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Language and the prehistory of North America

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Introduction

In this paper we will discuss some of the problems involved in correlating a language spoken in the past with a particular geographical location or with a given archaeological site. This problem will be treated in the context of North America (exclusive of Eskimo-Aleut). Speculations on language movements, spread, and replacement, and on the influence of one language on another will be cited to point up the difficulty of assigning a language to a particular location in prehistoric times. We will mention briefly some of the problems in dating reconstructed forms of languages and in quantifying the time periods involved in linguistic divergence. Although most of our discussion will be negative in demonstrating specific site-language correlations, we will note some points of contact between the findings of archaeology and of historical linguistics. A specific instance of such interdisciplinary contact will constitute the last part of this paper.

Because no North American language was written down before European contact, and because languages leave no other tangible remains, it is virtually impossible to make a direct and definite correlation between a prehistoric archaeological site and a specific language. Nevertheless, a number of speculations can and have been made about what language was spoken at a specific site, and about where an ancestral form of a specific language or of a language family might have been spoken. Such educated guesses are probably the most that can be expected at the present stage of our knowledge of archaeology and historical linguistics. Both deal with the past, and both can reconstruct culture to a degree. Archaeological sites and artefacts can be dated by a variety of techniques with varying degrees of accuracy (for a useful summary of available techniques, see Michels 1972), but no reliable method has yet been devised to date reconstructed languages (except where written documentation exists), nor can the provenance of a reconstructed language be ascertained. Thus only the largely random similarity between cultural features of a vaguely located reconstructed language and the reconstructed culture of an archaeological site provide a tenuous point of contact – tenuous because of all the indeterminate quantities involved. More interesting however, are speculations on the locations of language groups in the past.

Attempts at specific site-language correlations based on proto-language locations have been frustrated by the need for a reliable linguistic method to date reconstructed languages or establish the divergence dates of related tongues. The dating procedures available to archaeologists have no reliable counterparts in the methodology of historical linguistics – there are no means for applying radiocarbon, archaeomagnetic, thermoluminescence, potassium-argon or fission-track dating procedures to a reconstructed lexicon. The most notable attempt to devise a procedure for dating linguistic prehistory is lexicostatistics. Developed in the 1950s by Swadesh and others, lexicostatistics is based on three assumptions, all of which are, unfortunately, invalid. These premisses are:

1 A basic core vocabulary of 200 (or 100) words are less subject to change than other parts of the language, these words including terms for the same items in all languages.
2 The rate of retention of vocabulary items in the basic core vocabulary is constant through time.
3 The rate of loss is the same in all languages.

These generalizations obstruct the most basic intuitions of historical linguistics. Thus, the generalization based on these assumptions – that, knowing the percentage of cognates, one can compute the time depth of divergent languages – must also be emphatically rejected. Many linguists have used lexicostatistics in the absence of any other dating procedure; however, we feel that it is improper to use the methods of lexicostatistics when it suits our purposes, in view of our misgivings about all of its premisses.

Admitting this inability to devise precise chronologies of language prehistory which could then be related to datable archaeological sites, is it still possible to maintain that linguistic data are of value to the prehistorian? In the absence of all other indications, *any* evidence of prehistory becomes invaluable, and numerous aspects of linguistically-transmitted culture can be effectively used by archaeologists in deliberations regarding the identity of the prehistoric inhabitants of a site.

A number of procedures are available to the linguist to determine the earlier residence of a linguistic group or something about the earlier residents of an area:

1 *Language distribution:* Related languages which are geographically separated must have been adjacent at some time in the past (e.g. Cherokee within Iroquoian, the separation of Comanche from a larger Shoshone-speaking group); the location of related languages scattered around the periphery of an unrelated language or family of languages suggests that the unrelated language is intrusive, and that the related languages were once neighbours (e.g. Hokan languages around California Penutian).
2 *Original homeland:* By finding the common geographical denominator of the distributions of flora and fauna for which words exist in the languages of a family, an original homeland (Urheimat) for the proto-language of that family may be localizable. Another method often used is to assume that the area within the family where there is the greatest diversity of languages, or where the major divisions within the family occur, was the original homeland where divisions began to take place.
3 *Intra-family indications of movements:* Similarities between less closely related members of a family may suggest earlier locations nearer to each other, and sharp differences between neighbouring languages suggest geographical movement towards each other, with the possible absorption of dialects or languages in between.
4 *Loan word Patterns:* The distribution of words within a restricted region which have apparently replaced earlier words (still found beyond this region) suggests that the dispersion centre was an area of prestige, capable of causing modification of the

language of neighbours; loan-words from one language to another may suggest that one or the other language intruded into the area and borrowed terms for local flora or fauna from the indigenous group.

