THE CULTURAL POSITION OF THE KALAPUYA IN THE PACIFIC NORTHWEST

by

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A THESIS

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TABLE OF CONTENTS

LIST OF ILLUSTRATIONS

LIST OF FIGURES

LIST OF MAPS

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Lloyd R. Collins

INTRODUCTION

This thesis will define the cultural position of the Kalapuya of the Willamette Valley in the Pacific Northwest as far as present available data permit.

The problem of the cultural position of the Kalapuya has been ignored by ethnographers and archaeologists, but constant reference has been made to adjacent peoples, namely, the Klamath-Modoc, Oregon Coast, Plateau and Northwest Coast tribes, but without specific reference to the Kalapuya. However, three writers, Boas,[1] Kroeber,[2] and Wissler,[3] have made general statements that the culture of the Willamette Valley tribes is included in the Northwest complex; that is, the culture of the Willamette Valley tribes represents a cultural substratum, that of the general Northwest Coast. Nothing specific has been said of the Kalapuya culture except what Kroeber has mentioned, that the Willamette Valley is a pocket. This statement will be

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[1]Franz Boas, Race, Language and Culture (New York: The MacMillan Company, 1948) pp.425-29.

[2]Alfred A. Kroeber, Anthropology, (New York: Harcourt Brace and Company, 1948), p.815.

[3]Clark Wissler, The American Indian, (New York: Peter Smith, 1950), p.229.

discussed later. Ray[1] links the Klamath with the Plateau peoples, on a horizontal basis, without considering possible relationships to the Willamette Valley and Rogue River peoples.

Kroeber discusses briefly the position of the Kalapuya; in fact he isolates them by stating that the Willamette Valley culture is removed from the main line of cultural movements and that they are wholly unique in themselves.

Kroeber[2] writes as follows:

> "Puget Sound is a backwash. It may have been an important area in early stages of the culture, but its very shelteredness from the sea destined it to relative lag as the oceanward development proceeded. The Willamette Valley formed even more of a pocket. It is the only interior culture in the Northwest region, and is probably best construed as an inland modification of a form of the primitive river phase. The fact that the valley contains enough prairie to cause it to be classified by some authorities as grassland would have contributed to its cultural differentiation."

Before we examine this statement, it must be remembered that Kroeber had limited reference material from which to form this idea and that the information of ethnological and archaeological data of adjoining peoples, as well as those in the Valley, was negligible in comparison with the information that we have today.[3]

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[1]Verne Ray, Personal communication and paper read at National Association of American Anthropological meeting, Berkeley 1950.

[2]Alfred A. Kroeber, Cultural and Natural Areas of Native North America (Berkeley: University of California Press, 1939), p.30.

[3]The only available archaeological reference of the Kalapuya at that time was the report on a midden in Tangent, Oregon by Strong, et al. in Archaeology of the Dalles, Deschutes.

The description of the position of the Kalapuya in relation to the other tribes of the Pacific Northwest will fill in much of the ethnological gap that exists at present between the Columbia River and the Northern California tribes. The geographic position of the Kalapuya and their potential relations to their neighbors for cultural borrowing can be indicated by the direction of the trade routes and Indian trails from the Oregon Coast into the Willamette Valley, the trails from the Cascades into the Valley, and the trails leading into the Takelma and Klamath territories from the Willamette Valley. The Willamette River empties into the Columbia River where the Lower Chinook are situated. Geographically, the Willamette Valley is not impassable because the low Coast range and the somewhat steeper Cascades, as well as the open ends of the northern and southern portions of the Valley, do not impose difficult geographical barriers. The Coastal rivers, the Tillamook, Alsea, Siuslaw, Siletz and Umpqua, also served as potential cultural avenues into the Valley. The rivers of Northern California also served as avenues with cultural traits passing up to the Rogue River, from here to the Umpqua, and from the Umpqua to the Willamette.

I plan to construct a tentative dating column for the Willamette Valley from the scattered information now on hand. The recent archaeological information provides us with contact and precontact data such as the association of mammalian fauna and lack of trade goods. The majority of the ethnographic data provides us with the historical picture. It may eventually be possible to assign dates of occupation of the various sites

excavated through the media of geology, dendrochronology, cross-dating, association with extinct mammalian fauna and the Carbon 14 technique.

Another problem is that of determining the physical type of the Kalapuya. This determination is most difficult as no representatives of the Kalapuya are living today due to the white man's diseases, namely typhus and smallpox,[1] and the depletion of their economy. Sufficient number of complete skeletal remains are not available at present for valid statistical treatment. Only a few complete skeletons are available for measurements, so this section of the paper will be only an examination of the burial complex.

Sources of Data:

Some of the data for this study have been taken from bibliographical references given in the Handbook of American Indians North of Mexico, which includes a historical and ethnographical picture of the Kalapuya people.[2] To this has been added archaeological data from recent excavations and also data derived from other ethnological and historical sources.

The most valuable historical sources are the Henry and

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[1]O. Larsell, The Doctor in Oregon, (Portland: Binford and Mort, 1947) pp. 22-28.

[2]F. W. Hodge, Handbook of American Indians North of Mexico, Bureau of American Ethnology, Vol. I and II (1905) p. 187.

Thompson Journals,[1] Journals of Lewis and Clark,[2] and The History of the Willamette Valley by Robert C. Clark. The early trade journals, such as those included in Thwaites' Early Western Travels,[3] are valuable for ethnological and environomental pictures, but their data in the culture of the Indians is, in many cases, fragmentary and unreliable. The reports by missionaries, De Smet, John Work, and Hine, are not authentic enough to assign any particular traits for the Valley as their information was distorted by their social and religious prejudice toward Indians to whom they referred as the heathen. They were frequently ready to criticize and only from this criticism can we discern a trait as such, but not in its cultural form or patterning. The majority of the reports by Indian Agents to the Commissioner of Indian Affairs were generally adequate and can be used as valid information.

The more valid and most useful are those reports of anthropological nature; those of linguistics, ethnology, mythology, ethnography and archaeology. In the linguistic field there is the excellent work of Melville Jacobs, L. J. Frachtenberg, and A. S. Gatschet, Kalapuya Texts,[4] published in 1945. This is a

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[1]Elliot Coues, The Manuscript Journals of Alexander Henry and of David Thompson, (New York:Francis P. Harper,1897),vol.II, part III, pp.810-16.

[2]Ruben Gold Thwaites,Original Journals of The Lewis and Clark Expedition,(New York:Dodd,Mead and Company,1905),vol.IV.

[3]Ruben Gold Thwaites, Early Western Travels, (New York:Dodd, Mead and Company, 1905), vol. I-XXX.

[4]Melville Jacobs, Kalapuya Texts,(University of Washington Publications in Anthropology, 1945), vol. II, entire.

collection of ethnological and mythological material gained from informants from 1877 to 1928. At present there are unpublished manuscripts in the vaults of the Bureau of American Ethnology which, if printed and published would illuminate the dark picture of the Kalapuya culture. A very good ethnographic work, from historical sources, by Joel V. Berreman, Tribal Distributions in Oregon,[1] deplores the lack of cultural and archaeological information on the Kalapuya peoples. That was the situation in 1933; but today, in the field of archaeology, we have the published work of W. T. Edmunson, M.D., and William S. Laughlin, who excavated the Kalapuya middens along the Yamhill and Calapooya Rivers in 1941 and 1942.[2] The information gained from these reports can be compared with the trait list of other finds from adjacent areas. Also excavations by Dr. L. S. Cressman and myself will give important information on culture contact.[3] It may or may not strengthen the tribal distribution set forth by Berreman and Jacobs.

Ethnological writings are scattered and limited to small articles in publications such as the "Oregon Historical Society

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[1]Joel V. Berreman, Tribal Distribution in Oregon, Memoirs of American Anthropological Association,(1937),vol.47, p.40.

[2]William S. Laughlin, "Excavations in the Calapuya Mounds of The Willamette Valley, Oregon", American Antiquity,(1941), vol. II, no.2, pt. 1.

and

_____, "Notes on The Archaeology of The Yamhill River, Willamette Valley, Oregon", American Antiquity,(1942),vol.IX,no.2.

[3]Field notes of L. R. Collins on Spurland excavation of 1949 and The Long Tom midden excavation notes of Dr. L. S. Cressman.

Quarterly", two sketchy master's theses written in the Department of History at the University of Oregon in 1927[1] and 1929.[2] The theses were ethnological in nature, and were mostly extractions from missionary reports and contained the same social and religious bias toward the "heathen Indian". Lewis treats some of the cultural material in his Tribes of Oregon and Washington,[3] but only in part; and it is as fragmentary as the other extraneous articles on the Kalapuya.

Method of Analysis

The method employed here is one of cultural reconstruction from ethnographical, historical and archaeological data.

The ethnological data will dwell on those traits of limited distribution instead of engaging in a study of the more widespread traits. This data will be supplemented by a comparative trait list of the Kalapuya and the tribes in the contiguous areas.

The archaeological data will be treated likewise with particular attention to those traits of limited distribution in the local areas. The archaeological data will be limited to the material effects of stone, bone, horn, European trade goods, and

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[1]H. E. Tobie, The Willamette Valley Before The Great Migration, Unpublished thesis, University of Oregon, (1927), entire.

[2]Lucy Martin, Indians of The Willamette Valley, Unpublished thesis, University of Oregon, (1929), entire.

[3]Albert Buell Lewis, Tribes of The Columbia Valley and The Coast of Washington and Oregon, Memoirs of The American Anthropological Association, (1905).

those archaeological features recorded *in situ* from the excavations. Then the ethnological, historical and archaeological data will be synthesized to provide a cross-check on the distribution of the material and non-material elements among adjacent tribes in the Northwest Coast, Plateau, Oregon Coast, east of the Cascade Mountains and in California.

HABITAT

The valley of the Willamette River is bounded by the Cascade Mountains on the east which extend along its base to an altitude of approximately 300 meters. The western limits of the Valley are defined by the Coast Range, and the southern limit is marked by the Umpqua Valley which is separated from the Willamette Valley by the Calapooya Mountain range. For our purposes the northern boundary of the Willamette Valley is marked by the Columbia River.

During Pleistocene times the Willamette Valley was not affected by glaciation but by inundation of the valley lowland by ice jams formed in the Columbia River which transported debris from northeastern Washington and western Idaho into the Willamette Valley. This backwash into the valley reached an altitude of 400 feet above sea level which in turn was about 200 feet above the valley floor. The glacial erratics were deposited on the slopes of the western and eastern mountain ranges. The valley glaciers in the Cascades deposited gravels, sands, and silts on the valley floor. The topographic relations of these deposits seems to suggest alternate stages of

alluviation and valley deepening which, according to Hansen,[1] can be correlated with the Mississippi Valley glacial stages. Hansen infers from these alluviation cycles that a time scale can be recorded for the valley.

The stream pattern of the valley floor is dendritic and the Willamette River is often bordered by Yazoo streams, as is the Long Tom River, with the master streams depositing natural levees. The mountain areas are represented by the old Tyee formation of the Coast Range and the young Miocene basalts of the Cascades. The valley antedates both of these ranges and the Willamette River, which was formed by stream capture. The Willamette Valley is a structural valley of a trough sloping to the northeast and braced against the Cascades where Oligocene rocks underlie the later basalts and andesites. Later the trough was filled by erosion products and the rivers built their flood plains upon this alluvium.

Climate

Precipitation has an average yearly fall of 46 inches of rain. Light snowfalls are typical, but temperature is seldom below 15 degrees. The summer temperature is moderately high with very little rain from the latter part of June to mid September.[2]

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[1]Henry P. Hansen, Postglacial Forest Succession, Climate, and Chronology in The Pacific Northwest, (Transactions, American Philosophical Society, 1947), vol. XXXVII, pt.1, p.61.

[2]Morton Eaton Peck, A Manual of The Higher Plants of Oregon, (Portland: Binfords and Mort, 1941), p.13.

Hansen[1] says that the Willamette Valley is classified as a humid micro-thermal climate with an inadequate summer precipitation. There is less precipitation in the Willamette Valley in relation to the wider range between average daily maximum and the minimum temperature variations of the Valley. The average mean annual precipitation "of six well-distributed stations"[2] in the Valley is 40 inches. At Newberg, in the foothills of the Coast Range, the highest precipitation was 48 inches. The lowest is 36 inches at Salem, Oregon.

Five stations reported that 20 to 26 per cent of the total rainfall takes place during the interval of October to May which provides further evidence of the dry summers in the Willamette Valley. The average of the mean annual temperature for the six stations mentioned previously is 52.3 degrees as against the average daily maximum of 62.1 degrees with the average daily minimum 42.6 degrees. It appears from this evidence, that the climate of the Willamette Valley is largely modified by air currents flowing down the Columbia Gorge which accounts for the short periods of hot and cold weather during the summer and winter.

Floral Succession[3]

The post-glacial vegetation and its time can be correlated

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[1]Hansen, op.cit., pp.49-50.

[2]Ibid., p.49.

[3]Ibid., pp.84-86.

with the vegetation of today. These trees are listed as lodge-pole pine, Douglas fir, Western hemlock, Oregon White Oak, spruce and fir.

The lodge-pole pine has not been in the Willamette Valley since post-contact times and did not flourish although it was present during the post-glacial era. This species was recorded at the same level of the volcanic glass and silt.

Douglas fir had expanded rapidly at the expense of the lodge-pole pine. Pollen profiles taken by Hansen exhibited differences in expansion of Douglas fir and the replacing of the lodge-pole pine.

Western hemlock is in small proportions and reached its maximum during the oak period and expanded as the climate became cooler and more moist. Post-glacial trends of hemlock reflects the dry summers of the Willamette Valley, which, according to Hansen, have been characteristic of the climate during the post-glacial period.

Oregon White Oak occurs below pumice during a warm, dry era and is recorded in moderate proportions in recent times. This flora was absent in the first half of the post-glacial time and expanded after gaining foothold. This expansion was due to the dry periods.

Spruce and fir were the most abundant of all the other conifers post-glacially, but are absent in the valley today. Hansen records these species as existing before the dry periods with the subsequent grasslands.

In recent times, Douglas fir has invaded the grassland and

the oak groves are beginning to shove out the spruce and fir. Bailey (1936) lists the following plants for the Willamette Valley: the Sugar Pine, Willamette Pine, Jeffry Pine, Jarrow Cone Pine, Maple Alder, Oregon Yew. The characteristic shrubbery is wild cherry, manzanita, Mountain Laurel, Purple Elderberry, Red Blueberry, Evergreen Blueberry, Salmon Berry, Thimble Berry, Tarweed, Camas, Wappato, and Oregon Blueberry. The plant kingdom is representative of the phylum Spermatophyta which includes the classes Gymnospermae (Cone-bearing plants), Angiospermae (Flower-bearing plants), and the two sub-classes, the Monocotyledoneae (Single seed), and dicotyledoneae (Two-seed pods).

Fauna

A description of the early fauna of the Willamette Valley is somewhat difficult as reliable literature for this area cannot be cited. However, judging from Hansen's[1] Proboscidian report we can intuit that the Mammoth and probably the usual association of grazing animals were the early fauna of the Willamette Valley.

The fauna of the valley are well represented in elk, deer, bear, rodents, and numerous birds. The mammals characteristic of the valley are the Columbian Black-tailed deer, Oregon white-

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[1]Henry P. Hansen and E.L. Packard, "Pollen Analysis and the Age of Proboscidian Bones Near Silverton, Oregon," Ecology (1949), vol. 30, no. 4.

tailed deer, Washington Rabbit, Oregon Bush Rabbit, Silver Gray Squirrel, Douglas Squirrel, Townsends Chipmunk, Douglas Ground Squirrel, Flying Squirrel, Dusky Wood Rat, Ruddy Deermouse, California Red-Backed Mouse, Tree Mice, White-Footed phenocomys, Townsend and grey-tailed meadow mice, Oregon Creeping Mouse, Mountain Beavers, Jumping Mouse, Pocket Gophers and the Northwest Coast Bobcat.

Some of the birds that are present in the Willamette Valley are Sooty Grouse, Oregon Ruffled Grouse, Band-tailed pigeon, California Pygmy Owl, Harris' Woodpecker, Northern Pileated Woodpecker, Lewis' Woodpecker, Vaux's Swift, Steller's Jay, Townsend's Warbler, Western Winter Wren, California Creeper, Oregon Chickadee, Chestnut-back Chickadee, Wren Tit, Western Golden Crowned Kinglet, and Black-headed grosbeak.

The historical literature of Townsend's Journals, and the Journals of Henry and Thompson, report the "animals of the chase" and "abundance in fowl and fish". In many places they refer to the Indians as fish-eaters and that they did not use the flesh of the "chase" animals but would rather eat fish and camas. This is partially true, but many cracked and split animal bones are found archaeologically to refute this "indolence" idea that the earlier whites had of the Kalapuyas. This bone material, removed from the middens in the form of tools and food debris, was all too numerous to overlook so it is evident that the Kalapuya were hunters as well. However, this may lead to another interpretation of the Kalapuya Culture for the early writers do not mention the use or presence of the mounds nor do they report any

aboriginal reference to the middens which contain definite clues of burial and habitation. There may well have been a shift in cultural conditions or it is possible that the midden people were culturally different from those of the historic period. This problem will be clarified in the following chapters.

THE ETHNOGRAPHIC PICTURE

After describing the habitat, a brief description of the culture of each Kalapuya group, where past literature will permit, will be given. In some cases the tribal sketch will be incomplete because of limited ethnographical or archaeological information. Thus, five tribes will be described with only one or two cultural items. It must be remembered that a minimal amount of field work has been done in archaeology and none in the field of ethnology.

Much of the cultural information has to be derived, in the case of the Kalapuya, from historical and archaeological information for ethnological material of the Kalapuya is extremely limited.[1]

The tribes of the Kalapuya have been mentioned in the historical literature of Lewis and Clark, Ross, Franchere, Henry and Thompson, but they mention only those tribes with which they came in contact or of whom they heard through aboriginal sources, and so there are gaps in the ethlogical history and room for a large amount of error. Archaeological sites are numerous, and so far, of those excavated, none can be labeled as a type site

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[1]Other than Melville Jacobs' Kalapuya Texts.

for the Kalapuya. Variation occurs between sites of close proximity and the majority of the historical information does not tie in with information gained from archaeological excavation. This is a problem to consider with the utmost attention for it may mean that the later dynamic elements of the culture have entered from other areas to bring about a change from an older groupings of patterns or may merely indicate tribal or local differences. Yet, the existence of the middens or "mounds" was not within the scope of the explorers' interest and may have gone unnoticed.[1] No mention of the midden sites by the early explorers or in Jacob's Kalapuya Texts, have been found.

In describing the ethnographic picture at the time of contact, I am relying upon information from historical works and Jacob's Kalapuya Texts.

The number of tribes to be discussed seems to vary with different writers. The tribal count ranges from eight to 13 in number according to various authorities. However, I have arranged the Kalapuya into ten tribes which is a combination of Barry's, Berreman's and Jacobs' tabulation. Barry[2] and Berreman[3] base boundaries on dialectical differences and ethnographic

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[1]Only one reference is cited by an early traveler, in 1832. "Burial Customs in Oregon", The American Antiquarian and Oriental Journal, (1882), pp. 330-331.

[2]J. Neilson Barry, "Indians of Oregon", The Oregon Historical Quarterly, (1927), no.1, entire.

[3]Berreman, op.cit., entire.

information gained from historical accounts.

These tribes, from north to south, are: Tualatin, Yamhill, Pudding River, Chemekatas, Luckiamute, Santiam, Mary's River, Kalapuya, McKenzie River, and Yonkalla. The Long Tom are occasionally given status as a separate tribe.

The majority of historical information on the Kalapuya tribes has been scanty and was very often confused. Confusion of the Kalapuya with the Chinook of the Lower Willamette Valley was quite common; and most of the writers were prone to discuss those below the falls in more detail and assumed their connection regardless of the linguistic difference.

The Kalapuya peoples at one time had a heavy population in the valley and the historical claims of indolent and passive peoples are unwarranted for archaeological and ethnological evidence, to be discussed in a later chapter, proves them to have been a very active and vigorous group of peoples. Jacobs has this to say of the Kalapuya Culture:[1]

> The native economy, dietary, social life, religion, and ideology were much more complex than any native phrasings indicate. . .

The linguistic groupings into dialects are three in number and are not mutually intelligible. These dialects are: (1) the Tualatin-Yamhill, (2) the Ta'tawa, (3) the hantciyuk or Santiam

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[1]Jacobs, op. cit., p. 6.

(ha'lpam), and several bands which are located along the Calapooya River, the McKenzie River, Mary's River, and the Luckiamute River; all of which are south of the Yamhill-Tualatin area. The third dialect is the Yonkalla who were located south of the present city of Eugene and in the vicinity of Yonkalla.[1]

This dialectic difference does not indicate cultural difference, for two of the groups, the Tualatin-Yamhill and Santiam, have cultural similarities in marriage functions, economy, wealth, guardian spirit concept, ceremonial dances, and mythological theses. It is not at all necessary to have similarity in language and culture, but in this case the three dialects may have been understandable at one time as all the bands within the tribes have a similar culture base.

The Yonkalla can provide us with a combination of Kalapuya and Umpqua traits if archaeological work is done in this area. As it stands at present the important areas to be considered are the northern and southern boundaries of the Kalapuya linguistic area as well as the central zone of these peoples. This would give us some idea of cultural continuity or discontimuity. An important item that may be noted in the following ethnographical description is the suggestion that the Kalapuya seem to represent a northward extension of California tribes and a southward extension of the northern culture areas of the Northwest Coast and the Plateau. It will be clear that these adjacent cultural areas have played a large part in the

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[1] Jacobs, op. cit. p.7.

cultural composition of the Kalapuya, and that the Kalapuya are not isolated in a pocket, but form a channel for varied cultural influences, as indicated by archaeological and ethnological information to be discussed in the later chapters.

The Tualatin (atfalati or Twalaty)

The first tribe to be discussed is the Tualatin who supply us with more information than any of the other tribal units of the Willamette Valley. While the picture to be presented will be far from complete, it will provide an excellent foundation from which to construct and describe the Kalapuya people and to investigate their past.

The Tualatin Indians, according to Hodge, consisted of 22 villages occupying the Tualatin plains, the hills of Forest Grove, and the surrounding area of Wapatto Lake.[1] The description to be given is mostly of post-contact times with some probable pre-contact information from Jacobs included. However, the information provides us with the patterns that have occurred in the culture.

Material Culture

Economy:

The economy[2] and subsistence of the Tualatin is that

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[1]Hodge, op. cit., p.108, Vol. I.

[2]Jacobs, op. cit., pp. 262, 158, 175-76, 101.

of a hunting and gathering group using deer, elk, bear, panther, wild cats, and fish as objects of the hunt. In the food-gathering inventory, camass stands most prominently, while wapatto and wild carrots are secondary in the vegetable foods. The children dug carrot roots (Xerophyll Taxius) while the older women dug camass roots (Canassia linde). Berries and tarweeds (Maldia mol) were also included in the Tualatin diet. The women in digging camass and wild carrots used a digging stick. The men used the bow and arrow on the hunt which took place primarily during the fall and winter.

Trade:

Trading, according to folklore, was in slaves with the tribes of the Columbia River.

Dentalium, the medium of barter, was utilized as bride price and for other material they might buy from the Clackamas, Columbia River peoples, and Oregon Coast tribes of the Tillamook, and Siletz.

During historic times the Kalapuya traded among themselves for buckskins, tanned hides, and beaver skins.

Implements of Daily Use:

The Kalapuya Texts of Jacobs lists the following implements of the Tualatin in daily use: digging sticks, wooden buckets, canoe, paddles, bow and arrow, tobacco, and tubular stone pipes.[1]

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[1]Jacobs, op. cit., pp. 175, 176, 178, 162.

Dress:

Gatschet's brief report mentions as to their dress, "... they were fond of attire and personal adornment..."[1] The Tualatin wore red feathers* on their heads, long beads around their necks and had dentalium shells suspended from their pierced noses. The women as well as the men hung beads from holes cut in the ear rims.[2]

During hot weather they did not shed their clothes, but retained them regardless of the heat. The Tualatin idea of beauty favored short women with long hair and a flattened head with long strings of beads and trinkets attached to one side of the head. It was more desirable if these long strings of ornaments would extend to the women's waist. The more beads one had about his face the more pleasant the individual appeared to others. The women would frequently pass their hands over their eyes which to them would beautify the eyes. The women did not lace the waist, but preferred the full waist and open breast although some covered themselves to the neck with a deerskin chemise. Women with small feet and men with large feet were liked best.[3]

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[1]Albert S. Gatschet, "Various Ethnographic Notes", Journal of American Folklore, (1899), vol. XII, p. 213.

[2]Loc. cit.

[3]Loc. cit.

*Jacobs mentions that feathers were used as guardian spirit symbols.

Non-Material Culture

Marriage:

- One of the cultural elements of importance in this phase of Kalapuya life is the bride price. Gatschet explains the bride price as ". . .an indemnity given by the bride-groom to her relations for the daily work or other services which the bride will henceforth no longer render to her family."[1]

The materials used for the bride-price were usually slaves, haiqua beads, money dentalium, and horses. The bride's relations would then reciprocate, but only in one-fourth the value they received themselves, usually a gun or blankets. Gatschet goes on to relate that the bride, on horseback, was then surrendered at the groom's lodge dressed in newly made clothes or wrapped in blankets and her face painted red with a profusion of beads around her head. When she arrived within sight of the groom's lodge, a male relative took the bride on his shoulders and carried her close to the house about fifty yards distant. The bridal party then sang and strewed her path with beads, strings of beads, and trinkets. The bridegroom had to reciprocate again, as his new female relations stripped him of his dress, shirts, and breeches and he in turn did likewise to the brides relatives, male and female. At this time the dividing of the brideprice took place among the bride's relatives. The bride's family had returned to him a part of the bride price in guns, powder, shirts,

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[1]Gatschet, op. cit.

coats, and other clothing articles.[1] All male offspring of the marriage were then to be named after their father.[2] References are made to social classes, but nowhere are they defined. Preferably a person desires to marry within his class or the one above.[3]

Burial Customs:

The references to burial customs in the literature are scanty. They merely suggest that a poor man or woman have no grave furnishings and the man of means would have the necessary mortuary furnishings.[4] Some of the funeral offerings probably were broken; i.e., "killed." The corpse was covered with beads, blankets, and often a horse was killed and placed along with the body.[5] This grave was then surrounded by a wooden fence similar to that of the Willamette Chinook[6] and the Lower Klamath River people.[7]

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[1]Gatschet, op.cit.

[2]Jacobs, op.cit., p. 187.

[3]Ibid., p.160.

[4]Ibid.,p.198.

[5]Ibid., p.196.

[6]John K. Townsend, A Narrative of A Journey Across The Rocky Mountains, (Philadelphia: 1839) p.321.

[7]Paul Schumacher, Researches in The Kjokkenmoddings and Graves of a Former Population of The Coast of Oregon, U.S. Geological and Geographical Survey of the Territories, Bulletin 3, No.1, p.34.

Warfare:

Gatschet says that these people were not warlike,[1] but Jacobs' myths refer to conflict with the Yonkalla with the end result being cannibalism of the Tualatin on the part of the Yonkalla.[2]

Magic and Religion:

The Tualatin people have a divine being in Ayathlme-i which is comparable to our term "miraculous" and to the Chinook itamamish. In their tales Coyote, panther, and Flint Boy were their prominent characters for everyday life.[3] The ritual number is five with three occurring once in the Tualatin mythology. However, five is consistent throughout the Willamette Valley Indians.[4]

Transvestites seem to be prominent according to the mythology among the Tualatin. The gist of the situation seems to point toward the transvestite position via the vision mechanism. It appears that when the initiate sees a transvestite in his dreams he has to take over that form during his life.[5] The guardian spirit quest prevailed among the Tualatin and was quite active in daily life.

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[1]Albert S. Gatschet, "Oregonian Folklore", Journal of American Folklore, (1891), vol. IV, p.143.

[2]Jacobs, op.cit., p.185.

[3]Gatschet, loc.cit.

[4]Jacobs, op.cit., p.157.

[5]Ibid., p.179.

Ceremonial dances were held and conducted by shamans of the group upon the sign of a good or bad omen. In these dances they used rattles, and painted feathers as their regalia.[1]

White Contact:

White contact had disastrous results--the most important being the extinction of the Tualatin by removal to a reservation and subsequent acculturation.

The Yamhill (ya-mel)

The Yamhill lived on the banks of the Yamhill River, a tributary of the Willamette River. Hodges records six bands of these Indians: Andshankualth, Andishimmampak, Chamifuamm, Chamim, Champikle, and Chinchal.[2]

Material Culture

Economy:

These people hunted deer and caught salmon which they prepared for storage by drying. Like the other Kalapuya peoples, they were also root gatherers and used camass as the staple.[3]

Dress:

The men wore deerskins, but were scantily clad. The women

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[1]Jacobs, op.cit., pp. 183-4.

[2]Hodge, op.cit., p.987.

[3]Coues, op.cit., p.811.

had petticoats of fringed leather halfway down the thighs.[1] These people wore small round basketry caps with a peak about three inches high.[2]

White Contact:

Henry mentions that the Yamhill lived in houses, but did not state specific reference to the type of house. It may be that he was referring to the domicile of the white man since this was recorded in 1848.

Henry also noticed that a large number of the Yamhills had an eye defect. Whether this is a result of the disease which exterminated the Kalapuya cannot be determined, and we do not know whether it is due to white contact.

The Pudding River Tribe (Ashantchuyuck)

These Indians occupied the water shed on the Pudding River, an eastern tributary of the Willamette, in an area often called French Prairie. Gatschet claims that at one time these Indians occupied the Molalla Creek which joined the Pudding River near its mouth.[3] This seems to point towards contact with non-Kalapuya speakers because later the Molalla entered and occupied this region.[4] Nothing of the culture of the Pudding River

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[1]Coues, op. cit.

[2]Loc. cit.

[3]Berreman, op.cit., p.23.

[4]Loc. cit.

Indians can be located in the literature.

The Chemekatas

These Indians lived in the vicinity of what is now the city of Salem. It has been recorded that this was the place where all the Willamette Indians held their council on a circular embankment . The pipe was passed around the circle while the orator spoke from the center.[1] No other information of this group can be found. It seems, as in the case of many of the other Kalapuya tribes, that archaeology will be the key to their prehistory.

The Luckiamute

No cultural information can be found of any of these people who live in the vicinity of Corvallis and were in close contact with the Mary's River peoples. This tribal designation is arbitrary although Hodge assigns eight bands to them: Ampalamuyu, Chantkaip, Chepenofa, Mohawk, Tsalakmuit, Tsantatawa, and Tsantuisha.[2]

The Santiam (Ahalpam)

The Santiam[3] lived on the forks of the Santiam River.

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[1]Ernest Ingersol, "In The Wahlamet of Oregon", Harpers New Monthly Magazine, (1882), vol. LXV, p.769.

[2]Berreman, op.cit., p.21.

[3]Jacobs, op. cit., pp. 85-133 and pp.17-81.

They called themselves the Ahalpam, meaning the uplanders. In historical times the upper areas of the Santiam forks were held by the Molallas. It is very probable that the Santiam had continual contact with the Molallas; and in earlier times the Santiam tribe extended further into the mountain region. According to the historical report by Minto, the name Santiam was taken from the name of a chief, of the Kalapuya, which was Sandeam.[1]

Material Culture

Economy:

The economy of the Santiam people is the same as that for the other tribes previously mentioned, i.e. a hunting and gathering economy. They gathered acorns, nuts, and berries. The black berries were dried. The men hunted and the women dug camass. The fire seems to have been made by the women and they also cooked (boiled) the food.

The men used a particular system of hunting called the circle hunt, which is driving the deer to the center of an area agreed upon beforehand. With this system the young men were able to get within easy bow shot of the animal.

Trade:

It is reported ethnologically by Jacobs that the Santiam

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[1]John Minto, "The Number and Condition of Native Race in Oregon When First Seen by White Men", Oregon Historical Quarterly, (1900), vol. I, p.307.

acquired buffalo hide blankets from people to the east. This may represent trade with the Molallas, who in turn received the blankets from the plains Indians. It is recorded by John Minto that the first horses in the region appeared around 1818.[1] Minto also mentioned that a mare was traded for forty-five beaver skins.

Implements of Daily Use:

The use of the bow and arrow with a poisoned tip, possibly with rattlesnake venom, is mentioned by Jacobs in the mythological texts. Canoes were used by those living near the Willamette-Santiam junction. Pipes and tobacco were used as a medium of exchange in preference to other mediums. The Santiam mixed their tobacco with 'kinnickinnick' leaves. These leaves were picked along the "ocean coast". This leaf is very fine, and when they inhaled and swallowed the smoke, it made the smoker dizzy. The pipe was tubular and made of stone with a "round hollow stick" as the stem. The stem was removable and after smoking, the stick was removed and placed with the pipe in its keeping place. There were also pipes of solid stone, i.e. the whole pipe, stem and bowl, were of one piece.

Jacobs notes that soft bags were used in gathering acorns, but of what these bags were made is not known. They also had a long soft basket in which they put acorn meal and placed in the river to soak out the bitter taste. The acorns were laid

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[1]Minto, op.cit.

out on a rush matting to dry.

The fish spear was made and used by the Santiam people.

The Santiam wore hats and it is recorded in folktales that only the women wore the hats, but Jacobs' informant was not sure whether they did wear them. They had bark buckets in which they placed their food. These buckets were made of ash bark, sewed together with string made from willow bark. Buckets were also made of cedar and maple bark.

The Santiam, according to their mythology, had the shinny game.

Stone mortars were used for crushing tarweed seeds and the cooked camass.

The people had sweat houses in which the boys and girls sometimes slept. They were constructed of small, green hazel sticks which were stuck into the ground and bent over and tied at the top to form a dome-shaped structure, then brush and mud was placed on the sides and top of this conical structure. The earth from inside the sweat house was removed and heated rocks were placed in the depression. Water was then applied to the hot stones to induce perspiration. After a sweating period the people would go swimming and they often returned to the sweat-house after swimming.

Dress:

It is recorded that the Santiam, before the white man came, were naked except for a gee string covering their pubic region. The Santiam made their moccasins of deer hide and sewed them with deer sinew. They often went barefoot when there was no snow.

Leggings were worn, wrapped from the knee to the foot or ankle. This type of dress was used by both men and women. The early Santiam tattooed their faces and burned spots on their hands. Hands and arms were tattooed with a charcoal-covered thread attached to a needle and drawn through the skin.

Non-Material Culture

Marriage:

Wives were always purchased, but never from their own relatives. They had a fear of incest and it was customary that a wife must be purchased from unrelated people. But at the time of the whites, the Indians were forced to take relatives as their wives. Adultery was controlled by fining the adulterer. If the adulterer had no property, then the husband was allowed to cut his arm or face, or just stab him. In the case of rape the husband would demand the equivalent of his brideprice from the offender. The husband, according to Jacobs' ethnological Texts,[1] does not have control over the wife and her stay in her household seems to be quite unstable as it is governed by the wife's father. Cases reported by Jacobs' informant, relate incidents where the wife's father bought back his daughter by returning the brideprice and selling her to another male for his wife. This would indicate that many women had alternating periods of marriage.[2]

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[1]Jacobs, op. cit., p.45.

[2]Loc. cit.

The marriage ceremony is similar to that of the Tualatin wedding procedure except that the bride is not carried on horseback, but on the back of a male member of her family. Both families of the bride and groom would assemble near an assigned area and the groom's family would buy the girl ceremonially. The girl is painted and adorned in the necessary regalia and carried on the back of her male relative to the location of the brideprice. The girl's father would take the opening phase of the ceremony by commenting on the satisfactory amount of money then the girl's carrier would put her down symbolizing the acceptance of the brideprice. If there wasn't enough money the bride carrier would return to the bride's assemblage and sit with the girl. Then the boy's relatives would put more money on the pile representing the brideprice. When enough money was deposited, the girl was returned in the same fashion and she became the wife of the suitor.

Money or Wealth:

The Santiam had shell money of dentalium ("ocean coast"), a small button-like shell (possibly a marine gastropod), and European trade beads of glass. The method of determining the amount of exchange was by comparing the length of a money string with a tattoo mark on the upper arm.

Class stratification seemed to be assigned and graded according to the amount of money and wealth one possessed, and the person with the most wealth was of the highest class. Both the upper classes and headmen were determined by these criteria.

Burial Customs:

The Santiam buried their dead and gave his belongings to his relatives. There is brief mention of cremation[1] (Jacobs) among the Santiam. "They made a fire and they burned him all up." If they did not do that they feared coyotes and wolves might eat the dead person.

