind of trading cul-de-sac, this process, however, progressed more slowly than in neighboring segments of the Plateau.[127]

Firearms were now acquired in numbers to add lethal range to the mobility already at hand through the recently acquired and now thriving horse herds. With the aid of guns and horses and confronted by an augmented need for meat and skins as trade items, the Upper groups at first devoted substantially more attention to hunting of large game, especially antlered animals, in their home territory while continuing their bison

hunts off to the east. Fishing evidently decreased still more in importance.

Before long, however, the supply of major game in the Kootenai Valley became depleted, partly, it appears, the result of overhunting and partly the consequence of one of the periodic natural reductions in the animal population. The consequence was an even greater emphasis on bison hunting. These seasonal treks brought the upriver Kutenai not only into still more frequent contact, generally hostile but sometimes peaceable, with the western Plains tribes, but more particularly into closer relationship with the Salishan groups--the Pend Oreille and Flathead especially--to the south, whom they often joined in their journeys to the eastern flanks of the Rockies. Developing alliances with these latter peoples in their Plains ventures created fresh opportunities for culture borrowing, but rather curiously these appear not to have been taken advantage of to any notable extent. At the same time, this tilt toward the eastern foothills of the Divide as a major protein source through thrice-yearly journeys can only have further reduced the contribution made to their subsistence base by hunting and fishing in their own river home country.

(e) Phase 5. With the extinction of the bison in the 1870s and 1880s--an event heralded by the waning herds of the preceding years--the Upper Kutenai were confronted with the urgent and difficult problem of surviving without this all-important Plains food source. Even the small, mid-winter bison hunt on snowshoes, which had become an important subsistence option roughly a century and a half earlier, was now a thing of the past. All upriver bands from the Columbia Lakes to Libby (now Flathead Lake) were compelled once more--as in the first phase of this speculative series--to respond to their food requirements by exploiting the resources of the Kootenai basin and the Columbia River headwaters and to resume many of their most traditional subsistence routines. It may be supposed that these reversions in the food quest included as one aspect a reemphasizing of former plant gathering activities such as those described by Turner, now, however, with both camas and bitterroot among the roots collected. They certainly included as other aspects a return to hunting and fishing within their aboriginal tribal boundaries.

But this reversion to the old, traditional food search patterns of the first of the five phases postulated here was tempered in two important directions. On the one hand, the native animal and fish resources were to a considerable extent depleted. And on the other, the supply of substitute Euroamerican goods was gradually increasing, accompanied by growing Western encroachment and acculturative pressures of many kinds, both of which diminished the ability of the Upper bands to pursue traditional subsistence routines.

Settlement Patterns Through Time

If the preceding reconstructions concerning changes through time in Upper Kutenai subsistence patterns are to some considerable degree speculations, these relating to protohistoric and postcontact changes in settlement patterning and distribution are patently even more conjectural. On the basis of present highly fragmentary and otherwise imperfect knowledge, it would appear that significant shifts in population aggregates and locations occurred in the two and a half centuries from about 1650 to approximately 1900. Since these cultural modifications were obviously associated with and in part the consequence of changes in the food acquisition substratum, they may be conveniently discussed in terms of the five-phase sequence proposed in the preceding section.

These changes appear to have occurred substantially as follows:

(a) Phase 1. In the earliest of the periods postulated here, that sometime prior to the appearance of the horse and the acquisition of firearms, the functional socio-economic unit was almost certainly a small, temporary camp in both summer and winter and one that wandered especially during the open seasons. The absence of the extensive camas and bitterroot grounds that flourished in the country of their southern neighbors and of the great salmon fisheries of the Columbia and Snake Rivers to the west and southwest--such as that at Kettle Falls--made impossible large population aggregates, not only during the warmer seasons when these roots and fish were secured by nearby groups but likewise in winter when these foods, dried and stored in large quantities, provided in those groups the essential subsistence resources for large, cold-season community living. In large part, the Upper Kutenai were still without the bison meat supplies that they later secured by seasonal journeys across the Divide and that then became the functional analog of the extensive root plains and highly productive salmon fishing locations of the Salishans to the west and southwest.

The bioenvironmental adaptation of the Upper bands in this early time period must have been based, then, on scattered and quite varied resources, each game, fish, and plant type in comparatively small supply. The most effective exploitative mode would appear to have been by small, mobile social groups, large enough to insure the mutual assistance called for in communal activities like periodic deer drives and in times of food privation but not so large as to strain seriously the comparatively limited resources of their immediate range.

The gathering of roots (seemingly excluding both camas and bitterroot), the fishing in certain small lakes, and occasional other subsistence activities of brief duration took task-oriented camps out into open, grassy prairies. But

during most of the year, the camps appear to have been maintained along watercourses in or on the fringes of forested regions. For there appear to have been no general or specific advantages to residence away from the trees and much to be gained from their protective cover and by being nearer the greater part of their year-round food supplies.

Such small bands, frequently moving within their familiar range, were not often threatened by hostile non-Kutenai peoples within striking distance of them. The Salishan tribes that ringed them on the west and south were notably peaceable. The Shuswap off to the north were, by and large, too distant to cause serious problems. And the Plains groups, themselves still without horses and firearms, had not yet evolved or at least were not yet fully dedicated to their later coup-counting, raiding, horse stealing ethos.

Even the divergent Michel Prairie band, off to the east on a tributary of the Elk River, was no exception to this small, dispersed social unit pattern. It is true that it seems to have moved seasonally back and forth through the Rocky Mountain passes, hunting and fishing on the eastern flank of the mountainous chain and hunting, fishing, and plant gathering on the western slopes. And to this extent the subsistence pattern and the range they exploited were deviant. But the group was one of very small numbers and so can hardly be considered to represent a divergent social mode of consequence.

(b) Phase 2. Apparently these small, mobile, dispersed camps prevailed as the community norm during this second, still pre-horse and pre-firearms period. Mid-winter bison treks were the order of the day among bands in addition to the Michel Prairie group. But during bison journeys, the small hunting parties--fractions of the band units or even smaller family constellations--evidently made their way individually to the nearby easterly-facing foothills of the Divide to hunt and finally thread their way back to their own home territories. Without horses, there was no feasible way for the small local group to undertake as a norm the additional travel required for joining other local groups to form a single larger task unit of a temporary nature. And what is more, really no occasion to do so, except evidently for the technical advantage of simultaneous attacks by many hunters on animals in a herd. The danger of hostile Plains encounters that characterized later periods had not yet developed as a serious threat. As I have discovered, at least 24 mountain defiles led from traditional Upper Kutenai territory eastward over the cordillera.[128] One may suspect that many of these were in use by these early winter hunting parties, each following a route most suitable under prevailing conditions and most convenient to its own home range.

Given the small size of the groups involved, bison pursuit procedures were essentially individual in nature, as in so much of the hunting of deer, elk, moose, and caribou in their own homeland. Once back through the high passes, the parties found themselves virtually at once in their own small subsistence tracts, rejoining those of their social group who had not participated in the transmontane hunt.

(c) Phase 3. In this period, with acquisition of the horse and the addition of spring (or summer) and autumn journeys to the earlier mid-winter bison hunting routine, fundamental changes occurred in the settlement structure of the Upper Kutenai. These were presumably accompanied by functionally linked shifts in other social and political arrangements though these need not be considered here.