5 *Cultural reconstruction via language:* Comparison and reconstruction of lexical items suggest aspects and implements present in the ancestral culture; sometimes these reconstructed terms may represent something that can be localized, indicating earlier residence in a particular place, or movement from there.

6 *Place-names:* Place-names which are unanalysable in the language of the group living where they occur suggest either that they are names given by earlier, unrelated occupants, or that they are native but very old, and their meaning is no longer recognizable in the present language because of phonological and semantic changes; a corollary of this is that easily analysable place-names often suggest recency of occupation of the territory.

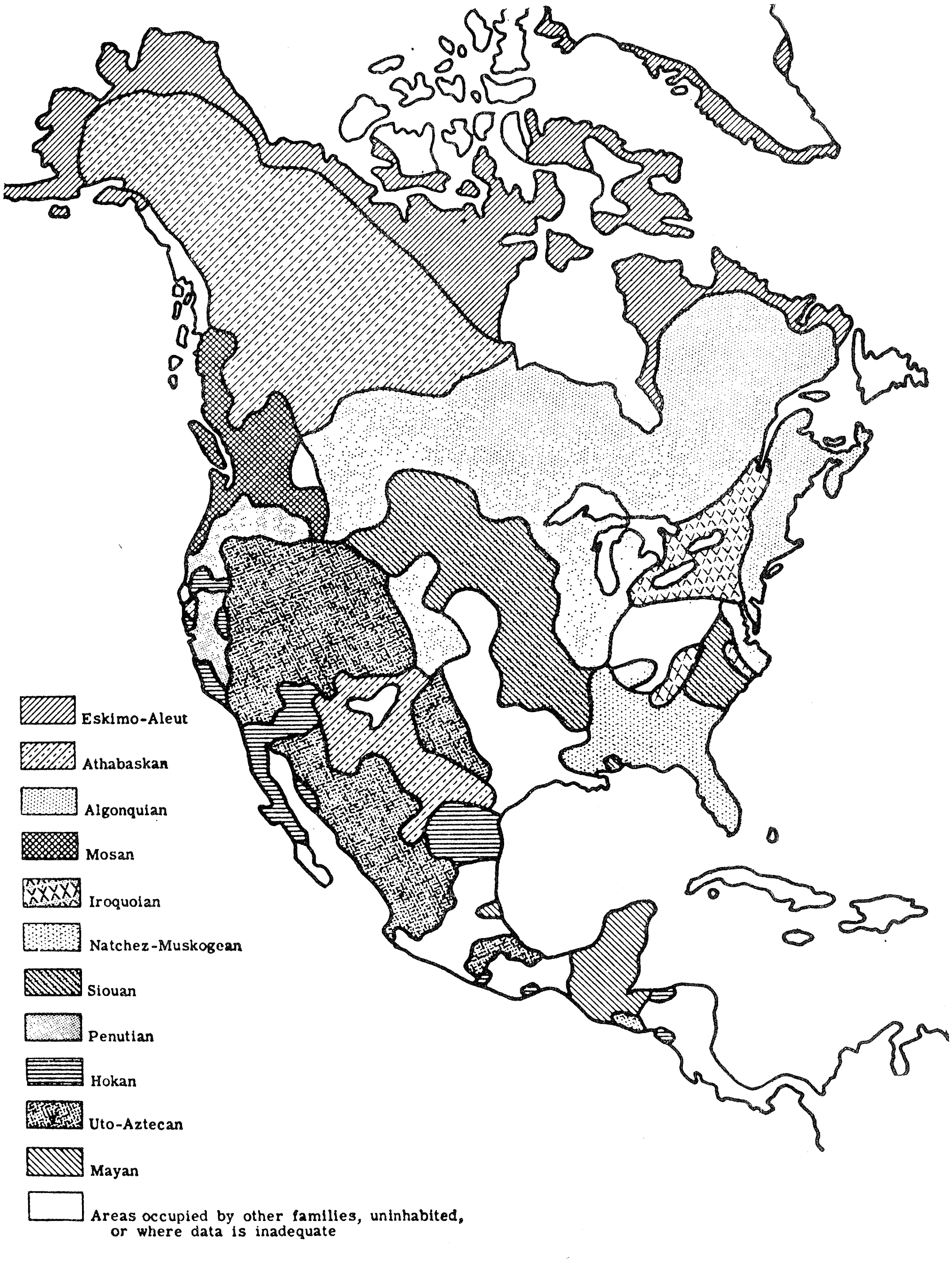
7 *Legends:* Occasionally legends suggest that a group migrated from another region, but the accuracy of these legends diminishes as one goes back in time.