Magic and Religion:

The Santiam were consciously aware of spirit dream powers connected with the existence of shamans. To become a shaman it was necessary to seek spirit power. As a badge of office the shamans had a cane and some feathers. These shamans were important as they could take away guardian spirit powers, poison drinking water, and extract poisons.

If one had been told by his guardian spirit to dress and act like a woman, he then became a transvestite. Santiam mythology and ethnology notes the existence of transvestites.

Dances of ceremonial nature occurred during the winter to strengthen dream power and to provide a chance to repair waning spirit power. This repairing of spirit power was done in the presence of a tribal audience and lasted for five nights giving each individual a chance to perform and sing his own song.

Mary's River (Chapanafa)

The Mary's River[2] band are sometimes classified as a

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[1]Jacobs, op.cit., p.74.

[2]Ibid., pp.336-350.

subdivision of the Luckiamute, but were listed separately on the Grand Ronde Reservation as Pineifu. They occupied the valley of the Mary's River near Corvallis.

Material Culture

Economy:

The Mary's River people were hunters and gatherers as were the Tualatin, Yamhill, and Santiam peoples. The women mashed tarweed, dug camass, gathered hazelnuts, and acorns. The men hunted deer and fished for salmon and crawfish.

Implements of Daily Use:

The Mary's River people had the same material items of daily use as the previously mentioned Kalapuya tribes. They had the bow and arrow with chalcedony and chert projectile points, tobacco sack, mats, fish spears, bark boiling pots of ash bark, roasting sticks, fire drill, dam fish traps, fish basket traps, shinny sticks, stone mortars, sinew for sewing, and sweathouses made of rock.

Non-Material Culture

Marriage:

When a man made a woman his wife he had complete control over her. This is contrary to Tualatin and Santiam practice, however, this information is recorded from a Mary's River myth and may not have much basis as ethnological fact.

Class Stratification:

In the form of wealth, money dentalium held its usual position as an item of wealth and designation of social position. The headman or chief had many dentalium strings which were the emblem of his wealth and office. Slaves were used and were considered to be in the lowest scale of society. The slaves were used as money in paying gambling debts and as objects of trade.

Burial Practice:

The Mary's River Indians placed material items such as quivers, sinew, and fire drills, with the dead. No other information can be found as to the type of grave furniture these people used.

Magic and Religion:

Shamanism was found among the Mary's River people as among the Tualatin and the Santiam. One could become a shaman by obtaining the correct guardian spirit vision. Mythology says that only a few people became shamans or wealthy from vision power. They use the sweathouse in ritual to strengthen their gambling spirit power. The ritual number is five. Their mythology is centered around coyote, panther, flint, and whale as the main participants in their supernatural world.

The Kalapuya and McKenzie

The exact area of the Kalapuya is unknown and the information concerning them is confused with the major linguistic group.

According to Gatschet[1] the Kalapuya extend north of the Kalapuya Mountains and west of the Willamette River which would include the area north of Cottage Grove, the Long Tom Creek Chelmela, and the Eugene area as territory of the Kalapuya tribe. Berreman[2] includes the Kalapuya as covering the area of the Kalapuya River to the southern extension of Cottage Grove which would include the lower McKenzie River and the Calapooya Creek. The East-West boundaries extend to the west side of Calapooya Mountains from the Long Tom Creek.

Cultural information on this tribe is extremely confused and if worked on as a separate group the data must be obtained by a combination of archaeological and historical techniques, not solely from one source. The lower McKenzie, which is considered a branch of the Kalapuya, had class stratification based upon wealth. They are reported to have used mats. Incest and adultery were forbidden.[3]

The Yonkalla (Aynankeld)

The Yonkalla (Aynankeld) lived south of the Kalapuya tribal area and occupied an area near the headwaters of the Willamette River as well as part of the Umpqua drainage. Their dialect differs slightly from that of the Kalapuya peoples and were

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[1]Gatschet, op.cit., p.213.

[2]Berreman, op.cit.,pp. 22-23.

[3]Jacobs, op. cit., p.367.

possibly a separate group. The area of habitation seems to be the upper course of the Elk and Calapooya creeks in Douglas County.[1]

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[1]Berreman, op. cit., p. 23.

SUMMARY OF KALAPUYA CULTURE

Economy:

The economy of the Kalapuya was the hunting and gathering type. The men hunted deer and elk and fished for salmon and trout while the women's duties were directed towards digging camass, gathering acorns, tarweed, berries and nuts. The implements that were used in hunting and fishing were the bow and arrow, spear and fishspear for salmon and trout. The men circle hunted for deer. For small game they used snares and traps. Elk were often trapped by pitfalls. Archaeological evidence in bone refuse (Laughlin, 1942, and Spurland Midden, 1949-50) tends to support the hunting and gathering tenent. Seasonal migration seems to be common among the tribes and is mentioned by historians such as Hines and Gatschet. Migration in small bands occurred to the north, south, east and west. However, we know nothing of the motivation and ramifications of the seasonal migrant complex. It appears to be in search of food.

Trade:

The Kalapuya had trade associations with the tribes of the Columbia River, Molalla, Cayuse, northern tribes of California, and the tribes of the Oregon Coast. Trade materials included marine shells of dentalia and olivella. Trade in objects such

as whale bone clubs, obsidian blades, earspools, camass root digger handles of antler give rise to cultural affinities outside the Willamette Valley. Slaves were traded with other Columbia River tribes.

Houses:

The winter house was large and from all evidence appears to be semisubterranean.

> Long long ago the people had a (type of) house, a winter house. They had a large house. They dug down in the ground a short distance. And they placed fir bark on the top of it. And some threw dirt over their house. There in the center (of the roof) was a small hole, the smoke went out there. And they had one door for it. They lived in it there when it was wintertime.[1]

They had windbreak shelters for summer that were set up under large oak trees. Father De Smet[2] mentioned that in 1845, the Willamette Indians built their houses fifteen by twenty feet and were conical in shape. Cross pieces were on the interior, and were placed from one side to the other to act as a drying rack for salmon, roots, berries and seeds. A hole in the roof provided for the escape of smoke from the fire. The Yamhills, according to Henry,[3] dwelt in houses on the Yellow River; but in general, the Kalapuya were without houses and were

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[1]Berreman, op.cit., p.39.

[2]Rev.Pierre Jean De Smet, "Oregon Missions", Thwaites Early Western Travels, (1845), vol.II, p.124.

[3]Coues, op.cit., pp.812, 814, 817.

nomadic. In pleasant weather they lived in the open air, but during bad weather they lived under the shelter of a pine tree. Often they would make temporary huts of pine branches.

The Sweathouse:

The Kalapuya sweathouse is indicative of cultural influence in the Willamette Valley. It is used as sleeping quarters by boys and girls together. The sweathouse was made of soft green hazel sticks placed in the ground with the tops bent over and tied. This gave the frame a semicircular shape. This frame was then covered with white fir boughs and dirt. A door was made on the side and a depression was excavated inside the hut for the heated stones. When the heat died down the people in the sweathouse added water to the heated stones to make steam. After sweating the men would swim in the river. Often after swimming the Kalapuya would return to the sweat lodge and sweat some more. Henry[1] reports this practice.

The more important elements will be treated in the final chapter. As mentioned for the Mary's River people, the sweathouse was utilized to strengthen the gambling spirit power. No other reason for sweating other than for purification has been noted.

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[1]Goues, op.cit., vol.21, p.322.

Implements:

The following trait list is a total of the Kalapuya material items that have been collected from the literature of Jacobs and Ells.

Stone Implements of Kalapuya

Description	Location	Tribe	Authority
Cooking Stone	Santiam	Santiam	Jacobs p.17
Stone oven for cooking camass	"	"	" p.18
Mortar, large	"	"	" p.20
Stone bow scraper	"	"	" p.31
Stone pipe with hollow wood	"	"	" p.35
Stem-one piece stone pipe	"	"	" p.35
Hammerstone	Linn County	?	Eells p.286
Projective points	Shedd	Kalapuya	" p.284
Beads	"	"	" p.292
Pestles	"	"	" p.286-87
Knives, flint, jasper?	"	"	" p.287
Knives, slate	Oregon City	?	" p.287
Knives with double serrated edges and double pointed	"	?	Eells p.288

Perishable Materials

Description	Location	Tribe	Authority	
Bark Bucket	Santiam	Santiam	Jacobs	p.17
Trout Lure of Human Hair	"	"	"	p.18
Tightly woven Rush mats	"	"	"	p.20
Wood Lance	"	"	"	p.21
Pitchwood brands (torches)	"	"	"	p.24
Skin blankets of gopher, squirrel	"	"	"	p.27
Trade Blankets			"	p.28
Buffalo Blankets	"	"	"	p.28
Moccasins, Deer hide	"	"	"	p.29
Leggings	"	"	"	p.29
Hats (worn by females)	"	"	"	p.29
Bow of Yew	"	"	"	p.30
Rope of Hazel	"	"	"	p.31
Sticks of Willowbark	"	"	"	p.33
Sticks for Counting Days	"	"	"	p.38
Baskets (Soft bags)	"	"	"	p.38
Canoe dugout (fired)	"	"	"	p.39
Summerhouse, windbreak	"	"	"	p.39
Winterhouse, pit house	"	"	"	p.40
Sweathouse, steam	"	"	"	p.48
Woman's head band	"	"	"	p.49
Hoop and arrow game	"	"	"	p.49
Gambling sticks				p.50
Candles (Shaker)				p.54
Canoes and feathers				p.62
Face paint				p.65
Matting	Linn County Shedd	?	Eells	p.284

Bone and Horn

Description	Location	Tribe	Authority	
Bone bead	Santiam	Santiam	Jacobs	p.47
Gambling bones	"	"	"	p.50
Beaver tusks) Bone awls) Bone beads) Bone spatula ?) Bone charms)	Linn County Shedd	?	Eells	p.284
Bone needles	"	"	"	p.292

European Trade Material

Description	Location	Tribe	Authority	
Trade Beads*	Santiam*	Santiam	Jacobs	p.47
Bells and gongs	"	"	"	p.54
Pipe (?) Spoon Necklace of Copper Rolls Solid Copper Rings for Arms Green glass beads* Flathead square nails of brass with sharp points Glass bells Knives (?)	Linn Co. Shedd	?	Eells	p.284

Shell

Description	Location	Tribe	Authority	
Scraper, mussel	Santiam	Santiam	Jacobs	p.31
Use of mussels for carrying fire	"	"	"	p.32
Money Dentalia) Bone bead (?)) Trade beads) European)	"	"	"	p.47
Shell beads	Linn County Shedd	?	Eells	p.284

Social Organization, Class Stratification and Political Organization:

Kalapuya mythology assigns a chief to each village. According to historic references one chief had sway over a number of villages as did Chief Sande-am of the Santiam Kalapuya. The hypothesis here is one of the headman concept with each automonous band. According to Jacobs' ethnologic reports, the person who had more money in dentalia than others was an upper-class person. He could buy slaves or women without hesitation of price consideration. And to be a headman one must have wealth in dentalia and be an upper class person. It is reported that some symbol or badge, such as a feather headdress, distinguishes the upperclass from the lower group. The Tualatin, according to Jacobs' ethnologic texts, verifies this concept with the following statement:[1]

> They put on their hats; its name was feather headdress. They fastened money beads around their neck. Just common persons were not like me.

This stratification was composed of those who had material wealth, those who had little or no material wealth, and the slaves who owned nothing and were the property of others. The Tualatin people traded for slaves with the Lower Chinook of the Columbia River.[2] Slave raids were common and were usually

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[1]Jacobs, op. cit., p.194, no.1.

[2]Vern F. Ray, Lower Chinook Ethnographic Notes, University of Washington Publication in Anthropology, (1938), vol. 9No. 1 p.62.

against non-Kalapuya peoples. Slavery was a well-established trait of the wealthier people. There is one incident which may indicate the sacrifice of slaves:[1]

> One, two slaves, one male and one female slave, I will make good for the peoples blood.

Marriage:

The marriage was always by purchase and the bride price was fairly high because women were bought with slaves, money dentalium, horses and cattle. From this large bride price one gets the idea that marriage was oriented to the pecuniary desires of the wealthy upper-class father. The family of the bride arranged the marriage and the bride was merely an article of trade.

Class lines were adhered to in marriage as one married within one's own class or better. The ceremony, as mentioned earlier, for the Tualatin and Santiam, holds here, except that a historical reference by Le Bonte[2] presents a slightly different picture of the ceremonies.

> The tribe of the groom stands on one side, that of the bride on the other. The groom is seated on the ground in front of his people who remove his garments one by one. After this is done the women of the bride's tribe come and reclothe him in different raiment, and place him in readiness to receive his bride. The girl meanwhile has been placed in front

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[1]Jacobs, op. cit., p.186, no.11.

[2]Lewis Le Bonte, "Reminiscences", Oregon Historical Quarterly, (1900), vol. 1, p.176.

> of her people entirely covered with a blanket. When all is ready for her to be presented to her future husband, she is carried a part of the way on the shoulders of the women of her tribe, and placed on the ground. After a shout of approval from both sides, she is carried the rest of the way. Another shout and the ceremony is over.

Presents at the wedding were plentiful and valuable. Gifts were exchanged between the tribes if man and wife were of chiefly rank.

The lineage seems to be patrilineal and the political position, such as headman, was passed from father to son. Names are also passed from father to son.

The levirate was practiced, but if a man, not of the wife's family, wanted the widow for his wife then he had to pay the bride price to the relatives of the husband. Her father had nothing to say about this situation, but if he wanted her back he could return the bride price and sell her to someone else.[1]

Families who had many female children often became wealthy because of the many expensive bride price payments.

Marriage was with non-relatives according to Jacobs.[2] Exogamy, then was practiced until contact times. During the early white period Kalapuya women became wives of some of the settlers.

Mythology treats adultery as punishable by death, but ethnological reference states that the husband could merely beat his wife if she was guilty of adultery. Her family could torture

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[1] Jacobs, op. cit., p.45.

[2] Ibid., p.43.

her to find out the man's name. Then the adulterer was required to pay a fine, to her husband, of ten horses.

Birth:

At childbirth the husband held his wife from behind while the women helpers assisted with the childbirth.[1] After birth the mother was placed to rest for five days near a hole of heated rocks. The mother was not permitted to drink cold water for five days. Her husband could not hunt for five days and during that time he had to sweat to purify himself, for the deer would smell the woman's blood and run away.

Naming:

When a person died no one would utter his name. If it was repeated by a non-relative a feud often occurred between the utterer and the name owner's family for this is considered an insult. Only the dead man's relatives were permitted to speak his name. A child would inherit the name so that this name remained in the family.

Burial Practices:

The literature does not mention the middens that are found in the Willamette Valley. The only practices are those previously mentioned for the Tualatin, Santiam and Mary's River tribes. Cremation is ethnologically recorded for the Santiam only.

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[1]There is no mention of what was done with umbilical cord, but only that it received special treatment.

Warfare:

Warfare seems to be a well established pattern among the Kalapuya tribes. They fought among themselves as well as with non-Kalapuyan tribes. The Tualatin myth of warfare with the Yonkalla, cannot be verified because no Yonkalla ethnology has been recorded. The cannibalism may be the result of a traditional warfare pattern between the Yonkalla and the Tualatin. Slaves were acquired by warring on other tribes.

Religion, Magic and Ritual:

Shamanism[1]

Shamans held an important position in Kalapuya society. The shaman is referred to as a male and his dream power which was received through a vision in a dream. The quest was taken on a high mountain for five nights. Every morning after each night the candidate would go swimming. Older people who had acquired a guardian spirit power gave the candidate certain instructions to carry out, such as going to the appointed spot for shaman spirit powers, and not having a fear complex toward the spirit-power quest. If he had not carried out the necessary instructions then he would become ill. The candidate would be ill for the rest of his life. A person in this condition was treated by a shaman. The shaman would demand the patient to do as his dream power told him to do. The shaman made the sick person sing his dream power song and

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[1]Jacobs, op.cit.,pp.51-71.

dance his dream power dance. All these things that the patient had failed to do previously in attempting to achieve dream power. If he stood up and sang his dream power song and danced his dream power dance he might get well. Often the sick person told the truth to the shaman that he did not have a dream power song of his own. The shaman would then convince the sick person that he did have a spirit power song and he would sing what was supposed to be the sick man's song. The sick person would then sing this song which would presumably aid his speedy recovery.

If the shaman felt that he was going to die he would give his dream power to another person; namely a close relative. This relative might then become a shaman.

Dream-power-song-stealing took place which resulted in the death of the person whose dream power had been stolen. These malevolent shamans could shoot people with the necessary dream power and kill them. If a grizzly bear killed a man it was because the malevolent shaman sent his grizzly spirit to kill this man.

Common people had ordinary dream powers, but shamans were extremely powerful. Such things as singing their songs at night and to dead people and asking the dead people questions was within their power. The shaman could also ask his dream power questions and the dream power would do the necessary research and return with the correct answer.

Winter dances were utilized to strengthen dream powers. This amounted to dancing in front of an audience for five nights.

The assemblage would stand up at their own dance. The wealthier would stand and sing their own dream power songs. Shamans sang their songs first then the common people followed with their dream power songs. Symbols or emblems for their spirit power were often anatomical parts such as a cane or a feather.

Shamans could also extract poison powers by weakening the life of the malevolent sender. They could also take away guardian powers from people, and poison drinking water by blowing on it. This made the water turn to blood - a lethal liquid to anyone who drank it.

Guardian Spirit Powers and Quests:

Guardian spirit powers and quests were a necessary item among the Kalapuya as a form of insurance against evil. The quests were taken in the mountains and they acquired dream power through a dream. Men and women both searched for dream powers. The quality and strength of the obtained spirit powers determined the social position, i.e., shaman, headman or commoner.[1]

Ritual Number:

The ritual number appears to be five which occurs in important situations such as the number of times they sweated,

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[1]Jacobs, op. cit., p.180.

stood at their dances and searched for spirit powers. The number three was interchangeable with five, but it was used less often.

Games:

The hoop and arrow game, gambling, and shinny occurs among the Santiam as recorded by Jacobs. The hoop and arrow game is recorded historically by Wilkes.[1]

Mythology:

The mythology of the Kalapuya as recorded by Jacobs also reveals the cultural patterns of the Kalapuya. The myths are well supplied with tricksters, culture heroes, dunces, etc. The list of the characters occurring in Kalapuya mythology is as follows:

Coyote: Trickster, transformer, culture hero, traiter to own kind

Turkey Buzzard: Helper - always Coyote, dupe to Coyote

Fly: Tattletale

Frog women: Spirit power connected with water - snow, from southeast

Woodpecker: Aid Coyote, outwits Coyote, hero

Panther: Personifies male head of house, hero, culture hero

Mudfish: Whale's aide

Whale: Hero

Copperhead Snake: Hero

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[1]Charles Wilkes, Narrative of the United States Exploring Expedition During The Years 1838, 1839, 1840, 1841, 1842, (Philadelphia: Lea and Blanchard 1845) p.367, vol. IV.

Grizzly: Treacherous, powerful, villain

Brown Bear: Hero

Crane: Aide

Sapsucker: Braggart

Rattlesnake: Aid with rattlesnake power

Flint Boy: Hero-kills grizzly who killed his father

Wolf: Hero, parasite

Wren: Parasite

Elk: Water monster

Pheasant: Female, grandmother, evil or villain

Coon: Hero

Frogs: Villain - connected with water

Rabbit: Braggart and dupe

Skunk: Villain, treacherous

Grey Fox: Hero

Water Being: Villain - evil

Dog: Hero

Crow: Culture hero

Cougar: Hero yet treacherous

Blue Jay: Thief

Snail: Dupe for Coyote

Geese, Crane, Brant, Swan and Duck: Aid in singing - strengthen spirit power of Coyote

Louse: Would-be spy

Flea: Would-be spy

Spider: Spy, successful

Mountain Weasel: Foolish

Bull Frog: Aide to Panther, transformed toad

Blue Jay: Informer

Dog: Villain

Flint: Trickster, transformer

Whale Woman: Dupe for Coyote, flint

Otter, beaver, muskrat: Aid whale in spirit power

Mink: Secondary position - younger brother, innocent bystander

Hoot Owl: Trickster-loser

Coon: Stingy

Eagle: Aide to grizzly: carries him up on his back to escape disease

Blow Fly: Tattletale

Wild Cat: Hero-female

Coyote: Treacherous

Spider: Woman, protector

Grey Squirrel, Dog, Crow - aide in deception of Grizzly.

THE ARCHAEOLOGICAL PICTURE

Description of the Sites and Previous Archaeological Work in the Willamette Valley

There have been only six archaeological projects carried out in the Willamette Valley.

In 1928, a survey of 88 middens,[1] between Halsey and Albany, (Plate I) along the Calapooya River was made by A. Blevins, Porter Slate, and Stewart Brock, with a supplement of 37 middens located on Muddy Creek by E. H. Margason. This information was compiled into a map by W. P. Anthony.

The first scientific archaeological field work in the midden deposits of the Willamette Valley was done by Cressman, Berreman, and Stafford in 1933. This investigation was initiated by a reconnaissance of the Long Tom River area near Franklin, Oregon. This survey located some fourteen middens. Of the fourteen, Cressman excavated two. One of the middens on the Virgin Ranch near Franklin, Oregon, was located near the California-Oregon trail that runs just north of the midden. This midden deposit did not contain any bone artifacts which dominated the cultural debris in the Yamhill province. Near

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[1] I prefer to use the term midden here, as they are distinct from the mounds found in the eastern part of the United States.

the surface deer teeth, cut nails, and a knife guard from a mower were found. Pestles, mortar fragments, a polishing tool of petrified wood, chips of chert, obsidian and chalcedony, were found throughout the deposit. Animal bones were abundant. One of the three trenches contained little in the way of artifacts, but it was rich in charcoal and burned soil with charcoal fragments mixed into the matrix.

In the Virgin Ranch midden ash deposits were encountered with charred camass roots in situ. This may suggest a camass oven.

The second midden deposit, the Smith-field midden, also near Franklin, contained many fire pits or camass pit-ovens. These pits occur all through the deposit, and one was found resting directly on the clay bottom of the midden some two feet below the others. One infant burial was recovered.

It is interesting to note that here there is an absence of European trade material and worked bone. No recovery of marine shells was noted. The suggestion of pre-contact and possibly quite older, is justified in the case of the Long Tom midden deposits.

In 1941 Cressman and Laughlin reported on what may suggest early man associations with mammoth remains in the Willamette Valley, near Lebanon, Oregon. Since this has some bearing on Chronology it will be treated more fully in the following section on Chronology of The Willamette Valley.

In 1941, William S. Laughlin published an article in the

American Antiquity entitled "Excavations of the Calapuya Mounds of The Willamette Valley, Oregon" reporting on excavations of four middens: two near Harrisburg, one at Halsey, and one near Shedd.

The Spurland midden near Harrisburg revealed five skeletons with grave goods. These artifacts were copper tube beads, copper buttons, a piece of a bear skin robe, olivella, clam, and abalone shells. The abalone shell was worked into a pendant. A number of stone points of obsidian, chalcedony, jasper, chert, and one scraper of petrified wood was taken out. Bone artifacts such as rachetted antlers for a chisel or as a knife hafting were recovered in situ from Spurland.

Miller midden, adjacent to Spurland, was partially excavated. There were found three skeletons and hearths at different levels. A fossil mollusk was found in this midden also.

In the Halsey midden, two skeletons were found. Horn tools, wedges, and skin dressers were recovered. There seemed to be more worked bone in this midden than in Miller and Spurland.

The Shedd midden contained only one skull located 40 cm. below the surface. An incised mortar rim was also recovered. The owner of the land on which the midden was situated said that he had found an obsidian blade, in a mortar. The blade had been broken into three pieces.

A few of the burials show evidence of head-flattening, but the majority of the burials found in the middens contained skeletal remains with natural, undeformed heads. Boas, Lewis and Clark, Goddard, Jacobs, Barnett, and Ray associate this

fronto-occipital deformation with status for the northwest.

Laughlin, later in 1942, excavated two middens north of the Calapooya River region in the Yamhill River area. These two middens have been called Fuller and Fanning.

Fuller and Fanning middens were rich in bone, stone, and trade goods. A large number of the burials contained significant artifacts. In 1947 Cressman reports on some possible Sandia and Yuma points near Tangent, Oregon. A brief treatment of this discovery is covered in the section on Chronology.

In 1949-50 Spurland midden was reopened by Dr. William S. Laughlin and myself, with the aid of the Archaeology Class, for further investigation.

This excavation did not prove fruitful in artifacts but was revealing in midden character. One burial of an adolescent, about 12 years of age was recovered. The skeletal remains were in poor condition. A total of 48 artifacts were removed from 37.60 cubic meters of earth under 90 man hours of labor. The artifacts laid out in the laboratory, did not reveal anything other than the excavators selective grouping.

On the surface, a mantle of fire-cracked rock, river pebbles, flaked chert, obsidian, basalt chalcedony, and jasper extend 25 cm. below the surface. Under this a leached out area containing pockets of fire burned earth orange in color. Underneath this sporadic burned area is solid midden debris of fire-cracked rock, charcoal and a great quantity of flaked material. The midden area is very damp in contrast to the dry burned area. This suggests the affects of weathering rather than cultural

stratigraphy, for small scattered pockets of orange colored earth were faintly present in the moist midden debris under the dry zone.

No trade goods were recovered from this excavation and artifacts were recovered from the surface to the bottom of the deposit, i.e. and elevation of 98 meters (see profile). From this negative evidence, I believe that the Spurland burials excavated in 1941 by Laughlin were post-contact and intrusive because of the associated European trade material.

In the same year, a day of excavation was spent in excavating a midden deposit which was exposed for 30 meters along the face of Perkin's Peninsula, Fern Ridge Dam site, near Eugene, Oregon by the Archaeology class under the supervision of Dr. Laughlin and myself. Although only one day was spent in excavating the returns were somewhat satisfying. There were only sixteen artifacts, one human parietal bone and numberous flakes, firecracked rocks, and animal bones recovered. A number of fire lenses were noted along the face of the embankment but they did not appear to be at any consistent vertical or horizontal order. This midden deposit seems to represent a long period of occupation.

The importance of these middens is that the material culture indicated contact with other groups outside the Willamette Valley, specifically with peoples of the Columbia River area, Northwest Coast, Oregon Coast, California and the eastern side of the Cascades. The details of this relationship will be examined in a later chapter.

The following data has been taken from the literature and the field notes of Dr. L. S. Cressman, W. T. Edmunson, William S. Laughlin and the notes of my own from the 1949 excavation of Spurland midden.

The Artifacts

At first I had planned to construct a typology for the Willamette Valley along the lines of Gifford and Schenck's classification. However upon typing specimen after specimen, especially projectile points, I became aware that the function of each artifact was being overlooked. The anthropologist deals with culture as a distinctively human product and since man is a tool-using animal we have to consider our archaeology in terms of men and culture and not on a purely descriptive basis. Typology ignores the functional aspect of each artifact. One artifact may have a multitude of uses, i.e., our screwdriver can be used as a screwdriver, chisel, icepick, scraper, prying tool, hammer (butt end); likewise an ice pick can be used as an awl, punch, prying tool, incising tool and many other uses can be listed for these implements. Thus a drill could function as a burin (graver), drill, a punch, etc.; a projectile point could have a ceremonial function as well as a utilitarian use.

All in all, I think placing an outline description typology for a functional item is rather futile for how are we to know whether an object is a clam breaker, scraper, chopper, throwing stone or cooking stone? Type NAb1 may be 12 inches long and

another NAbl may be 8 mm long, but they are still NA bl according to Gifford and Schenck. No attention, on the descriptive basis, is paid to the cross section, thickness, etc. The 12 inch NA bl may have been a prestige item and the smaller NAbl may have been a child's toy or vice versa.

The argument presented in favor of typology in artifacts is that when certain projectile points are found in large quantities, it is said that they represent a pattern of construction - that it represents tradition carried on through time and that culture had established a pattern of construction and that certain motor habits had been assigned to produce a particular type of projectile point, pestle, mortar, scraper or chopper. Still the typology does not tell us the important aspect of the artifacts - its use by man, i.e., what was the tool used for? Was it a knife, a scraper, or a projectile point? Did the axe represent a prestige item, a badge of office or was it used to kill enemies, or to chop wood? Typology gives us an insight to the establishment of a pattern but not to the function or how it was patterned in the culture.

However, I am obliged to assign the usual trite subheadings of bone, horn and shell; projectile points, scrapers and drills; perishables; ground and pecked stone; polished stone, European trade goods; and a discussion of the animal bone found in each of the midden debris. Within each of these subheadings, I am forced to assign, particularly in the case of projectile points, a classification system for "types" found in the Willamette

Valley. I am fully aware that upon this objective treatment of the artifacts, I am ignoring the functional aspect of material culture.

Bone, Horn and Shell

The majority of the bone and horn implements recovered in Kalapuya territory was concentrated in the Yamhill-Tualatin region. It seems that as one approaches the Columbia River the bone and horn complex becomes more concentrated. This complex extends to the confluence of the Santiam and Willamette Rivers near Jefferson, Oregon. In the areas of Tangent, Shedd, Halsey and Harrisburg, bone artifacts are thinly distributed and are almost a rarity. The Long Tom site is completely devoid of bone artifacts. While the Tualatin-Yamhill area from evidence of Fuller and Fanning exhibit a richness of bone tools not found in any of the other sites.

Flakers:

These are from Fanning and Fuller middins in Yamhill County (plate II,1, 2, 3, 4, 5 and 6). There are six flakers in all and four of them (Nos. 2, 3, 4 and 5) are from antler tines. The other two are from rib (No.6), a long bone (No.1) of a small animal (deer and rodent). The antler tines show wear on the tips and are beveled. The one large flaker is fragmentary and calling it a flaker may be an error but the tines and small rib bone are certainly flakers and they average 5.5 cm. in length and one cm. in diameter.

Needles (Plate III, 12, 13, 14, 15, 16, 17):

There are three artifacts that can be called needles because of their eye and polished surfaces plus the fact that they are slender and would slip through a hole punched in leather or basketry. One copper-stained needle (No.13) which may perform a double function as a pendant as well as a utility implement, was associated with burial 10 in Fuller midden; incised lines extend from the butt of the needle to the tip of the needle, but on one side only. These are horizontal incised lines. A hole has been drilled in the butt of No.13 and No. 14; but No. 14 is fragmentary. This No. 14 needle is curved while No. 13 is long and tapering. These needles suggest, as No. 13 does, basketry and possibly sewing of hide materials providing a hole was punched.

Awls (Plate II, Nos. 19, 20 and 21):

Only four bone awls could be sifted from the Edmunson/Laughlin collection. No. 19 is from a tibia of a deer and the proximal end is the butt. From the butt it tapers to a point and has a finely polished shaft. No. 21 is a long, slender, polished tube that may be an awl for it is polished on the tip and has been fractured off at the end. There are seven, small diagonal scratches near the tip, but the majority of the wear seems to be along the barrel of the awl as if continued pushing or thrusting use was the case. No. 20 is similar to No. 21, but somewhat shorter and with more tapering. Rodents have gnawed the tip portion of the shaft. It has the same longitudinal

abrasions of No. 21. The butt has a small tip protuding out which seems to show signs of use. The point of this awl is extremely sharp and was probably used on leather goods as it is quite sturdy.

Composite Harpoon Points (Plate II (No.7, 8, 9, and 10):

There are four such parts of separate composite harpoon points. No. 7 is from Fuller midden and was recovered from in between Burials #30 and #31. This artifact is 7.5 cm. long and 2 cm. wide at the widest part. The tip of the harpoon point has the raised bulb that is typical of the Northwest Coast composite harpoons. No. 7 has a natural hollow groove on the underside. The point has been fractured off, but the bulbous barb remains along with the slight curvature as a mark of identification. No. 8 is a composite harpoon barb of a different sort but it is the point end. The barbed end has been cut off. It is 5.5 cm. long and 1 cm. wide at the place it had been cut. In cross section it is plano-convex while the other (7) was concave-convex. The under surface of this one is flat. No. 9 is a smaller but more significant being convex-concave. The point fits into the blunt end and the long, hollow tapering section fits over the fore-shaft. No. 10 is a fragmentary specimen also concave-convex in cross section.

Harpoon Points (Plate II Nos. 11, 12, and 13):

Three bone points, that can be considered as fragments of projectile equipment, are numbered 12, 11, and 13. No. 12 is a large point 1 cm. by 2.5 cm. It appears to have been cut. The tip is sharp and the sides are smooth and polished.

This specimen is 2.25 cm. long and c.s. .5 cm. in diameter and oval in cross section. The point begins to bulge out then taper towards the cut end. The butt does seem to be carved or have been ringed by a knife or abraiding tool. 13 is a single bilaterally barbed harpoon point that also is a companion to the composite harpoon gig.

Skin Dressers (Pl. IV No. 3):

There is only one, 4.5 cm. long, tapered to 1 cm. The tip is beveled on one side and worn smooth.

Bone Blade (Plate III No. 1):

This is ground and polished and tapers to a point. The butt has a definite hafting groove for a large shaft. This specimen is 240 mm long and is 30 mm wide. It is plano-convex in cross-section. The width of the hafting base is 15 mm.

Bone Beads, Tubular (Plate II No. 18):

Bone tubular beads, 1 mm. long, 5 mm. in diameter, were found in Fuller and Fanning Middens. Similar beads were recovered from Spurland midden.

Ear Plugs (Plate III, Nos. 8, 9, 10):

There are three such articles that were recovered from Fuller midden in the Yamhill province. They are 2.5 cm. in diameter and 1 cm. thick. They were found in situ on a burial next to the auditory meatuses. They are circumferentially grooved.

Wedges (Plate V):

There are a number of horn wedges found in the Yamhill middens and in the middens of Shedd, Halsey and Harrisburg. There were four such implements recovered, all in good shape. In Fanning midden six fragmentary wedges were recovered.

The Fuller wedges: No. 1 is 150 mm. long and 65 mm. wide. This may be a skin dresser. No. 2 is a fragmentary wedge of antler that has been ground to a tapering edge. This specimen is 60 mm. long and 40 mm. wide. No. 3 has the point ground and polished and beveled on one side. The surface has the corrugated appearance of the original antler. The length is 130 mm. and the width is 115 mm. at the widest section. No. 4 is a wedge found 40 inches from the surface. This is similar to the others but is very fragmentary. The length is 90 mm. and is about 88-105 mm. wide. This is the tip of the implement. No shaft was recovered.

The Fanning wedges: No. 5 is 40 mm. long and 27 mm. wide. It has a semicircular edge ground and polished to a bevel. No. 6 is a fragmentary wedge 100 mm. long and 68 mm. wide at

the widest point. This object has a semicircular edge ground and beveled. The body of the wedge had not been ground and it still retains its natural corrugated surface. No. 7 is a wedge of an animal long bone and is fragmentary. As are the others, this is plano-convex and highly polished. The blade has been ground and beveled to a semicircular edge. This tool may have been fractured from use because these fractures, on the alternating ridges, seem to have been the result of prying.

The other wedges follow this same pattern and vary from 60 to 100 mm. in length. The blades of all are highly polished and ground to a semicircular cutting edge.

Camass Root Digging Stick Handles (Plate VI, a, b, c):

Camass root digging handles have been recovered from Fuller and Fanning middens in Yamhill County. Shedd, Halsey, Tangent and Harrisburg middens also revealed this antler digging stick handle.

The usual pattern is an antler of elk or deer with a hole drilled in the approximate center of the horn and large enough to permit a stick to be inserted. The average diameter is 3.5 cm. To go through and describe each as a separate item would be a mundane repetition. The important factor is that they are all similar except for one which has incised designs arranged in groups of five and three. This is No. 7 in Plate VI, b.

Fuller midden had the majority of the camass root digging stick handles. Fanning midden had four fragmentary specimens.

Carved Head (Plate III, No. 2):

This head may have been the butt of a whalebone club as it is of whalebone and tapers to the neck. This is only one suggestion as it may also be a figurine.

Bone Die (Plate III, No. 7):

This is a small bone ca. 10 mm. long and .5 mm. thick and rectangular in shape. Two rows of five holes appear on each of the four sides. This is similar to the gaming bone that is mentioned by Jacobs.

Whalebone Club (Plate VII, Nos. 1 and 2):

The whalebone club, No. 1, is fragmentary consisting of tip, handle and center section. There is evidence of extreme rodent action. The center section is practically chewed away. The body of the blade shows a raised rib running down the center of the blade with an incised line down the middle of the raised portion. Both sides are ground and polished and bilaterally edged. On the reverse side in the center is a raised and smoothed area forming a rounded ridge. The butt of the handle has a bird-like design in relief with eyes and beak - full front view. The edges of the butt of the handle have incised grooves extending the entire length of the butt. The blade from fracture to tip is 265 mm. in length and 95 mm. in width. The center portion is 135 mm. This section has the rounded ridge. The reverse side has been chewed away by rodents.