The earlier numerous, small local groups became things of the past: they coalesced into fewer and larger groupings as a virtually year-round socio-structural norm. These greater population aggregations were now possible for the first time largely as a consequence of the introduction of the horse. With the essential assistance of this riding and pack animal, these larger bands were supported not only by the large supplies of bison meat obtained on the now three yearly expeditions eastward but also by the wider ranging subsistence activities within the Upper Kutenai home country to which attention has already been called.

Previously the population units of very limited size had been widely scattered through the Upper Division territory in forested, near-river sites to exploit individually over most of the year the food resources of a restricted range. The new fewer and larger bands, in contrast, established year-round headquarters either on or, more probably, on the peripheries of the more extensive prairies, a direct response to the all-season grazing requirements of their increasing horse herds.

Presumably it was at this time that the formal camp circle arrangement, somewhat less than practical in fully timbered areas, was carried across the mountains from the Plains. It would be surprising if other eastern culture traits that appear to possess some antiquity in Upper Kutenai folk life--including at least some associated with the ceremonial domain--were not likewise upriver band borrowings at this time.[129]

Finally, these larger social units were, in fact, now for the first time distinctly advantageous for the security of the society. They offered a substantially greater measure of protection against the constant threat of attack by small groups of Plains enemies, not only east of the Divide while engaged in the bison chase but also at home where infiltrating raiding parties posed an ever present danger.

(d) Phase 4. The relatively compact settlement configuration of the preceding period generally carried forward into and through this fourth time span. The horse herds still required their grassy prairies; bison continued to be hunted; Plains raiders were even more persistent in their thrusts into the Kootenai Valley. This is the settlement pattern encountered and alluded to by the early fur traders and remembered as "traditional" by older ethnographic informants.

During these years, however, this community arrangement was under certain disruptive pressures. One such was the great reduction in the large-game supply in the Kootenai and upper Columbia country, reported in the early historic records and in the ethnographic literature to which attention has already been called. This game depletion was made temporarily survivable by augmented bison hunting, which continued to require the large group settlement pattern and distribution in the Upper Kutenai territory characteristic of the third phase.

A second pressure, seemingly of significance but difficult to measure, was that generated by the trading posts that to some degree disrupted native life by attracting from the band units to their environs barterers for short or extended stays and, it must be presumed, longer term employees and simply hangers-on in some numbers. While the posts in Kutenai country were generally only seasonally maintained and trivial in their size, the Upper Kutenai were by no means bound to the trading centers within their own boundaries. They journeyed to Kullyspel House on Lake Pend Oreille in Kalispel territory as early as 1809, soon to Saleesh House in the Thompson Falls area, and still later to other posts like Fort Colvile farther from the Upper Kutenai homeland.

A third disruptive pressure was that brought about by the reduction in the total Upper Division population[130] and in the number of large band units that existed during the third phase. Introduced Western diseases as well as casualties at the hands of the Plains enemies were important agents in the population decrease. As for the bands, those in the Ft. Steele-Cranbrook and Warland districts became extinct and that at the Columbia Lakes largely disappeared. Others, notably those at Jennings and Libby, uprooted themselves and their members either moved south into the Flathead Lake district, aboriginally Pend Oreille home range, or relocated in the Ft. Steele-Cranbrook or Columbia Lakes sectors.

In spite of these disorganizational influences, the Upper people during the greater part of the nineteenth century appear to have struggled to maintain their large band units and a settlement pattern of larger and fewer communities year-round than existed in protohistoric times. And they continued to occupy settlements located in their few prairie regions.

(e) Phase 5. In view of the focused interests of this study, there would be little merit in any extended discussion of the settlement structure in this final period, consisting of the last two or three decades of the nineteenth century. The bison were gone; dependence upon Western trade goods was growing; the adoption of Western cultural traits and complexes--like limited agriculture--was increasing; missionaries had been among them for several decades and their influence continued to be considerable; and threats from serious White encroachment were beginning to be felt. Disorganizational influences advanced against them from all sides. But evidently an effort was made to maintain the essential aspects of the earlier band structure, a situation which to some extent the reserve and reservation system of the present day perpetuates.

With horses still at hand, the Upper Kutenai continued to find it possible to exploit in some measure such scattered native food resources as remained in their traditional home country and the Flathead Lake region, into which some of their members had moved several decades earlier.

NOTES

1. It would be to little profit to catalog here the many references in the linguistic and ethnographic literature--much less in the more popular press--to the Kutenai language as a genetic isolate. A brief review of a number of such conclusions as well as of the possibility that Kutenai may prove to be distantly related to certain other language stocks will appear in a later, expanded version of this report.

2. Since most of the basic data of this study are drawn from published sources, particular care has been taken to provide accurate and adequate citations. One unconventional technique followed requires special mention. When the material of a single sentence is derived from a source, this source is indicated within parentheses before the period terminating the sentence: viz., ". . . (reference)." However, when the data of two or more consecutive sentences are taken from a single publication, the citation, in parentheses, follows the period closing the last sentence of the series: viz., ". . . . (reference)" without a terminal period.

3. It is, however, identical to the official copy deposited in the University of Pennsylvania Library.

4. Teit (1909:455) speaks of the people immediately below the Arrow Lakes only as a northeastern band of the Okanagan: i.e., of the Okanagan language group. He observes, however, that the Columbia River as far north as Revelstoke was disputed territory, argued for both by this Okanagan band (i.e., the Lakes) and the Shuswap. Assuming the accuracy of Teit's placement of Shuswap in the Arrow Lakes sector, I see this as an early postcontact Shuswap expansion down the Columbia River into this region. (Cf. the territory assigned to the Lakes by Ray [Figure 1-6A].)

5. The circumstances that gave rise to this partial Shuswap-for-Kutenai replacement are not clear. But it would be surprising if they failed to include both an early 1800 drawing of the Shuswap eastward toward the fur posts on the upper Athabasca and upper Saskatchewan Rivers, and, from the Kutenai side, the early depopulation of its Columbia Lakes Band and perhaps even the fact that between 1810 and the 1860s the fur trading centers in Kutenai country were all at Tobacco Plains or farther downriver (cf. Chance 1981:92-96).

6. Turney-High (1941:23) writes of a trail that led eastward from Eureka, Montana, without, however, specifying its route. He states only that the Kutenai followed it "as far as Sweetgrass," surely the town of that name northeast of Cut Bank, Montana, and immediately south of the Canadian border. Perhaps this particular path climbed the Divide through South Kootenay Pass or Akamina Pass.

7. Turney-High (1941) includes in his bibliography none of the other sources, except for Jenness (n.d.; original ed. 1932), which we have examined in this tribal boundary section.

8. Indeed, some wildly distort the actual traditional location of Plateau tribes. One, for example, omits the Colville altogether and places the Columbia in Colville country adjacent to the Kutenai.

9. The recent situation in this more northern sector is confused by the presence of Shuswap in the area. According to Dawson (Tolmie and Dawson 1884:125B): "A colony of Shuswap . . . in the midst of the Kootanie country, near the second Columbia Lake [Windermere Lake], has been in existence many years, but was established within the memory of men still living."

    Teit (1909:460 fn. 5) concurs, reporting that a group of Shuswap, originally mostly from the Upper North Thompson band, "lived for many years in a more or less nomadic state, wintering and ranging in the Columbia valley, chiefly between Golden and Windermere," but this region was patently traditional Kutenai country. More recently, he adds, reserves have been established for these Shuswap "nearly opposite the mouth of Toby Creek, on the right bank of the Columbia River, not far from the outlet of Lower Columbia or Salmon Lake." (Cf. also Hodge 1912:742.)