Areal similarities found in unrelated languages (as in the Northwest) complicate many of these speculations. Such areal features include aspects of language that would not normally be expected to diffuse across language family boundaries, or that can be reconstructed for more than one family in the area, but which are sufficiently unusual that they would not be expected in more than one family. It is difficult in these cases to determine which family was donor, which borrower, and any relevance to geographical location is thereby made indeterminate.

In what follows, we will refer primarily to procedures 1 and 2 above, with occasional reference to 3 and 5, in summarizing speculations which have been made about original homelands of various American Indian groups. We will then refer briefly to attempts at correlating archaeological sites and language families, followed by a more detailed study of a specific attempt at such correlation in the Northwest, using primarily procedures 6 and 7.

Distribution and homelands of North American languages

Implicit in the notion of a reconstructed language is the assumption that this language was spoken by a single group of people in a restricted and unified territory. But in North America, modern daughter-languages of such proto-languages are often as not found in scattered, separated locations, suggesting either migrations of parts (or all) of the earlier group, or invasion by an outside group and replacement or pushing out of the language originally spoken at the place in question. An examination of a map of North American Indian languages (fig. 4) should make this point clear. Only the Muskogean, Wakashan (and Eskimo-Aleut) families were spoken in uninterrupted areas (language isolates will be considered later; as isolates they are usually found in self-contained areas). We will review the other families (touching on possible more remote relationships), beginning in the east. All locations cited are those at first white contact or earliest information about the group in question.


Eskimo-Aleut
Athabaskan
Algonquian
Mosan
Iroquoian
Natchez-Muskogean
Siouan
Penutian
Hokan
Uto-Aztecan
Mayan
Areas occupied by other families, uninhabited, or where data is inadequate

Distribution shown is approximately that at first European contact

Figure 4 North American Indian languages: published by permission of Holt, Rinehart and Winston.

Iroquoian

Iroquoian languages were spoken in three distinct areas: along the St Lawrence River and Lakes Erie and Ontario, coastal Virginia and North Carolina, and in the Appalachian foothills of North Carolina and Tennessee and surrounding areas. The first two groups of languages are classified together as Northern Iroquoian, and the third (Cherokee) as Southern Iroquoian. There were, earlier, other Northern Iroquoian languages spoken in western New York. Pennsylvania, and Maryland, and these likely adjoined the Iroquoian groups along the St Lawrence. A further link through them to the two more southern groups is not difficult to imagine, but not known in historical times. Chafe (1973: 1169) asserts that 'the degree of difference between these two branches is only a little less than that between the most divergent languages of the Indo-European family'. Clearly, Cherokee began diverging from the other Iroquoian languages long ago, and its degree of difference today from Northern Iroquoian languages suggests a long period of geographical discontiguity between the two branches. As to an original homeland for the Iroquois, Crawford, in a recent survey of south-eastern Indian languages (1975: 18), accepts Powell's observation that 'a tradition of the Iroquois points to the St Lawrence region as the early home of the Iroquoian tribes, whence they gradually moved down to the south-west along the shores of the Great Lakes' (Powell 1891: 77). This does not seem to account for the location of the Cherokee, however.