Butt and handle - 105 mm. long, butt width 70 mm.; handle and butt have also been polished.

No 2 is a whalebone club 51 cm. long, 35 cm. wide. This artifact is similar in form to No. 1, except for geometric eye design on the handle. This specimen has been ground and polished. There are several abraisions on one of the beveled edges. A slight ridge runs down the middle of the blade from the handle to tip of the blade.

Bone Chisel (Plate III, No. 2):

What Laughlin calls a bone chisel from Spurland may very well be a flaker. It is 8 cm. long and 6 mm. across the working edge. The artifact appears to be of a soft material - too soft to serve as a chisel or a flaking tool. A more favorable category would be a skin dresser or an implement with which to work softer material.

Shell: (Plate VIII, Nos. 1, 2, 3, 4):

Dentalium, olivella can be said to be common to all of the Kalapuya middens except the Long Tom middens. Haliotis, paphia, limpet, turritella, and littorina is recorded for the Fuller deposits.

Dentalium and olivella occur as necklaces, anklets, and bracelets. Fuller burial number 10 had the pelecypod and littorina strung on a necklace along with dentalium and olivella. The paphia was found in the matrix of Fuller midden.

Haliotis functioned as a pendant in the Fuller and Spurland

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[1]Laughlin, op.cit., 1941, p.151.

burials.

River mussel appeared in all of the midden deposits in the upper one foot level as part of the matrix. Below the one foot level the occurrence of river mussel was common.

Ground and Pecked Stone (Plate IX, a,b,c):

The ground stone that appears in the Yamhill province are represented by mortar and pestle fragments; small, 2 cm. diameter grooved river pebbles and one tubular pipe of sandstone from Fanning midden. The Spurland midden revealed pestle fragments and a crude hammerstone. At Perkin's Peninsula, a mortar fragment was picked up near the site and a crude pestle/hammerstone was recovered from the midden debris.

Pestles:

No. 1 is a fractured pestle recovered from Fuller midden. It is broken in the center. One large flake has been taken off the small end, and the larger end also has a flake removed from the corner of the fractured surface. It is 95 mm. long and 55 mm. wide across the fractured surface. No. 2 is a fragment from a center section of a maul or pestle 55 X 45 mm. It has been pecked then ground to a smooth surface. Pecking scars remain visible. At the Alvadore midden near Franklin, we have an assortment of pestles which are due to natural formation as well as those reworked by human hands. The most complete specimen is 3, a flat and naturally formed river cobble 19 cm. long, 75 mm. wide at one end and

tapering to 4 cm. at the opposite large end. This pestle is 1.5 cm. thick. The ends are semicircular and show signs of wear by friction, i.e., grinding in a back and forth motion.

Another pestle fragment from Alvadore, 4, has pecking scars remaining. This fragment has both ends missing.

No. 5, which is also from Alvadore, is 80 X 45 mm., has been used as a grinding stone. Possibly it can be labeled as one of thos e utility tools that the women kept about their households. Besides having the each of the four sides faceted and polished, the one end reveals evidence of battering.

No. 6 is a natural, tear-drop shaped pestle/grinding stone with evidence of battering on each end. It is 115 mm. long, and 40 mm. wide at the large end and approximately 20 mm. at the small end. Each end is semi-circular and is 1.5 cm. thick.

No. 7 from Alvadore is plano-convex in cross-section. It is 50 X 35 mm. in length and width. It has been ground flat on one side, but one could suspicion that this was a natural river cobble. No. 8, also from Alvadore is a tip of a pestle made of petrified wood. Its length is 55 mm. and its width is 30 mm. in diameter. There has been a flake fractured off the point. This artifact has been ground down to its tapering end by abrasion because the lines of abrasion are clearly visible, by naked eye, as well as under the magnifying glass.

No. 9 from Alvadore is a sandstone pestle with a blunt, abraided end. This fractured piece is 100 mm. long and 50 mm.

in diameter. In cross-section it is oval. The pecking scars are visible. No. 10 is a river-fractured cobble of fine-grain basalt, 10 X 8 cm., with one semi-circular end ground smooth by working it in a back-and-forth manner on a mortar. There is overall smoothness on the entire body. There are no rough surfaces. No. 11 is a prominently pointed, fragmentary pestle, that has had some large flakes removed from both sides. The surface of this implement is very rough and had been ground to shape by abrasion.

No. 12 is a fragmentary pestle 90 X 70 mm., made from fine grain basalt, with flakes fractured out by percussion and smoothed down by grinding. The remaining end surfaces are ground smooth.

No. 13 is a double-ended pestle/hammerstone of fine grain basalt. I give this the dual purpose category because the implement may well have been used in a mortar as a pestle to break up camass and grass seeds, although both ends show evidence of considerable battering. The sides, in fact, the entire surface, have been ground smooth, possibly by water action before it became a pestle/hammerstone.

No. 14 is an excellent textbook example of a pestle because of the well-rounded blunt basal end and the symetrical tear drop tapering. Evidence of grinding is noticeable on each end. This implement is 20 cm. long and 5 cm. in diameter at the basal end and approximately 2 cm. at the proximal end. The entire body is ground smooth. There are no pecking scars. No. 15 is a cobble stone which is oval-shaped. It is 11 cm.

in diameter. It has been used as a hammerstone and as a grinding stone. One end indicates battering and the other end has been worn smooth by grinding. No. 16 is a well-defined, fragmentary, tapering pestle, ground to a point, and is similar to No. 11, but it does not have the large flakes removed from the body as does No. 11.

No. 17 is the functional end of a hammerstone, six cm. long and six cm. in diameter. The working end of this tool shows battering on one corner as if the hammerstone was held at an angle. It is of basalt.

No. 18 is an andesite pestle, quadrangalarly shaped. It is 21 cm. X 5 cm. at the widest part. One edge has evidence of battering running the entire length of the pestle. On the opposite edge there has been pronounced battering at each end which extends part way along the edge of the tool. The tips show evidence of grinding and battering. Could this be a combination tool?

No. 19 is a curved, quadrangular hammerstone, 22 cm. long by 5 cm. wide. Each end of this artifact reveals extreme battering and large flakes have been removed from it. It seems to have been ground to shape and a faint outline of a hafting notch can be seen if scrutinized closely.

No. 20, from Venita, Oregon, is a typical pecked and ground out pestle with grinding surfaces on each end. It is 18 cm. X 6 cm.

The pestle No. 21 found in Spurland mound in 1949, may have performed a dual function as a pestle/hammerstone. This

specimen is 19 cm. long and 7 cm. in diameter. It has been shaped by grinding at both ends. The Spurland midden pestles showed working only on ends. Anvils and mauls were also found. They were worked in the middle.

Mortars: (Plate IX, c)

One mortar from Spurland midden seems to be made of sandstone. It was recovered in situ 1.2 meters from the surface. Also, there is a mortar from the Shedd midden with grooved geometric V designs encircling the edge.

No. 22 found in the Franklin midden area, is fragmentary. It has a smooth outer surface. The inner surface has been pecked and then smoothed down.

No. 23 is a mortar rim fragment. It has a polished rim, smooth outer surface and smooth inner surface.

No. 24 is another rim fragment and the same as No. 23 except that it is a little bit heavier. No. 25 found by a collector in Cottage Grove, is a rim fragment indicating a fairly heavy base. It is smooth inside and out.

Sinkerstones or Grooved Bola Weights: (Plate X)

Six small ground and polished round river cobblestones averaging 2.5 cm. X 4. cm.with grooves encircling each pebble were found. (1, 2, 3, 4, 5, and 6). There is considerable controversy,as to their function, in the literature. de Laguna refers to them as bolo weights, others, Collier et. al., Heizer, Strong et al., refer to them as net sinkers.

Hide (Plate XI):

One burial in Spurland was encased in a matted bear robe which had some form of sewing to keep it together.

Chipped Stone: Projectile Points, Scrapers, Drills

All the sites contained projectile points from surface to the bottom of the deposit. This is approximately a depth of 1.5 meters. It is very unfortunate to have the vertical control taken from a floating reference point, i.e., depth from the surface. We will have to contend with a relative position that is one on top of the other in the case of the Fuller, Fanning, Halsey, Shedd, Tangent,[1] and the 1941 excavation of the Spurland midden.

The 1949 excavation of Spurland maintained instrument control throughout the entire excavation. All artifacts recovered from this excavation are tied to a bench mark (BM = 100) and consistent height of instrument (BM=100 + R).

I will do well to merely state the consistent type of projectile points found at each site and their relative earth position when at all possible. This situation also applies to the scrapers, drills and choppers as well.

The Yamhill projectile points were of variant types but consistent types are SAa, SAb and Scb2 (Figure 1). Spurland

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[1]Except for Sandia and Yuma reported by Cressman.

midden points were so few that constructing a type or types is difficult. The same situation occurs for Perkin's Peninsula, but points from Spurland and Perkin's Peninsula will be listed. They are SBb, NBa, SAa, NAb1. The Long Tom province produces many varient types, in fact so varient that the Strong, Schenck and Steward system is difficult to use, but SBB seems to occur more frequently. Type NAb2 is then secondary to SBb.

The Shedd, Halsey and Tangent middens tend to exhibit variation of all the types mentioned for Fanning and Fuller middens.

It can be seen that each midden has variants of all the types mentioned by Strong and Schenck (Figure 2). It would be desirable to have a stratigraphic sequence of these points for the middens, but at present this is impossible for the reason mentioned earlier. I do not mean that a sequence would be supporting evidence of cultural homogenity or heterogenity between sites but only to show a consistency of a pattern, if such would occur.

Scrapers (Plate XII and Figure 3):

In Fanning and Fuller middens, scraper types of circular with tang, circular, square, semi-circular, cresent and triangular are the typical forms occurring from the surface to the bottom of each deposit. Spurland, Halsey, Shedd, Tangent, Miller and Perkin's Peninsula have this same assortment of scraper types. The size of the circular and circular with tang

scrapers vary from one cm. to six cm. in diameter with the modal scrapers at 4 cm. The square scraper seemed to be modal at 3 cm. X 3 cm. The triangular was modal at 3 cm. at the base and tapered abruptly or gradually to a point. These types I have set up do not appear in any one archaeological horizon, but are scattered throughout the midden deposits.

Drills:

This is a very difficult artifact to identify as well as attempting to place them in a taxonomic arrangement. Of the drills at Fanning and Fuller middens, the bit (Figure 4-a) drill is most common. It is the modal type followed by the varient types as the hand-held (Figure 4-b) and the chisel/bit. Spurland has the long bit with a shank (Figure 4-c) for hafting at the upper and lower levels. Halsey, Shedd and Tangent have variants of thumb or hand-held types, chisel-bit and the bit with shank type. The average length of these is three centimeters.

Obsidian Blade: (Plate XIII, Nos. 1, 2)

A waisted blade from Fuller midden 25 cm. long, 5 cm. at the widest place 4 cm. at waist of blade. Parallel flaking on both sides and it is ovoid in cross section. Similar to those of northern California and Gold Hill.

Polished Stone

Tubular Pipe (Plate X):

This is a tubular pipe of polished stone from Fanning midden. It is 28 cm. long, 10 mm. inside diameter, tapering to a 6 mm. diameter (inside hole). It is made of siltstone. It had been drilled through the large end first and then drilled through the small end to complete the hole. No evidence of charring or tobacco residue could be found inside the tube.

This pipe appears to have been drilled from both ends. Possibly starting at the end with the smallest diameter and drilling towards the middle, then beginning from the other end and drilling as before to the middle, thus completing the hole from end to end. The larger end of the pipe is funnel shaped and converges to a ridge in the center indicating it was drilled from two directions.

European Trade Material (Plate XIV)

This simply amounts to a collection of colonial buttons, copper tube beads, copper rings, copper pendants, copper thimble with perforation, glass trade beads and a .40 caliber musket ball.

The buttons are of the trombac type. Fuller, Fanning and Spurland middens had the trombac type button associated with

burials. Johnston, an authority on buttons, offers the following description of the trombac button:[1]

> This severe and well defined type is distinct from all other and came upon the scene at a still undetermined time, seemingly in the latter half of the 18th century and practically disappeared before its close. A wire bent into a suitable loop and slightly longer than the shank wanted was set in the mold so that the open end became embedded in the cast of the button. The rough casting was somewhat heavier than needed be to permit turning the surface smooth in a lathe. This left a cone shaped mass around the shank where rough cast surface can be seen.

The copper tube beads were found in all the deposits (Plate XI) except the Long Tom midden deposits, 1949 excavation of Spurland midden, Perkins' Peninsula, Miller, Halsey, and Shedd middens. These beads averaged about 36 mm. long and 5 mm. wide. They are made from cold rolled copper of 16 or 18 pound weight. (Plate XIV, No. 2)

The pendants were, as the copper tube beads, manufactured from sheet copper of 16 or 18 pound weight. Some times this material was traded into the region in the form of copper kettles, pots, and pans, as well as the sheet copper.

The copper rings that were recovered from the male flathead burial at Spurland are trader's items such as mentioned by Boit, Vancouver, Gray, and Lewis and Clark.

The traders, according to Lewis and Clark[2] were at the

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[1]David F. Johnson, Uniform Buttons, (Watkins Glen: Century House, 1948), p.12.

[2]Lewis and Clark, op. cit., p.306.

mouth of the Columbia River and in the region of the Willamette Columbia drainage long before 1805. So it is possible that the copper and glass trade beads made their way into the Willamette Valley before 1800 via the aboriginal trade and the Dalles trade mart or with the nearby Chinook peoples. Later trade in 1839, the Klickitat invasion and the introduction of the horse, spread the influx of European goods such as glass beads, and objects of copper throughout the Northwest.

Glass beads were found in all of the sites except the Long Tom region and Perkins' Peninsula site. These beads are the typical blue and white faceted Hudson Bay beads. It would be fairly safe to say that they received them from the Hudson Bay traders between 1812-50. Some of the beads were multi-colored, but blue and white seemed to be more consistent.

A small thimble 5 cm. long and 2 cm. in diameter was found in Fuller. This small thimble was perforated at the end for suspension. The hole looks as if it were drilled with a hard tool. This drilled thimble is quite common among the Columbia River tribes.

Animal Bone:

The herbivorous animals, deer and elk, were well known in all of the cultural deposits in the Willamette Valley. Unfortunately, we cannot give a qualitative account in percentage of each type of animal bone for successive levels. The notes of Edmunson merely state "animal bone found mixed in with burial such and such", or "Found throughout the midden".

Cressman in 1933, found deer bones in the upper levels of both the Long Tom excavations, Virgin Ranch and Smithfield. Spurland had deer and elk and other unidentifiable bones scattered throughout the deposit. The 1949 check on deposition and quantitative analysis of animal bone did not reveal anything enlightening for the identifiable deer bones, which were 10 in number and the 116 small, unidentifiable fragments did not show any regular grouping.

Fanning, Fuller, Spurland, Halsey and Tangent deposits contain elk and deer horn digging stick handles. Other animal bones such as small rodents, rabbit bones for their tools.

It is evident that the deer, elk, and bear were utilized as food and the bones utilized for tools that they (Fanning, Fuller, Spurland, and Halsey) might need or want. Horse bones were removed from the Tangent midden, but no specific reference is made to them. Other animal bones, such as fox, beaver, and copious bird bones suggest a stress on hunting activity to supplement the fish diet that was reported by the early explorers and settlers.

Burial Complex

The task of untangling the burial complex of the Kalapuya is most strenuous because the present data that is available is so limited and that vertical control is nigh impossible. However, we are fortunate to have the field notes and letters of Dr. Edmunson to provide the corroborative material of this thesis. From this information I will draw some definite conclusions as to head flattening condition of bones, deformation by sex, and the burial type that seems to be diagnostic of the Kalapuya.

At this time I will present the raw data and let the reader pour over the descriptions. I will concentrate on the conclusive statements which follow the burial descriptions.

The Fuller burial complex is composed of 40 burials uncovered by Dr. Edmunson and William S. Laughlin in 1940-41-42.

Fuller Burial #1

Depth from surface: 5 feet
Burial Type: indeterminate
Deposition: on left side, head to NW.
Grave type: pit
Associations
1. Features: near Burial #2 and Burial #3.
2. Specimens: Olivella, dentalium, and littorina shell beads with bone beads.

Preservation: Fair
Completeness: Incomplete, skull missing, mandible fragment and teeth recovered.
Sex: Indeterminate
Age: Adolescent
Remarks: Near #2 and #3 which are also adolescents.

Fuller #2

Depth from surface: 5 feet.
Burial type: Flexed
Deposition: Lying on right side, head to SW.
Grave type: Pit
Associations:
1. Features: None
2. Specimens: None
Preservation: Poor
Completeness: Incomplete
Sex: Indeterminate
Age: Adolescent
Remarks: Near burial #1.

Fuller #3

Depth from surface: 4 feet.
Burial type: Flexed
Deposition: On right side, head to NW.
Grave Type: Pit
Associations:
1. Features: Above the skeleton a quantity of sterile ash lies just above and to the west of the head of burial #3.
2. Specimens: Necklace of 72 bone beads; dentalium, palecopad, olivella and turtella shells; three copper pendants and a copper button; no trade beads; many other shell beads were all around legs, arms, etc.,; one large 5 cm. red chert drill, with chisel base; points of agate and obsidian; small unidentified bone artifacts.
Preservation: Good
Completeness: Complete
Sex: Female
Age: Adolescent

Burial #4

Burial Type: Flexed
Deposition: Lying on left side, head to SW
Associations:
1. Specimens: String of shell beads of meshed bevalves and dentalium cut in 1/8 and ¼ inch sections. Some of these beads were about the ankles; whalebone club found along the back with point towards the pelvis.
Sex: Indeterminate
Age: Adult
Remarks: This may represent an individual of wealth and prestige. Cephalic index 84.5.

Burial #5

Depth from surface: 5.4 ½ feet
Deposition: Semi-flexed, lying on back, head towards SW
Associations:
1. Specimens: Only thing recorded is a nose plug found with it and bone beads
Grave type: Pit
Remarks: cephalic index 74.00

Burial #6

Depth from surface: 4'
Burial Type: Flexed
Deposition: On left side facing west
Grave type: Pit
Associations: None
Preservation: Poor
Completeness: Incomplete
Sex: Indeterminate
Remarks: Burial in clay matrix.

Burial #7

No record.

Burial #8

Depth from surface: 1', possible reburial
Grave type: Pit, disturbed
Associations:
1. Specimens: Dentalium, copper pendant, shell bead, pestle.
Preservation: Fair
Remarks: Cephalic index 87.

Burial #9

Depth from surface: not recorded
Burial type: Flexed
Deposition: Lying on left side facing SW
Sex: Female
Remarks: Cephalic index 84.7.

Burial #10

Depth from surface: Not recorded
Burial Type: Flexed
Deposition: Lying on its left side facing west
Grave type: Pit
Associations:
1. Specimens: An incised antler digging stick handle. Beads around the neck and ankles. Beads

were of Pelecypod, dentalium, littorina, and olivella shells, bird bone beads, one glass bead, a copper pendant, a decorated bone pendant, and copper stained feathers.

Preservation: Not recorded
Sex: Female
Age: Adult
Remark: The grave fill was of finer texture than the surrounding ground. A fire hearth was recorded as being near the head.

Burial #11:

Depth from surface: Not recorded
Burial type:
Deposition: Head to north
Remarks: Cephalic index 89.4.

Burial #12:

Depth from surface: 1'
Burial type: Flexed
Deposition: Lying on left side, facing west
Grave type: Pit
Associations:
1. Specimens: 3-12 dentalium fragments associated with skeleton
Preservation: Fair
Completeness: Incomplete
Sex: Indeterminate
Age: Adult
Remarks: Cephalic index 82.3.

Burial #13:

Depth from surface: 2.5'
Burial type: Flexed
Deposition: Lying on left side, facing NW
Grave Type: Pit
Associations:
1. Specimens: Olivella beads and one bone bead with two transverse incised lines; few dentalium segments, and two limpets perforated at apex
Preservation: Fair
Completeness: Incomplete
Sex: Indeterminate
Age: Indeterminate
Remarks: The dirt above the burials was loose. Pelvis directly under that of #12; mandible missing, but face and calvarium present. Cephalic index 79.2.

Burial #14:

Depth from surface: 30 inches
Burial type: Flexed
Deposition: Lying on left side, facing north
Grave type: Pit
Associations: None
Preservation: Poor
Completeness: Incomplete
Sex: Male
Age: Mature
Remarks: This skeleton had marked hypertrophi costeo,thin skull arthritis and osteoparosis; few teeth, teeth worn to roots. Cephalic index 81.

Burial #15:

Depth: (?)
Burial type: Flexed
Deposition: Lying on right side, head to south
Grave type: Pit
Associations:
1. Specimens: Antler root camass root digging handle in lap of the individual
Preservation: Poor
Completeness: Incomplete
Sex: Female
Age: Mature
Remarks: Cephalic index 80.4.

Burial #16:

Depth: 16 inches from surface
Completeness: Fractured and scattered
Age: Infant
Associations: None

Burial #17:

Depth: 19th inches from surface
Completeness: Skull present but collapsed and broken into small pieces
Associations: None

Burial #18:

Depth: 31 inches from surface
Burial type: Flexed
Deposition: Lying on right side, head to east
Grave type: Pit
Associations:
1. Features: Fibers of cedar bark surround the skeleton
2. Specimens: Dentalium beads and copper-stained feathers at right ear
Preservation: Fair
Completeness: Incomplete
Sex: Indeterminate
Age: Child

Burial #19:

Not excavated
Age: Child
Exploration revealed: pelvis only at same level as #18.
Remarks: Cephalic index 76.5.

Burial #20:

Depth from surface: 41 inches
Burial type: Flexed
Deposition: Lying on right side, head to SE
Grave type: Pit
Associations:
1. Features: Ash and charcoal below the burial
2. Specimens: Ear plugs associated with the head; along the spine with the tip towards the pelvis and under the body was a whalebone club, gnawed by rodents
Preservation: Fair
Completeness: Incomplete
Sex: Male
Age: Adult
Remarks: Similar placement of whalebone club in burial #4. No Caucasian goods. Head was deformed (fronto-occipital).

Burial #21:

Depth from surface: 41 inches
Burial type: Flexed on right side, head to SE
Associations:
1. Specimens: Two blades, one obsidian, one bone. They were between the knees and shoulders (See Plates XIII). Skull of mink or small carnivore just behind the skull. Three animal claws found about the pelvis; ear plugs in situ.
Preservation: Fair
Completeness: Incomplete
Sex: Indeterminate
Age: Mature
Remarks: Teeth are worn into the dentine and one is ulcerated. Did #20 and #21 occur together? First molar had ulcerated into maxillary sinus and head deformation (fronto-occipital).

Burial #22:

Depth from surface: 3.5 feet
Age: Newborn, bones highly disturbed
Associations: None

Burial #23:

Depth from surface: 3.5 feet
Age: Newborn
Associations: None

Burial #24:

Depth from surface: 32"
Burial type: Flexed
Deposition: On right side
Remarks: Possibly buried with Burial #19, Dephalic index 74.

Burial #25:

Depth from surface: 2.5 feet
Deposition: North and South
Remarks: Not excavated. Cephalic index 84.2

Burial #26:

Depth from surface: Not recorded
Burial type: Not recorded
Deposition: Lying on left side.
Associations:
1. Specimens: Antler artifacts and shell beads
Sex: Female
Remarks: Cephalic index 81.3.

Burial #27:

Depth from surface: One foot
Age: Child, 4-6
Sex: Indeterminate
Remarks: Extreme flathead

Burial #28:

Depth from surface: 24"
Sex: Female
Completeness: Edentulous and skull broken
Associations: None
Remarks: Cephalic index 83.

Burial #29:

Depth from surface: #6"
Associations: None
Age: Child

Burial #30:

Depth from surface: Not recorded
Burial type: Flexed
Preservation: Poor
Completeness: Large pelvis, large femera and tibia; incomplete burial
Sex: Male
Age: Indeterminate

Burial #31:

Depth from surface: 39"
Remarks: Small bones - skull, arms, and neck ribs (?); all vertebrae except two; fifth sacral lacking the neural arch, making it a spina bifida.
Associations: Awls found near center of group (Between #30 and #31)

Burial #32:

Depth from surface: 28"
Associations: None
Age: Infant

Burial #33:

Depth from surface: 31"
Associations: None
Completeness: Skull partly missing
Sex: Male
Age: Adolescent

Burial #34:

Depth from surface: 30"
Associations: None
Completeness: Disintegrated, skull scattered.

Burial #35:

Depth from surface: 40"
Associations: None
Completeness: Skull missing
Sex: Indeterminate
Age: Small, old individual
Remarks: Broken bones

Burial #36:

Depth: Not recorded
Associations:
1. Specimens: Olivella near pelvis
Age: Small, aged individual
Sex: Female
Completeness: Incomplete skeleton
Remarks: Almost edentulous; marked change in all joints and in roots of remaining teeth; arthritic

Burial #37:

Depth: Not recorded
Preservation: Poor
Completeness: Incomplete
Remarks: Not saved

Burial #38:

Depth from surface: 35"
Associations:
1. Specimens: Olivella
Preservation: Poor
Completeness: Fragmentary
Sex: Female

Burial #39:

Depth from surface: 38"
Deposition: Intrusive into clay 4"-6"; lying on face with right arm flexed and left arm extended; long leg bones were under spine and pelvis
Associations:
Specimens: Necklace of Olivella and two rolled copper tube beads. Feathers next to the copper. Olivella string encircling right shoulder; fragments of cedar bark about pelvis; camass digger handle of antler above the head, tip near right temporal bone; unworked mussel shells scattered about skeleton
Preservation: Good
Remarks: Marked flattening of head (fronto-occipital); burial #10 is close by - some similarities

Burial #40:

Depth from surface: 38"
Burial type: Flexed
Deposition: Position on right side; head to NW
Burial: Disturbed
Associations:
1. Specimens: Animal bones and mussel shells were around and above the bones of the skeleton. Fire hearth of broken rocks lying directly above skeleton. Cedar post and 12" plank set vertically. (Cedar scraps were numerous down to and in the skeleton. 10" pestle found in fire hearth above grave. Bear penis bone found in this area. Olivellas under shoulders; corroded piece of flat iron in right hand; stemmed scraper of petrified wood; antler wedge just above skeleton; bird's bill (lark) near right

temple; small iron tubes in nostrils. Dentalium and olivella string about right wrist arranged with a copper tube bead in the string. Few olivellas about pelvis; three rows of olivella around each ankle; dentallia and small olivellas and a $\frac{1}{2}$" x $\frac{1}{2}$" tube of iron on each foot; a row of olivellas extended up each fibula to near the top where at least a double row surrounded the leg.

Preservation: Good
Completeness: Complete
Sex: Male
Age: Adolescent
Remarks: One distal interphalangeal bone of the hand is fused; dirt above burial very loose. Fire hearth lies directly above the skull. Fire hearth of broken rocks. Shells and bones not chalky as others. Recent burial (?) wearing white man's clothes because of the anklets, etc.?

Fanning Burial #1:

Depth from surface: Not recorded
Burial type: Semiflexed
Deposition: Lying on right side, head to east
Preservation: Fair
Completeness: Incomplete

Burial #2:

Depth from surface: 3'
Burial type: Flexed
Deposition: Position on left side, head to north
Grave type: Pit
Associations:
1. Specimens: Elk horn wedge, one foot west of head. Stone chipping point
Sex: Female
Age: Adolescent
Remarks: Wisdom teeth are erupted. Three fish vertebrae near by. Cephalic index 80.5.

Burial #3:

Depth from surface: Not recorded
Burial type: Flexed
Position: Indeterminate
Stratification: Disturbed
Associations:
1. Specimens: Bone and olivella beads
Preservation: Poor
Sex: Indeterminate
Age: Indeterminate
Remarks: Cephalic index 74.5.

Burial #4:

Depth from surface: Not recorded
Burial type: Semiflexed
Deposition: Lying on right side
Grave type: Pit
Associations:
1. Specimens: Mortar
Preservation: Fair
Sex: Indeterminate
Age: Indeterminate
Remarks: No depth recorded except "skeleton was at or very close to the base of the mound".

Burial #5:

Burial type: Flexed
Depth: Not recorded
Associations:
1. Specimens: Owl's head carved of bone, similar to Fuller whalebone club; drilled disc of sandstone
Remarks: Cephalic index 85.3.

Burial #6:

Depth from surface: 3'
Burial type: Flexed
Deposition: On left side, head to east
Burial: Intrusive
Preservation: Poor
Remarks: Intruded and surrounded by ash

Burial #7:

No information except that it was recorded as a disorganized pile of bones and cephalic index 86.3.

Burial #8:

Depth from surface: 2.5'
Burial type: Indeterminate
Position: Indeterminate
Associations:
1. Specimens: Maul, stone
Preservation: Poor
Completeness: Very fragmentary
Sex: Female
Age: Mature

Burial #9:

No information recorded, except infant a few months old.

Burial #10:

No information except "just a collection of bones".

Burial #11:

Preservation: Fair
Completeness: Very incomplete

Burial #12:

Depth from surface: 38 inches
Associations:
1. Specimens: Pestle and piece of sandstone with shallow central depression pecked on face

Burial #13:

Depth from surface: 26"
Completeness: Incomplete
Sex: Male

Burials #14-#18:

Nothing recorded, except that the cephalic index of Burial #18 is 83.5.

Spurland Burial #1:

Depth from surface: 1.06 M
Burial type: Flexed
Position: Indeterminate
Head orientation: to west
Grave type: Pit
Associations:
1. Specimens: Dentalium and copper necklace. Rawhide fiber preserved. Bear skin robe (Plate XI) around the throat.
Preservation: Good
Completeness: Complete
Sex: Male
Age: Mature
Remarks: Teeth well worn to crows; head flattened

Burial #2:

Depth from surface: 1.2 M
Age: Child
Remarks: Lay near feet of #3. Impossible to ascertain burial position

Burial #3:

Depth from surface: Deeper than Burial #2
Burial type: Flexed
Position: On right side, head to west
Sex: Male
Remarks: Massive structure

Burial #4:

Depth: Not recorded
Burial type: Flexed
Position: On left side, head to west
Associations:
1. Specimens: Shell necklace around cervical vertebrae. Four different marine shells, majority were olivella biplicata, several clam shells, oyster shells and a haliotis pendant.
Age: Adolescent
Sex: Male

Burial #5:

Depth from surface: 1.82 M
Burial type: Flexed
Position: On left side, head to east
Age: Child
Remarks: 1st burial? Was on bottom the midden

Burial #6:

Depth: These remains were lying 1.02 M from datum and 20 cm. above the clay bottom of the midden.
Age: Adolescent male of about 12 years of age
Completeness: Incomplete. The bones were spongy and decayed.
Burial type: Flexed
Position: Facing due south
Associations:
1. Features: No grave goods were associationed with this burial. However a layer of river cobbles was directly below the skeletal remains. Roots were running through the bones of the skeleton. The soil contained humus and was very moist from perculation and capilary action of surface moisture.
Remarks: The teeth of the skeleton were in fair shape except that a cavity was noted in the second molar, left. The mandible was in articulation with the skull.

Miller Midden Burial:

Depth: 1.5 M
Burial type: Flexed
Position: Head to west
Associations:
1. Specimens: An arrow point was found in the palm of the left hand.
Remarks: Only one burial was recovered in this deposit

Halsey Midden Burials:

As was the Miller midden, the Halsey midden was a meager reservoir for burials. Only two exhumations, those of an adult and a child, were recovered 1.5 M from the surface.

Shedd Midden Burial:

Only one burial was reported at .40 M below the surface.

Summary of the Burial Complex

Head flattening occurred five times among the Fuller burials and once in the Fanning deposit, and only one out of five in Spurland midden. Seven cases of head flattening out of some 62 burials presents a fairly weak evidence for establishing it as a Kalapuya trait. In each case of head flattening, the burials are intrusive into a pre-contact midden and they contain European trade material. The large number of undeformed heads with a few deformed heads among them tends to point toward a late introduction of the trait. Of the seven with head flattening, three are females, one is a child, one sex indeterminate, and the other three are adult males. Each individual that had the head flattening trait, except for the infant, was well supplied with grave goods.

The distribution of head flattening in the Pacific Northwest extended west of the Cordillerian chain and from Central California to Southeastern Alaska. However wide this distribution (figure 5) seems to be, it can be broken down into three categories: The Chinook, Cowichan and Koskimo.[1]

The Chinook, often called fronto-occipital, is attributed to the Lower Chinook and Columbia River groups. The Cowichan is restricted to Vancouver Island, Yakima, Bella Bella and

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[1]Bruno Oetteking, Craniology of the North Pacific Coast, Publ. Jesup North Pacific Coast. Memoir of The American Museum of Natural History, vol. XI, Part I, (1930) p. 4.

Coast Salish groups. The Kwakuitl have the Koskimo or bandage type head deformation, so often referred to as the "sugar loaf" heads. (See figure 6).

The Chinook, fronto-occipital, is reported historically among the Kalapuya by Kane in 1851,[1] and Lewis and Clark[2] in 1805, among the Lower Chinook, about Vancouver, Washington, and Astoria, Oregon. Lewis and Clark also noted this trait among the Indians about Umatilla, Oregon. Osborne recovered from Berrian's Island, on the Columbia River near Umatilla, Oregon, a large number of skeletons that exhibited fronto-occipital head deformation.[3]

It is interesting to note that these few archaeological remains are of the Chinook type and are of well-endowed individuals.

Ray, Teit, Jacobs, Lewis and Clark, et. al., state that the fronto-occipital or Chinookian deformation is associated with a preferred social position. More regarding this topic will be mentioned later in the inter-areal treatment.

The dental pathology and arthritic condition of the

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[1]Paul Kane, Wanderings of an Artist Among the Indians of North America From Canada to Vancouver's Island and Oregon, Through the Hudson Bay Company Territory and Back Again (London: Longman 1859), pp. 180-182.

[2]Lewis and Clark, op. cit., p.10 (Plate opp. Page 10.)

[3]Homer Douglas Osborne, Preliminary Report on The River Basin Surveys of August and September, 1948, Eugene, Oregon, Vols. I and II. Unpublished works. (1949), pp. 188.

Kalapuya remains are as Lewis and Clark[1] found it among the Columbia River Indians. Osborne also had remains of arthritic individuals and extreme dental pathology in his Berrian's Island population.

The burials do not show any preference of orientation, except that the deposition was always on the side and the burial type was consistently flexed.

The question arises as to whether such grave furnishings as bird bills and feathers are for use in life after death or whether they represent guardian spirit symbolism that Jacobs refers to in his Kalapuya Texts.

Chronology of the Willamette Valley

From the foregoing archaeological investigations we are able to ascertain a tentative cultural sequence based on time rather than cultural differences or changes alone.

The earliest date we can arbitrarily assign to the Willamette Valley is approximately 10,000[2] years ago when the mammoth were roving the Valley during the early post-Pleistocene.

Two reports suggest this Paleo-Indian existence as an actuality. One is a Sandia and Yuma find near Tangent, Oregon

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[1]Coues, op. cit., p.369.

[2]Luther S. Cressman and W. S. Laughlin, "A Probable Association of Mammoth and Artifacts in The Willamette Valley, Oregon," American Antiquity, Vol. 6, No. 4 (1941) pp.339-342.

by Mr. H. L. Robe[1] in 1895. These points were turned over to the Museum of Natural History in 1938 by Mr. Robe. Robe found the points in an old drainage ditch close by some mammoth remains. However, in Lebanon, Oregon, more convincing evidence for mans' antiquity in the Willamette Valley is brought out by Cressman and Laughlin.[2] This provides us with association of artifacts with mammoth bones. Parts of the mammoth skeletal material was exposed in an old spring with associated chips and a jasper-like artifact resembling a scraper. A bone tool was found near by but it was not associated with the blue clay of the mammoth matrix and thus not associated with the mammoth remains. The stone tool association is very convincing evidence of early man in the Willamette Valley. Corrobative information that may support this statement can be found in Hansen's Proboscidian publication in which he dates mammoth remains by pollen analysis of a mammoth-bearing stratum in the Willamette Valley.[3] He says:

> By position relative to the pumice. While it cannot be proved that the glass fragments at 0.4 m. are of the same source and synchronous with the pumice of the Lake Labish sections, their depth and stratigraphic position suggest that they may well be. The volcanic activity responsible for the pumice in the

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[1]Luther S. Cressman, "Further Information on Projectile Points From Oregon," American Antiquity, Vol. 13, No. 2. (1947) pp. 177-179.

[2]Loc. cit.