10. To my knowledge, Curtis (1911 7:117) was the first ethnographer to call attention to the significance of the Henry record in this context.

11. The division or divisions residing east of the Rockies in the 1700s and very early 1800s are ignored here. More detail on the Kutenai dialect situation will be presented in an enlarged study of the Kutenai now under preparation.

12. This is a convenient context in which to illustrate the difficulty in using certain of Turney-High's data. For he (Turney-High 1941:16) also speaks of "the junction of the Yaak and the Kootenay Rivers near Libby or Jennings, Montana, [as lying] right on the hypothetical boundary of the two great divisions." Now this is a prime bit of confusion. In the first place, the geography is badly twisted, for the Yaak confluence is not at all close to Libby, much less to Jennings. It is, in fact, about 27 miles below Libby and approximately 41 miles downriver from the mouth of the Fisher River near Jennings. What is more, it is located even nearly 15 river miles downstream from Kootenai Falls. Secondly, this statement is obviously widely at variance with his placement of the boundary "through about Libby."

    This is, unfortunately, not the only occasion where Turney-High's prose falls short of lucidity. Witness, for example, these two illustrations: (a) "The stretching [of hide strips in the manufacture of ropes] could not be done too often" (Turney-High

1941:75); (b) "The rows of [hemp] binding [in the manufacture of rod armor] should be at least three inches apart, while a two inch spacing was thought much better" (Turney-High 1941:86).

13. Spelled "Purcell" on Canadian maps (e.g., International Map of the World, Kootenay Lake quadrangle 1969), but elsewhere appearing occasionally as "Percell": e.g., USGS Kalispell quadrangle 1957.

14. Perhaps a careful and exhaustive examination of the early records of the fur trading period would throw light on this important question. This research, however, would cover ground already tilled by Chance (1981), although from quite a different perspective, and would require more time than is available under the present project. Accordingly it is set aside for a later occasion.

15. It would not be surprising if this Robert Galbraith was the "Hon. R. L. T. Galbraith, ex-M.P.P., of Fort Steele," to whom Chamberlain (1893:549 [NARN 1974 8 (1-2):208]) was indebted for many courtesies in the course of his Kutenai research. Or the Mr. Robert Galbraith, who, according to Chamberlain (1893:574 [NARN 1974 8 (1-2):221]), "for some years acted as the medical advisor" to the Kutenai. Or the Mr. Galbraith, who, a storekeeper, allowed Chamberlain (1893:585 [NARN 1974 8 (1-2):232]) the use of his shop scales in his anthropometric study. Perhaps all three or two of the three were the same person.

16. While extraneous to this present study, it would be of some significance in Kutenai dialect analyses to recognize that the Joseph's Prairie area from which Dawson's Kutenai linguistic data were secured was, according to Boas (1918:367), at Cranbrook. That is to say, in the heart of the Upper Kutenai territory.

17. The term "Columbia Lakes" is used by Chamberlain, Schaeffer, and others for Columbia Lake and Windermere Lake as a pair.

18. For comparability with my other band series, I have taken the liberty of replacing Chamberlain's itemizing letters within parentheses, in his listing of the sub-groups, with figures within parentheses; and, for clarity, of tabulating the bands, whereas his data are published in a continuous paragraph.

19. That the geography of the wider Kutenai context was not a Chamberlain forte is testified to by his glossing of a Kutenai term as "Missoula, a place about four miles from Sand Point, Idaho" (in Boas 1918:321).

20. This has all the marks of something more than a mere typographical slip, for a CV sequence, not a single letter, is involved. Quite possibly it represents a misreading of a handwritten "nu," an understandable bobble.

21. Where I have written the schwa "ə" in this and other Schaeffer band terms, Chance has the symbol "ɵ." Whether he is copying Schaeffer's transcription or has misread Schaeffer's "turned e," I do not know. But in any event I assume the schwa is intended.

22. This term appears in Schaeffer's band listing, as reported by Chalfant (1974:45), with the geminate cluster "-kk-" as I have written it. But in Chalfant's (1974:48) discussion, it appears with a single "-k-." I assume that the cluster is correct, since the roster terms seem to be transcribed with greater care: they have, for example, stress indicators that disappear in text occurrences of the terms.

23. A situation much like this appears to have occurred in the western Columbia Basin area, when the Middle Columbia Salish moved their principal village of q̓uwa′tcən from the Crab Creek sector north to Rock Island. The old village name seems to have been carried to the new location (Teit 1928:89-90).

24. This is not the place to probe more deeply into the tangled skein of traditional and early historical data relative to the occupancy of the Horse Plains, Camas Prairie, and western Flathead Lake shores region. But it is probable, in my judgment, that Turney-High's Kutenai traditions represent not an account of the early Salishan Kalispel-to-become-Pend Oreille settlement of the area, but a garbled narrative of a late fractional movement of Kalispel from the Lake Pend Oreille and Pend Oreille River country eastward up the Clark Fork into the region. This would have been, it seems to me, at the time when bison hunting on the Plains became possible on an important scale, when the Pend Oreille and Flathead had been severely depopulated through disease and hostilities with western Plains groups, or even somewhat later when the establishment of fur trading posts in the Thompson Falls area encouraged increased interest on the part of the Kalispel in this eastern territory.

25. For information and speculations concerning these eastern, high Plains Kutenai, see, for example, Teit 1930:306-307, 310-311; Turney-High 1941:11-14, 18-19; and Chance 1981:8-9.

26 Mooney (1928:27) suggests a slightly later data for this epidemic:

> The first great disturbing influence was the great smallpox epidemic of 1781-2, which swept over the whole country from Lake Superior to the Pacific. . . . There is traditional and archeological evidence that this epidemic was very destructive throughout British Columbia, . . .

27. This raises the interesting question as to the minimum number of persons necessary to maintain a Kutenai band as a functioning social unit. With the data at hand, the answer is not evident.

28. The elevation of both Eureka and Rexford in the lower Tobacco River valley just above the water of Lake Koocanusa is approximately 2,700 feet or slightly less (USGS Kalispell quadrangle 1957). It is of interest that the altitude of Canal Flats on the plain between Columbia Lake and the Kootenai River is 2,653 feet and that of Ft. Steele is 2,523 feet (BCGTB 1957), which affirms the very low river gradient down to the Tobacco Plains region.

29. However, Schaeffer (1940:8) reports a 14.6 inch annual precipitation for Eureka. This suggests, as Table 1-4 intimates, a slightly decreasing total yearly precipitation from Golden south to Tobacco Plains.

30. Krajina's compressed map presents some problems, since the grid codes for his eleven zones are in some instances very difficult to distinguish. However, the five zones that I identify with the Kutenai country as I read his map check with his descriptive information on elevation, altitude, latitude, and other geographic facts. The remaining seven zones could not, in fact, be represented in Kutenai territory on the basis of this same set of details. In addition, my conclusions from Krajina's data coincide with the skeletal biogeoclimatological facts presented by Turner (1978:14-19).

31. I have been unable to determine whether this is the same as Turner's (1978:18) alpine larch (Larix laricina), which she identifies as a tree typical of this zone.

32. But Krajina (1969:19, plate 1-1 facing p. 16) locates the western hemlock (Tsuga heterophylla) in a 1,200-4,200 foot elevation range and in the western area around Kootenay Lake and the lower Kootenai Valley.

33. This is the date indicated by Schaeffer (1940:24). Chance (1981:11; quoting Johnson 1969:335) reports that bison hunting by the Kutenai continued to about 1880.