Siouan

Siouan languages were also spoken in three distinct areas. Most of them were originally at the eastern edge of the Great Plains, along the Mississippi, Missouri, and (perhaps) Ohio Rivers, with three groups established further out in the Plains, but still on the Missouri or its tributaries. A second cluster of Siouan languages was spoken east of the Appalachians in Virginia, North and South Carolina. The third group consisted of two languages spoken on the lower Mississippi River, surrounded by various Gulf languages. The accepted internal classification of Siouan languages is that of Voegelin (1941) into at least four groups: (1) Catawba (in the Carolinas); (2) Ofo and Biloxi (southern Mississippi Valley) and Tutelo (in Virginia); (3) Hidatsa and Crow (upper Missouri River); (4) Chiwere, Winnebago, Dhegiha, Dakota (western Plains, Missouri and Mississippi River valleys); and with Mandan (upper Missouri River) as a possible fifth group. A great deal of shifting about is known to have occurred among various Siouan groups, some of it in historical times. Thus the Dakota were first encountered in the Upper Mississippi River area and, under pressure from Indian groups to the east, spread westwards into the upper Missouri River drainage in the eighteenth century. According to Chafe, 'in prehistoric times the ancestors of the Dhegiha speakers may have lived farther to the east (according to tradition, near the junction of the Wabash and Ohio Rivers), but earliest European contact found them in the central plains' (Chafe 1973: 1182–3). The Biloxi moved westwards from where they were first contacted in southern Mississippi in the early eighteenth century, and subsequently largely died out while living in Louisiana and eastern Texas (Crawford 1975: 51). We know of no speculations about an original homeland for Siouan speakers, but given what is known about eighteenth- and nineteenth-century locations of these groups, and their own migration legends, a region along the central Mississippi River, the lower Missouri River, and the lower Ohio River seems like a reasonable location from which dispersal occurred north, east, south and west along major river valleys.

Caddoan

Caddoan languages are usually shown on maps as occurring in three separate locations, all on the Great Plains. The northernmost of these is the Arikara, which is an offshoot of the Pawnee who had moved northward along the Missouri River, and ended up in the midst of Siouan groups. The Pawnees themselves were in central Nebraska and northern Kansas. The southern Caddoan area was occupied by speakers of at least three languages, but they may not always have been contiguous. In the sixteenth century, 'the Wichita were probably located in central Kansas. After moving into what is now Oklahoma, where they were found by Frenchmen in the early eighteenth century, they were gradually forced further south into Texas before the end of that century' (Chafe 1973: 1166), and 'the Kitsai may have been located prehistorically in Oklahoma, but Europeans first found them living in what is now Texas between the Red River and the upper Trinity' (Chafe 1973: 1166). This suggests that the Pawnee, Wichita, and Kitsai may earlier have formed a continuum or chain of dialects (later diverging into distinct languages), with Caddo separated and to the south-east. Such an arrangement would agree with the present relationships among Caddoan languages, among which Caddo is the most divergent. A southern plains origin for Caddoan is thus suggested.

Algonquian-Ritwan

The Algonquian languages were spoken in a large, mostly continuous area in eastern North America, along the Atlantic coast from North Carolina north, across Canada north of the Great Lakes, and in the United States south and just east of the Great Lakes. They later expanded into the western Canadian plains as far as the Rocky Mountains, and from there southward into the western plains in the United States. In a careful study employing the 'technique of using natural history terms that can be reconstructed in a proto-language in an attempt to locate the original home' (Siebert 1967: 13) of the Proto-Algonquian people by locating the common territory occupied by various types of flora and fauna, Siebert 'arrives at a center of diffusion in the eastern upper Great Lakes region' (Teeter 1973: 1154). Siebert further gives 'an educated guess as to the dates for latest Algonquian unity, which he finds from 1200–900 B.C.' (Teeter 1973: 1154). Algonquian languages are relatively close to one another, the most divergent being the three western-most languages, Blackfoot, Cheyenne and Arapaho. The two Ritwan languages, Yurok and Wiyot, are sister languages of the Algonquian family spoken on the northern California coast; no explanation has yet been advanced for the very distant and very ancient separation of these two languages from Algonquian.

Athapaskan

Athapaskan languages are widely spread over western North America. The largest group is in central Alaska and north-western Canada; those in the American south-west