[3]Hansen, op. cit., 1949, p.467.

Labish and Tualatin pollen profiles is dated at about 5000 years on the basis of its occurrence during the warm, dry maximum. The elephant bones, lying at a depth of more than twice that of the glass, could then be dated at about 10,000 years upon the basis of a constant depositional rate. As this is more conservative, 10,000 years may be a more reasonable figure than 7000 years.

By relation to the xerothermic interval. In the Silverton section, the climatic maximum portrayed by the highest proportion of yellow pine is at 0.6 m. This horizon lies two-thirds down from the surface to the bone level. If the yellow pine maximum be set at 6000 years, the bones may be dated at 9000 years by the stratigraphy alone. However, the lower sediments undoubtedly are of slower accumulation, so again a figure of 10,000 years may be more acceptable. The persistence of lodgepole with some white pine in high proportions to levels above the bone horizon is also more compatible with the greater antiquity, because lodgepole pine was not replaced by Douglas fir until 10,000 years ago in the Puget Sound region. It should be said, however, that lodgepole evidently persisted longer in the Willamette Valley than in most areas west of the Cascade Range in Oregon and Washington. In conclusion, upon the basis of the above interpretations, the age of the bones would seem to be 10,000 years or probably a little less.

Since in the Lebanon find cultural artifacts were associated with mammathremains at only a short distance from the Silverton site we are probably justified in saying man was in the Willamette Valley as long as 10,000 years ago.

The next dates are of the Smith-field, Franklin, Miller, Fuller and Fanning middens. These middens can be dated back to 1600 A.D. The Franklin and Smith-field middens have a minimum date, from dendrochronology, of 250 years taken from an old tree located in the dry stream bed of the associated old Long Tom River course. Middens situated along old stream beds and ox bow lakes are a consistent pattern throughout the Willamette Valley. The Miller midden has a tree ring date

of 350 years which pushes the culture back to 1600 A.D.[1] This 1600 A.D. is the minimum date of the Kalapuya culture we are treating at present. As is to be expected, we have a gap in time between 10,000 years ago to 1600 A.D., or 8,000 B.C. to 1600 A.D. During this span of time the cultural typology of the Kalapuya or Willamette Valley Indians is unknown and will have to be filled out by future research workers.

From 1600 A.D. to 1855, the dating problems are relatively easy for we have in the top two feet of Fuller midden, the European trade materials in the form of copper buttons (Trombac type) which were made between 1750-1800, as well as copper tube beads, glass beads, copper rings, ethnographic reference to guns, and copper pendants made from sheet copper.

Lewis and Clark mention reports, from Indians of the Lower Columbia, of early traders sailing into the mouth of the Columbia River to trade with that area, about 20 years prior to Lewis and Clark's arrival. The Indians were familiar with the names and schedules of these traders.[2] Thus the diffusion of the European goods had moved easily and rapidly up the Columbia River via aboriginal trade in the mid-18th century and to the time of Lewis and Clark (1805-1806).

Lewis and Clark noticed the Indians at the junction of

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[1]Laughlin, op.cit., 1941, p.152.

[2]Lewis and Clark, op.cit., p.306.

the Snake and Columbia Rivers who were in possession of such European trade material as brass, copper and glass beads. At the vicinity of Umatilla Rapids, near 45-BN-3 or Berrian's Island, Lewis and Clark purchased "... forty dogs ... /for/ bells, thimbles, knitting pins, brass wire and a few beads..."[1] While enroute downstream from Umatilla Rapids they passed Berrian's Island which was deserted at the time. From the journal they state, "Lar[d] passed and Isls in the middle at 8 miles on which 5 Indian Lodges deserted."[2] As they passed through this area into the vicinity of Umatilla it is mentioned in Clark's Journal for October 19, 1805 that "We gave a medal, a handkerchief and a string of wompon to Yellepit (an Indian Chief) and a string of wompon to each of the others."[3]

Among the Sokulk near the Yakima River, blue and white trade beads were recorded as being used as pendants, necklaces and bracelets together with the brass and copper pendants as accompanying the regalia of these people.[4]

Down the Columbia River we find a greater selection and a more frequent occurrence of trade material than further up. Clark mentions of the Indians of the Cascades, "Those Indians

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[1]Lewis and Clark, op.cit., p.130

[2]Ibid., p.132

[3]Ibid., p.134

[4]Coues, 1893, op.cit., p.638.

have a musket and sword, and severall Brass Tea Kittles which they appear to be verry fond."[1] In further reference to the above observation he adds:

> I observed an Indian with hat, Jacket, and wore his hair. . ./he said he obtained the items from Indians below the great rapid who purchased them from the whites/. . .I entered one of the house, in which there was a British musket, a cutlash and several brass Tea Kittles. . ./[2]

Convincing evidence of aboriginal transmission of European trade material moving up the Columbia is in Clark's entry of November 1, referring to the Cascade Indians trading with the Indians below the rapids who in turn traded with the whites that were either settled or visited the mouth of the Columbia River. He mentions the medium of barter for the trades goods being powdered fish, bear grass and roots which were of no value to the fur-mad trader. In return for these roots, etc., the Indians received:

> . . .Blue and white beads, copper/tea/kettles,/brass arm bands, some scarlet and blue robes and a few articles of old clothes. They prefere beeds to anything, and will part with the last mouthful or articles of clothing they have for those beeds, Those beeds[3] they trafic with Indians still higher up this river for robes, skins, bear grass. . .[4]

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[1]Lewis and Clark, op. cit., p.165.

[2]Loc. cit.

[3]Italics mine.

[4]Lewis and Clark, op.cit., p.185.

Lewis remarks that the trading people who entered the river were Americans or British as the linguistic evidence reveals the use, by the Indians, of sundry profane adjectives that were strictly of the English tongue. He does not know whether they were from Nootka Sound or some other established trading post along the coast. When he asked the Indians from which direction the traders came and left, they would point to the southwest.[1] This would lead me to believe that it was those traders who traversed the Northwest Coast via the Hawaiian Islands then to the Orient. At this time men like Gray, Cook, Vancouver, and in later times, Franchere, Cox and Ross of the Tonquin sailed to Hawaii, to the Northwest Coast and then to the Orient with the furs they gathered.

This traffic consisted of:

> Vending guns, (principally old British or American musquits), powder, balls and shot, copper and brass kettles, brass tea kettles, and coffe pots, blankets from two to three point, scarlet and blue cloth, (Coarse), plates and strips of sheet copper and brass, large brass wire, knives, beads and tobacco with fishing hooks, buttons and some other small articles. . .[2]

The firearms seem to halt abruptly in the region just between the mouth of the Umatilla River and the Cascade area. Captain Clark, on Oct. 19, 1805, terrified some Indians encamped near the mouth of the Umatilla River by shooting a duck and a

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[1]Lewis and Clark, op. cit., p.327.

[2]Ibid. p.328, (Italics are mine).

crane in flight. The terrifying noise associated with the belch of smoke and fire identified him as something sent from above and his heavenly associations were further established by his lighting a pipe with a magnifying glass.[1] The reaction of these people to the firearm episode was one which typified a people who had never witnessed gunfire. They ran and hid in their lodges and had to be coaxed into conviviality by the assurance of a visiting chief and also that a woman was a member of Lewis and Clark's party. Theoretically war parties do not incorporate female companionship.

Later, in 1811, Alexander Ross noted the Chinooks already in possession of European goods such as guns and kettles.[2] When Ross had traveled up to the region of the Walla Walla River junction he found a large meeting or trading grounds similar to that of The Dalles trade mart. He mentions the "shaw Haptens", Cayuse and Walla Walla Indians armed with guns. Horses were abundant and scattered about the plain. "There could not have been less than four thousand in sight of the camp."[3] Consequently, by 1811, the firearm had moved up the Columbia from its stopping place six years ago at the Umatilla River. The firearm no coubt entered the area about the time of John Boit. Thus we can set the earliest date possible at the time of Boit

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[1]Lewis and Clark, op. cit., p.195.

[2]Ibid., p.137.

[3]Ibid., p.137.

(1750)[1] for the firearm and trade goods to be in the Astoria region, and the latest recorded historical date in the southernmost area of the Walla Walla Junction in 1811.

From this evidence it is safe to assign the date of 1850 (Reservation times) to back to 1750 for the upper two feet of the midden matrix. Obviously the lower levels are pre-1750 and possibly cross date with Halsey and Miller and extend back to 1600 A.D.

It must be kept in mind that this sequence in time is tentative and many many changes will undoubtedly be made in the future.

I present this as a benchmark not as the time sequence for the Willamette Valley.

Summary of the Archaeological Picture

The archaeological picture, unfortunately, does not provide us with information of the Kalapuya structures, including the sweat house. In historical and ethnological accounts plank and pit houses are recorded for the Yamhill, but of the other groups in the Valley there is no mention of house types. This problem will have to be assigned for the future.

In the Edmunson's collection there are a great many antler tines, and small bone rods that could have been listed flakers

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[1]Boit, John "A New Log of The Columbia," Washington Historical Quarterly, vol. XII, no. 1, 1921.

and awls, and I was somewhat bewildered as to their respective categories. These that have been listed have been selected as those most likely to be awls, flakers, or needles. I rather imagine that there is some disagreement to my assignment of the copper stained incised bone artifact, associated with Fuller burial #10, to a dual function. Although the construction is quite flimsy and it is heavily incised, it may have been merely a pendant. It is evident that care had been exercised in its manufacture as it had been ground, polished, and carefully incised. Also, since it was associated with a burial it is obvious that it had some importance to the owner, possibly of utilitarian and-or aesthetic value.

Among the bone artifacts to be discussed in the following chapters is the antler digging stick handle which provides us with an insight into the subsistence pattern of the Kalapuya and its distribution among the adjacent tribes as well as agreement with the historical reports and Jacobs ethnographic sketch. The more diagnostic evidence for contact recognized in the Kalapuya bone tool complex are the whalebone clubs, composite harpoons, bone blade wedges, ear plugs, and the carved head. Their significance lies in the following chapters. It is pertinent to mention and stress here the distributional importance.

I believe I have already expressed my concern regarding points and scrapers, but one note might be brought to bear upon the significance of the waisted obsidian blade of Gold Hill likeness. Since this was found in burial #21 it

may have had some importance to the owner. Could we possibly entertain the idea that the Kalapuya performed wealth and prestige dances with the obsidian blade functioning as a badge of prestige as did the Hupa and Yurok? With the same burial was another bone blade (Pl.III,1). Is this burial significant enough to reflect the wealth and prestige concept reported by Jacobs? It is flimsy evidence, because it is the only example, but however it is very suggestive. I leave the problem to future researchers.

The European trade material, I need not overwork, but I might mention that it, along with dendrochronology, has formulated a date from which we can project backward in time upon the Kalapuya culture.

The animal bone recovered from the middens cements Jacob's ethnographic material concerning the subsistence pattern that hunting was of equal importance to fishing and gathering.

The burial complex need not be discussed again, but one point that was not reviewed in the burial complex must be brought out here. Laughlin mentions, for Fuller midden, a burned fragment of a human skull[1] of which he footnotes that it does not suggest cremation. However a contrary situation is presented by Jacobs in which cremation is suggested for the Santiam. Could this burned skull be the result of cremation? It seems very possible that this inference is correct for we

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[1]W.S.Laughlin, op.cit., 1942, p.221.

find a charred human metacarpal in Fanning which tends to further support the ethnographic reference to cremation.

What obviously seems to be guardian spirit symbols, associated with Fuller burials 21, 39, and 40, are the respective mink or small carnivore jaws, feathers and a bird bill. Jacobs mentions the use of feather and bird bills as guardian spirit symbols, but the carnivore jaws is an inference which presents a just case for the guardian spirit symbolism, i.e. mink spirit power.

The following chapter on intercultural relationships will discuss cultural affinities in terms of Kroebers' cultural pocket-theory, utilizing the ethnographic and archaeological material we have discussed in the previous section 3.

INTER CULTURAL RELATIONSHIPS

Our problem of intercultural relationship can now be discussed with reference to Kroeber's cultural pocket theory in the light of cultural, environmental , and stratigraphic evidence bearing on the Kalapuya.

The genesis of this idea stems back to 1920 when Kroeber stated that the Kalapuya were "curiously simple"[1] and that their culture was "wholly Kalapuyan"[2] and not possessing any of the cultural elements of their neighbors.

Historical and ethnological sources, strengthened by archaeological results indicate that the Willamette Valley is not a cultural pocket and that more extensive contact occurred than that implied by Kroeber. Historically the records of Alexander Henry[3] show that the Yamhill Kalapuya were carrying on trade relations with the Chinook of the Lower Willamette River and the Columbia River, aided by what he termed an inter-tribal language. Henry[4] also found Cayuse and Molala Indians

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[1]Alfred L. Kroeber, "California Culture Provinces", University of California Publications in American Archaeology, and Ethnology, Vol. 17, No. 2. (1920), p.156.

[2]Ibid., p.164.

[3]Coues, op. cit., pp. 819-820.

[4]Ibid., p.818.

from the east hunting in Kalapuya territory. After 1839, the Klickitats[1] migrated from the north into the Willamette Valley to establish a permanent settlement. Previous to 1839 Klickitat would come through the Tualatin-Yamhill region every spring enroute to the coast.

After the introduction of the horse in 1800-1850, the Klamath[2] were known to venture into the Valley on slave trade and traffic with the Kalapuyas; and were often at war with the peoples of the Willamette Valley.

Ethnographic evidence presented by Teit and Spier[3] reveals the Kalapuya, in trade relationships with Plateau and Plains peoples at The Dalles and the Okanagon and Grand Ronde River trade marts between 1800-1870. The Tillamook, during pre-contact times invaded Tualatin area periodically through Patten's Valley.[4]

Geographically, the Willamette Valley is not impassable because the shallow Coast Range and the somewhat steeper Cascades,

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[1]Barry, op.cit., p.59.

[2]Leslie Spier, Klamath Ethnography, University of California Publications in Archaeology and Ethnology, Vol. 30, (1930) p.24.
and
Leslie Spier and Edward Sapir, Wishram Ethnography, University of Washington Publications in Anthropology, vol. 3, no.3, p.222.

[3]James Teit, The Middle Columbia Salish, University of Washington Publications in Anthropology, Seattle, vol.2, no.4,p.122.
and
Spier and Sapir op.cit. p.224.

[4]Garrick Mallery, Pictographs of the North American Indians, A preliminary paper, Fourth Annual Report of the Bureau of Ethnology, U.S. Geological Survey, vol. 17, (1884) pp.25-26.

as well as the open ends of the northern and southern portions of the Valley, do not impose difficult geographical barriers. The coastal rivers of the Tillamook, Siletz, Alsea, Siuslaw, and Umpqua, served as cultural avenues into the Valley.

Material Effects

The material effects that were found in the Yamhill and Calapooya middens revealed convincing evidence of contact with peoples outside the Valley. In the chapter on Artifacts we described the artifacts that were recovered from these middens as obsidian blades, whalebone, clubs, ear spools, antler digging stick handles, and marine shells of dentalium, olivella, haliotis, paphia, acmae, turitella and littorina.

Obsidian Blades:

The obsidian blades have their distribution among the Oregon Coast Tribes; to the Tillamook,[1] Alsea,[2] Chetco,[3] Tolowa;[4]

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[1]Homer G. Barnett, "Culture Element Distributions:VII Oregon Coast", Anthropological Records, vol. I, no.3, (1937) p.174.

[2]Phillip Drucker, Contributions to Alsea Ethnography, University of California Publications in Archaeology and Ethnology, vol. 35 (1939) p.87.

[3]Barnett, op.cit. p.174.

[4]Loc. cit.

the inland peoples of Gold Hill;[1] and the California tribes of Hupa, Yurok, Karok,[2] and Wiyot,[3] all of which are adjacent to or not far removed from the Kalapuya. The blades of the Hupa, Yurok Karok and Wiyot were used in the well-known White Deerskin Dance of these tribes.[4] Rust[5], in 1905, tells of the treatment and care the blades received from their hereditary owner. Drucker[6] mentions that the Alsea found these blades along the river and the finder was considered a very lucky person. Barnett[7] says that the Tillamook, Chetco, and Tolowa tribes of the Oregon Coast have the obsidian blades and that these tribes use them as regalia for ceremonial dances. They held these blades as articles of wealth. Cressman[8], in his Gold Hill report, presents a convincing thesis of the obsidian blades that were associated with the deeper burials as contrasted with the negative evidence in the burials of the middle stratum.

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[1]Luther S. Cressman, Contributions to the Archaeology of Oregon, Final Report on the Gold Hill Burial Site, University of Oregon Publications, Studies in Anthropology, vol.1, Bulletin 1, (1933) p.18.

[2]Alfred Kroeber, The Obsidian Blades of California," notes to Rust's Article The American Anthropologists, N.S. vol.7, (1905) p.690.

[3]L.L.Loud, Ethnography and Archaeology of The Wiyot Territory, University of California Publications in Archaeology and Ethnology, (1918), p.225.

[4]Kroeber, loc. cit.

[5]Horatio N. Rust, "Obsidian Blades of California", American Anthropologist, n.s. vol. 7, no. 1, (1905), pp.688-89.

[6]Drucker, loc. cit.

[7]Barnett, op.cit. p.37.

[8]Cressman, op.cit.p.18.

He explains how the British Columbia property-status complex moved down the coast and established itself in the Klamath River area from which it was transmitted to the Gold Hill people. Consequently, disposal of property with burials was contrary to the newly established pattern. The finely chipped Kalapuya blades of the Yamhill River and Calapooya River areas resemble those of Gold Hill and undoubtedly were traded in from California, Gold Hill or the Oregon Coast.

Ear Spools:

From the Fuller midden on the Yamhill River, three bone ear spools were found on the auditory meatuses of two burials. Aside from their position over the ear, the central hole in each of these specimens precludes their possible identification as labrets. These spools have been found in the Columbia River region.[1] On the Oregon Coast the wearing of ear decorations is recorded as well as in the Columbia River region.

Antler Digging Stick Handles:

Camass root digging stick handles of antler appear in quantity among the Yamhill middens excavated by Laughlin. These are identical to those found by Collier, Hudson, and Ford.[2]

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[1]Duncan Strong, W. Egbert Schenck, and Julian H. Steward, Archaeology of the Dalles Deschutes Region, Univ. of California Publications in American Archaeology and Ethnology, vol. 29, no. 1 (1930), p. 58.

[2]Donald Collier, Alfred Hudson, and Orlo Ford, Archaeology of the Upper Columbia Region, University of Washington Publications in Anthropology, vol. 9, no. 1, (1942) p. 32.

on the upper Columbia River. They are also found among the Thompson River peoples,[1] in Lytton, B.C.,[2] among the Nez Perce,[3] the Sanpoil and Nespelem,[4] in southern Okanogan,[5] Yakima Valley,[6] Berrian's Island,[7] in Washington, Butte Creek Cave in Oregon,[8] and among the Takelma of southern Oregon.[9] Lewis and Clark mention that this tool is used by the Clatsop Chinook.[10]

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[1]Harlan I. Smith, Archaeology of the Thompson River Region, British Columbia, The Jessup North Pacific Expedition, vol. 2, American Museum of Natural History Memoirs, (1900) p.411.

[2]Harlan I. Smith, Archaeology of Lytton, British Columbia, "The Jessup North Pacific Expedition, vol. 2., American Museum of Natural History Memoirs: vol. 2, No.3. (1899), pp.137-78.

[3]H. J. Spinden, The Nez Perce Indians, Memoirs of the American Anthropological Association, vol. ii, (1915), p.200 and fig. 33.

[4]Vern F. Ray, The Sanpoil and Nespelem: Salishan Peoples of Northeastern Washington, University of Washington Publications in Anthropology, vol. V, (1932) p.98.

[5]W. Cline and R. S. Commons and M. Mandelbaum, The Sinkaietk or Southern Okanagon of Washington, (Menashee: George Banta Publishing Co., 1938) vol. VI. p.58.

[6]Harlan I. Smith, Archaeology of the Yakima Valley, Anthropological Papers of The American Museum of Natural History, vol. VI, pt. I, (1910) p.35.

[7]Osborne, op.cit., Plate XIIb.

[8]Luther S. Cressman, "Archaeological Research in the John Day Region of North Central Oregon", Proceedings of the American Philosophical Society, vol. 94, no.4, (1950), p.376, fig., 13a.

[9]Edward Sapir, "Notes on the Takelma Indians," American Anthropologist, n.s. vol. IX, (1907), p.258.

[10]Lewis and Clark, op.cit., p.9.

Whalebone Clubs:

Among most convincing evidence of Columbia River contact we have for the Kalapuya are the whalebone clubs which have been found in the Willamette Valley by collectors and in the excavation of the Yamhill midden by Laughlin. These clubs also have a wide distribution ranging from the Tlingit,[1] Pentlach, Makah[2] Cowichan[3] of the northwest coast; inland to the Thompson River,[4] the upper and lower Columbia River[5] to the Lower Chinook[6] and among the Oregon Coast Tribes of the Coquille[7] Chetco and Tolowa.[8] The Oregon Coast peoples used fish clubs. The Gulf of Georgia Salish used the fish club and reserved it for this particular purpose. Three tribes of this group, the West and East Sanetch, and Comox, had fish clubs definitely

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[1] Pliny Earl Goddard, Indians of the Northwest Coast, American Museum of Natural History Handbook Series No. 10, (1927) p.140.

[2] Ruth Underhill, Indians of the Pacific Northwest Coast, (Riverside: Sherman Institute, 1944) p.26.

[3] Homer G. Barnett, Culture Element Distributions II, Gulf of Georgia Salish, University of California Publications in Anthropological Records, vol. 7 (1939) p.246.

[4] Smith, op.cit., 1900 p.422, fig., 359.

[5] Collier et al., op.cit., p.80 and Strong et al., op.cit., p.84.

[6] Vern F. Ray, Lower Chinook Ethnographic Notes, University of Washington Publications in Anthropology, pp.59-60.

[7] Joel V. Berreman, Chetco Archaeology (Menashee; George Banta Publishing Co., 1944) General series in Anthropology, p.26.

[8] Barnett, 1937, op.cit., p.170.

shaped and carved. Those who utilized the whalebone club in warfare included the Pentlatch Cowichan, the lower Chinook, and the Tolowa of the Oregon Coast. Goddard[1] states rather generally that the Tlingit had "a whalebone club long and heavy enough to crush a skull." There is no evidence to determine the function of the whalebone club found in the Willamette Valley.

The significant feature of the Kalapuya clubs is the full front view of the bird face on the handle is similar to those of the Columbia River, but unlike those of the Northwest Coast displayed by Boas[2] which show the side view of the birdlike art style.

According to Steward[3] there were carvings of human, animal and geometric figures in the Valley of the Columbia River. This was mostly bone, but some stone carving was recovered. The area of these art designs he speaks of is Millers Island and a site about ten miles below Miller's Island (downstream).

The carving was flat, i.e. generally not in the round, but an adaptation of the flat art to a rounded surface. Some of the artistic features Steward noted for the Columbia Region

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[1]Goddard, op.cit.,(1927) p.107.

[2]Harlan I. Smith, Archaeology of the Gulf of Georgia and Puget Sound, Jesup North Pacific Expedition, American Museum of Natural History Memoirs: vol. VI, part 2, (1906) pp.403-412.

[3]Julian H. Steward, "A New Type of Carving From The Columbia Valley," American Anthropologist, n.s. vol.29 (1927)pp.255-261.

were the concentric eye, full front view of the face, side view of the face of an eagle or thunderbird design. Very often a birdlike figure was noted for the whalebone club. His interpretation of Columbia River art suggests a Northwest Coast connection with totemic figures such as those represented on the butt end of the whalebone club. He also implies a mixture of plains, plateau, and Northwest coast art motifs and that each came together to develop into a local style along the Columbia River. Designs such as the concentric eyes from the Northwest Coast, diamond design from the Plateau, and the nose extending upward into the eyebrow which is commonly found in the Columbia River pictographs and whalebone clubs with eagles carved on them. It is pertinent to mention here that Heizer[1] and Smith[2] examined Columbia River art forms and came to the same conclusions as Steward. This seems to further corroborate Steward's evidence. This is important because the Willamette Valley art forms resemble the Columbia River Style (Plate XV). A specific example is the whalebone club (Plate VII,1) from Fuller Burial #4. This specimen has the identical design, on its handle, as on Steward's whalebone club.( ).

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[1]Robert F. Heizer, "A Decorated Mortar In Columbia Valley Art Style," American Anthropologist, n.s. vol. 44, (1942), pp. 534-537.

[2]Marian W. Smith,"Columbia Valley Art Style," American Anthropologist, n.s. vol.45, (1943) pp.158-160.

Marine Shells:

Other traits indicative of Willamette Valley cultural affinities with the Oregon Coast are the marine shells, common to all Kalapuya mounds. I might add that this has historical and prehistorical significance. Burials of Fanning and Fuller middens, at the lower levels, contained no trade goods, but numerous olivella and dentalium were recovered. Also in the pre-contact horizon of the middens olivella and dentalium occurred in the matrix along with the bone and stone tools. This historic accounts of Townsend and Hines[1] describe the Kalapuya wearing Hiaqua shells or Dentalium. The shells found in the Yamhill middens are dentalium, haliotis, olivella, paphia, limpet acmae mitra, turitella, and littorina.[2] The dentalium and olivella are quite common on the Oregon Coast, Plateau,[3]

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[1]Gustavus Hines, Oregon Its History, Condition and Prospects, (Buffalo: C.H.Derby and Co., 1851) p.85.

[2]Dentalium habitat is Puget Sound into Southern California.
Olivella biplicata ranges from Vancouver Island to Magdalena Bay, Lower California.
Olivella boetica are found from Kodiak Island to Cape San Lucas, Mexico (Lower California).
Paphia staminea ranges from the Commander and Aleutian Islands to Kamchatcka and North Japan to Puget Sound and Socorro Islands,
Acmae mitra ranges from the Pribilof Islands, Bering Sea, to San Diego California.
Turitella ranges from California to Mexico and Panama.
Haliotis, small size, ranges from California to Coos Bay, Oregon. The larger ones are found in California only.
Littorina (species unknown). This information was obtained from Dall, 1921.

[3]Verne F. Ray, "Cultural Element Distribution:XXII, Plateau," Anthropological Records 8:2, (1942), p.165.

and Columbia River,[1] and are used in California.[2] Dentalia were worn by the Eastern and Western Shasta, the Wintu of the McCloud River and the Wintu of the Trinity River as a pendant suspended from the ears.[3] The Modoc, Eastern and Western Shasta, Atsugwei (Hat Creek), and Achomawi wore Dentalium as nose pins.[4] Their use as currency extends to the Modoc, Eastern and Western Shasta, and Atsugewi.[5] The Plateau groups[6] that had dentalia and shells attached to their skin shirts were the Tenino, Klickitat, Shuswap, Lilooet, Eastern Chinook, Kutenai and Coeur d'Alene.

Stone Pipes:

The tubular stone pipe was found in California among the following tribes:[7] Klamath, Shasta, Maidu and Miesan. In the Plateau[8] the Klickitat, Tenino, Umatilla, Wenatchi, Sanpoil, Kalispel, Shuswap, Lillooet, Chinook, Kutenai, Flathead, and

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[1]Collier, et.al., op.cit., p.107.

[2]Erminie Voeglin,"Culture Element Distributions:XX,Northeast California," Anthropological Records 7:2,(1942) p.85.

[3]Loc. cit.

[4]Loc. cit.

[5]Ibid., p.91.

[6]Ray, 1942, op.cit., p.189.

[7]Voegelin, op.cit.p.92.

[8]Ray, 1942, op.cit., p.189.

Coeur d'Alene had the tubular stone pipe. Stone pipes also occur archaeologically on the Columbia River noted by Collier and Osborne (Berrian's Island). Heizer[1] found tubular stone pipes in Central California. Heizer seems to think that they may be Shaman's sucking tubes because the pipe did not indicate any evidence of charring or the results of smoking, tobacco. The pipe and tobacco were used by the Oregon Coast tribes, but the tubular stone pipe is not recorded by Barnett,[2] for the coast.

Stone Oven:

The stone oven is not recorded in California by Voegelin and Driver. It has been found archaeologically by Shiner and Osborne[3] at Cold Springs, Oregon, 1949, and Ray records this for the Thompson, Flathead, and Coeur d'Alene. It is not recorded for the Oregon Coast. Sapir mentions the pit-oven for the Takelma.[4]

Cooking Stones:

Cooking stones are found among all the Northeastern Cal. tribes

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[1]Robert F. Heizer, "Archaeology of Central California: The Early Horizon," Anthropological Records 12:1, University of California Press (1949) p.24.

[2]Barnett, op.cit., (1937) p.155.

[3]Joel Shiner and H. Douglas Osborne, unpublished field notes, River Basin Survey, 1949.

[4]Sapir, op.cit., (1905) p.242.

listed by Voegelin,[1] namely the Klamath, Modoc, Shasta, Atsugewi, Achomawi, Wintu, Maidu, and Nisenan. Ray[2] has it for all the Plateau tribes, the Lower Chinook, Klickitat, Tenino (Wa yampam), Umatilla, Klickitats, Wenatchi, Sanpoil, Kalispel, Shuswap, Lillooet, Lower Thompson, Chilcotin, Lower Carrier, Kutenai, Flathead, and Coeur D'Alene. On the Oregon Coast, Barnett[3] notes it for the coast tribes of the Tolowa, Chetco, Galice, Tututni, Sixes River Coos, Siuslaw, but it is doubtful for the Alsea and the Tillamook.

Bed Rock Mortar:

The California tribes of the Achomawi, Maidu, Niesan, Modoc and Paiute have the bed rock mortar. Ray does not mention this form of mortar in his Plateau studies. The Oregon Coast cultures are also lacking this trait.

Horn Wedges: (Plate XI-a, Nos. 1, 2, 4, 5)

On the Oregon Coast the Tolowa, Chetco, Galice Creek, Sixes River Coos, Siuslaw, Alsea and Tillamook have horn or antler wedges. Osborne, in 1948, found antler wedges on Berrian's Island on the Columbia River near Umatilla, Oregon and Plymouth, Washington. Ray lists the following Plateau tribes as having the horn wedge: Lower Chinook, Klickitat, Tenino, Umatilla,

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[1]Voegelin, op.cit.p.60.

[2]Ray, op.cit., (1942), p.136.

[3]Barnett, op.cit., (1937) pp.166.

Sanpoil, Kalispel, Thompson and Coeur D'Alene. Northeastern California tribes reported by Voegelin to have the horn wedge are the Klamath, Shasta, Achomawi, Atsugewi, Maidu and Niesan.

Tubular Beads: (Plate II,18):

These beads have a wider distribution on the Plateau than in the Oregon Coast and in Northeastern California. In Northwestern California, they have a scattered distribution.

Bark Bucket:

In the Plateau, all the tribal groups mentioned by Ray have the bark bucket. Voegelin does not record it in her Northwestern California study, and Driver does not record it for Northwestern California. But Barnett does record the Gulf of Georgia, Pentlatch, Comox, Klahuse, Sechelt; and the Squamish as using cedar bark bags. For the Oregon Coast tribes no such article is recorded.

Rope of Hazel Sticks and Willow Bark:

Hazel stick rope was found among the Klickitat, Tenino, Thompson, Kutenai, Flathead, Coeur d'Alene while willow bark rope is found in all of the tribes except for the Klickitat and Thompson. All the Gulf of Georgia Salish tribes utilized hazel stick rope. The Oregon Coast and Northeastern California tribes do not have this trait. Driver credits Northwestern California tribes with the hazel bark rope.

Dugout Canoe - fired:

This is found among all the Plateau tribes except the Shuswap, Chilcotin and Coeur d'Alene.[1] This type of canoe is found in the Northeastern California tribes of Klamath, Modoc, Shasta, Atsugewi, Achomawi, Wintu and Maidu.[2] The Northwestern California tribes[3] do have the dugout canoe but do not mention the technique of manufacture. The Oregon Coast tribes have the dugout canoe.[4]

Non-Material Effects

Slavery:

The most convincing evidence for culture contact reveals itself in slave trade with the Columbia River Indians. Jacobs[5] mentions, in his mythologic texts, the raiding of central Kalapuya peoples for slave by the Molala, Tualatin Kalapuya and Columbia River Chinook. Teit[6] and Spier[7] mention the Dalles

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[1]Ray, op.cit. (1942) p.154.

[2]Voegelin, op.cit. p.69

[3]Driver, op.cit., p.322.

[4]Barnett, op.cit., p.170.

[5]Jacobs, op.cit., p.41.

[6]Teit, op.cit., (1928) p.122.

[7]Spier, op.cit., p.222.

trademart where the Plateau tribes assembled to barter for slaves and other materials. Teit[1] also mentions the Grand Ronde east of the Cascade as a great trade mart where coastal peoples retraded objects from California and Southern Oregon to the Dalles trade mart. Ray[2] refers to Kalapuya slaves of the Lower Chinook as being quite common.

Head Flattening:

Head flattening of the later Kalapuya burials, (fronto-occipital flattening), seems to be correlated with historical times as pendants and tube beads of European copper were associated with them. Historic writers such as Kane[3], Townsend,[4] Lewis and Clark,[5] record that the Clatsop Chinook practiced head flattening as well as the Kalapuya; and Lewis and Clark noticed this trait for some distance along the Columbia River. Recent excavations by Osborne on Berrian's Island, Washington,[6] near Umatilla, Oregon show that these people also practiced this trait. The tribes of the Gulf of Georgia Salish practiced head flattening.[7] Of those of the

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[1]Teit, op.cit.

[2]Ray, op.cit., (1938) pp.51-2.

[3]Kane, op.cit., pp.180-82.

[4]Townsend, (1839), op.cit. p.178.

[5]Lewis and Clark, op.cit. Opp.p.10.

[6]Osborne, op.cit., p.188.

[7]Barnett, op.cit., (1939) p.249.

Oregon Coast, only the Tillamook and the Alsea had the head flattening trait.[1]

Spier[2] mentions the Klamath as having the fronto-occipital head flattening. He says that this practice is general but not universal. He was told by an informant with an undeformed head that deformed heads were considered pretty, but not as a status association. He footnotes this statement in saying that this may have been a rationalization in regards to associated non-deformed heads with those of slaves. Spier says that no reason was given for head deformation.

His informant stated that the Molala flattened foreheads and that some Pitt River Indians deformed heads, but the Upland Takelma do not practice head deformation. The motive for head flattening seems obscure on the part of the Klamath in spite of Hrdlicka's statement that the deformed head was a sign of social rank.

Games:

Kalapuya	Plateau	Oregon Coast	Calif.	Salish
Hoop and arrow game	x		x	x
Shinny	x	x	x	x

The hoop and arrow game has a definite Northern distribution (Fig. 7), but it is not as wide-spread as shinny (Fig. 8). In the Plateau area the men play shinny while in California

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[1] Barnett, op.cit., (1937) p.173.

[2] Spier, op.cit. p.214 and p.59.

a few men play the game. The Kalapuya texts do not mention which sex participates in the game. Although shinny extends far into southern California, it seems to have a wider distribution in the Northern area.

The Sudatory:

This trait shows a definite extension of a northern complex in the light of sweating by steam, while the sudatory complex of direct heat has a distribution of California and eastward to the Plains. (Fig. 9).

The sudatory pattern is as follows:

Kalapuya	1 Plateau	2 Oregon Coast	3 Calif.	4 Salish
1. Made of hazel sticks with tops bent over to semi-circular shape	x			x
2. Covered with fir boughs and dirt	x			
3. Inside dug out for heated rocks	x	x		x
4. Communally used	x			
5. More than one person uses sweathouse	x			
6. Swim in water after sweating	x		x	
7. For purification and curing	x	x		x
8. Steam used for heat	x	x		x
9. Direct fire		x	x	
10. Squat in sweathouse	x		x	
11. Hunting and gambling	x		x	
Totals: 11	10	4	4	4

This trait itemization tends to correspond with a southward extension of northern traits. However, there is sufficient evidence to support the northern extension of California traits to balance those influences from the north. This complex

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[1]Ray, op.cit. (1942) p.180.

[2]Barnett, op.cit. (1937) p.162.

[3]Voegelin, op.cit. (1942) p.66;Driver, (1939) p.320.

[4]Barnett, op.cit. (1937) p.163.

suggests the Plains steam type coming in from the Plateau as seen by the distribution of steam-type sudatory (fig. 9) combined with elements of the direct fire type which has a southern distribution. The southern sweathouse is of dormitory type and the northern steam sudatory is associated with the individual type. The Kalapuya have the dormitory sudatory associated with the steam-type sweathouse; while the Klamath and Modoc have both the steam and direct heat associated with the dormitory pattern. Thus it appears that the Kalapuya had taken over the Plateau element of steam and incorporated the northern California dormitory sudatory.