34. As Chance's (1981:41-43, 79, 93-94) cautious statements reveal, there are problems with the location of Montour House as also with that of Payette--or Pillet (Cox 1957:109-110) or Pillett (Elliott 1926:289)--House (no. 8 below), although all agree that the two were not far apart. Elliott (1926:289) appears to place the Montour post in the neighborhood of Bonners Ferry. The Stewarts (1957:109) locate it "a few miles upstream on . . . [Kootenai River] above Libby, Montana, and almost opposite the site of Jennings."

35. One frequently finds considerable discrepancies in the literature in the correlation of Indian seasons and our calendar, and even on what might be termed the annual procession of local "bioclimatic" events and our monthly sequence. It is reassuring in this Upper Kutenai case to observe that the time of the beginning of the new

season as reported by Turner is nicely confirmed by Curtis (1911 7:132). He states that the snow "began finally to disappear . . . [in Upper Kutenai country] about March."

36. Taxonomic identifications for this plant and all others mentioned in this seasonal round section can be found in the later plant gathering section.

37. It is possible that the spring season was somewhat more advanced in the Okanagan country than even in the southern sector of the Kootenai Valley. And hence that the first of the food roots matured there in April, but not until early May, as Turney-High avers, in Kutenai territory.

38. Concerning the gathering season for the yellow avalanche lily root, Turner's discussion is neither wholly consistent nor explicit for the Upper Kutenai country. Writing in general terms, she (Turney 1978:32) observes that these corms "were available from late May until the end of summer, depending on the elevation at which the plants are growing." In her more extended discussion of the plant, she (Turney 1978:81-82) reports: "At lower elevations, in the valley botcoms, they [the roots] were dug in April and May, . . . ; on higher ridges and north-facing slcpes they were not ready until later in the summer." I assume that her April season may hold true for, say, the lower Canadian segment of the Okanagan Valley (e.g., at Penticton, elevation 1,132 feet), while at the greater elevation of Tobacco Plains (e.g., at Eureka, elevation about 2,650 feet) they did not mature until May.

39. Turner (1978:87-90), however, reports in her more lengthy discussion of this plant that the bulbs were dug in late summer and fall. I do not have the means for judging which of her statements is correct.

40. Schaeffer's transcriptions are generally not included. Unfortunately, the copy of his study in my hands is an early draft in which Kutenai terms are only partially transcribed. Phonetic elements that can be typed appear, but blanks are left for hand-entering the remaining symbols. From the word parts that are provided it is generally possible, however, to match the word with the full transcription recorded by others.

41. However, a listing of some technological uses of animal products can be found in a later section of this report under "Non-subsistence Uses of Faunal Materials." Even there no effort is made to discuss the many ways in which these artifacts were individually employed: e.g., elk antler chisels in fashioning cradelboards, cooking and eating bowls, etc.

42. In a review of Mule and Black-Tailed Deer of North America, edited by Olof C. Wallmo, Taber (1982:926) observes that a "widespread mule deer decline seems to have occurred [in western North America] from the early 1860's to the mid-1970's. The present

volume documents this but cannot explain it. The decline has been followed by a recovery equally mysterious."

Perhaps some natural event of this sort also took place in the first half of the 1800s. But it appears that unbridled overhunting under early fur trader incentives must have played an important part in this earlier deer population reduction.

43. Hector regards these antlers as evidence of earlier Indian hunts. It is difficult to believe that he, a physician widely schooled in the sciences of his day including "natural history" (Spry 1968:xxxiii-xxxiv), could have failed to distinguish between antlers that had been spontaneously shed in early spring (Dalquest 1948:394) and those derived from kills. But it is possible, I suppose. In any event, some were evidently stacked by human agency.

It may be of some interest in this connection that on October 11, 1859, Thibodo (1940:321), while in one of the high valleys on the eastern slope of the Rockies more or less east of the Kootenay Passes, "saw a great number of elk horns & some moose." He also notes in passing "a large number of trails, they all lead up towards the mountains." If these antlers resulted from kills, it would not be surprising if Upper Kutenai had been responsible for them. But this is, of course, conjecture.

44. Schaeffer (1940:13, 13 fn. 3) contributes the following zoodistributional information as an authoritative observation: "According to . . . Cowan, caribou in . . . [the Kutenai territory] were confined to the Selkirk Mountains, south along both sides of the north-flowing section of the Kootenai river." Whereupon Schaeffer adds: "This data is in essential agreement with statements of present day informants that the species was restricted to Lower Kutenai territory." Since these statements fly sharply in the face of his own ethnographic material, like these Yaak Valley facts, as well as the more general ethnographic record of Turney-High, I include them for the record but reduce them to the level of this note.

45. It is more than a little confusing that several localities with very similar designations exist or have existed in this same general area of northwestern Montana and southeastern British Columbia. Shown on current or recent maps are, for example: (a) the Yaak River (officially the Yahk in Canada [Anon 1941; Spry 1968:467 fn. 1]) that reaches the Kootenai River some 20 odd miles upstream from Bonners Ferry (USGS Kalispell quadrangle 1957); (b) the very small community of Yakt in the Thompson Lakes country roughly midway between Jennings on the Kootenai and Plains on the Clark Fork (USGS Wallace quadrangle 1956); (c) the tiny village of Yakt on the Kootenai River at the mouth of the Yaak River (MSHC 1953; USGS Kalispell quadrangle 1957); (d) the village of Yaak on the Yaak River just south of the Canadian line (USGS Kalispell quadrangle 1957); and (e) the town of Yahk on the Moyie River

immediately north of the international boundary (IMW Kootenay Lake quadrangle 1969, which also shows the Yaak River and the two communities of [b] and [d] above).

As though this were not sufficient cause for perplexities, variant spellings--particularly for the river and its valley--occur in the earlier historical and ethnographic records. Thus Schaeffer (1940:19, 26, 27) writes "Yohk" for the river and its basin. And Wilson (1970:151) uses "Yakh" for the stream. In this context it would not be surprising if Turney-High wrote "Yakt" when he meant the present town of Yaak and its environs.

46. It would seem that Schaeffer and Turney-High, with information from the Kutenai, should be believed. Yet Baillie-Grohman (1907:132) describes the caribou--the woodland species--of the Kootenai country very differently: as "shy, exasperatingly uncertain and restless denizens of the upland plateaux of British Columbia." Perhaps his low opinion of it as a game animal led to a lack of familiarity with its habits.

47. Caribou traveled, according to Schaeffer's (1940:27) Upper Kutenai informants, in small herds of 20 or fewer animals.

48. Because of a pecularity in the caribou lower leg anatomy, the hoof is said to produce an audible snap as it is placed on the ground.

49. The preceding paragraphs are quoted because, with one probable exception, Schaeffer's nominal plural "hunters," used in syntactically loose constructions, could apply to individual hunters instead of--or as well as to--hunting parties. The exception appears in the sequence "the hunters would remain. . . ." Extrapolating from this one apparent reference to group hunting, it may be supposed that the winter moonlight method was similarly a group procedure. Surely it would have been more effective if carried out by cooperating parties than by lone hunters.

50. Early explorers and travelers through the Kutenai country have commented upon the unpalatability of mountain goat meat, at least in the fall. The following three testimonies are sufficient to illustrate the point.