(Apachean) are a closely-knit group; the third major cluster consists of a few languages spoken along the northern California and southern Oregon coast (the Pacific coast group). One or two languages were spoken in north-western Oregon and south-western Washington, and one (Nicola) was spoken in south-central British Columbia; these are all now extinct. The Pacific coast group is more divergent from northern Athapaskan than are the Apachean languages of the Southwest. Hoijer (1960) and Krauss (1973) consider Kwalhioqua and Tlatskanai (near the lower Columbia River) as a branch of the family distinct from the Pacific coast languages, and not clearly identifiable with any northern language. Nicola is apparently linguistically part of the northern group. Sapir long ago (1936) demonstrated that the south-western Athapaskans originated in the north, by showing that Navajo contains words which can be reconstructed in Athapaskan as referring to items not found in the Southwest ('sleeplessness' from 'travel by canoe'), or which can be shown to have taken on a meaning applicable to the Southwest but not the sub-arctic ('gourd' from 'horn', 'seed lies' from 'snow on the ground', and 'corn' from 'food'); and they are generally believed to have been in the Southwest for only a few centuries. Krauss states that Alaska includes 'the original home of the Athapaskans and is the sector longest inhabited by Athapaskans. This history is clearly reflected in the fact that far greater variety and divergence in Athapaskan is found within Alaska than anywhere else' (1973: 904). Because of their greater divergence from the northern languages, the Pacific coast language speakers must have migrated southwards earlier than the south-western Athapaskans. Eyak is a sister language to Athapaskan as a whole, and its location in Alaska adds support to Krauss' claim to an Alaskan homeland for the family.

Uto-Aztecan

Uto-Aztecan languages range from southern Idaho to southern Mexico and beyond (through Aztec colonization). The major break in this expanse of languages is along the Colorado River, where Yuman speakers separate Piman from several northern Uto-Aztecan languages, and in New Mexico and eastern Arizona, where Athapaskans intrude. The other separate group of Uto-Aztecans is a group of Comanches who migrated recently into the southern Plains from the northern desert region; their language is merely a dialect of Shoshoni. Since these languages are spoken in a nearly continuous stretch, a simple expansion theory might be expected here. But in fact there is considerable controversy about an original Uto-Aztecan homeland. Linguists largely favour a homeland along the Arizona–Sonora border (Goss 1968), basing their hypotheses on linguistic evidence; several archaeologists, however, favour a more northerly homeland, e.g. north of the Great Basin (as Taylor 1961). There was considerable discussion of this question at a symposium held in 1966, the results of which were published as *Utaztekan Prehistory* (Swanson 1968). Since Uto-Aztecan homeland and dispersal is intimately tied up with the origin and spread of other languages in the Southwest, this question will be dealt with further below.

Kiowa-Tanoan

Kiowa-Tanoan has four divisions, and three of them (Tanoan) are at present found within a relatively confined area along the upper Rio Grande (allied Tanoan groups were earlier found further south). The fourth, Kiowa, is located in the Plains. The culture of the Kiowa is utterly different from that of the pueblo-dwelling Tanoans, although the Kiowa language does not differ more greatly from any of the Tanoan languages than the latter do from each other. This cultural and geographical distance between Kiowa and Tanoan poses a problem, particularly since the Tanoans have apparently been in their present location for a very long time: where was the original Kiowa-Tanoan homeland, and did both or only one division move from it and adopt a different culture? The Kiowa have left no recognizable archaeological traces, but are reported to have been 'in or beyond the mountains at the extreme sources of the Yellowstone and the Missouri, in what is now western Montana' (Mooney 1898: 153) at about A.D. 1650. A reasonable argument can be made that the Kiowas moved out of the south-west via the Panhandle Aspect culture (in north-eastern New Mexico and the Texas and Oklahoma Panhandles) and into the Plains; they would then have had to move northwards and later southwards again into the central and southern Plains. Trager, however, prefers a radically different origin: 'the Kiowa-Tanoans had come down from the northern plains to what is now eastern Colorado or perhaps eastern New Mexico. Some of them – the Tanoans – went west over the mountains' (Trager 1967: 348) and thence down the Rio Grande. Such a theory could leave the Kiowas in the north-western Plains where they were first encountered. Other hypotheses that the Tanoans are the descendants of the Anasazi culture will be discussed below.

Hokan

Hokan is a large, fragmented, and highly divergent group of languages in northern and western California and from western Arizona through southern California into Baja California. Coahuiltecan, Karankawa, and Tonkawa in eastern Texas and north-eastern Mexico have been posited as further extensions of this family (as a Hokan-Coahuiltecan family), and affinities have been suggested in Central American languages. As noted, the diversity within Hokan is great, and the groups involved are small (except for Yuman). These languages are located largely on the peripheries of California, surrounding the California Penutian languages. Such an arrangement suggests that the Penutian languages in California are intrusive, and drove the various Hokan groups in all directions. Such a dispersal would account for the diversity among these languages and for their discontinuous locations. As to a homeland for Hokan-Coahuiltecan, Kroeber (1955) and other linguists favour California (although no particular part of this large state is specified); Taylor (1961), an archaeologist, would have them move from the Great Basin westward into California and 'southward through the Southwest and into Northern Mexico' (Langdon 1974: 75).