Gambling:

The Kalapuya gamble with sticks and dice,[1] but in the Plateau area they use dice only.[2] Among the California tribes[3] the dice game is absent but the stick game is present. This appears to be combined in the Kalapuya recreation. The Kalapuya have an intercourse tabu before gambling as do the Klamath, Modoc, Shasta, and Wintu as recorded by Voegelin.

The Kalapuya culture is becoming more and more a combination of southern and northern cultures, namely, the Plateau and northern California groups.

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[1] Jacobs, op.cit. pp.49, 205-215.

[2] Ray, op.cit. (1942) p.183.

[3] Voegelin, op.cit. p.100.

Money and Its Method of Measurement:

The Kalapuya measure their dentalia strings by a band which is tattooed on the upper arm and used as a standard. Driver lists the Tolowa, Upper Karok, Yurok, and Nongatle of northwestern California as having this standard also. Voegelin credits the western Shasta with this trait. No mention of this occurs in the Gulf of Georgia or the Plateau. However, Driver,[1] mentions that all the tribes of northwestern California measure with a tattooed band also on the forearm. This also includes those tribes listed as having the tattoo on the upper arm. Here again we seem to have the pressing southern traits becoming dominant, but not overriding those complexes from the north to the point that one could call the Kalapuya a northern extension of the California culture. As evidence presents itself the Kalapuya culture seems to include a combination of southern and northern complexes.

Shamanism:

The next step is to examine the shaman's role and status as well as the guardian spirit concept that Jacobs mentions in his Texts.

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[1]Driver, op.cit., p.336.

Shamanism and Dream Power Concept:

Kalapuya	Plateau	Oregon Coast	Calif.	Salish
1. Learns through dreams	x	x	x	
2. Dream power (vision quest)	x	x		x
a. Go to mountain for quest	x		x	
b. Dream power comes during a dream	x	x	x	x
c. Diagnose sickness	x			
d. Swim in stream	x		x	
e. Sing dream power song	x		x	
3. Doctoring	x	x	x	x
a. Relatives present	x	x		
b. Symptoms necessary	x			
c. Audience sings	x			
d. Gives new song	x			
4. Cure and sicken	x		x	
5. Wills dream power to relative at death	x		x	
6. Kill person with dream power	x	x	x	
7. Non-shaman dream power	x		x	
8. Winter dances to strengthen dream power	x			
9. Women have dream power songs	x			
10. Shamans have canes				
11. Shamans have feathers		x		
12. Interlocuter speaker	x			
13. Take Guardian spirit away from people	x	x		x
14. Malevolent shaman	x	x	x	x

Shamanism and Dream Power Concept - continued:

Kalapuya	Plateau	Oregon Coast	California	Salish
15. Woodpecker for spirit power		x		
16. Thunder for spirit power	x	x	x	
17. Rain for spirit power	x	x	x	
18. Spirit loss	x	x	x	x
19. Get song in dream	x	x		
Total 28	25	14	15	6

The shaman-guardian spirit complex of the Kalapuya has similarities to the Northwest Coast, Plateau, Oregon Coast, and Northern California areas. A sample of shamanism elements presented by Jacobs totals twenty-eight. Out of the twenty-eight elements involved in the shamanism and guardian spirit quest, twenty-five occur in the Plateau, fourteen in the Oregon Coast, fifteen among the California tribes, and only six elements occur among the Northwest Coast Salish.

The shamanism of the Kalapuya is of Plateau characteristics. The spirit quest for the shaman is identical for that of the layman. The vision requirements for the shaman and the layman are the same, the only difference being that greater power is possessed by the shaman. Power in amplitude and intensity is implied and not mere possession of several spirits. A further requirement which a Kalapuya novice needs, before he can become a shaman is that he be ordered by the spirit at the time of the vision quest to become a shaman.

The Kalapuya male shamans are more common, as is the case in the Plateau, than the female shaman, although female shamans occur and are admitted to the profession. When women are admitted they are considered equal to men in the shamanistic role.

The Kalapuya shaman concept clearly links with that of the Plateau and fulfills the requirements of Plateau shamanism more so than that of northern California. The material items of the California shaman and some guardian spirit symbols, i.e., woodpecker feathers and beaks, and the rattlesnake spirit, are present among the Kalapuya, but the patterning of Kalapuya shamanism is wholly Plateau.

Winter Spirit Dance:

The winter spirit dance recorded for the Kalapuya by Jacobs is considered by Ray to be the major religious ceremony in the Plateau.

The Kalapuya winter dance for guardian spirit renewal is nearly identical with that of the Plateau. The Kalapuya ritual follows the same basic pattern, with minor variations, of the Plateau complex. These basic elements exhibited by the Kalapuya and shared by the Plateau are: recognition of winter as the time for guardian spirit ceremonialism, sponsoring of the dance by a shaman, participation is open to all possessing guardian spirits, attendance open to anyone, individual leadership in spirit singing, spirit dancing, specific duration determined by pattern number (five for the Plateau and the

Kalapuya), and a feast or presentation of gifts or both.

Linguistic Affiliation:

Voegelin, in his map[1], relies on Sapir's Classification[2] in placing the Kalapuya in the Penutian linguistic stock. The Penutian includes northern California, Oregon Coast, Willamette Valley, the Takelma. In California region the Penutian is dispersed among islands of Hokan speaking peoples.

If Sapir's classification is proven valid by future work then linguistically the Kalapuya are a portion of the large linguistic group beginning from the Plateau occupied by Sahaptin speaking groups, then extending west and to the south as far as central California. This linguistic association may suggest an early fundamental unity or the adoption of the language by different groups. Possibly the earlier is the most likely. If this be true, then it would explain the similarities for some of the basic traits found throughout the North Pacific area as shown by our analysis of ethnology and archaeology of the Kalapuya.

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[1]C.F. Voegelin, "North American Indian Languages Still Spoken and Their Genetic Relationship," Culture and Personality (Menasha: Sapir Memorial Publication Fund, 1941).

[2]Edward Sapir, "Language," Encydopedia Britannica, vol. V, p.139 (1946).

Summary

It is clear from the foregoing evidence that Kroeber's cultural pocket concept is not consistent in keeping with the material and non-material affects presented by archaeology and ethnology.

Furthermore we are able, at this time, to identify and align the Kalapuya with an adjacent group of peoples listed under a physiographic heading which is again contrary to Kroeber's environmental analysis. The following and final chapter will synthesize and discuss the line of argument and evidence for the Plateau orientation of the Kalapuya.

SUMMARY AND CONCLUSIONS

The Place of the Kalapuya

The place of the Kalapuya in the Pacific Northwest has been obscure. However, with so little evidence from archaeology and ethnology, it is difficult to align the Kalapuya with any specific culture area.

This section will summarize the evidence from archaeological and ethnological sources.

I have prepared a condensed distribution of the material effects to indicate most of the possible associations of the Kalapuya may have had with nearby tribes. The trait list has been prepared with the position of the Kalapuya in mind. A general descriptive trait name such as obsidian blade, clubs, rope, canoe, etc., is in the first column. The next column lists the form it takes within the Kalapuya configuration, and in the third column is the inter-areal linkage of the Kalapuya form. This is a modification of Spier's table,[1] and it serves as a condensation of the intercultural relationships although it does not encompass all the traits recovered by archaeology or ethnology, but those that have a limited and significant distribution in the Pacific Northwest.

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[1]Leslie Spier, op.cit., pp.227-229.

Table 2 has been drawn up to indicate the relationship of the material culture between the Kalapuya and the adjacent tribes. The table is self-explanatory.

Kalapuya Traits Shared by Tribes in Adjacent Areas

Table #1

No. Trait	Kalapuya Form	Links with:
1. Houses	Plank?long house (Lewis and Clark)	Plateau, Northwest Coast, Oregon Coast, Columbia River
2. Sweathouse	Dome-shaped of hazel sticks	Plateau, Oregon Coast
3. Obsidian Blades	Waisted Gold Hill type	Gold Hill, Oregon Coast, N.W. and N.E. California
4. Bone ear spools	Round with hole in the center	Northwest Coast (Cowichan) & Columbia River
5. Antler digging stick handles	Elk, antler drilled in center for digging stick	Upper Columbia River, Southern Okanogan, Thompson River, Nez Perce, Sanpoil, Nespelem, Lower Columbia River, Butte Creek Cave, Oregon, and S. Oregon
6. Clubs	Whalebone with Owl design on butt of one and rectangular design on another	Northwest Coast, and Columbia River (Oregon Coast?)
7. Marine Shells Dentalium Olivella	Money and strings for body decoration	Plateau, N.W. Coast, Ore. Coast, N. California
8. Pipes	Tubular and Made of stone	N.W. Coast, Ore. Coast, Plateau and Calif.
9. Bucket	Bark	Plateau and N.W. Coast, (Gulf of Georgia Salish)
10. Rope	Hazel sticks and willow bark	Plateau, N.W. Coast (Gulf of Georgia Salish) and N.W. California
11. Canoe	Dugout, fired	Plateau, Klamath, Modoc, N.E. California, and N.W. California.

Table #1 (Con't.)

No.	Trait	Kalapuya Form	Links with:
12.	Stone oven	Pit in the ground then filled with rocks which are heated by a fire built on top of them	Oregon Coast, Columbia River, in modified form among the Takelma and Tillamook
13.	Cooking stones	River cobble	Widespread
14.	Horn wedges	Elk horn and beveled blade	California, Northwest Coast, Plateau, Columbia River, Oregon Coast
15.	Single barbed harpoon point	Small bone point with one small barb	California, Oregon Coast, and Plateau
16.	Harpoon Point	Bone, composite or part of three piece harpoon toggle	Northwest Coast, Plateau and Calif. A Northwest Coast trait.
17.	Gambling	Dice and sticks, dice perforated; beaver tusks	Plateau and Calif.
18.	Fishing Lure	Human Hair	Sinkyone of the Eel River and the Oregon Coast (Chetco, Tututni, and Sixes River).
19.	Mats	Woven Rush	Plateau, N.W.Coast, and N.W.Calif.(Tule or rush)
20.	Blankets	Gopher and Squirrel	Possibly Plateau as they had sewed skin blankets
21.	Leggings	Buckskin	N.E.California, Plateau, Oregon Coast, N.W.Coast.
22.	Bow	Yew	Oregon Coast, N.W.Coast, Plateau, N.W.Calif.
23.	Sticks for counting days	Break up sticks; ten in number--messengers carry	Gulf of Georgia Salish (Squamish and West Senatch)

Table #1 (Con't.)

No.	Trait	Kalapuya Form	Links with:
24.	Winter House	Pit House	Plateau, Klamath, Modoc, N.E. and N.W. Calif.
25.	Sweat house	Steam and Dormitory	Plateau and Calif. elements combined. Klamath and Modoc, Takelma?
26.	Feathers	Guardian spirit effigy	Calif. minor in Plateau
27.	Scraper	River mussel shell	Plateau and Columbia River
28.	Fire carrier	Mussel shell	Plateau and Columbia River
29.	Robe	Bearskin with fur	N.E. Calif. (minor), N.W. Calif. and Mollala
30.	Club	Fashioned for salmon	N.W. Coast to Columbia River and Oregon Coast
31.	Ground meat	Salmon and fish	Plateau, Columbia River

Table #2

Kalapuya Trait No.	Plateau	Northwest Coast	Oregon Coast	N.E. Calif.	N.W. Calif.	Total	Univeral in Pacific N.W.
1.	1	1	1			3	
2.	1		1			2	
3.			1	1	1	3	
4.	1	1				2	
5.	1					1	
6.	1	1				2	
7.	1	1	1	1	1	5	1.
8.	1	1	1	1	1	5	1
9.	1	1				2	
10.	1	1			1	3	
11.	1			1	1	3	
12.	1		1	1	1	4	
13.	1	1	1	1	1	5	1
14.	1		1	1	1	4	
15.	1		1	1	1	4	
16.	1	1		1	1	4	
17.	1			1	1	3	
18.			1	1		2	
19.	1	1			1	3	
20.	1					1	
21.	1	1	1	1		4	
22.	1	1	1		1	4	
23.		1				1	
24.	1			1	1	3	
25.	1			1		2	
26.	1			1	1	3	
27.	1					1	
28.	1					1	
29.				1	1	2	
30.	1	1	1			3	
31.	1					1	
Totals 31	27	14	13	16	16	86	3
Percent 100	87	45.2	41.6	51.6	51.6		

Table #2 shows clearly that the material culture of the Kalapuya is most closely related to the Plateau, with the secondary emphasis to northwestern California, northeastern California, the Northwest Coast and the Oregon Coast in that order.

Of the 31 Kalapuya elements listed, 27 or 87%, appeared in common with the Plateau, 16 or 51.6% with northwestern California, 16 or 51.6% for northeastern California, 14 or 45%

for the Northwest Coast, and lastly 13 or 41.6% of the Kalapuya elements appear among Oregon Coast Tribes. If the California elements are combined then there are 19 or 61.3% in common. The California influences are obviously secondary.

There are only three elements of our sample of 31 that are universal in the Pacific Northwest. These are the widespread use of marine shells, tubular stone pipes and cooking stones.

The bone tool complex of the Kalapuya becomes richer as one approaches the Columbia River. The central Willamette Valley Kalapuya, i.e., the Santiam, Luckiamute, and the Kalapuya proper (Shedd, Halsey, Spurland), are on the fringes of this rich bone complex with the remaining southern area relatively lacking it. This latter statement is based upon negative evidence from the Long Tom and 1949 Spurland excavations.

A stone-grinding-tool complex is more noticeable in the Long Tom area than in the other sites in the eastern and northern sections of the Valley. The complete lack of bone material, but emphasis on stone grinding tools may suggest simply distance away from the Columbia River influences, that the middens were used as a cooking area only, or that the Long Tom middens are an earlier horizon of the Kalapuya culture.

The significant implication here is the inter-areal relationship of the material and non-material culture of the Kalapuya. It is very suggestive of the Plateau with the California items entering the Valley later, via the aboriginal trade trails (Maps1,2,3). These trails follow the coastal and

inland rivers and are reasonably easy to follow into the Willamette Valley.

It was probably during this later precontact period that the California culture elements filtered into the Willamette Valley and to the Kalapuya, who, by this time, had established a Plateau and Columbia River cultural configuration.

Finally, a factor of great significance which has affected the cultural relations is the physiographic one. As pointed out previously, the Willamette Valley is a structural trough, which, with its northern end relatively open to the Plateau for a long time, permitted contact with Plateau and Coastal groups, more readily than with the south. The California influences, from the evidence presented, began later than those from the Plateau. The Plateau, Columbia River, and Northwest Coast complexes which diffused to the Kalapuya are set tentatively by dendrochronology and European trade goods as far back as 1600 A.D. The Kalapuya, of historic time, show affiliations, archaeologically and ethnographically, primarily with the Plateau peoples then with California, the Northwest Coast and finally the Oregon Coast.

BIBLIOGRAPHY

Anonymous. "Burial Customs in Oregon," The American Antiquarian and Oriental Journal, 1882.

Barnett, Homer G. Culture Element Distributions VII, Oregon Coast, Berkeley: University of California Publications in Anthropological Records, 1937, vol. 7, p.151.

----------. "The Coast Salish of British Columbia," American Anthropologist, n.s. vol. XL, No.1, 1938, pp.118-141.

----------. Culture Element Distributions II, Gulf of Georgia Salish. Berkeley, University of California Publications in Anthropological Records, University of California Press, 1939, vol. 1, p.221.

Barry, J. Neilson. "Indians of Oregon," The Oregon Historical Quarterly. Portland, Oregon: March 1927, vol. XXVIII, no. 1, pp.49-61.

Berreman, J., Chetco Archaeology, General Series in Anthropology. Menashee: George Banta Publishing Co., 1944.

----------. Tribal Distribution in Oregon. Memoirs of American Association, Memoir 47, 1947.

Boas, Franz. "Tsimshian Mythology," Thirty-First Annual Report of the Bureau of American Ethnology, 1909-1910. Washington: Government Printing Office, 1916.

----------. Race Language and Culture. New York: The MacMillan Company, 1948.

Clark, Robert Carlton. History of the Willamette Valley, Oregon. Chicago: S.J.Clarke Publishing Company, 1927.

Cline, W., R.S. Commons, and M. Mandelbaum. The Sinkaietk or Southern Okanagon of Washington, ed. L. Spier, General Series in Anthropology. Menashee: George Banta Publishing Co., 1938, vol. VI.

Collier, Donald, Alfred Hudson, and Orlo Ford. Archeology of The Upper Columbia Region. Seattle: University of Washington Publications in Anthropology, University of Washington Press, vol. 9, 1942, no.1.

Coues, Elliot. The Manuscript Journals of Alexander Henry and of David Thompson. New York: Francis P. Harper, 1897, vol. II, part III of 2 vols.

Cressman, L. S. . Contributions to the Archeology of Oregon, Final Report on the Gold Hill Burial Site. University of Oregon Publications, Studies in Anthropology, vol. 1, Bulletin 1, 1933.

----------. Petroglyphs of Oregon. University of Oregon Publications, Studies in Anthropology, 1937, no.2.

----------. "Archaeological Research in Oregon," Commonwealth Review, 1939, vol. XX, no.5, pp.691-699.

---------- and W. S. Laughlin. "A Probable Association of Mammoth and Artifacts in the Willamette Valley, Oregon," American Antiquity, 1941, vol. 6, no.4, pp.339-342.

----------. "Further Information on Projectile Points from Oregon," American Antiquity, 1947, vol. 13, no. 2 pp.177-179.

----------. "Lower Columbia Indian Weapons," Oregon Historical Quarterly, 1948, Dec. Oregon Historical Society, vol.XLIX, no.4, pp.297-298.

----------. "Archaeological Research in the John Day Region of North Central Oregon," Proceedings of the American Philosophical Society, 1950, vol. 94, no.4, pp.369-390.

Dall, William H. Summary of the Marine Shellbearing Mollusks of the Northwest Coast of America, from San Diego, California, to the Polar Sea, Mostly Contained in the Collection of The United States National Museum with Illustrations of Hitherto Unfigured Species, Washington: Smithsonian Institution, Gov't. Press, 1921.

Dawson, George M. "Notes on the Shuswap People of British British Columbia," Transactions of the Royal Society of Canada, 1891, section II.

De Smet, Rev. Pierre Jean. "Oregon Missions," Thwaite's Early Western Travels, 1845, vol. II.

Driver, Harold E. "Culture Element Distributions: X, Northwest California," Anthropological Records 1:6. Berkeley: University of California Press, 1939.

Drucker, Phillip. Contributions to Alsea Ethnography. Berkeley: University of California Publications, University of California Press, 1939, vol. 35.

Eells, Rev. M. "The Stone Age of Oregon," The Miscellaneous Documents of House of Representatives for the Second Session of the 49th Congress 1886-87, Smithsonian Report, 1886.

Garth, Thomas R. "The Archaeological Excavation of Waiilatpu Mission," Oregon Historical Quarterly, Oregon Historical Society, 1948, vol. XLIX, no. 2, pp.117-136.

Gatschet, Albert S. "Kalapuya People," The Journal of American Folklore, 1899, vol. XII, no. XLVI.

----------. "Oregonian Folklore," Journal of American Folklore, 1891, vol. IV, p.143. Describes language structure and theme of Kalapuya mythology.

----------. "Various Ethnographic Notes," Journal of American Folklore, 1899, vol. XII, p.212.

Goddard, Pliny Earl. Life and Culture of the Hupa. University of California Publications in Archeology and Ethnology, 1903-04, vol. 1, p.81.

----------. Indians of the Northwest Coast. New York: American Museum of Natural History Handbook, Series no. 10, 1927.

Goldschmidt, W.R. and H. E. Driver. The Hupa White Deerskin Dance. University of California Publications, 1940, vol. XXXV.

Greer, T.T. Fifty Years in Oregon. New York: Neal Publishing Co., 1916.

Hansen, Henry P. Post-Glacial Forest Succession, Climate, and Chronology in the Pacific Northwest. Philadelphia: Transactions of the American Phil. Soc., 1947.

---------- and E. L. Packard. "Pollen Analysis and the Age of Proboscidian Bones Near Silverton, Oregon," Ecology. 1949, vol. 30, no. 4, pp.461-468.

Heizer, Robert F. "Oregon Prehistory--Retrospect and Prospect," Commonwealth Review, 1941, pp.30-40.

----------. "Decorated Mortar in Columbia Valley Art Style," American Anthropologist, 1942, n.s. vol. 44, pp.534-537.

----------. Archaeology of Central California: 1, The Early Horizon, Berkeley: University of California Press, 1949.

Herman, Haeberlin, and Erna Gunther. "The Indians of Puget Sound," University of Washington Publications in Anthropology, Vol. IV, no. 1.

Hines, Rev. Gustavus. Oregon, It's History, Condition, and Prospects. Buffalo: G. H. Derby and Co., 1851.

Hodge, F. W. Handbook of American Indians North of Mexico. Washington: Bureau of American Ethnology, Gov't. Printing Press, 1905.

Ingersoll, Ernest. "In the Wahlamet of Oregon." Harpers New Monthly Magazine, 1882, vol. LXV, p. 769.

Jacobs, Melville. Kalapuya Texts. Seattle: University of Washington Publications in Anthropology, University of Washington Press, 1945, vol. II.

Kane, Paul. Wanderings of an Artist Among the Indians of North America from Canada to Vancouver's Island and Oregon, Through the Hudson's Bay Company Territory and Back Again. London, 1859.

Kroeber, Alfred L. "The Obsidian Blades of California," notes to Rust's article, American Anthropologist, 1905, n.s., vol. 7.

----------. Cultural and Natural Areas of Native North America. Berkeley and Los Angeles, University of California Press, 1947.

----------. Anthropology. New York: Harcourt, Brace and Company, 1948.

Larsell, O. The Doctor in Oregon. Portland: Binford and Mort, 1947.

Laughlin, William S. "Excavation in the Calapuya Mounds of the Willamette Valley, Oregon," American Antiquity, 1941, vol. 7, no. 2, part 1.

----------. "Notes on the Archaeology of the Yamhill River, Willamette Valley, Oregon," American Antiquity, 1943, vol. 9, no. 2.

Leatherman, Kenneth E., and Alex D. Krieger. "Contributions to Oregon Coast Prehistory," American Antiquity, 1940, vol. 6, no. 1.

Le Bonte, Lewis. "Reminiscences," Oregon Historical Quarterly, 1900, vol. 1.

Lewis and Clark. Original Journals of the Lewis and Clark Expedition, 1804-1806, ed. by Ruben Gold Thwaites, Dodd, Mead and Co., 1905, New York, vol. IV of 7 vols.

Lewis, Albert Buell. "Tribes of the Columbia Valley and the Coast of Washington and Oregon," Memoirs of the American Anthropological Association. Lancaster: vol. I, pp.151-209, 1905.

Lillard, J. B., R. F. Heizer and Franklin Fenenga. Introduction to the Archeology of Central California. Sacramento Junior College, Dept. of Anthropology, Bulletin 2, 1939.

Loud, L. L. Ethnography and Archaeology of the Wiyot Territory. University of California Publications XIV, 1918, pp.221-436.

Mallery, Garrick. "Pictographs of the North American Indians," A preliminary paper, Fourth Annual Report of the Bureau of Ethnology, U.S. Geological Survey, 1889, vol. 17.

Martin, Lucy. Indians of the Willamette Valley. Unpublished thesis, University of Oregon, 1929.

Mears, John. Voyages Made in the Years 1788 and 1789 From China to the N.W. Coast of America: with an introductory Narrative of a Voyage performed in 1786 from Bengal, in the Ship Nootka to which are annexed, observations on the Probable existance of a Northwest Passage. Vol. I, II. London: Logographic Press, 1791.

Minto, John. "The Number and Condition of Native Race in Oregon when First Seen by White Men," Oregon Historical Quarterly, 1900, vol. I, pp.296-315.

Murdock, George Peper. Ethnographic Bibliography of North America. Yale Anthropological Studies, 1941, vol. 1.

Osborne, Homer Douglas. "Preliminary Report on the River Basin Surveys of August and September, 1948, Eugene, Oregon." Vol. I and II, 1948 (Unpublished works).

Ray, Verne F. Cultural Element Distributions: XXII, Plateau Anthropological Records 8:2, University of California Press, Berkeley, 1942.

----------., Lower Chinook Ethnographic Notes. Seattle, Wash.: University of Washington Pub., 1938.

----------. The Sanpoil and Nespelem. Seattle: University of Washington Publications in Anthropology, vol. 5.

Ronan, Peter Major. History of the Flathead Indians, Their Wars and Hunts. Helena: Journal Publishing Co., 1890.

Ross, Alexander. Adventures of the First Settlers on the Oregon or Columbia River. edited by Milo Milton Quaife. Chicago: R. R. Donnelley & Sons Co. (Lakeside Press).

Rust, Horatio N. "Obsidian Blades of California," American Anthropologist, n.s., vol. 7, no. 1.

Sapir, Edward. "Notes on the Takelma Indians," American Anthropologist, n.s., vol. IX, pp.251-275.

----------. "Language," Encyclopedia Brittanica, vol. 5, p. 139, 1946 ed.

Schumacher, Paul. Researches in the Kjokkenmoddings and Graves of a former Population of the Coast of Oregon, U.S. Geological and Geographical Survey of the Territories, 1877, Bull. 3, No. 1, pp.27-35.

Seaman, N.G. Indian Relics of the Pacific Northwest. Portland: Binford & Mort, 1946.

Smith, Harlan I. "Archaeology of the Thompson River Region, British Columbia," The Jessup North Pacific Expedition, vol. 2, American Museum of Natural History Memoirs, New York.

----------. "Shell Heaps of the Lower Fraser River, British Columbia," American Museum of Natural History Memoirs, vol.IV, pt. IV The Jesup North Pacific Expedition, New York, pp. 133 191, 1903.

----------. "Archaeological Investigations on the North Pacific Coast in 1899," American Anthropologist, Vol. 2, pp. 563-567. n.s., 1900.

----------. "Archaeology of Lytton, British Columbia," American Museum of Natural History Memoirs, vol. 2, no. 3, pp.129-161, The Jesup North Pacific Expedition, New York., 1899.

----------. "Archaeology of the Yakima Valley." Anthropological Papers of the American Museum of Natural History, New York: vol. VI, pt. I, pp.1-171.

----------, and Gerard Fowke. "Cairns of British Columbia and Washington," Memoirs of American Museum of Natural History, New York: The Jesup N. Pacific Expedition, vol. IV, no.2.

Smith, Marian. "Columbia Valley Art Style," American Anthropologist, N.S. vol. 45, 1943, pp. 158-160.

----------. "Archaeology of the Columbia Fraser Region," Memoirs of the Society for American Archaeology, 1950, vol. XV, number 4, part 2.

Spier, Leslie, and Edward Sapir. Wishram Ethnography. University of Washington Publications in Anthropology, 1930, vol. 3, no. 3, pp. 151-300.

----------. Klamath Ethnography. University of California Publications in American Archaeology and Ethnology, 1930, vol. XXX.

Spinden, Herbert Joseph. The Nez Perce Indians. Memoirs of the American Anthropological Association, 1915, vol. II, pp. 176-274.

Strange, James. James Strange's Journal and Narrative of the Commercial Expedition from Bombay to the Northwest Coast of America. Edited by A. V. Venkatarama Ayyar, Madras: Government Press, 1929.

Strong, Duncan, W. Egbert Schenck and Julian H. Steward. Archaeology of The Dalles-Deschutes Region. Berkeley: University of California Publication in American Archaeology and Ethnology, University of California Press, 1929, vol. 29, no. 1.

Teit, James. "The Shuswap," Memoirs of the American Museum of Natural History. The Jesup North Pacific Expedition, New York: E. Stechert & Co., 1909.

----------. The Middle Columbia Salish. Seattle: University of Washington Publications in Anthropology, 1928, vol. 2, no. 4, pp. 83-128.

----------. "The Lillooet Indians," Publications, Jesup North Pacific Expedition, 1906, New York, vol. 2, pp. 193-300.

----------. The Salishian Tribes of the Western Plateaus. edited by Franz Boas. 45th Annual Report of the Bureau of American Ethnology, 1927-28. Washington, D.C. 1930.

Toby, H.E. The Willamette Valley before the Great Migrations. Unpublished thesis, University of Oregon, 1927.

Townsend, John K. A Narrative of a Journey across the Rocky Mountains, Philadelphia, 1839.

Underhill, Ruth. Indians of the Pacific Northwest Coast. Indians Life and Custom, Published by the Education Division of the United States, Sherman Institute Press, Riverside, 1944.

Voegelin, C. F. "North American Indian Languages Still Spoken and Their Genetic Relationships," Languages Culture, and Personality, edited by Leslie Spier et al. Menasha: Sapir Memorial Publication Fund, 1941.

---------- and E. W. Voegelin. Map of North American Indian Languages. American Ethnological Society.

Voegelin, Erminie W. Culture Elements Distributions: 1942, XX, Northeast. Berkeley: University of California Publications in Anthropological Records, University of California Press, vol. XX, 1942.

Wagner, Henry R. Spanish Voyages to the Northwest Coast of America. San Francisco: California Historical Society.

Warre, Lieut. Henry J., and Lieut. M. Vavasour. "Documents Relative to a Military Reconnaissance in Oregon, 1845-1846," Oregon Historical Quarterly, vol. X.

Wilkes, Charles. Narrative of the United States Exploring Expedition During the Years 1838, 1839, 1840, 1841, 1842. Vol. IV of 5 vols. Philadelphia: Lea and Blanchard.

Wissler, Clark. The American Indian. New York: Douglas C. McMurtrie, 1917.

Work, John. The Journal of John Work. edited by W. C. Lewis and Paul C. Phillips. Cleveland: Arthur H. Clark, 1923.

ADDENDUM TO BIBLIOGRAPHY

Bailey, Vernon, The Mammals and Life Zones of Oregon, Washton, U. S. Government Printing Office, 1936.

Boit, John, "A New Log of the Columbia," Washington Historical Quarterly, Vol. XII, no. 1, 1921.

Drucker, Phillip, "Culture Element Distributions: XXVI Northwest Coast", Anthropological Records 9:3, University of California Press, Berkeley, 1950.

Heizer, Robert F., "Archaeology of Central California : The Early Horizon", Anthropological Records 12:1, University of California Press, Berkeley, 1949.

Kroeber, A. L., "California Culture Provinces", University of California Publications in American Archaeology and Ethnology, Vol. 17, No. 2, 1920.

Oetteking, Bruno, Craniology of the North Pacific Coast, Publ. Jesup North Pacific Coast Expedition, Memoir of The American Museum of Natural History, Vol. XI, Part I, 1930.

Peck, Morton E., A Manual of the Higher Plants of Oregon, Portland: Binfords and Mort, 1941.

Steward, Julian H., "A New Type of Carving from the Columbia Valley", American Anthropologist, n.s., Vol. 29, 1927.

Thwaites, Ruben Gold, Early Western Travels - 1748-1846, Cleveland: The Arthur H. Clark Company, 1907, Vol. I-XXXII.

Wissler, Clark, The American Indian, New York: Peter Smith, 1950.

Plate No. I

Early Survey of Kalapuya Middens

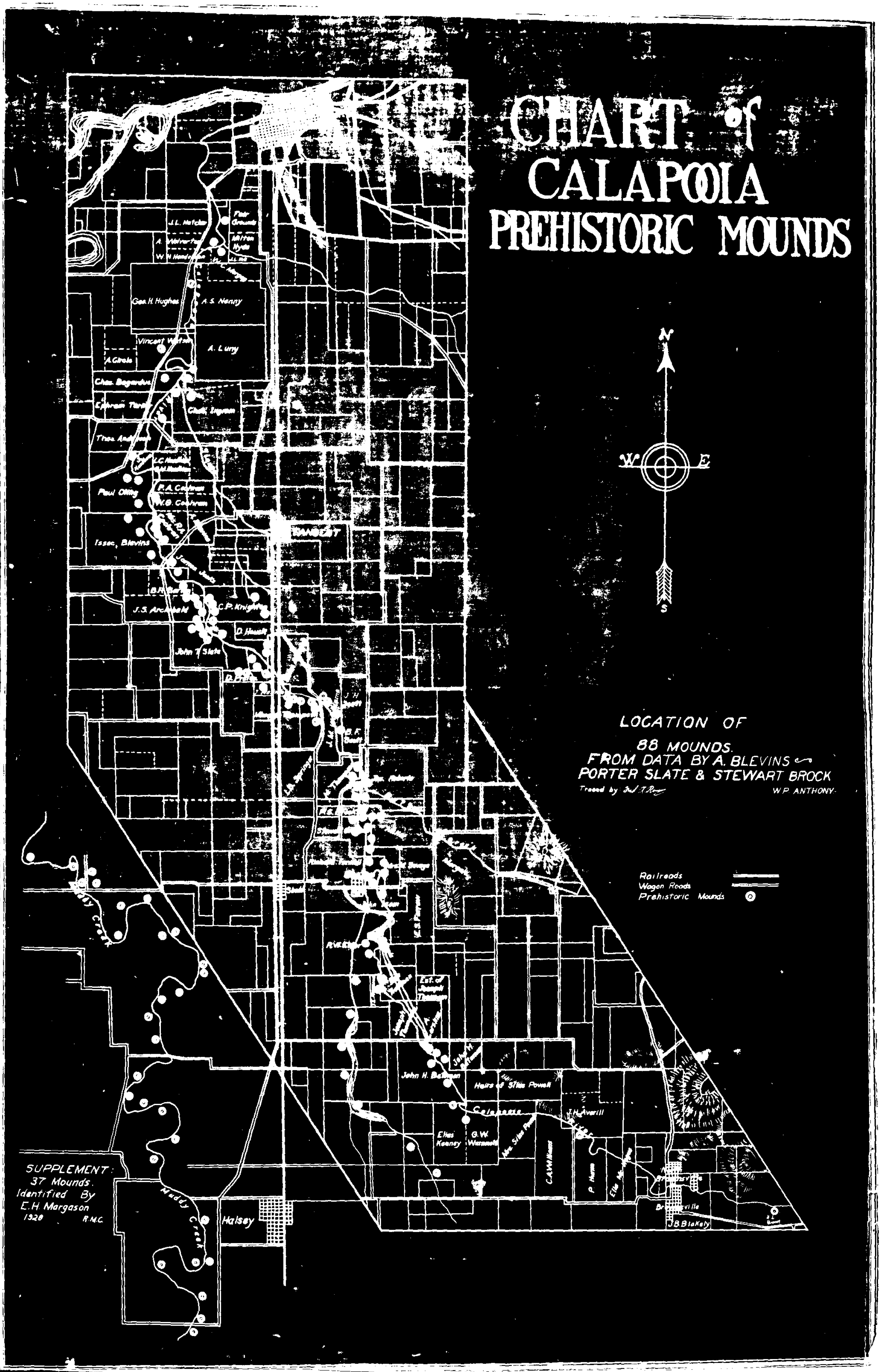


CHART of
CALAPOOIA
PREHISTORIC MOUNDS
N
W
E
S
LOCATION OF
88 MOUNDS.
FROM DATA BY A. BLEVINS
PORTER SLATE & STEWART BROCK
W.P. ANTHONY
Railroads
Wagon Roads
Prehistoric Mounds
SUPPLEMENT:
37 Mounds.
Identified By
E.H. Margason
1928
R.M.C.
Halsey
Muddy Creek
J.L. Hatcher
Fair Grounds
Geo. H. Hughes
A.S. Nenny
Vincent Watson
A. Luny
A. Girole
Chas. Bogardus
Thos. Anderson
Paul Otting
P.A. Cochran
W.B. Cochran
Isaac Blevins
J.S. Archibald
C.P. Knight
D. Haush
John T. Slate
B.F.
John H. Bateman
Heirs of Silas Powell
J.H. Averill
Elias Keeney
G.W. Warmoth
J.B. Blakely
Brownsville