Simpson (1931:32-34, 32 fn. 74) speaks of this offensive taste. On October 14, 1824, while he was still on the eastern flank of the Rockies ascending the trail to Athabasca Pass, his hunter killed two mountain goats and two bighorn sheep. Simpson states that "they were in good condition but tough and not well flavoured tasting strongly of Musk and so much alike that my palate could not distinguish the one from the other."

On September 15, 1858, when on the North Saskatchewan River near Kootenay Plain heading westward toward Howse Pass, Hector (Spry 1968:326) wrote that two Indians killed some goats and that

his group attempted to eat the meat of a fine, fat, young kid "but in spite of our hunger none of us could retain it on our stomachs, as the rank musky flavour gave rise to intense nausea." And on September 18 of the following year, Hector (Spry 1968:456), now on the Columbia River just upstream from the confluence of Blaeberry River, observed that his party secured some dried goat's flesh from the Shuswap but that it "was of no use to us, as it was rather high flavoured for any stomach but a Shouswap Indian's."

51. Much as been written about the habits of the mountain goat and difficulties in hunting this animal. One of the earlier accounts is the 1824 observation of Simpson (1931:32) who wrote, speaking of the Athabasca Pass region:

> The Goat frequents the highest pinnacles of the Mountains where there is scarcely a particle of herbage or vegetation of any kind to be seen; they are not so numerous as the Sheep and the utmost skill of the Hunter is required in approaching them as their retreat & means of defence render them inaccessible even to the Wolves; Hunting them is a duty of some danger as no sooner do they discover an Enemy than they roll down showers of Stones when it is high time to give up the chace and look for safety under the cover of some projecting rock.

52. Considering the habitat of the mountain goat, this seems on its face a superfluous observation. Yet just such snares are reported to have been in use among the Thompson Indians and occasionally among the Lower Carrier. (Ray 1942:120)

53. Commenting on the behavior of bighorn sheep on the basis of his limited experience in the Athabasca Pass area, Simpson (1931:32) states:

> The Sheep are not so shy [as the mountain goat], keep together in bands and do not frequent such inaccessible places; on the least alarm however they clamber up the Mountains and are equally expert in rolling down Stones on their pursuers.

54. I suspect that raccoons were not found--or at last occurred only very rarely--in Upper Kutenai country in aboriginal and early historic times. This view seems supported by Dalquest (1948:180) who observes:

> The river valleys that flow into the Columbia in northeastern Washington seem admirably adapted for raccoons but the animal is rare there. . . . Northeastern Washington seems to be the peripheral range of the species, occupied at rare intervals by animals wandering north from the Columbia River.

55. The netting of ducks by the Lower Kutenai is described by Turney-High (1941:42-43) in some detail.

56. It is sometimes very difficult to know how to assemble into an organic whole a series of "present" items in Ray's culture element list, particularly when the series is broken by a number of "absent" items. This is the case in this instance.

57. It is just possible that in the precontact period bison were somewhat more common west of the Continental Divide. According to Schaeffer (1940:14-15):

> Traditions . . . have come down among present day Kutenai of the former occurrence of these animals in the inter-mountain valleys. Bison were said to have been abundant long ago at Pleasant Valley, Montana; . . . It is doubtful . . . if . . . [they] could have survived long in this country under pressure of native attack.

Further, Schaeffer (1940:14 fn. 7) reports that Osborn (1905:228) "was told of a bison skull having been found in Elk Valley and states, without disclosing his authority, that these animals were formerly present on the west side of Crows Nest Pass." I have been unable to verify the publication date, title, and page citation of this Osborn reference; such bibliograhic data as Schaeffer provides appear in the "References Cited" section of this present report.

On the other hand, I have seen no early historical references to sightings of bison or to any evidence of bison in the Kutenai homeland. And Peter Fidler (in Spry 1963:27) reports having been told in 1792 or 1793 by a Kutenai whom he met apparently southeast of Glacier National Park that there was "not a single Buffalo on . . . [the Kutenai] side [of the Rocky Mountains]."

58. In 1811, Henry (1897:690-691), in the upper Saskatchewan country, reported seeing a precipice over which he understood the Kutenai had formerly driven bison. But, if true, it is not clear whether this occurred before or after the acquisition of the horse by the Kutenai.

59. Probably many of the details of the process followed in preparing bison flesh paralleled more or less closely those employed on occasion in preserving meat secured within the Kootenai Valley. Meat obtained on the distant Plains had to be reduced to the lightest weight, most compact dimensions, and most thoroughly preserved form possible. In general, this must also have been true of meat obtained in quantity in the fall and winter hunts west of the Rockies.

60. With western explorers and early fur traders, the term "antelope" is not invariably the equivalent of Antilocapra americana. Initially and even later in their travels Lewis and Clark (1905

1:141, 147; 5:205; 6:129) called A. americana "goats." Others to confuse matters, applied the term "antelope" to deer (Odocoileus spp.). In the case of these clothing data, however, the evidence is quite plain that the explorers were speaking of Antilocapra americana.

61. However, a comprehensive analysis of the segment of Kutenai technology that formed an integral part of the subsistence and settlement culture should, in my judgment, be most useful as an aid to archaeological interpretation.

62. Presumably black bear are intended by Ray in his data, because grizzly bear are specifically referred to by him elsewhere (see entry below). But this is not made explicit.

63. Here the ethnographic record is seconded by an ethnohistorical item. In August, 1826, David Douglas (1972:118-119), then at Fort Colvile, reported that a visiting Kutenai party squabbled with other Indians at the post. Though otherwise naked except for body paint, they, like their enemies, wore "war caps" of "calumet eagle feathers."

64. The chief of the Tobacco Plains Kutenai gave Wilson (1970:150, 161) his eagle-wing fan to fight off the mosquitoes when he returned to "Chelempta," near Bonners Ferry, where 5 weeks earlier he had been badly harassed by hordes of these insects.

65. Comparable information does not exist to my knowledge on the association of the fauna of the Kutenai country with the more elaborate multidimensional classification of Krajina.

66. One may suspect that the meager faunal distributional data in this section could be substantially extended by a careful and critical reading of even the semipopular literature relating to the natural history of the Upper Kutenai country: e.g., by a survey of volumes and periodical articles dealing with early hunting and fishing experiences in this southern section of the Canadian Rockies and adjacent Montana.

67. Curtis (1911 7:174) glosses túhuñl as 'salmon trout.' Obviously this is the same word as Turney-High's tu'xuł.

68. The Kutenai term for 'salmon' is transcribed by Curtis (1911 7:174) as suákĭmo.

69. In matching Schaeffer's information with Turney-High's, I use as primary data Schaeffer's transcriptions of Kutenai terms, his English glosses being considered only as secondary supporting evidence. As explained in an earlier footnote, his transcriptions are, however, not reproduced here because they are fragmentary in the document in my possession. It would be unfair to him to disseminate more widely these incomplete phonetic renderings.

70. Ling were caught in significant quantities by the Lower Kutenai through the winter ice, a method described in detail by Schaeffer (1940:30, 31, 38-39). Perhaps these fish, much larger than those speared in summer, were also taken to some extent during the cold season by Upper Kutenai bands, but, if so, Schaeffer is silent on this point.

71. This transcription is uncomfortably close to Schaeffer's (1940:31) "ako tam," glossed 'ling,' especially considering the ease with which a handwritten, field note "ɬ" and "t" might be confused. The break in Schaeffer's typed form was obviously later to be filled with a hand-inserted character of some sort, probably a stress mark.