Penutian

Penutian languages are the most scattered and diversified languages in North America. It is not even certain that all languages currently classified as Penutian are indeed related, and little comparative work has been done to demonstrate their overall relationship. Granting for present purposes that they are related, they range from Zuni in New Mexico to Tsimshian in northern British Columbia. They occur in four distinct geographical areas, and are often divided into five groups. The Tsimshian and Zuni are isolated linguistically within Penutian, as well as geographically. The California Penutians occupied the central valleys of California, reaching the Pacific coast in the San Francisco Bay region. Plateau Penutian occupied the eastern flanks of the Cascades in southern Oregon, all of north-eastern Oregon, south-eastern Washington and adjacent regions of Idaho. The very diverse group of languages to the west of Plateau Penutian are lumped together as Oregon Penutian, and occupied the Willamette Valley, the lower Columbia Valley, and much of the Oregon coast. Given this diversity and the lack of comparative studies, it is difficult to suggest a homeland for Penutian, although Swadesh (1956) has suggested Oregon, and other writers have accepted this as a working hypothesis. If Hokan speakers occupied California, Oregon would be a reasonable source for the group that disrupted them. Suttles and Elmendorf (following Cressman 1960) hypothesize a Great Basin origin for the Penutians, from whence they spread into the Plateau; then the Salish began moving into the Plateau, gaining 'territory at the expense of the Penutians. Ultimately a Penutian wedge (the Chinook) was driven down the Columbia, and another fragment (the Tsimshian) was pushed northward' (Suttles and Elmendorf 1963: 49). The Zuni remain difficult to account for in such terms.

Salishan

The Salishan language family is located in mostly adjacent territory in the north-west, from eastern Montana to the Pacific coast, and from central British Columbia to the Columbia River. This large area is usually divided into two branches, Coast Salish and Interior Salish. Two languages are separated from the rest, however: Bella Coola in the north, and Tillamook in the south. Bella Coola seems to be linguistically equidistant from either Coast or Interior Salish, and is best considered a separate branch of the family; no adequate explanation of its location to the north of the rest of the family has been offered. Tillamook has also usually been considered a separate branch of Salishan, but more recent studies suggest that it belongs with the Coast Salish continuum. The Olympic Salish languages, however, are not as close to the other Coast Salish languages, and may have been diverging from that group even before Tillamook split off. The Olympic languages also show a number of lexical similarities to Interior languages, suggesting that Olympic may have been further east or north-east at an earlier period. Suttles and Elmendorf have suggested that the Salish were originally in the riverine valleys west of the Cascade Mountains, 'perhaps from the southern end of Puget Sound north to the Fraser River' (1963: 45). This would be an appropriate place for the major divisions within the language to have taken place, with one group crossing the Cascades (perhaps via the Fraser River), and another moving north (Bella Coola). Various linguistic considerations make it possible to suggest other aspects of the spread of Salishan languages, particularly in the Interior. There, a northern group occupied the Fraser and Thompson River valleys and the upper Columbia drainage. A southern group moved down the Okanogan and Columbia Rivers into central Washington and eastwards up the Spokane River valley to Lake Coeur d'Alene. Another division of this group subsequently moved around the then eastern-most Coeur d'Alenes into the Flathead valley of Montana. The Interior Salishan languages are all quite closely related, suggesting that these eastern expansions occurred only a few centuries ago.