Explanation of Plate No. II

No. 1. Flaking tool from Fuller midden

2. Flaking tool from Fuller midden

3. Flaking tool from Fuller midden

4. Flaking tool from Fuller midden

5. Flaking tool from Fuller midden

6. Flaking tool from Fuller midden

7. One piece of two-part composite harpoon from Fuller midden

8. One piece of three-part composite harpoon gig from Fuller midden

9. One part of three-part composite harpoon gig from Fanning midden

10. Fragmentary portion of composite harpoon gig from Fuller midden

11. Tapered point, which possibly fits into the composite harpoon gig from Fanning midden

12. Tip of bone point from Fuller midden

13. Unilaterally barbed harpoon or fish spear point from Fanning midden

14. Awl fragment or flaker, not included in text because of its questionable category, from Fuller midden

15. Bone needle or awl tip, Fuller midden

16. Bone needle or awl tip, Fuller midden

17. Bone fragment that tapers upwards, may be an awl or bone point fragment, Fuller midden

18. Bone tube beads associated with Fuller burial #3

19. Tibia awl from Fuller midden

20. Awl, similar to No. 19 but with more tapering, Fuller midden

21. Awl, polished, fractured, Fanning. No. 3, 15, 16, and 17 could easily be parts of the above awl.

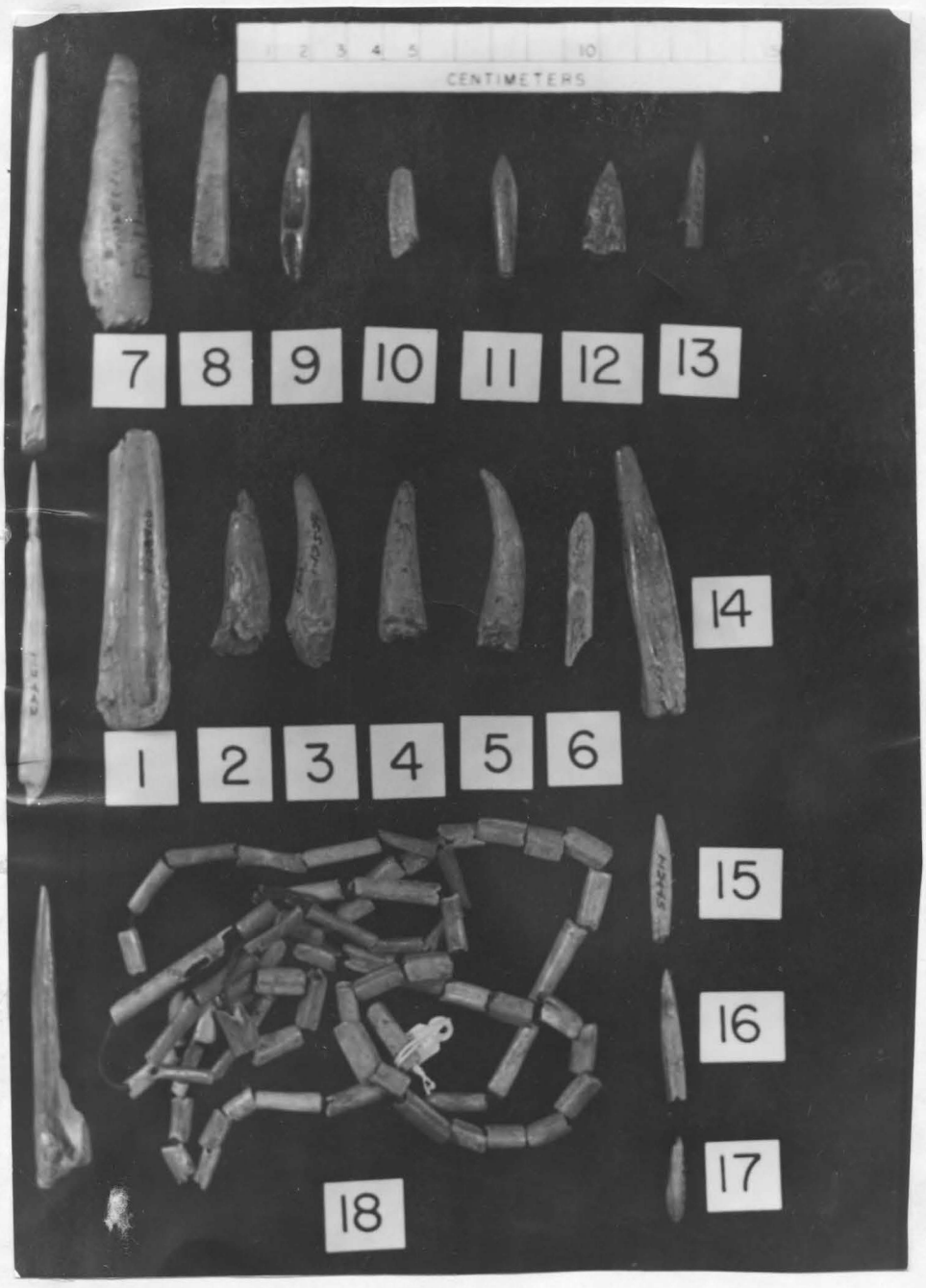


Plate No. II

Bone and Horn Artifacts

Explanation of Plate No. III

No. 1. Bone blade or spear point from Fuller Burial #21 associated with waisted obsidian blade

2. Carved owl's head, bone, associated with Fanning Burial #5

3. Incised bone artifact from Fuller

4. Incised bone artifact from Fuller. Nos. 3 and 4 may be nose plugs. No. 4 was found near the face of Burial #40 from Fuller

5. Incised, curved, tapered bone artifact. Incising spirals from base to tip. Incisings seemed to have been cut with a steel or iron cutting implement. Fuller

6. Antler (?) scraper or knife from Fuller with the surface ground to an edge

7. Rectangular bone die from Fuller with two rows of five holes on each side

8,9,10. Ear spools or plugs, associated with the head of Fuller Burial #20

11. Tubular ivory (?) bead from Fanning

12. Copper-stained pendant or eyed needle. This was associated with Fuller Burial #10, an adult female

13. Needle from midden, more slender than No. 12

14. Fragmentary needle tip, from Fanning

15. Fragmentary needle tip, from Fanning

16. Fragmentary needle tip, from Fanning

17. No artifact

18. Small bone pendant from Fuller

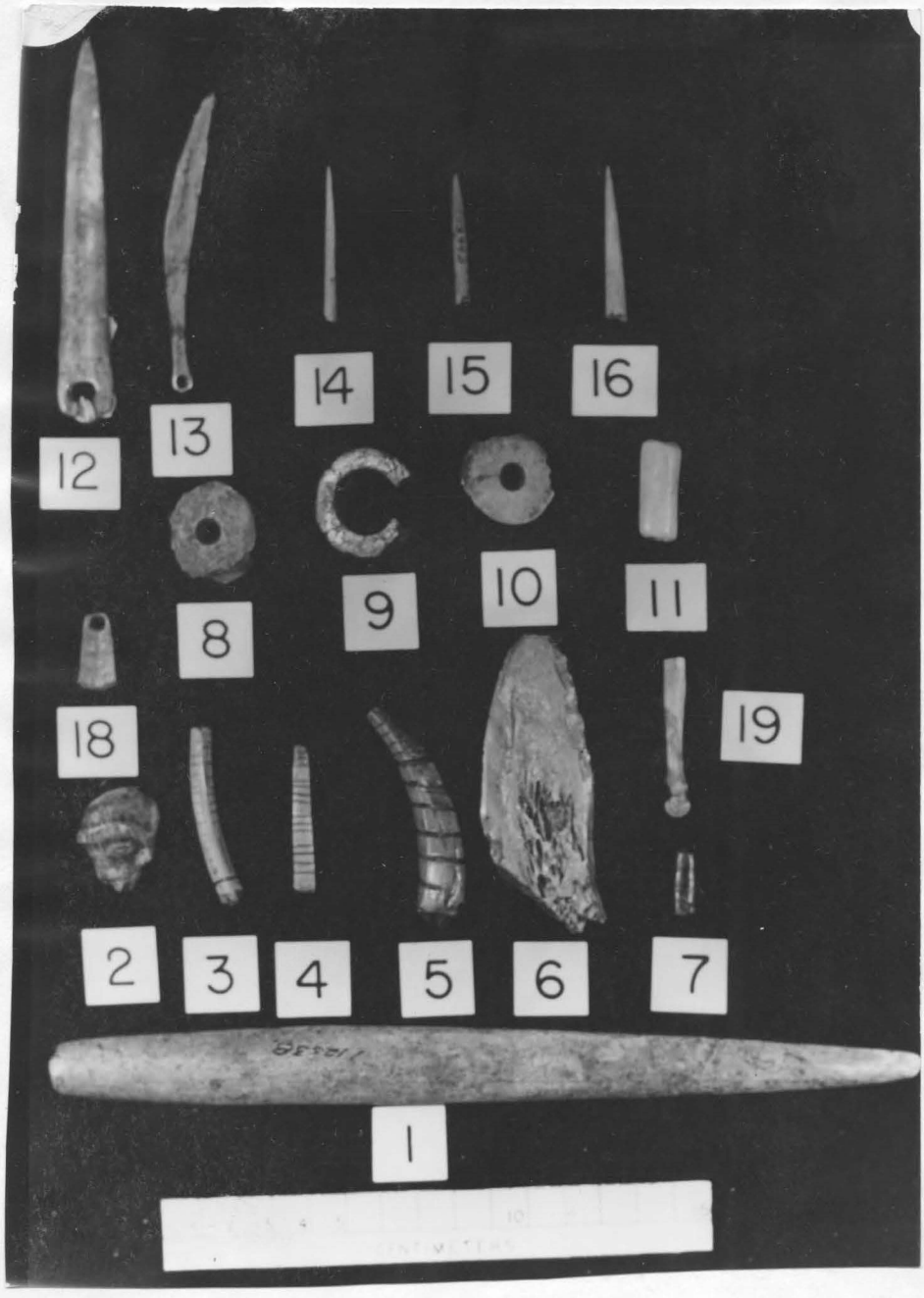


Plate No. III

Bone Artifacts

Fanning and Fuller Middens

Explanation of Plate No. IV

No. 1. Horn (elk) skin-dressing tool from Halsey. May possibly be a wedge

2. Bone chisel from Spurland midden

3. Bone tool, possibly skin dresser, from Fuller

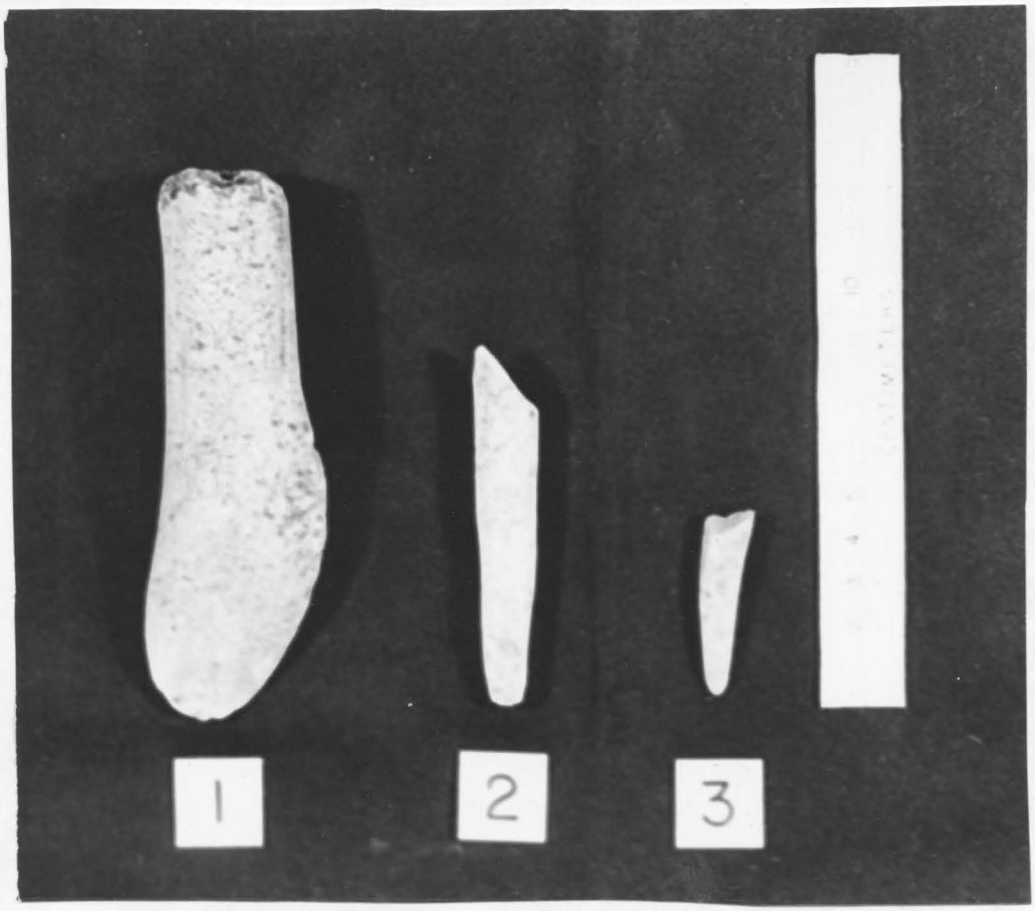


Plate No. IV

Bone Skindressers and Chisel

Explanation of Plate No. V

No. 1. Antler Wedge from Fuller midden

2. Antler Wedge from Fuller midden

3. Antler Wedge from Fuller midden

4. Antler Wedge from Fuller midden

5. Antler wedge from Fanning midden

6. Antler wedge from Fanning midden

7. Antler wedge from Fanning midden

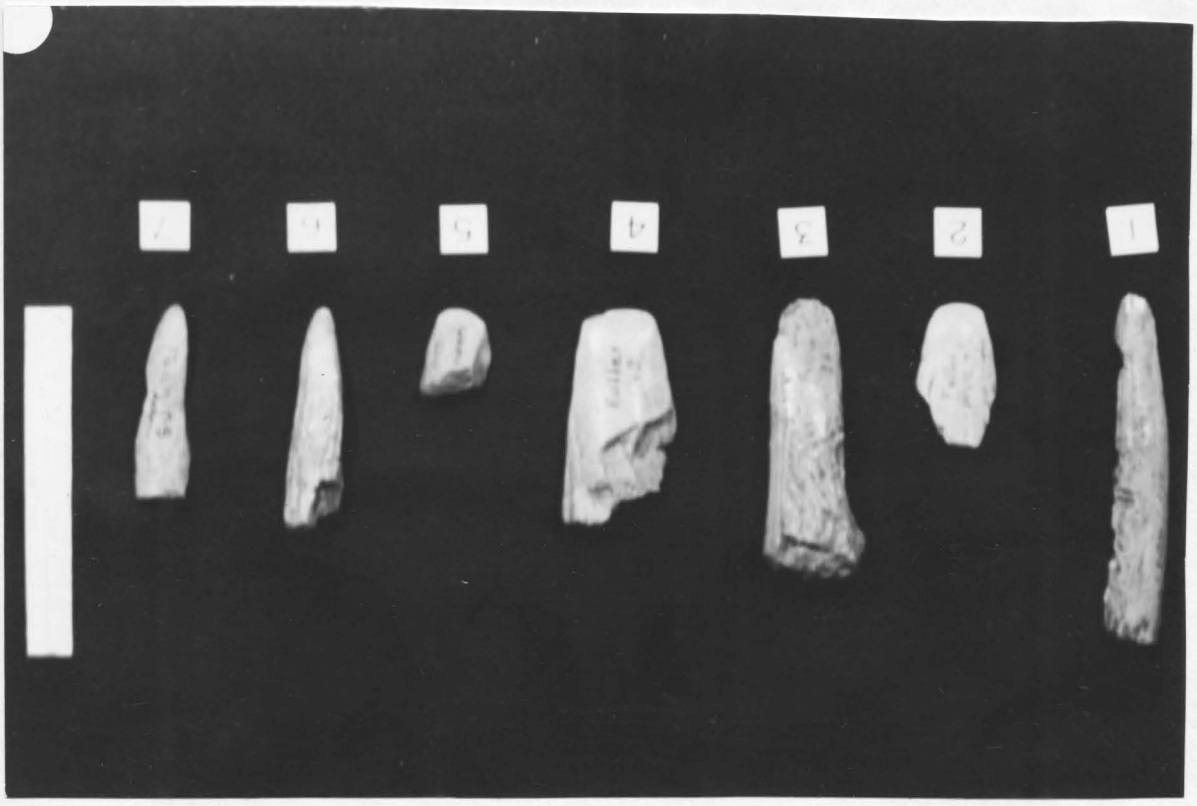


Plate No. V

Antler Wedges from Fanning and Fuller

(See Plate VI-a, Nos. 1, 2, 3, and 4,
for above Nos. 1, 2, 3, and 4)

Explanation of Plate No. VI-a

No. 1. Fragmentary antler digging stick handle from Fuller midden

2. Deer horn wedge from Fuller midden (the same as No. 3 in Plate V)

3. Fragmentary antler digging stick handle from Fuller midden

4. Fragmentary horn wedge from Fuller midden

5. Fragmentary horn wedge from Fuller midden

6. Fragmentary antler digging stick handle from Fuller midden

Plate VI-a

Antler Wedges and Digging Stick Handles

Explanation of Plate No. VI-b

No. 7. Incised antler digging stick handle, incised lines in groups of five. Design typical of Columbia River area and Plateau. Made of elk. Fuller midden

8. Antler digging stick handle, elk, Fuller midden

9. Fractured digging stick handle of deer or elk, Fuller midden

Plate No. VI-b

Antler Digging Stick Handles

Explanation of Plate No. VI-c

No. 10. Fragmentary digging stick handle from Fuller midden

11. Digging stick handle from Fuller midden. There is a bulge in the center which seems to be the result of prying.

Plate No. VI-c

Antler Digging Stick Handles

Explanation of Plate No. VII

No. 1. Whalebone club associated with Fuller Burial #4. There is an incised design on the handle.

2. Fragmentary whalebone club associated with Fuller Burial #20. Note the design on the handle. This same design is reported by Julian Steward as being on the handle of a whalebone club from the Columbia River region.

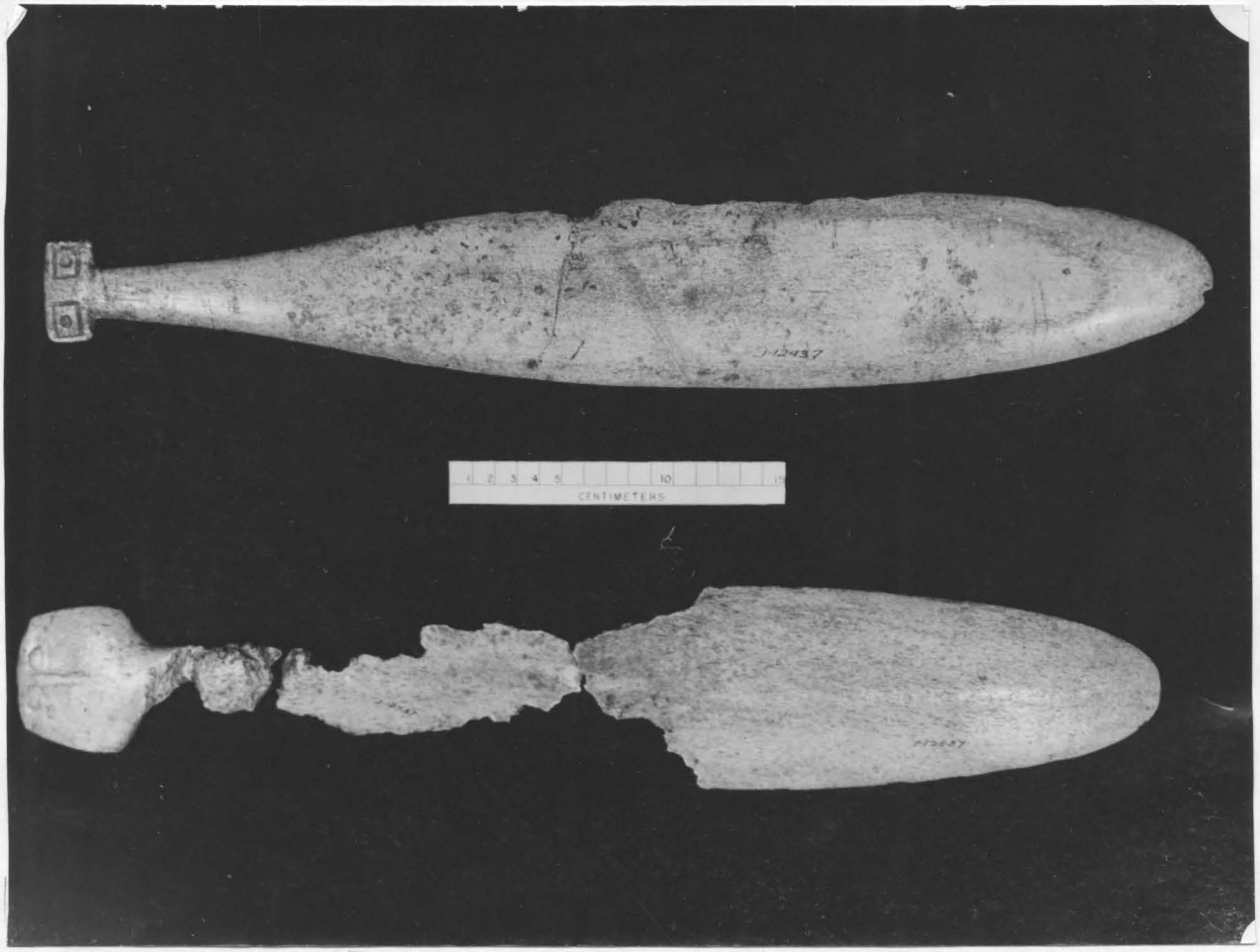


Plate No. VII

Whalebone Clubs

Explanation of Plate No. VIII

No. 1. String of Olivella Biscapulata and Glycermis from Fuller midden; copper pendants are also on the string

2. Olivella, Glycermis, and Haliotis pendant associated with Spurland Burial #4

3. Glycermis from Fuller Burial #4

4. Dentalia, miscellaneous collection, associated with Fuller Burial #40

Plate No. VIII

Marine Shells

Explanation of Plate No. IX-a

No. 1. Fractured pestle, basalt, Fuller midden

2. Center section of maul or pestle, Fuller midden, basalt

3. Ground river cobble, andesite, Alvadore middens

4. Fractured pestle, basalt, Alvadore

5. Grinding stone or maul, basalt, Alvadore

6. Pestle/grinding stone, basalt, Alvadore

7. Fragment of maul or grinding stone, basalt, Alvadore

8. Pestle fragment of petrified wood, Alvadore

9. Sandstone pestle,,fractured, Alvadore

10. Fractured river cobble of fine grain basalt

Plate No. IX-a

Pestles and Mauls from Fuller and Alvadore middens

Explanation of Plate No. IX-b

No. 11. Fragmentary pestle, basalt, Alvadore

12. Fragmentary pestle, basalt, Alvadore

13. Pestle/hammerstone, fine grain basalt or andesite, Alvadore

14. Pestle, Basalt, Alvadore

15. Cobblestone fashioned into hammerstone and grinding stone, Alvadore

16. Fragmentary pestle, Basalt, Alvadore

17. Working end of hammerstone, basalt, Alvadore

18. Andesite pestle, Alvadore

19. Andesitic pestle, Alvadore

20. Basalt pestle from Veneta, Oregon

21. Basalt pestle/hammerstone, Spurland midden

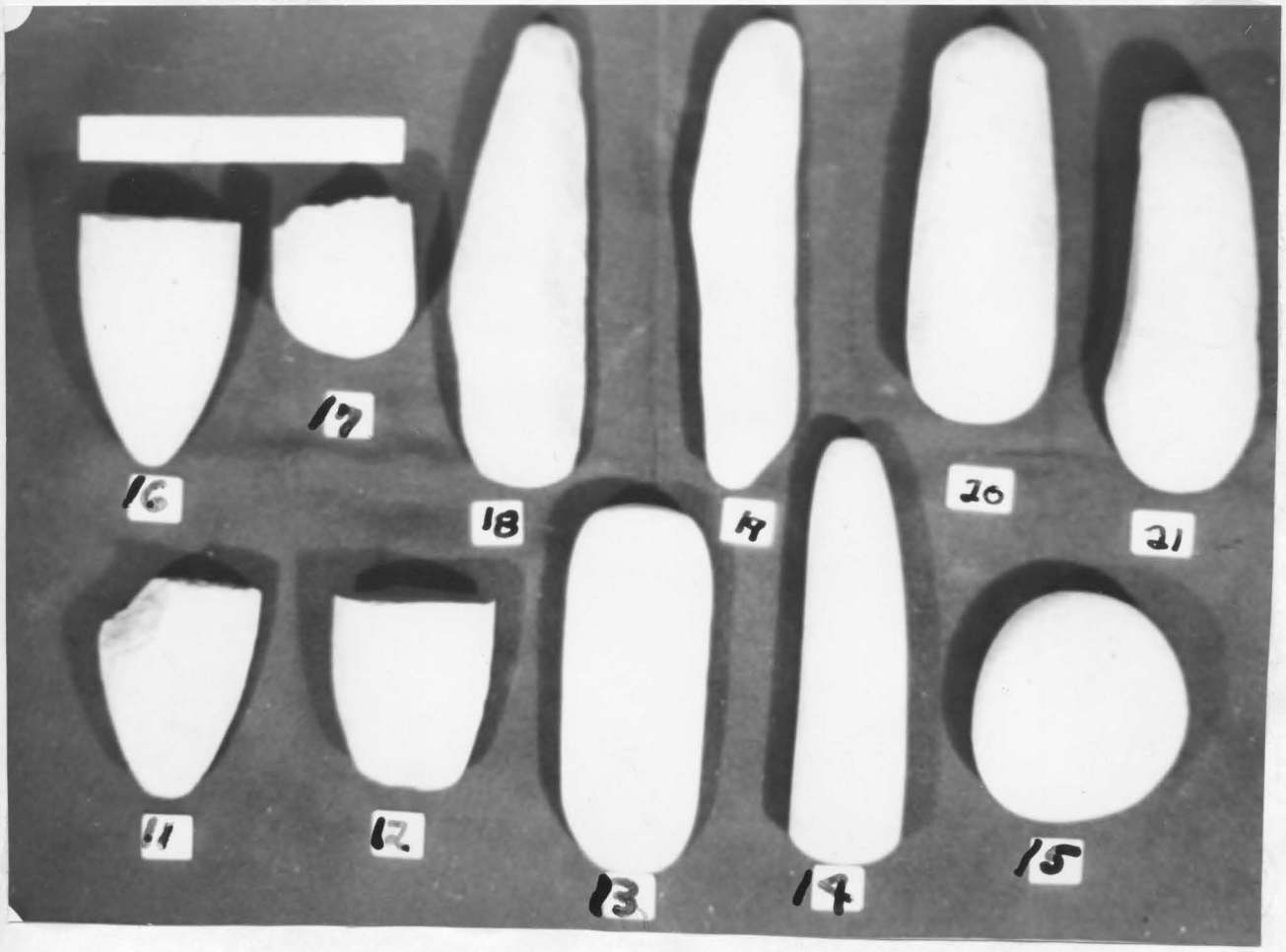


Plate No. IX-b

Outlines of pestles and pestle fragments
from Alvadore, Oregon, (Long Tom area)

Explanation of Plate No. IX-c

No. 22. Basalt mortar fragment, Franklin midden area

23. Basalt mortar rim fragment, Franklin midden area

24. Basalt mortar rim fragment, Franklin area

25. Basalt mortar rim fragment with heavy base, Cottage Grove, Oregon

Plate No. IX-c

Mortars from Franklin midden area and Cottage Grove

Explanation of Plate No. X

No. 1. Six small grooved and smoothed andesitic river pebbles, Fuller midden

2. Small tubular pipe, no evidence of smoking, Farming midden

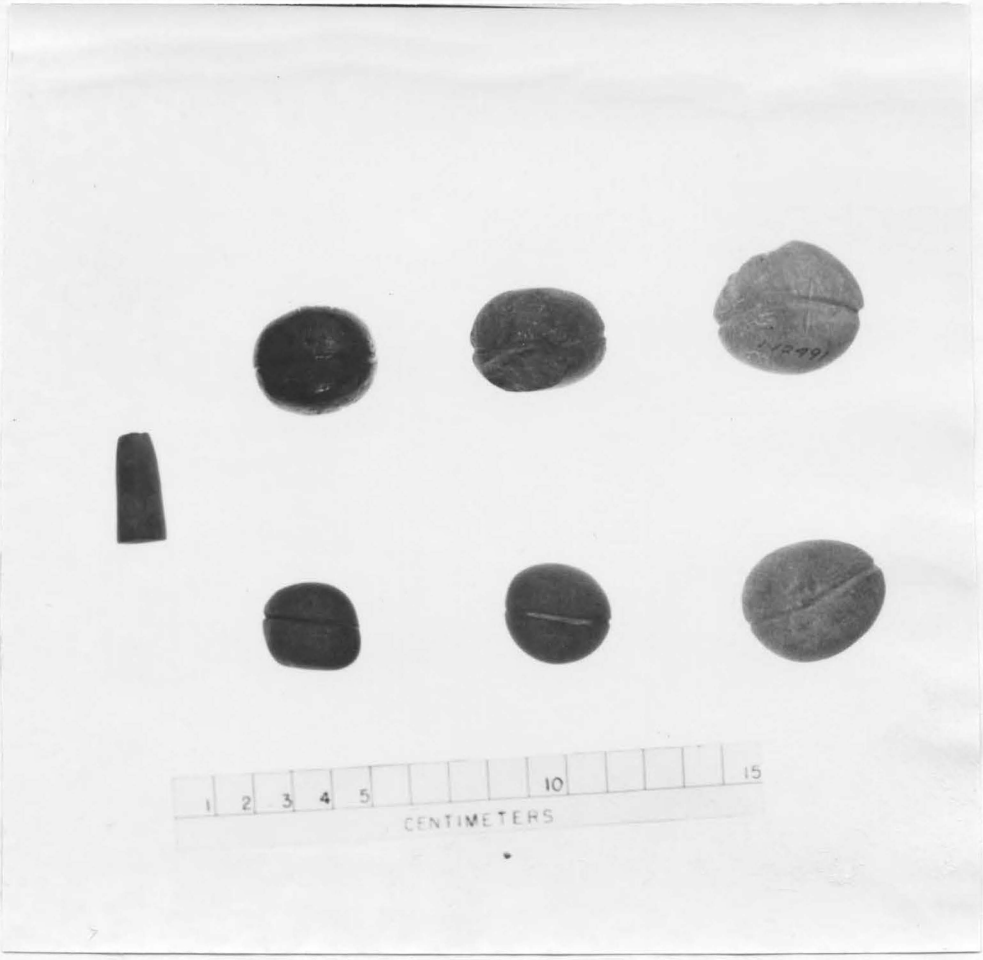


Plate No. X

Girdled stone bola or sinker weights

Explanation of Plate No. XI

No. 1. Bear skin robe fragment found around the neck of skeleton in Spurland Burial #1