72. The effective height of Bonnington Falls so far as salmon is concerned is not known to me. Presumably, however, it is greater than 16 or 18 feet, for there is field evidence that salmon, heading upstream against fast flowing water, can manage clean leaps of up to that magnitude (Baillie-Grohman 1907:203-205). An excellent early photograph of these falls can be found in Graham (1963:155).

73. This distance is reported in the Canada Year Book (1965:6), quoted by Spry (1968:454 fn. 3).

74. I must confess to being unsure as to what Ray intends by this "single point" feature, unless he intends to distinguish this hook from the double-pointed gorge.

75. I am frankly concerned about assumptions of this kind, for the situation seems more complex. What, for example, would have been the arrangement earlier in the season if small streams were flowing strongly through their own melt water and if, at the same time, fish were moving upward against the current, perhaps to spawn? The former condition would suggest a downstream pointing V weir; the latter, an upstream directed V. Turney-High's weir description may relate to precisely this circumstance, since he speaks of the weir and trap as having been preeminently used for trout and reports also that this fish was taken only when spawning in the spring. But he tells us nothing about the state of the current in the spawning streams at this time.

There appear to be at least four significant variables involved in a two-weir and funnel trap contrivance: direction of stream flow, stream velocity, direction of the fish movement, and the orientation of the apex of the two-wing weir. By "direction of stream flow" is meant whether the current is normal (i.e., toward the stream mouth) or reversed, as is the circumstance seasonally in a short, meandering tributary with low gradient and little flow: it tends to flood up from its mouth as the water level rises markedly in the main river with rapid snow melting in the mountains. The up- or downstream orientation of the trap mouth is not a fifth variable, since the opening must obviously point in the direction from which the fish are moving.

A swift-flowing stream, for example, would appear to argue for a downriver apex, an orientation that would be effective for downriver moving fish, which, in turn, would require a funnel trap pointing upstream. A weakly moving stream, on the other hand, might conceivably be effectively dammed by a two-weir structure pointing either with or against the current, allowing the weir apex direction to be governed entirely by the direction of the fish movement. There are a fair number of other possible combinations of these four variables. It would be an interesting ethnographic study--with potential archaeological relevance--to examine these, and perhaps other related variables, exhaustively to unravel the functional relationships among them and ascertain how various Plateau groups balanced them off.

76. It seems clear that Turney-High does not mean a break in the falls as he writes, but a break in the barrier that allowed the water to pour over as falls. While the falling water and whatever debris it bore endangered the suspended baskets, surely fish could not be forced to ascend over a higher and dry section of waterfalls.

77. I do not pretend to comprehend fully how this operation worked. It would seem that beaters preceding the net would be as inclined to frighten fish away from the net as toward it.

78. Perhaps antler. Horn and antler are not distinguished by Ray: e.g., "deer horn" and "mountain goat horn" (Ray 1942:113).

79. The terseness of Ray's culture element format does not lend itself to the providing of some types of details. Was the salmon egg-kinnikinnick mixture a sometimes one or an invariable concoction? Were the eggs fresh or dried or in either condition? Were the ingredients cooked in some manner? And so on.

80. Ray (1942:116, 129) actually writes: "thrown in water." Surely he means back into a stream (or perhaps lake), not excluding that from which the salmon were taken.

81. No effort has been made to accumulate data on plant uses for other than subsistence purposes: for cordage and other roles in technology, cosmetics, religion, medicines, etc. Although important in understanding the Upper Kutenai adjustment to and utilization of their floral environment, these data fall beyond the scope of this study.

82. One would suspect that his Master's thesis on which the 1976 booklet is based and to which I do not have access carries these essential details.

83. Inasmuch as Schaeffer's (1940) phonetic recordings are generally only fragmentary transcriptions, they are routinely omitted in the material that follows.

84. Perhaps the meager plant subsistence information of Schaeffer, Turney-High, and Ray may in some measure be the consequence of the fact that they were males and with interests perceived as those of males by even their female informants.

85. Several sections of the following material, like this particular statement, are to be found in Hart (1976:47-49), so worded that they appear to be clear or probable borrowings from Schaeffer or Turney-High rather than independent research findings. No useful purpose would be served by including this material from Hart or even by calling attention to these specific duplicating areas. The few fragments of fresh data in Hart's publication are, of course, to be found in the material that follows.

86. Confirmation of Turner's digging-before-flowering sequence (as opposed to Turney-High's digging-when-flowering pattern) comes from the Warm Springs Reservation in northern Oregon, where bitterroot are reported to be "dug [by the Indians] before the blossom opens" (Hilty et al. 1980:8-9). This information is relegated to this note section only because it concerns native groups and a geographical area rather remote from the Kutenai and their country.

87. Whether camas grew in the country of the Lower Kutenai is an open question. According to Turney-High (1941:34), both varieties were found there; indeed, the Lower Division "had plenty of camas." Schaeffer (1940:46-47), on the other hand, reports that the root was said by his informants "not to grow in the Lower Kutenai region." Turner's (1978:77-78) general statements do not contribute to a resolution of this contradiction. The issue is, at any rate, without notable significance for this present report.

88. I have not yet had an opportunity to determine whether Boas' (1918) collection of Kutenai tales includes these two traditions.

89. Hart (1976:15-16) quotes this narrative from Schaeffer, though without identifying its source.

90. This seems to me both so impractical and so un-Plateau-like as to be questionable, but Ray was intimately familiar with Plateau pit steaming and roasting methods. For a further comment on these data, see the earth-oven cooking of meat in the general food preparation section that follows.

91. Boas (1918:316, 372) glosses the Upper Kutenai term aa'kó·waɬ as 'onion.' Because it cannot possibly be equivalent to the Turney-High and Curtis term, perhaps it is mistranslated. Accordingly, I relegate this information to this footnote.

92. I have been unable to locate Bains Lake.

93. A convincing proof that Turney-High's data were independently secured is to be found in his translation of the second month.

Curtis reports it as nípko ('black bear') natánik ('moon'); in his glossary he (Curtis 1911 7:173) also lists nípko as the Kutenai equivalent of 'black bear.' But Turney-High (1941:97) records it as núp'ko, 'bare.' Obviously he, led astray by the English homophony, misunderstood his informant's translation.

94. The mashing of well-seeded berries (like serviceberries) and fruit with pits (like chokecherries) and then drying them in cakes for winter consumption was the practice not only of the Kutenai but also of many other native peoples in the surrounding area. I know next to nothing about nutrition, human digestive requirements, and related worlds. But I wonder if such mashed berries and fruit did not provide with their crushed seed and pit ingredients important roughage otherwise largely missing in the traditional winter diet.

95. It has not been possible for me to pursue "blackberries" in floral surveys of the Kootenai Valley. For what it is worth in supporting Turner's omission of these berries from her extensive catalog, Piper and Beattie's (1914:136) pioneering study mentions blackcaps (Rubus leucodermis) as a component of the native flora of southeastern Washington and adjacent Idaho, but omits all reference to true blackberries.

96. As far as I am aware, we have, however, in the literature only the single Kutenai term for 'strawberry' given by Boas and Curtis.

97. Turney-High's transcription of the Kutenai term is of more than passing interest. It is identical to Boas' rendering except that it converts the aspiration "'" to a glottal "ʾ" and shortens the terminal vowel. It is also said to be the Kutenai word for Viburnus [sic] opulus; Boas glosses his term as 'fruit of Viburnus opulus," without providing any English equivalent for the berries. These two facts together argue very strongly for Turney-High's borrowing of this transcription from Boas, a proposition hinted at in other instances but nowhere else, to my knowledge, as well documented. Turney-High (1941:202) includes Boas (1918) in his brief bibliography.