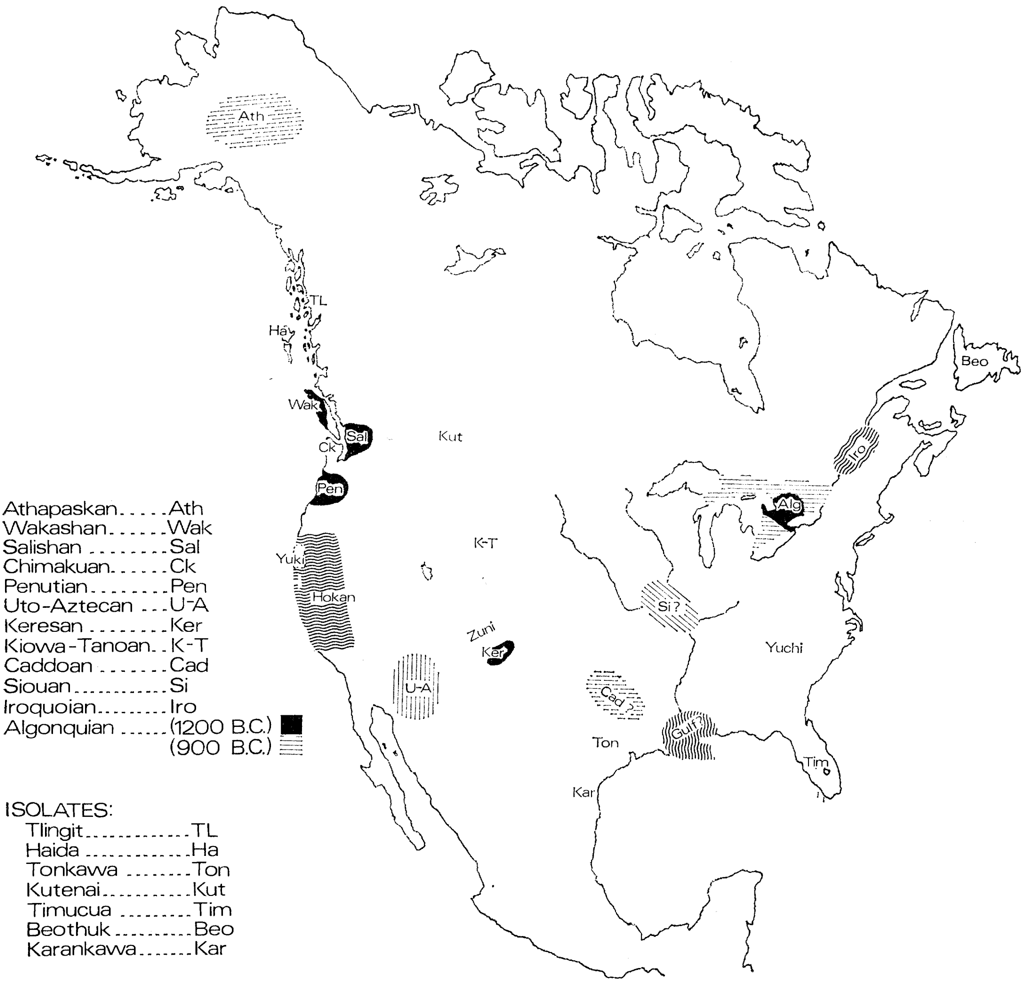
Isolates and smaller families

A few other language families in North America occupied undivided territories, and their immediate reconstructible points of origin are usually assumed to have been within those territories. The largest of these is the Gulf stock of the south-east, comprising the Muskogean languages and Natchez, Tunica, Chitmacha and Atakapa. The greatest diversity within Gulf is around the lower Mississippi River, and that might be a reasonable point of dispersal of this group. The Yuchi are an isolate in the south-east, but may be remotely connected with Siouan. The Keresan are another pueblo group in western New Mexico, and are sometimes thought to have been the original residents of that area. In northern California is the Yuki family (Yuki and Wappo); this family remains an isolate in spite of numerous attempts to connect it with other North American languages. The Kutenai are located on the western flanks of the Rocky Mountains in British Columbia and northern Montana, but apparently were earlier on the eastern side, moving west because of other westward-moving groups. The other isolates are all on the peripheries of the continent: Timucua is southern Florida, Beothuk on Newfoundland, Tlingit in southern Alaska, Haida on the nearby Queen Charlotte Islands, Wakashan on the British Columbia coast, and Chimakuan on the Olympic Peninsula of Washington. The Wakashans occupy a fairly long stretch of territory, with the main division in the family occurring on northern Vancouver Island, leading Suttles and Elmendorf (1963: 47) to suggest that that was where they lived when the split took place.

Remoter connections

A number of deeper-level connections between language families have been suggested. Most of these are tenuous, and the classifications are changed periodically, according to the indications of new research. Eyak-Athapaskan, Tlingit, and Haida have been linked in a Na-Dene phylum, but more recently Haida has been withdrawn from that group, and a connection between the other two is by no means universally accepted. Algonquian and Gulf languages are now linked into one phylum, largely due to the work of Mary Haas; but again, the relationship (if real) is quite remote. Siouan, Caddoan, Iroquoian, and Yuchi are also classified as constituting one phylum, but little evidence has been offered to substantiate such a group (but see Chafe 1973). Uto-Aztecan and Kiowa-Tanoan have been linked at the phylum level at least since the 1930s.