2. Fragment of the above, apparently one edge of the robe

3. Copper tubular bead and dentalium found with Spurland Burial #1

4. Fragment of Bear skin robe and matting

5. Copper tube with twisted cordage of vegetable fibers

Plate No. XI

Bearskin robe fragments and tubular copper beads with dentalia

Explanation of Plate No. XII

No. 1. Scraper, bit-type, chert, Fuller midden

2. Scraper, fractured, Fuller midden

3. Side scraper, chert, Fuller midden

4. Scraper, triangular, Fuller midden, chert

5. Scraper, ovoid, chert, Fuller midden

6. Tanged scraper, chert or jasper, Fanning midden

7. Scraper, square, chert, Fanning midden

8. Scraper, obsidian, fragment, Fanning midden

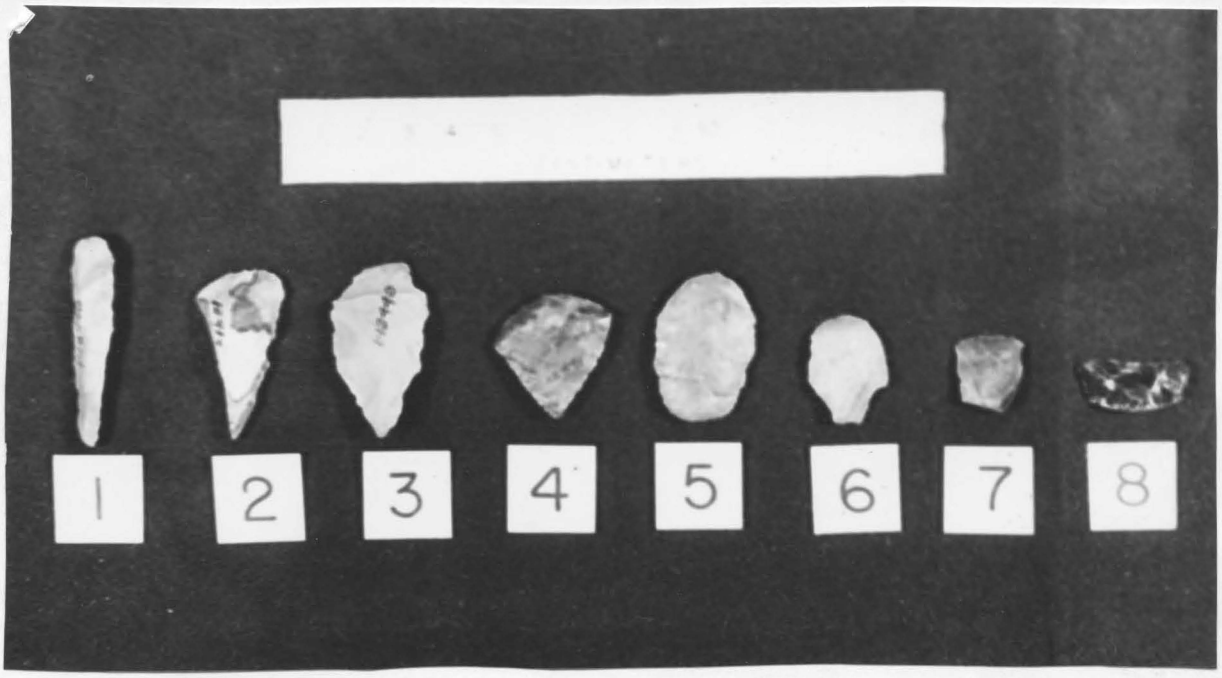


Plate No. XII

Scraper Types

Explanation of Plate No. XII-b

Nos. 1-12 from Fuller
Nos. 13-24 from Fanning

No. 1. Circular scraper, chert

2. Chip or fragment of scraper, chert or jasper

3. Fragment of scraper, chert

4. Scraper fragment, chert

5. Circular scraper, obsidian (?)

6. Circular scraper, chert

7. Fractured square scraper, chert

8. Scraper, almost semi-circular

9. Circular scraper, chert

10. Scraper, fragmentary, chert

11. Scraper, obsidian, semi-circular

12. Scraper, fragmentary

13. Scraper, semi-circular, fragmentary, chert

14. Scraper, broken, circular with tang broken off

15. Scraper, bit-type, obsidian

16. Scraper, fragment, obsidian, no category

17. Scraper, circular, cherk

18. Scraper, ovoid

19. Scraper, irregularly shaped, chert

20. Scraper, triangular, fractured, chert

21. Scraper, circular, chert

22. Scraper, circular, obsidian

23. Scraper, triangular (?), chert

24. Scraper, fragmentary, obsidian

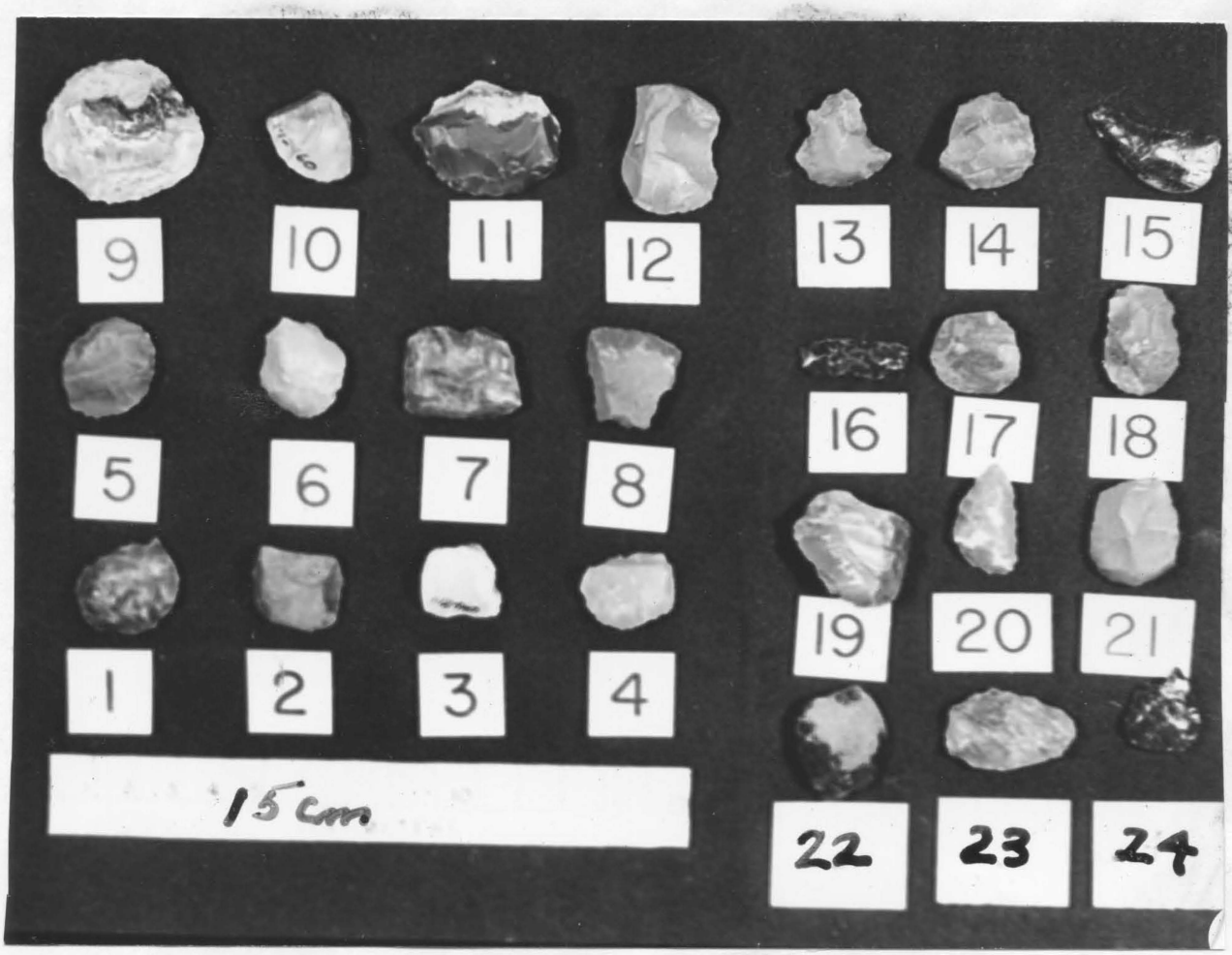


Plate No. XII-b

Scrapers

Explanation of Plate No. XIII

No. 1. Waisted blade from Fuller Burial #21

2. Gold Hill blade for comparison

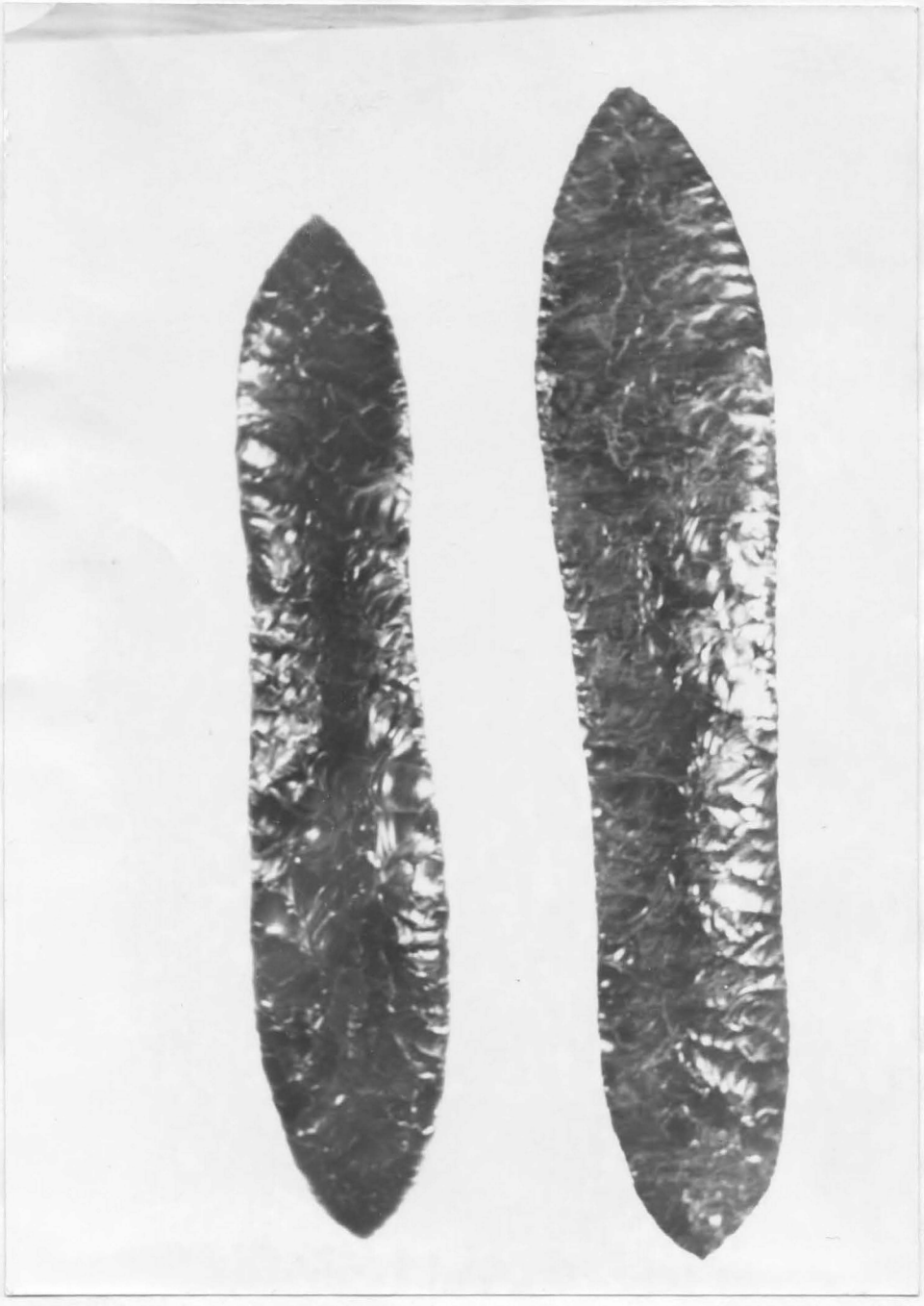


Plate No. XIII

Waisted Obsidian Blades

Explanation of Plate No. XIV

No. 1. Glass beads from Spurland midden, dated 1825 by Woodward, blue and white

2. Tubular copper beads and dentalia segments strung on a leather thong

3. Trombac clothing buttons from Fuller site, ca. 1780

4. Copper trade rings, Fuller midden

5. Brass thimble drilled through the top

6. Copper pendant of 16 pound cold rolled sheet copper, Fulle

7. Copper pendant hammered from sheet copper of approximately 16 pound weight

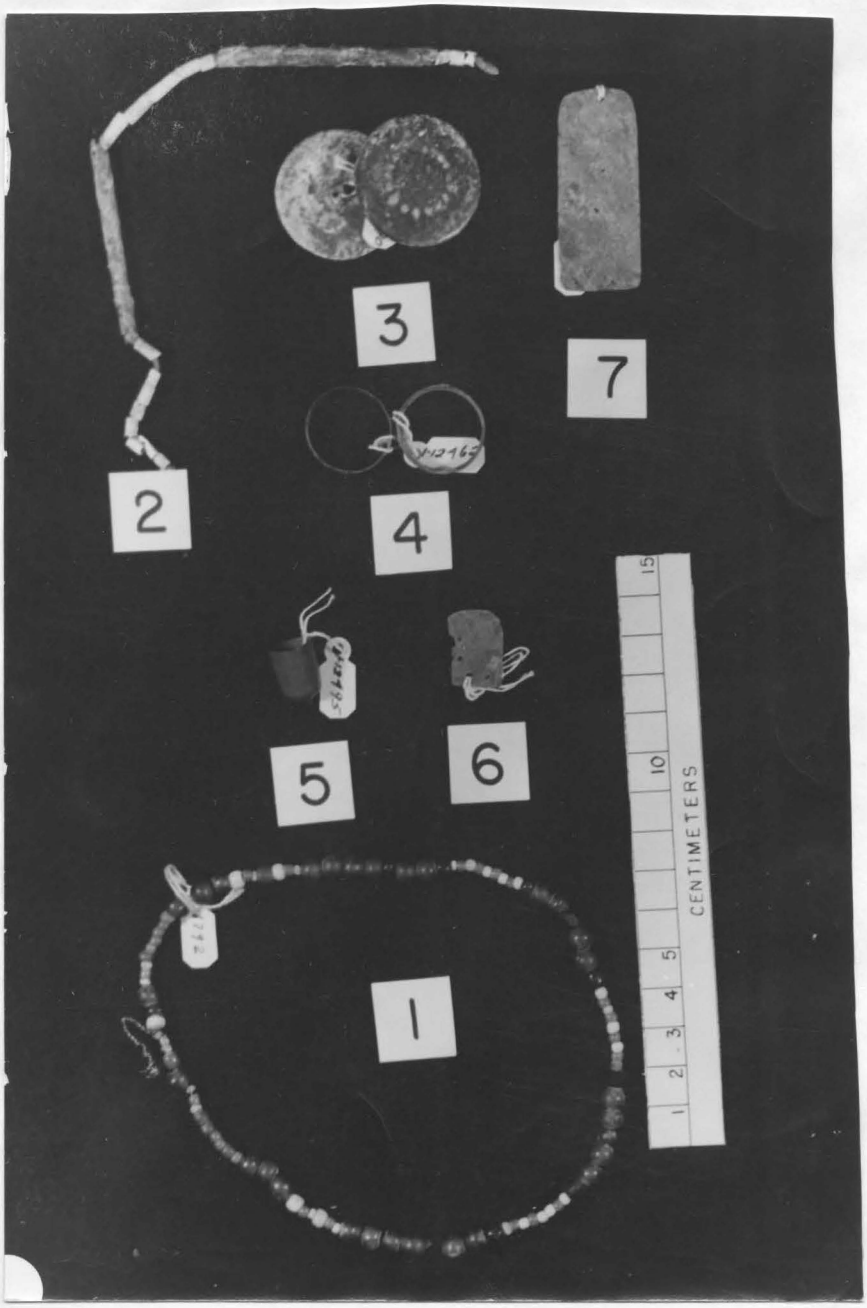


Plate No. XIV

European Trade Goods

Explanation of Plate No. XV

No. 1. Mortar with incised geometric design around the rim. Fanning Midden.

Plate No. XV

Mortar with geometric design incised on rim

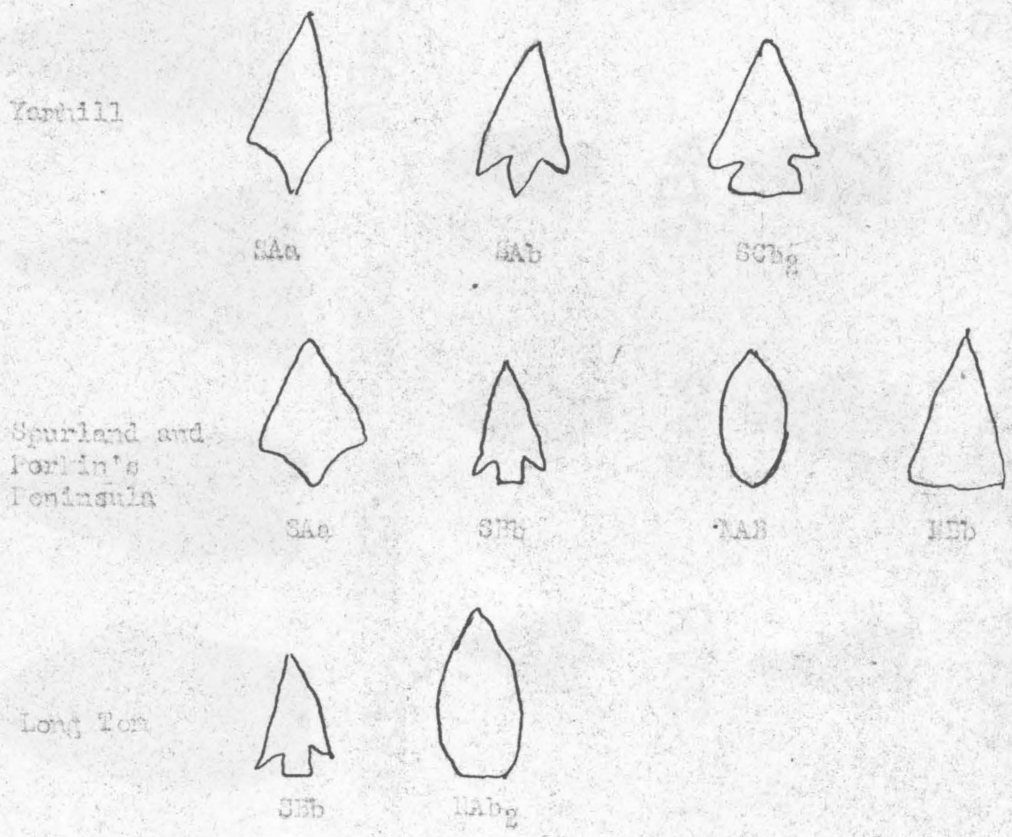


Figure 1

TYPES OF KAIAPUYA PROJECTILE POINTS

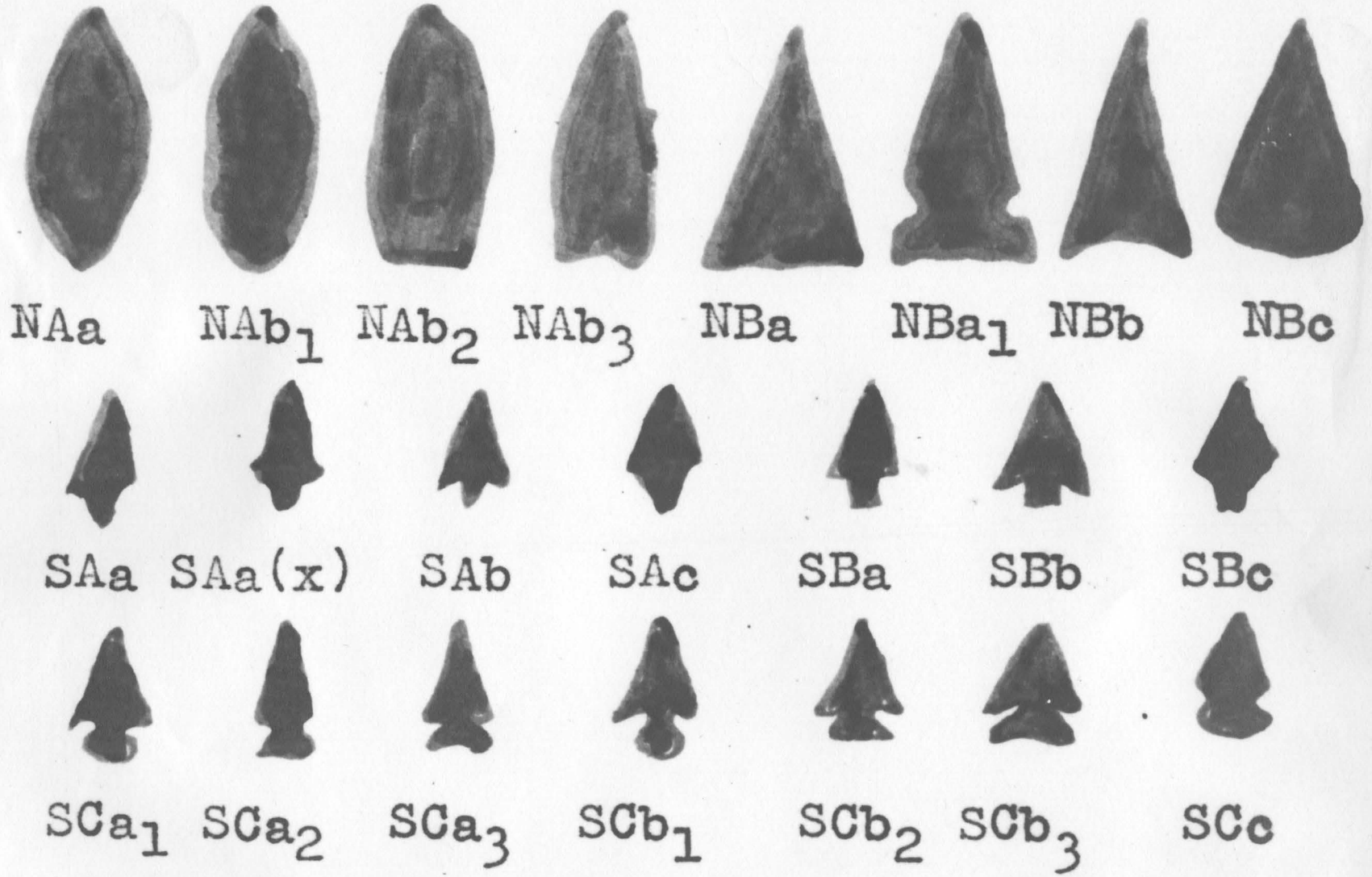


Figure 2: Point Classification
(taken from Strong, Schenck, and Steward: Archaeology of Dalles-Deschutes Region)

KEY OF TRIBES LOCATED ON THE FOLLOWING MAPS BY NUMBERS

1. Tsetsaut
2. Bella Bella
3. Bella Coola
4. Chilcotin
5. Lillooet
6. Cowichan
7. Klallam
8. Quileute
9. Quinault
10. Twana
11. Snuqualmi
12. Thompson
13. Nicola
14. Spokan
15. Coeur D'Alene
16. Kalispel
17. Sanpoil
18. Walla Walla
19. Cayuse
20. Umatilla
21. Wasco
22. Molala
23. Wishram
24. Klickitat
25. Chehalis
26. Kwalhioqua
27. Chinook
28. Tlatskanai
29. Tillamook
30. Alsea
31. Siuslaw
32. Coos
33. Chastacosta
    Tututni
    Lower Umpqua
34. Tolowa
35. Takelma
36. Klamath-Modoc
37. Achomawi
38. Yana
39. Shasta
40. Karok
41. Chimariko
42. Hupa
43. Yurok
44. Wiyot
45. Wailaki
46. Yuki
47. Wintun
48. Pomo
49. Wappo
50. Olamentke
51. Costano
52. Salina
53. Tubatulabal
54. Kawaiisu

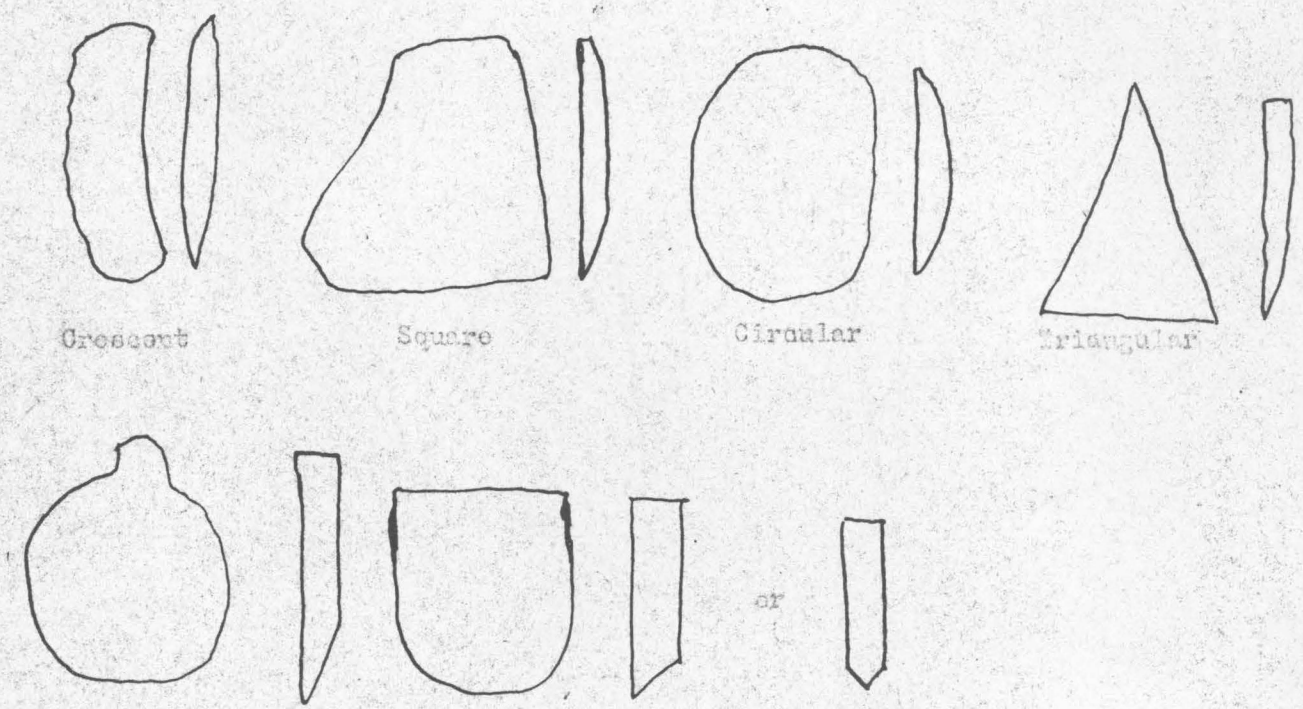


Figure 3

KAIAFUKA SCRAPER TYPES

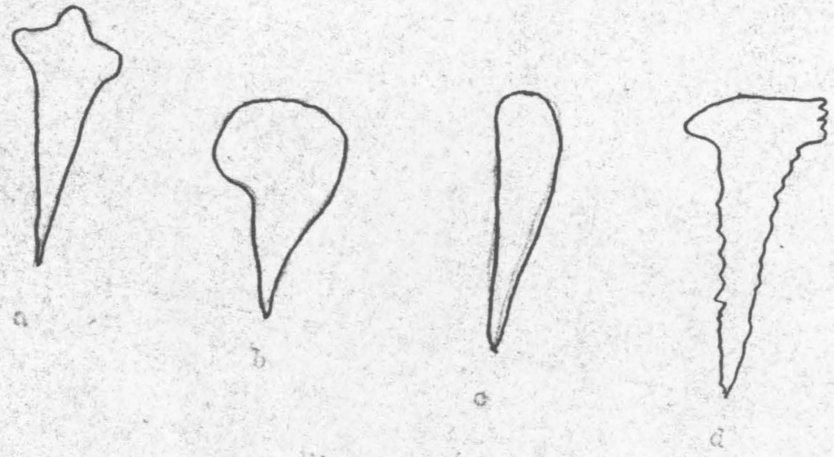


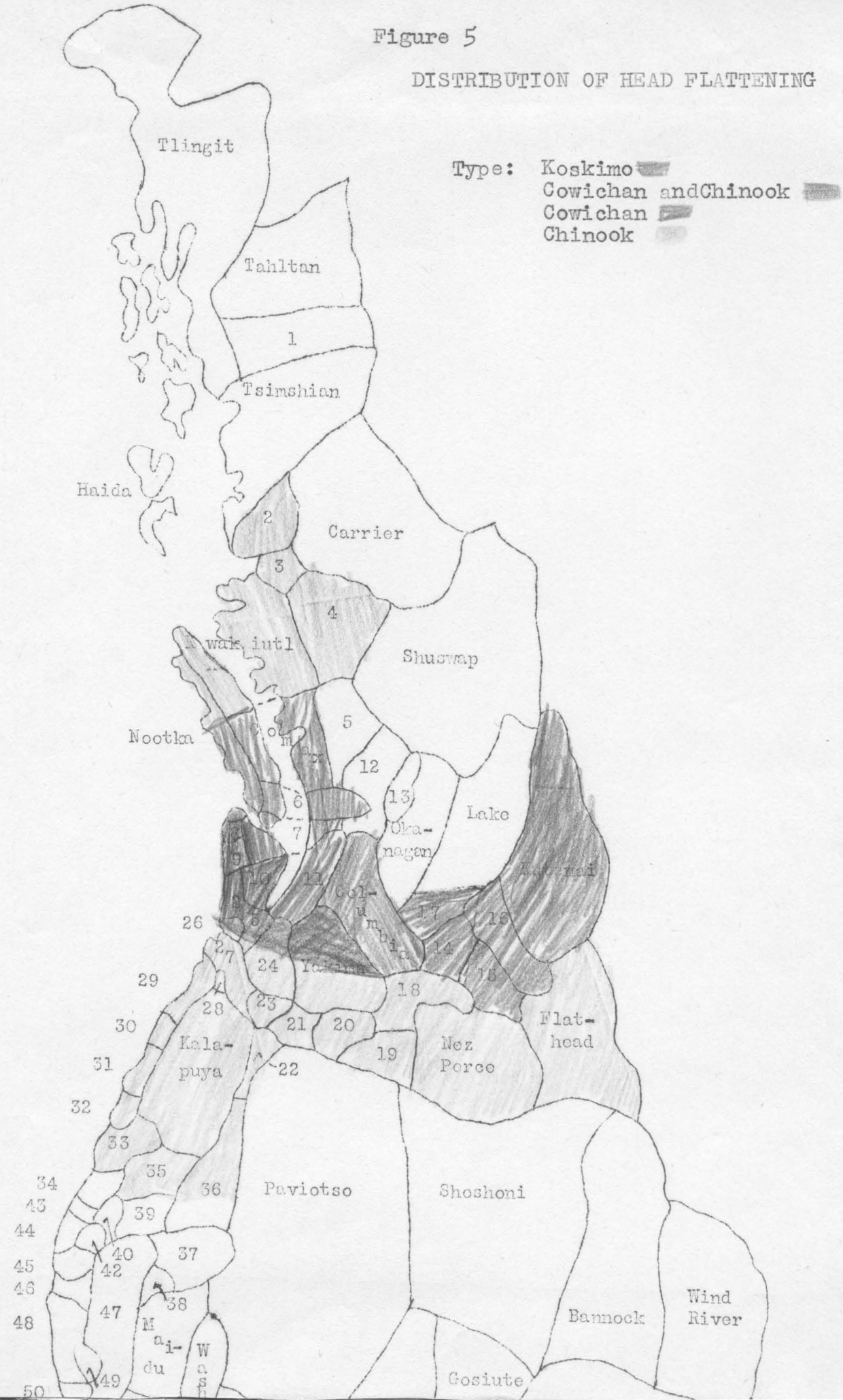
Figure 4

DRILL TYPES OF THE TALAPOZA

a. Bit Type
b. Hand Hold Type
c. Bit with Shank
d. Chisel Bit

Figure 5

DISTRIBUTION OF HEAD FLATTENING



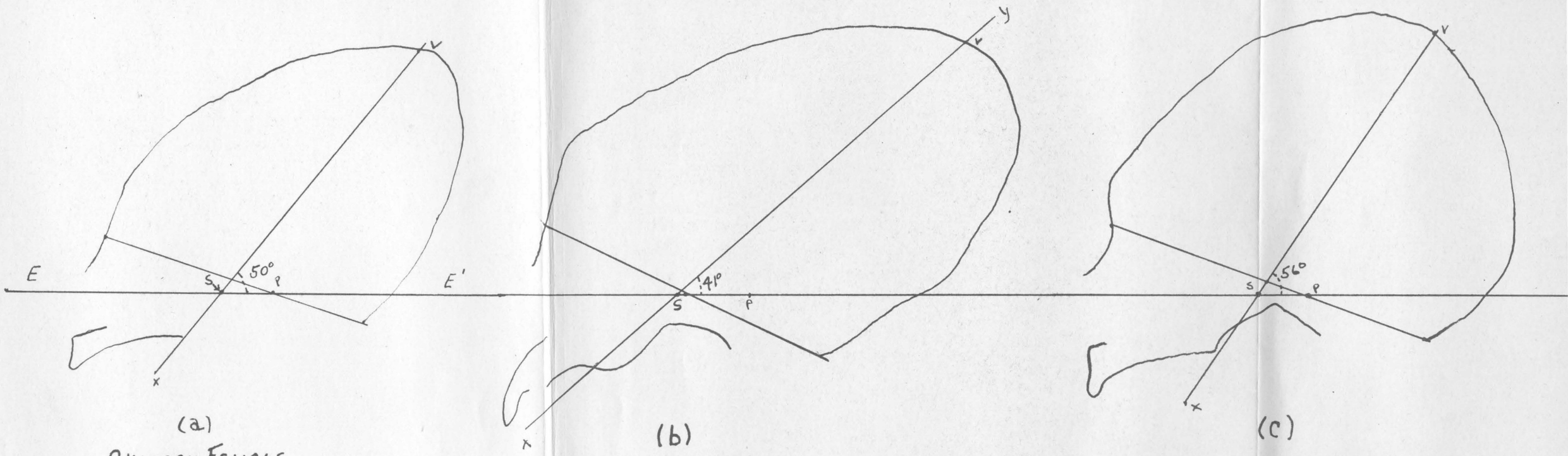


FIGURE 6

ANGLE VSP = GENERAL DEFORMATION DEVIATION

AFTER OETTEKING, PP. 19-20.