I have not yet located the passage in Boas' Kutenai myth corpus in which this term appears to ascertain whether there is support there for the use of these berries as a subsistence item by the Kutenai.

98. Schaeffer's (1940:42) manuscript actually reads: "Huckleberries, elderberries, and Oregon grape the fruit of the hawthorn were also dried for future use." While there may be an inadvertent omission of some length and critical semantic importance following "Oregon grape," I suspect that the meaning is this: ". . . Oregon grape [as well as] the fruit. . . ." My text reflects this interpretation.

99. I have commented upon--and, I believe, explained--Hart's apparent borrowing of material without credit from earlier authors. Here

is a case in point. Hart (1976:41) writes that the Indians "apparently did not systematically gather and store them [kikkikinnick berries] . . ."

100. Inasmuch as Shepherdia argentea is stated by Turner (1978:211) to belong to the family Elaeagnaceae, it seems possible--even probable--that Elaeagnus argentea is nothing more than an earlier term for the currently accepted Shepherdia argentea. The data of Hitchcock and Cronquist (1978:302) strengthen this supposition appreciably. A bit of additional botanical taxonomic research should settle the question.

101. Perhaps this helps to explain why the early fur traders and explorers, who found many native foods palatable, tended to depreciate lichen as food (cf. Thompson 1962:282, 283; Ross [1849] 1966:317-318).

102. This "wild onion" reference is a bit worrisome. As we have noted, Turney-High (1941:34) glosses Upper Kutenai sx̣aí'yug as 'wild onion' and Curtis records the identical word as the term for 'onion.' On this basis, I accept Turney-High's lichen with onion statement. But the word is cognate, he observes, with the Lower Kutenai sx̣aí'yuk, 'sweet camas' (Quamasia esculenta). He also reports that pine lichen was regarded by the Flathead just south of the Upper Kutenai as "an excellent condiment to be used with camas" (Turney-High 1937:111). Were it not for the fact that Curtis independently translates the Upper Kutenai term as 'onion,' one might entertain the possibility that sx̣aí'yug actually refers to some form of "camas," not to the onion.

103. Hart (1976:11) also writes: "In winter months, during periods of scarcity, Kutenai Indians boiled black tree lichen with the stomach contents or even droppings from fool hen for flavoring!" Compare this sentence with Schaeffer's 1940 statement which I partly précis and partly quote in the preceding paragraph. This borrowing is not documented by Hart, who, however, includes Schaeffer's research in his bibliography.

104. Like several other authors, Turner cites this reference as "1892," the date of the Association meeting to which Chamberlain's report was submitted, rather than "1893," the year when the meeting reports were published. I am, however, unable to locate a Chamberlain allusion to "wolf moss" in the report cited.

105. One of the murky elements in Ray's (1942:131) trait list is that he distinguishes between "lodgepole pine" and "jack (black) pine." The "inner bark" of the former, he reports, was not utilized by the Kutenai; that of the latter was used. As noted in my text, Turner, the botanist, considers "jack" and "black" pine to be nothing more than popular designations for the lodgepole species.

106. I have not yet had an opportunity to examine White's study.

107. This statement and the rest of Hart's material concerned with ponderosa cambium that follows is attributed by him only to "Indians." But it comes on the heels of a long quotation from White relating to the Kutenai specifically. Hence I presume that these data are likewise drawn from White and are consequently descriptive of the Kutenai in particular.

108. Hart's poplar cambium discussion for the Kutenai makes no distinction between Populus trichocarpa and P. deltoides. But in concluding his brief account he observes that black cottonwood (P. trichocarpa) is more widespread to the west of the Rockies, whereas P. deltoides is "frequently found in eastern sections of . . . [Montana]." On these grounds I assume that the Kootenai species was predominantly, if not exclusively, trichocarpa, in conformity with Turner's data. And accordingly, I eliminate reference to P. deltoides from my summary.

109. For page citations to the sources, see preceding specific plant discussion.

110. It must be added that Turney-High (1941:78) also reports that pottery vessels of differing shapes and sizes served as dishes, water carriers, and containers for mashing berries with mortars. And Ray (1942:140) likewise states that they were used as water containers. I do not doubt that Ray and Turney-High were given all these data in good faith by their Kutenai informants. But one may question whether water can be transported far and food boiled in unfired clay vessels, at least with no protective lining, without reducing the clay to its constituent materials. And whether such containers could have withstood mortar impacts and even functioned efficiently as dishes. It seems possible that we have here a recent mythic elaboration upon a kernel of truth.

In this context it is of interest that even more transparent historical slippages are to be seen in Upper Kutenai supernatural explanations for the origin of certain traditional cultural elements. Examples are given in note 125 below.

111. The implications of matrilocality for the subsistence exploitation of the environment and more particularly for archaeological interpretation will be examined in a later continuation of this study.

112. Ethnographic references to this ceremony as the Kutenai "sun dance" appear in the literature as early as 1887 (Hale 1888:197 [NARN 1974 8 (1-2):23]).

113. Turney-High (1941:61, 61-64) actually states that these tule lodge-covers--and likewise the functionally equivalent long-lodge covers of the Lower Division, fashioned, he believes, of Indian hemp bundles--were not "mats" as his upriver informants averred. His argument seems to be a trivial semantic one. They were not mats, he contends, because they were not square but comprised of

reeds "sewn together continuously." Begging the inconsequential question of whether mats are inherently square, I suggest that in employing the term "mat" his Upper Kutenai informants never intended to convey the impression of a square lodge-cover and that, as Turney-High proposes, the Upper Division tule covering-"sheets" were not square but rectangular. In short, that they were nothing more or less than the long tule mats common among the neighboring Salishan tribes (cf. Ray 1932:39 for the Sanpoil).

114. The long mat-lodge was likewise still in use among the nearby Kalispel in the first decade of the twentieth century (Smith 1936-1938).

115. A very similar Lower Kutenai drying frame, but supported by five poles, appears in a photograph published by Johnson (1969:85).

116. Perhaps this statement about meat being carried downriver in canoes applies to the Lower Kutenai who hunted deer in the Yaak Valley. But Schaeffer's (1940:21) presentation is ambiguous on the point.

117. In recent years when canvas began to be employed to cover the frame, branches of a lighter wood were substituted for the fir. These had lacked the strength necessary to support the earlier sod and earth covering (Turney-High 1941:65).

118. The pit used in smoking skins was of approximately this same size. It, however, should show within it archaeological evidence of hot coals but have no fire-exposed rocks; the sweat-lodge pit, in contrast, might reveal heated stones but should contain no significant fragments of burnt wood. Moreover, the skin-smoking depression should be found within no ellipse of small-pole molds of the kind that received the arching branches of the sweat-lodge frame.

119. In August of 1982, dog kennels stood beside and near the front of several of the quite new houses that comprised the small Lower Kutenai settlement just outside Bonners Ferry. The dwellings, incidentally, were arranged in a circle around an open central area.

120. If dwelling post molds are discernible in Upper Kutenai occupation sites, it is conceivable that one set would indicate a larger structure than the rest and so presumably the chief's dwelling. Such a dwelling would have to be distinguished, however, from the larger ceremonial lodges on the basis of structural features and artifact content as outlined earlier in this present study.

121. In an unpublished report, Schaeffer (1935) lists 24 aboriginal occupation sites of the Jennings band, some on the Kootenai River between Rexford and Libby and so within the Koocanusa pool area (Chance 1974:104). Unfortunately, this manuscript is not available to me.

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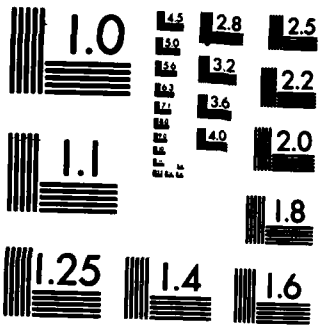
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122. Support is given to this statement by the following: ". . . on the walls of the pass by which the Canadian Pacific railroad crosses the Rocky mountains are the rude outlines of three figures" (Curtis 1911 7:131). These "petroglyphs" have the form of human beings, two relatively realistic and the third distorted, though they are said to represent spirits. A middle-aged Canadian Kutenai reported to Curtis' field worker (Myers) "that when he was a child he used to hear the old people, travelling past this place," explain their significance. Both the presence of the rock figures and the informant's testimony reveal that the route was one traveled east and west across the mountains. The pass in question must be, I believe, Crowsnest Pass, for this is the route of the Canadian Pacific.

123. The little known and very poorly understood Plains Kutenai are regarded in this report as a third division, not as a part of the Upper Kutenai. Accordingly, statements relating to, say, bison hunting that appear in these temporal reconstructions are not intended to apply to this Kutenai group east of the Continental Divide.

124. This will involve continuing my review of the published ethnohistorical and ethnographic data, becoming more familiar with archival documentation, and conducting ethnographic field research among the Upper Kutenai as well as undertaking a more intensive and thoughtful analysis of the total data corpus as it expands.

125. The attribution of traditional culture traits to the spirit realm is, apparently, a common, perhaps characteristic feature of the Kutenai world view. For example, in addition to their toponyms, their first tobacco seeds and the sun dance are said to have been derived from the spirits or received through supernatural intervention (Turney-High 1941:171, 172, 184).

126. It should be emphasized that, so far as the Kootenai and upper Columbia Valleys proper are concerned, I do not see this innovation in terms of the exploitation of a significantly larger fraction of the total valley environment. In earlier times the riverine sector was utilized in the food quest from a large number of small camps scattered through the area. In this third period the exploitation was from a small number of larger settlements, each covering a wider range.

127. Chance (1981) has devoted much attention to this period and the impact of Western contact upon native Kutenai life.

128. An extended examination of these cross-mountain trails will be found in the expanded version of this present study now nearing completion. Attention is given to the advantages and drawbacks of these passes individually and the elements that must have been considered by Upper Kutenai parties in determining on each occasion which trails and defiles to follow in crossing the Divide.

129. It should not be assumed that all particular culture similarities between the Upper Kutenai and the northernmost Plains groups were necessarily the result of late borrowing by the Upper people from these tribes to the east of the Continental Divide, accompanied in general by some simplification or other innovative change on the part of the Kutenai. Or theoretically, for that matter, borrowing by Plains tribes from the Upper Kutenai. An uncertain number of simple, basic trait resemblances may well represent nothing more than holdovers by the two groups from an earlier time period when, prior to the evolution of "typical" Plains culture, the ancestral groups of both the Kutenai and the northern Plains people, one may speculate, possessed pretty much the same fundamental culture, perhaps as residents in subboreal central Canada.

130. It is very difficult, considering the total corpus of descriptive data available, for me to accept as valid the Upper Kutenai population estimates reported by the early fur traders, as Chance (1981:21-27) reproduces and interprets them. And, therefore, to embrace Chance's conclusion that the Upper Kutenai probably suffered no notable population contraction during the nineteenth century.

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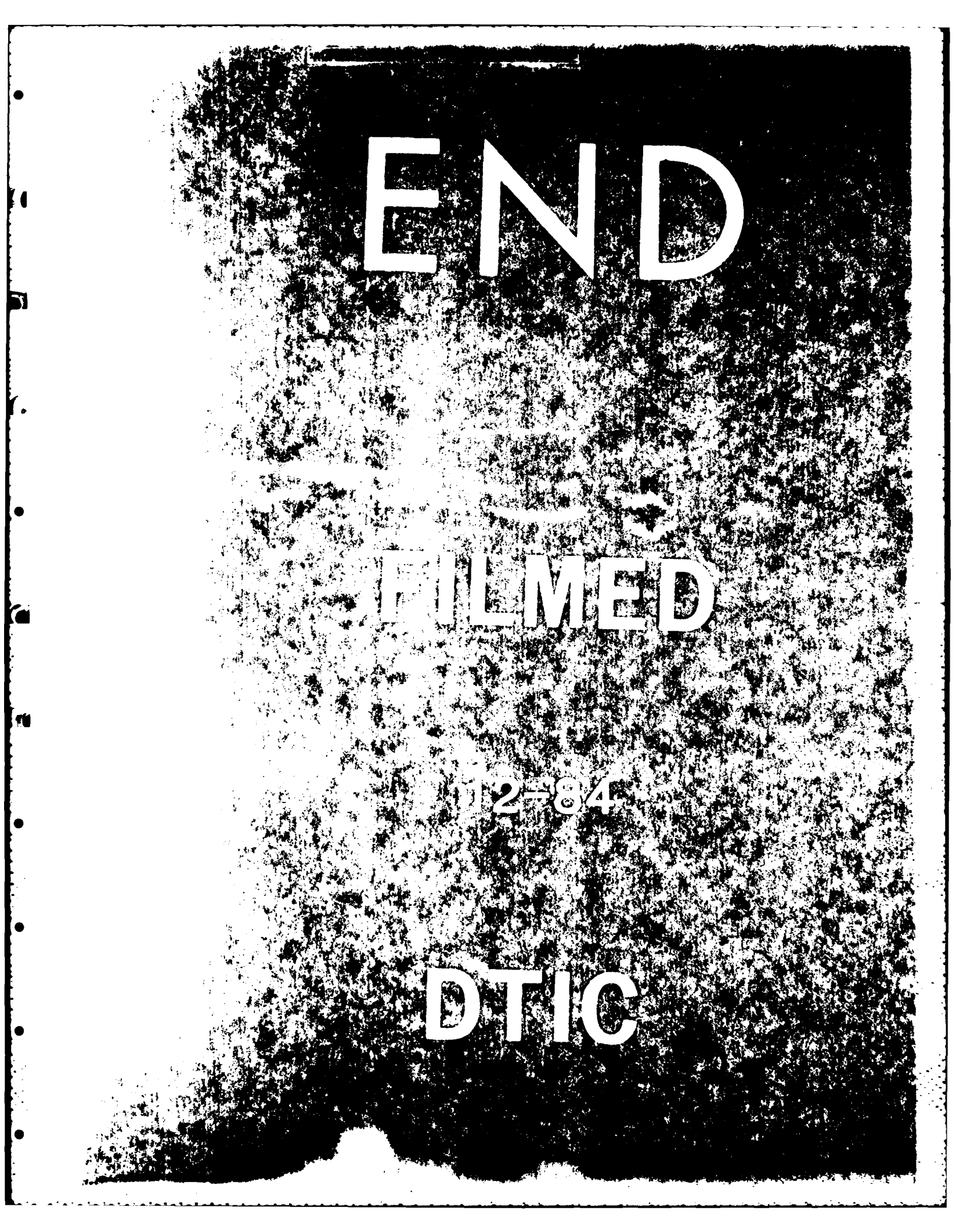
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