Figure 7

Hoop and Arrow Game
Distribution

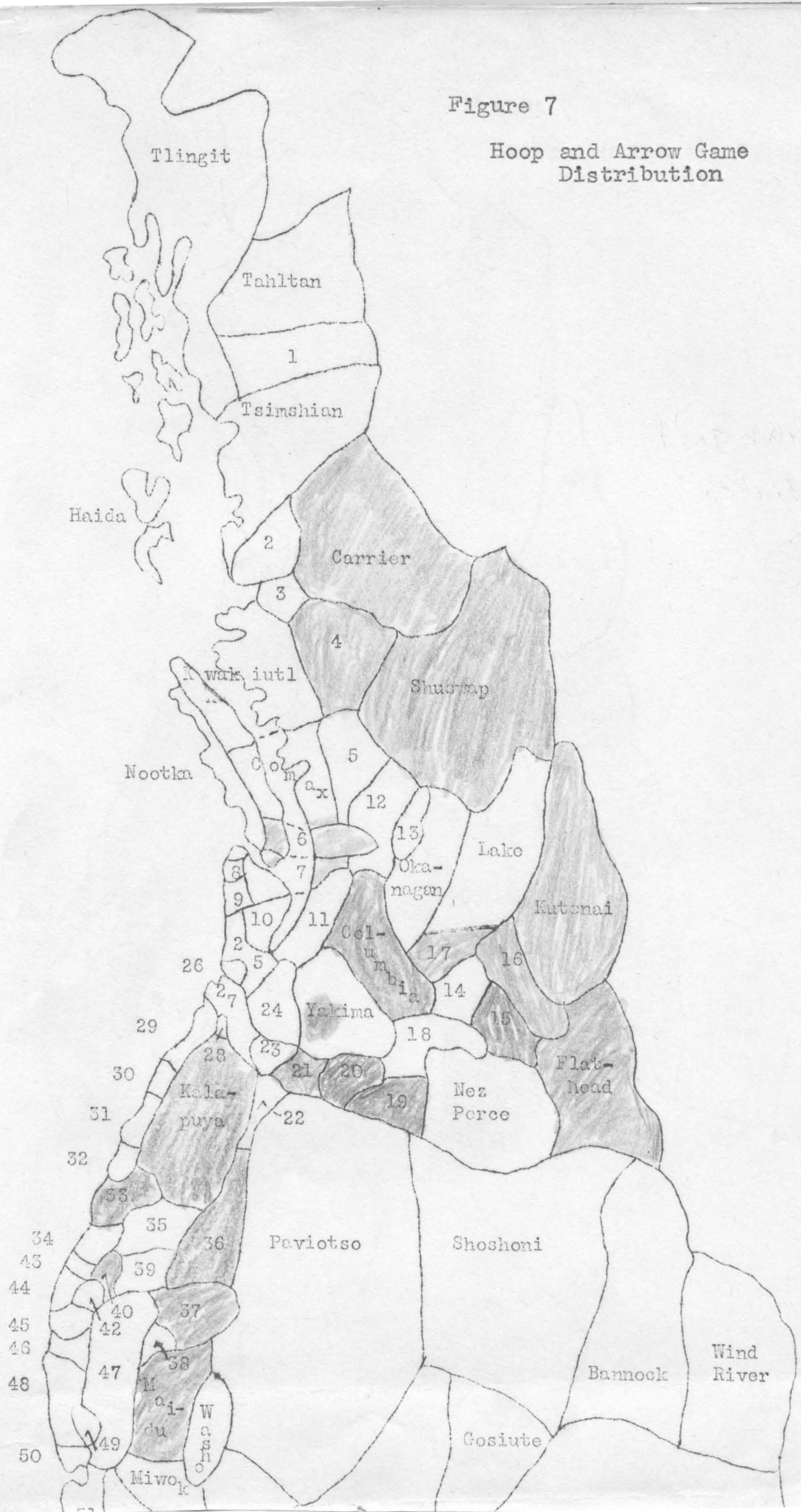


Figure 8

Distribution of Shinny

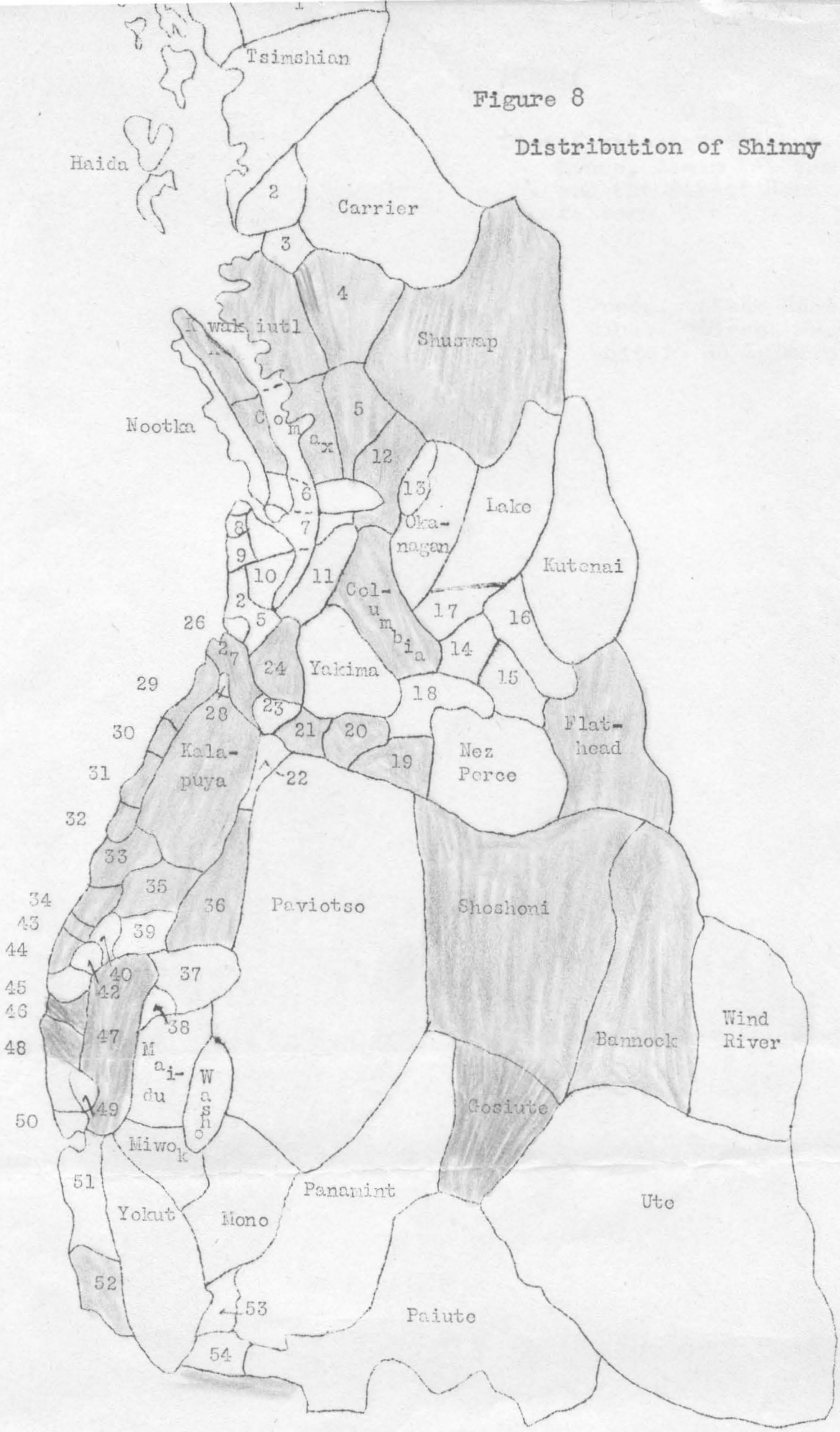
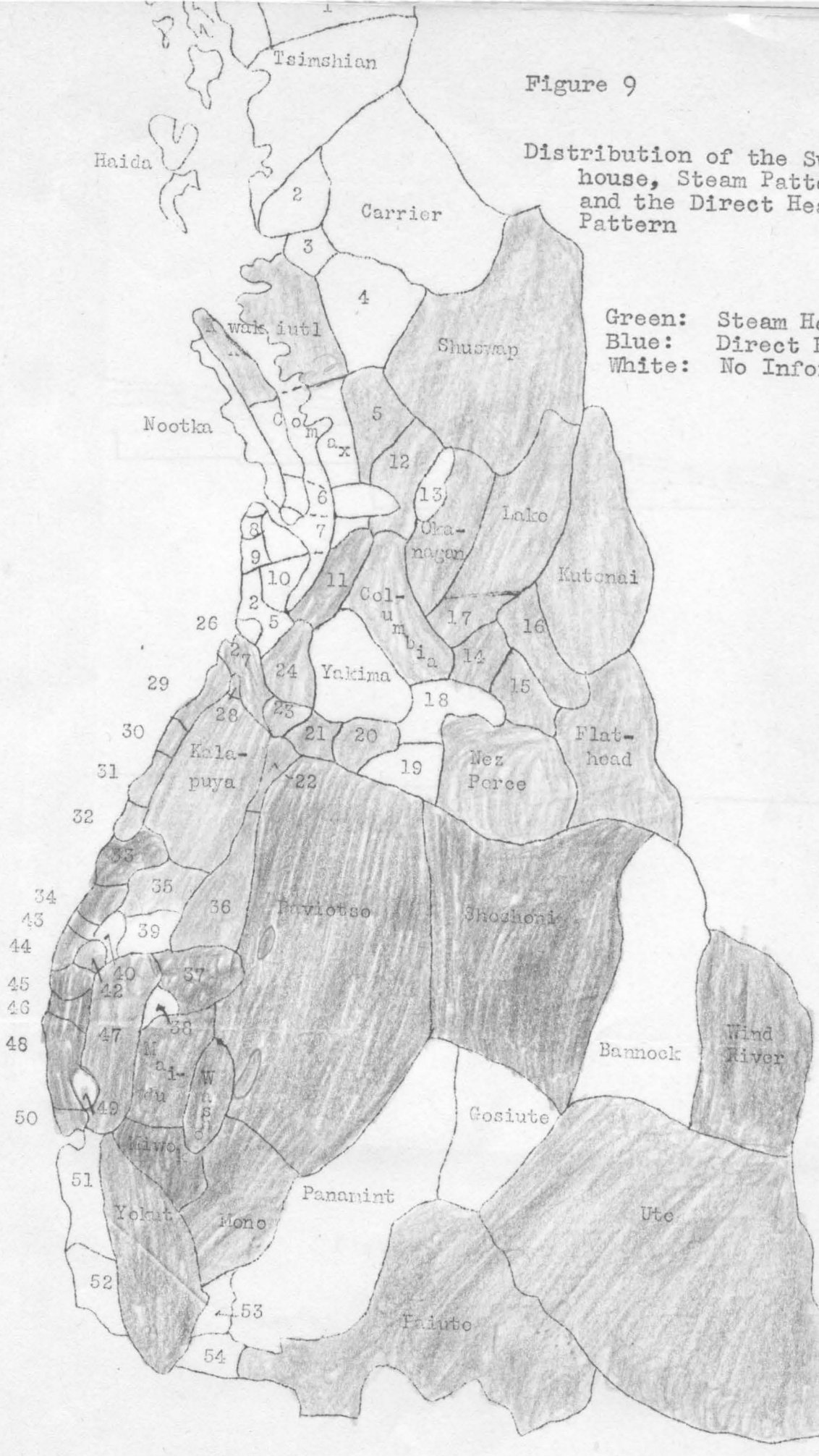
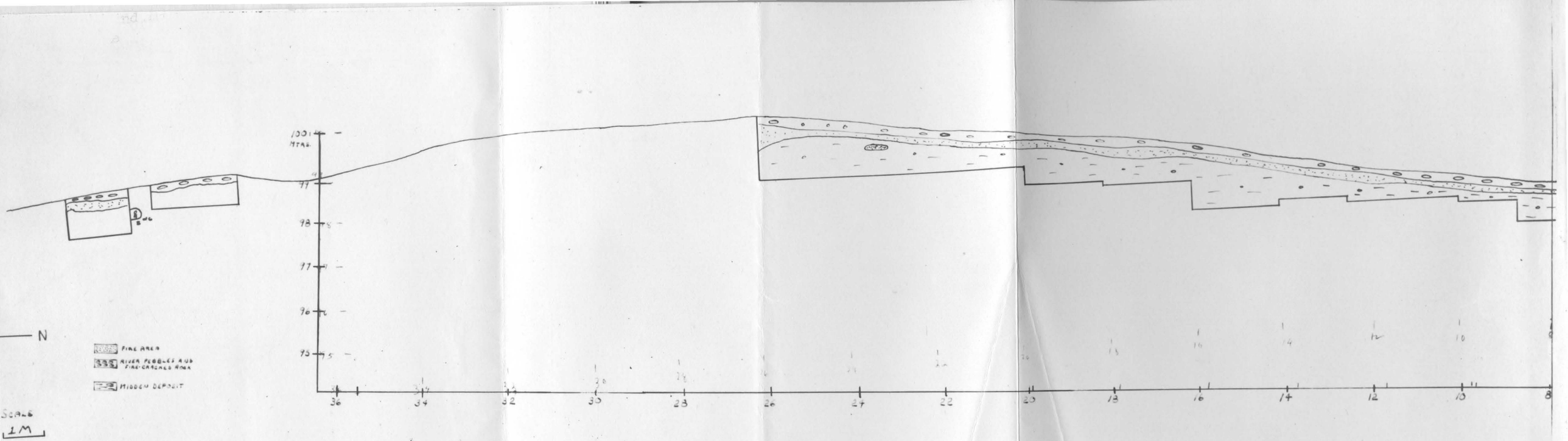


Figure 9

Distribution of the Sweat-house, Steam Pattern and the Direct Heat Pattern

Green: Steam Heat
Blue: Direct Heat
White: No Information



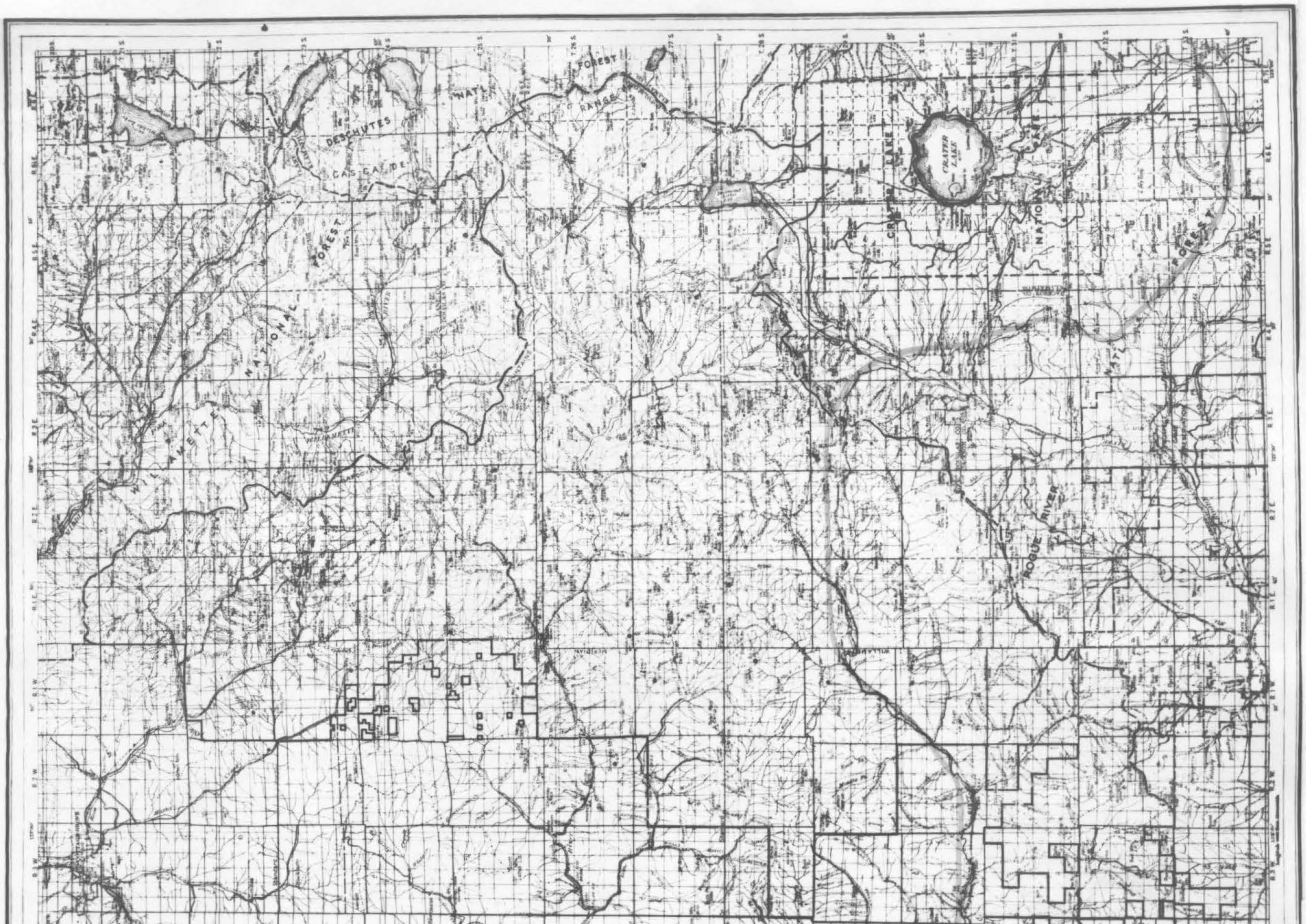


Profile of Spurland Midden
Center Line

Figure 10

Figure 10

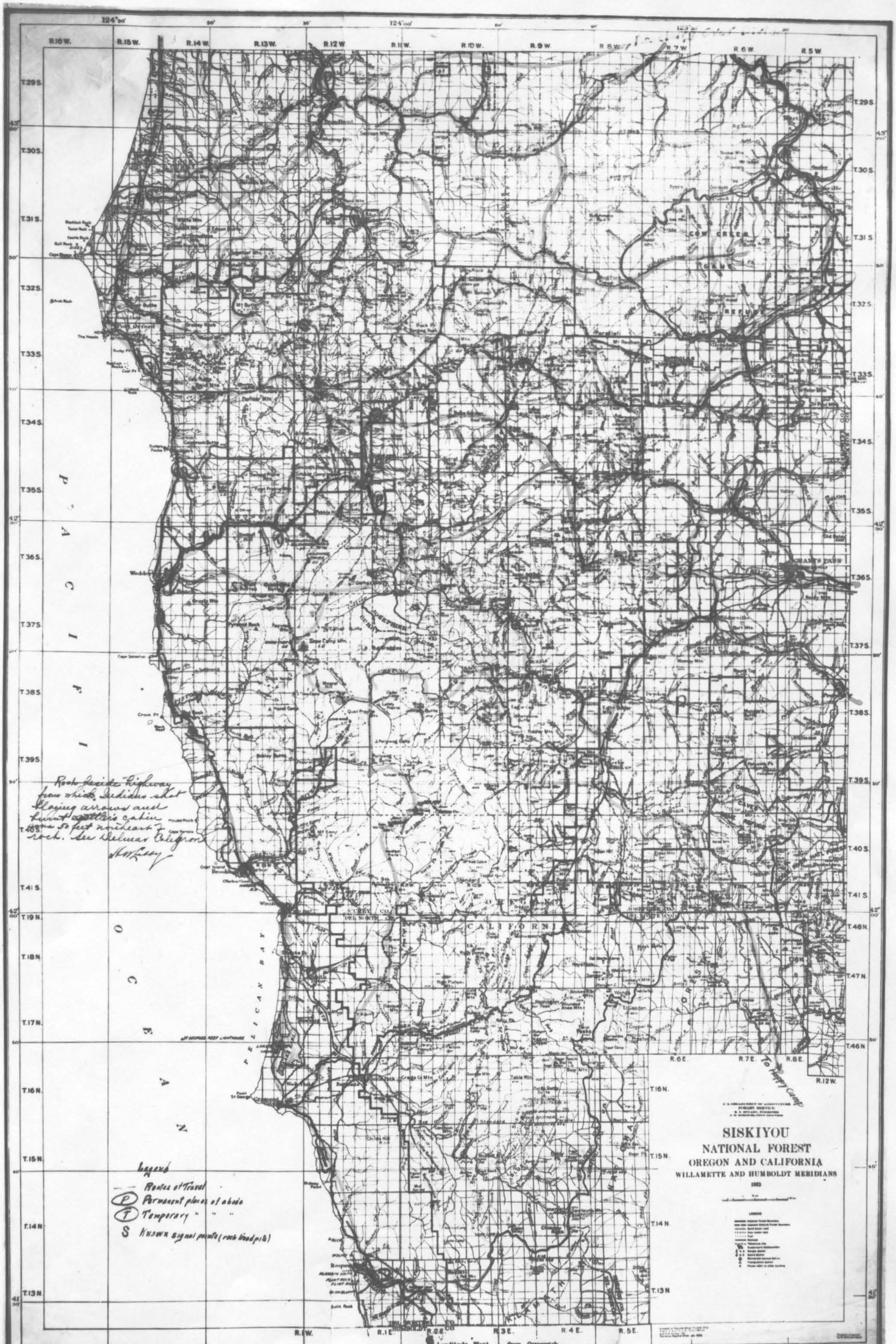
Map No. 1



Indian Trails into the Willamette Valley
from California

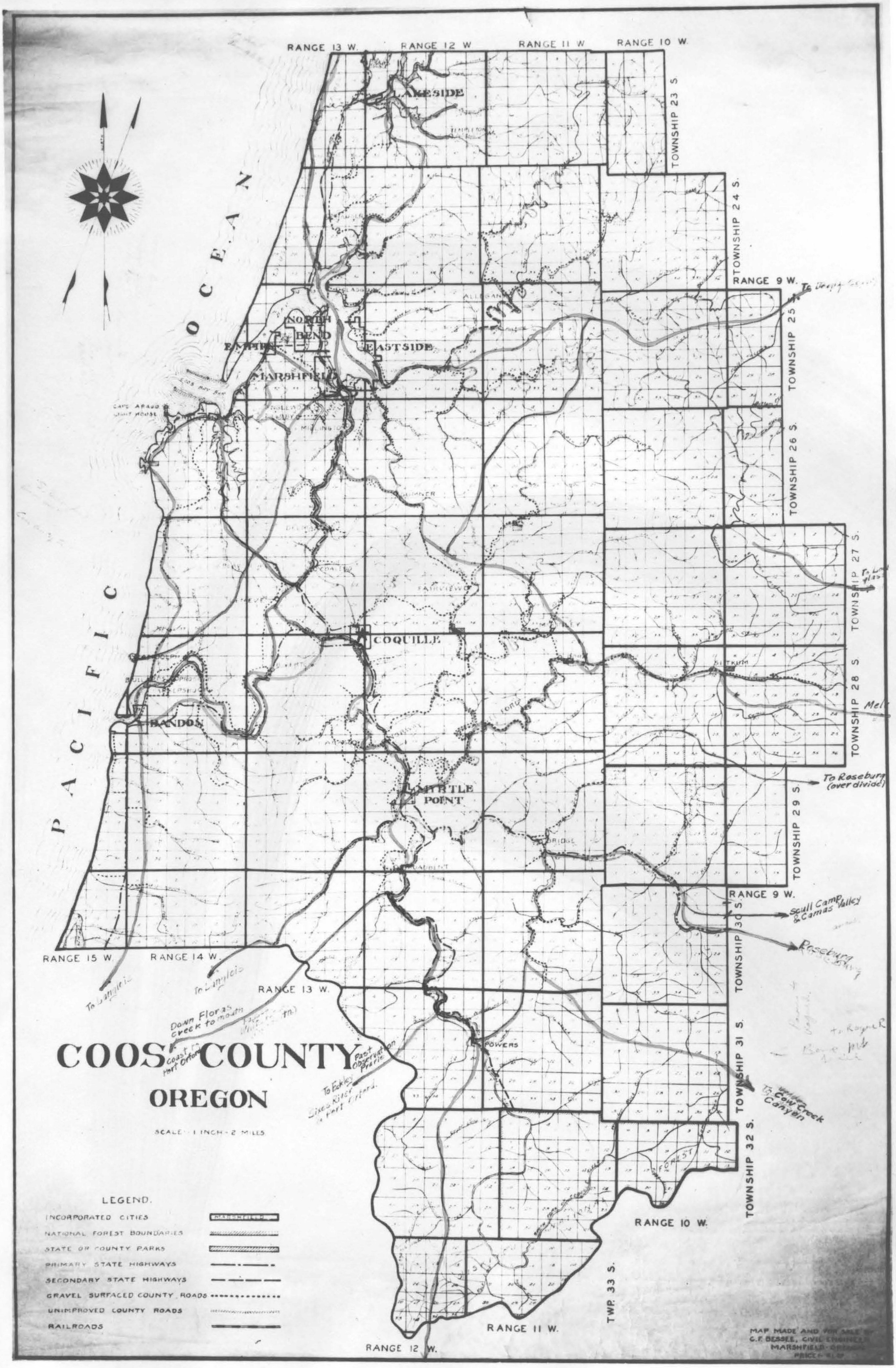
Map No. 2

Indian Trails from the Oregon and California Coasts into the upper Regions of the Willamette Valley


U. S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE
SISKIYOU
NATIONAL FOREST
OREGON AND CALIFORNIA
WILLAMETTE AND HUMBOLDT MERIDIANS
LEGEND
Rock beside highway from which Indians shot blazing arrows and burnt settler's cabin 50 feet northeast of rock.
Legend
Routes of Travel
(P) Permanent places of abode
(T) Temporary " " "
S Known signal points (rock lined pits)
P A C I F I C
O C E A N
PELICAN BAY
CALIFORNIA
GRANTS PASS
Port Orford
The Heads
Rocky Pt.
Coal Pt.
Crook Pt.
Cape Sebastian
Cape Blanco
ST GEORGES REEF LIGHTHOUSE
R.16 W.
R.15 W.
R.14 W.
R.13 W.
R.12 W.
R.11 W.
R.10 W.
R.9 W.
R.8 W.
R.7 W.
R.6 W.
R.5 W.
R.1 W.
R.1 E.
R.2 E.
R.3 E.
R.4 E.
R.5 E.
R.6 E.
R.7 E.
R.8 E.
R.12 W.
T.29 S.
T.30 S.
T.31 S.
T.32 S.
T.33 S.
T.34 S.
T.35 S.
T.36 S.
T.37 S.
T.38 S.
T.39 S.
T.40 S.
T.41 S.
T.19 N.
T.18 N.
T.17 N.
T.16 N.
T.15 N.
T.14 N.
T.13 N.
T.48 N.
T.47 N.
T.46 N.
124° 30'
124° 00'
123° 30'
Longitude West from Greenwich

Map No. 3

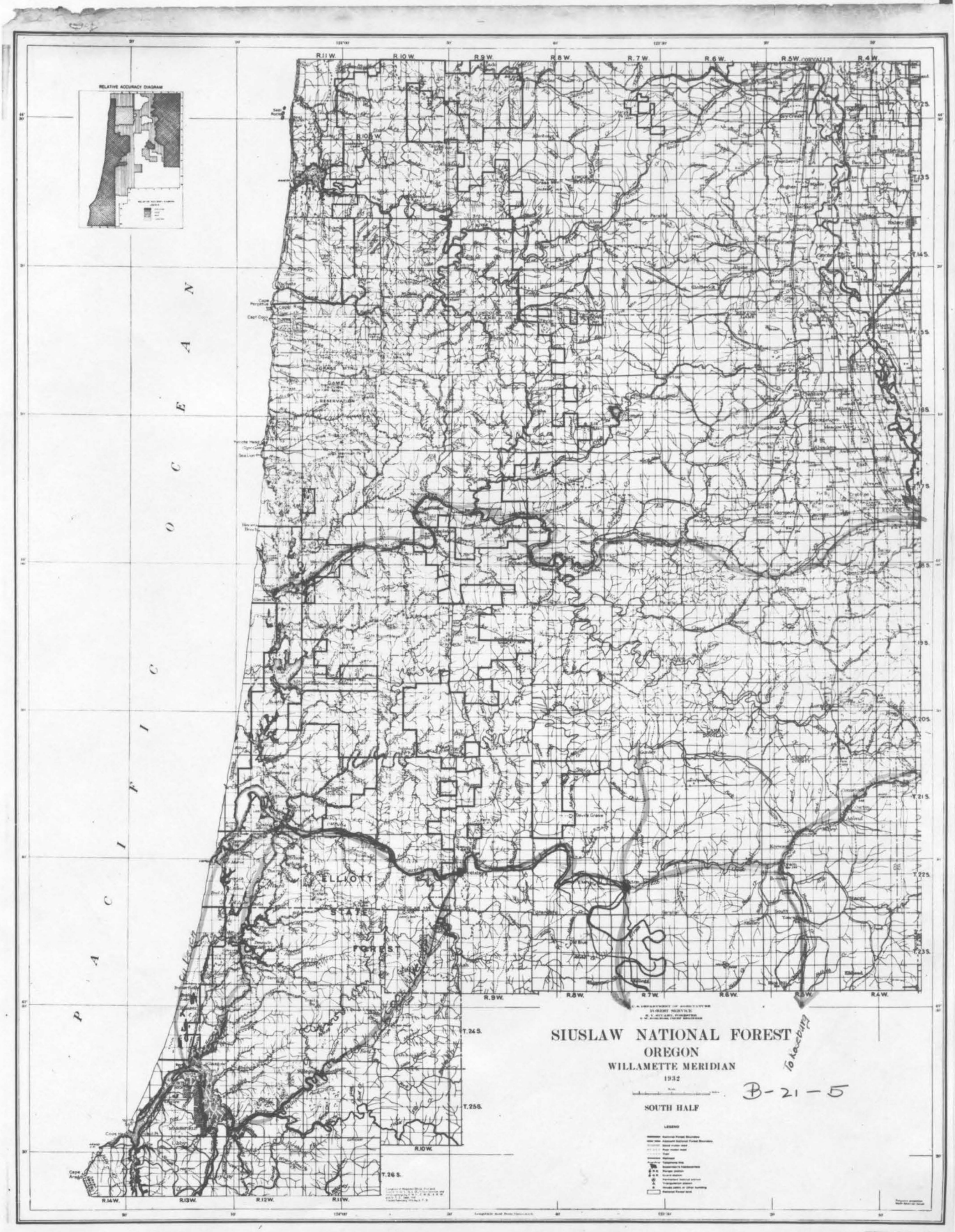
Indian Trails from the Oregon
Coast into the Yonkalla area
(Douglas County)



COOS COUNTY
OREGON
SCALE 1 INCH = 2 MILES
PACIFIC OCEAN
RANGE 13 W.
RANGE 12 W
RANGE 11 W
RANGE 10 W
RANGE 9 W.
RANGE 15 W.
RANGE 14 W.
TOWNSHIP 23 S.
TOWNSHIP 24 S.
TOWNSHIP 25
TOWNSHIP 26 S.
TOWNSHIP 27 S.
TOWNSHIP 28 S
TOWNSHIP 29 S.
TOWNSHIP 30 S.
TOWNSHIP 31 S.
TOWNSHIP 32 S.
TWP. 33 S.
LAKESIDE
NORTH BEND
EMPIRE
EASTSIDE
MARSHFIELD
COQUILLE
BANDON
MYRTLE POINT
POWERS
FAIRVIEW
To Roseburg (over divide)
Scull Camp & Camas Valley
Roseburg
To Cow Creek Canyon
To Langlois
Down Floras Creek to mouth
Past Observation Prairie
LEGEND.
INCORPORATED CITIES
NATIONAL FOREST BOUNDARIES
STATE OR COUNTY PARKS
PRIMARY STATE HIGHWAYS
SECONDARY STATE HIGHWAYS
GRAVEL SURFACED COUNTY ROADS
UNIMPROVED COUNTY ROADS
RAILROADS
C.F. BESSEE, CIVIL ENGINEER

Map No. 4

Indian Trail along Siuslaw
River to Eugene


RELATIVE ACCURACY DIAGRAM
R11W.
R10W.
R9W.
R8W.
R7W.
R6W.
R5W.
R4W.
CORVALLIS
PACIFIC OCEAN
ELLIOTT
STATE
FOREST
T.24S.
T.25S.
T.26S.
R14W.
R13W.
R12W.
R11W.
SIUSLAW NATIONAL FOREST
OREGON
WILLAMETTE MERIDIAN
1932
SOUTH HALF
LEGEND

B-21-5

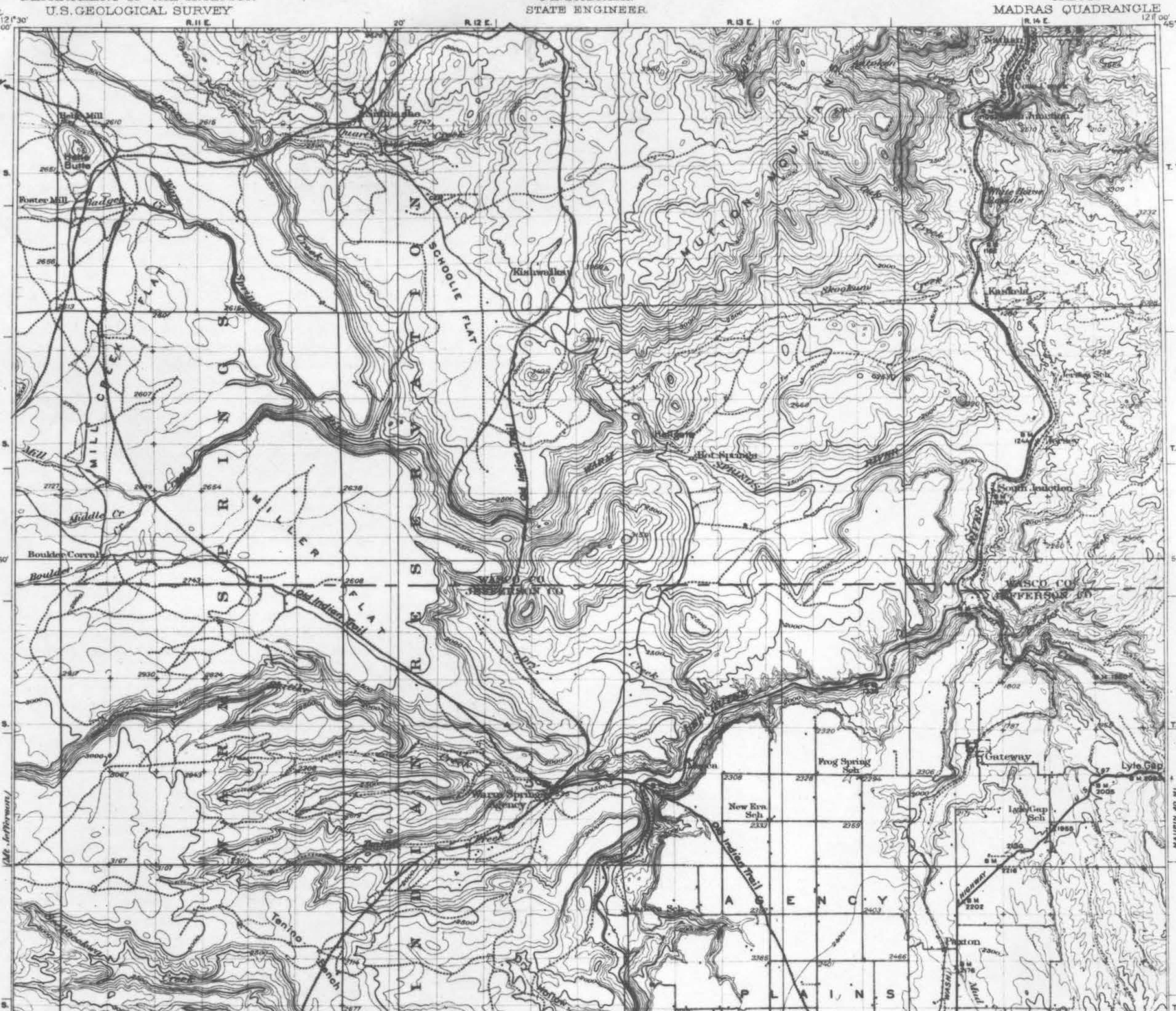
Map No. 5

Indian Trails from Central Oregon
to Oregon City

DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

STATE OF OREGON
C. E. STRICKLIN
STATE ENGINEER

OREGON
MADRAS QUADRANGLE



(Bend)
REDMOND 18 MI.
BEND 35 MI.
KLAMATH FALLS 160 MI.
LAMONTA 6 MI.

Topography by E. P. Davis, R. G. Stevenson, E. S. Rickard, A. T. Fowler, and U. S. Indian Service
Control by U. S. Geological Survey, U. S. Indian Service, Oregon State Highway Department, and Pacific Power & Light Company
Surveyed in 1927-1928

Scale 1/125000

Contour interval 100 feet
Datum is mean sea level

APPROXIMATE MEAN DECLINATION 1928

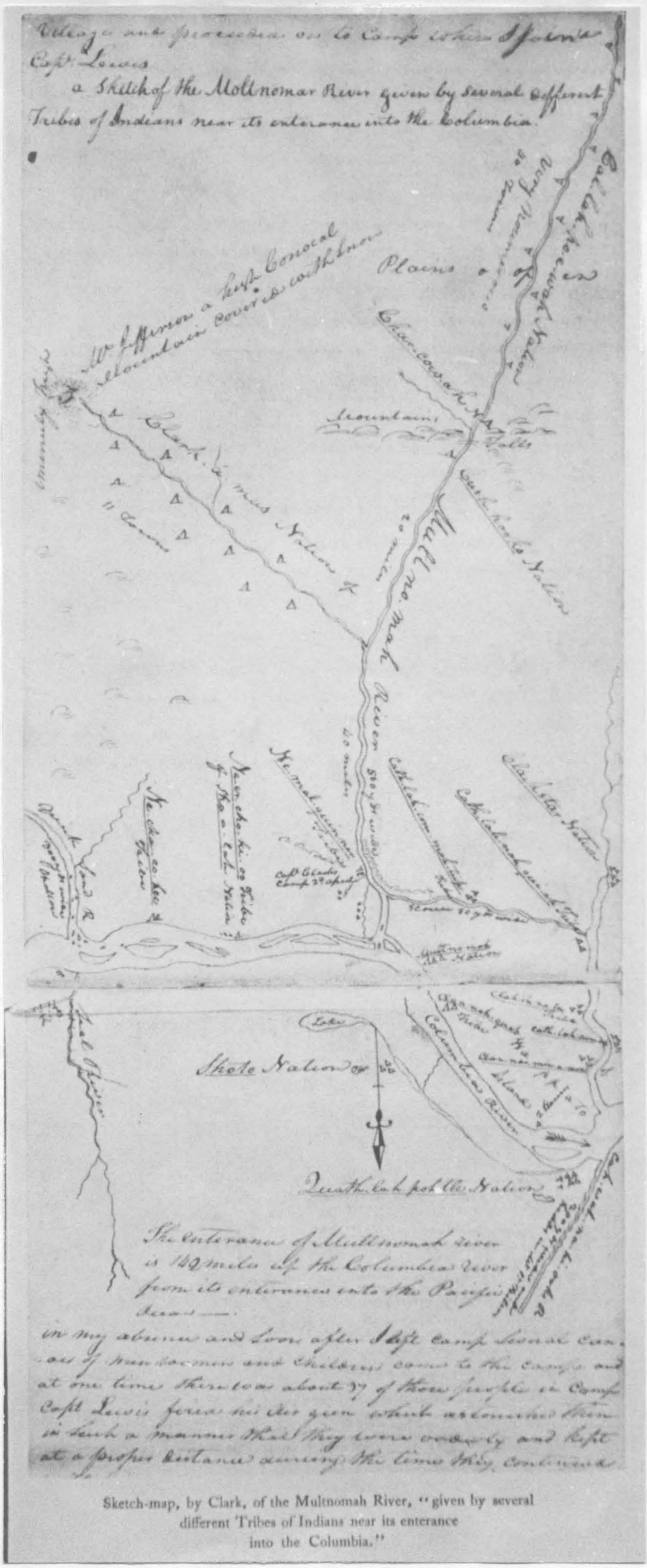
Polyconic projection. North American datum
5000 yard grid based upon U. S. zone system, G

HARD IMPERVIOUSLY SURFACED ROADS
OTHER MAIN TRAVELED ROADS
1930

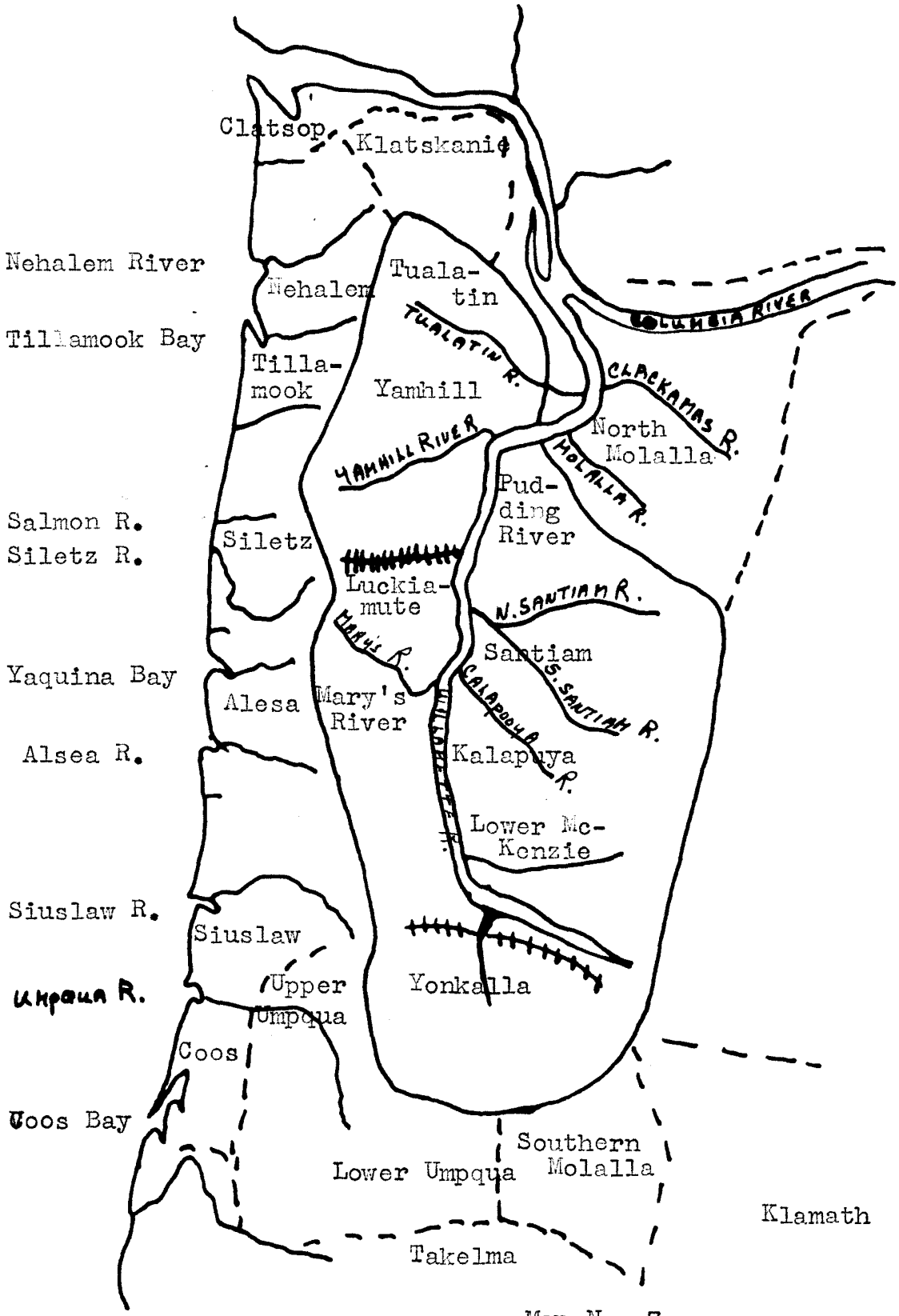
MADRAS, OREG.
Edition of 1931.

Map No. 6

A Map Drawn of the Kalapuya
Peoples by Lewis and Clark



Sketch-map, by Clark, of the Multnomah River, "given by several different Tribes of Indians near its enterance into the Columbia."



Map No. 7

KALAPUYA AND ADJACENT TRIBES

Typed by: Harriet G. Civin