If homelands of the proto-languages are anything like what has been suggested (fig. 5), connections between Gulf and Algonquian, Siouan-Caddoan-Iroquoian-Yuchi, and Uto-Aztecan-Kiowa-Tanoan seem less easy to defend; obviously, elaborate migrations would have to be proposed. In fact, suggesting relatively small homelands for


Ath
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K-T
Yuki
Hokan
Zuni
Ker
U-A
Si ?
Alg
Iro
Beo
Yuchi
Cad ?
Gulf
Ton
Kar
Tim
Athapaskan.....Ath
Wakashan......Wak
Salishan........Sal
Chimakuan......Ck
Penutian........Pen
Uto-Aztecan ...U-A
Keresan ....Ker
Kiowa-Tanoan..K-T
Caddoan ....Cad
Siouan...........Si
Iroquoian........Iro
Algonquian ......(1200 B.C.) ■
(900 B.C.) ▤
ISOLATES:
Tlingit.............TL
Haida ....Ha
Tonkawa ....Ton
Kutenai............Kut
Timucua ....Tim
Beothuk...........Beo
Karankawa.......Kar

Figure 5 Hypothesized language homelands.

language families raises a number of problems. Even including the known isolates, and assigning them homelands in their present locations, much of the North American continent is left unaccounted for. However, archaeological sites show that most of the continent was indeed inhabited at various early prehistoric times. It is reasonable to assume, of course, that many other languages were spoken in North America at earlier periods, and that many of them became extinct as they were absorbed or destroyed by other groups (indeed, the present isolates may be remnants of such groups).

Archaeological-language correlations

What correlations have been made between the various hypothesized language homelands and prehistoric archaeological sites? There seem to be few attempts at such correlations specifically, although in some areas there have been suggestions based on cultural traits as to which linguistic groups occupied a given site. According to Spencer and Jennings, 'linguistic and other tribal diagnostic traits cannot be identified, but the archaeologic ancestors, so far as material traits are concerned, for a surprising number of tribes can be identified with reasonable assurance' (1965: 99). They then list several language groups and the archaeological culture with which they identify these tribes: the Pima and Papago with Hohokam; the Zuni and Keres with Mogollon; the Hopi and Taos with Anasazi; Southern Paiute and Gosiute with Desert Culture; Lipan-Apache with Dismal River; Pawnee with Lower Loup; Oto, Missouri, Iowa, and Peoria with Oneota; Wichita with Great Bend; Eskimo with Thule; and various Gulf groups and Caddo with Plaquemine/Late Mississippian.

However, in spite of Spencer and Jennings' confidence, there is a large amount of disagreement about the group that actually occupied any particular site. There is a considerable literature on relationships between existing language groups in the Southwest and the several prehistoric cultures there; a useful summary with pertinent references can be found in Swanson (1968), although the points of view presented there (by Goss, Epstein, *et al.*) are disputed by others and cannot be taken as definitive. The presence of such diverse groups in the south-west as Zuni, Keresan, Tanoan, Uto-Aztecan, Yuman, and Apachean – most of which can be shown to have been in the area for many centuries – makes such association of languages and the prehistoric cultures of particular sites extremely difficult. As an example of the different conclusions that can be reached, we note that Spencer and Jennings assign the Hopi and Taos to Anasazi, Trager postulates 'that the Anasazi cultural tradition was developed by the ancestors of the Zuni' (1967: 347), and Goss (1968) would make the Anasazi specifically the ancestors of the Hopi. The best case of association of site and language seems to be that of Hohokam with the ancestors of the Pima, since the Pima continue several significant cultural traits associated with Hohokam.

The Ozettes of Cape Alava: a type case

The remainder of this paper will be devoted to an example of the language data available to archaeologists currently involved in the excavation of a particular archaeological site in North America. The site under consideration is one of the most interesting excavations on the continent, the Ozette dig underway at Cape Alava, located 15 miles south of Cape Flattery on the Olympic coast of Washington state.

The original inhabitants of the Cape Alava area, known as the Ozettes, are extinct. Extant neighbouring tribes on the Olympic Peninsula are the Makah, a Wakashan (Nootkan) group located at Neah Bay to the north, and the Quileute, a Chimakuan tribe settled south of Cape Alava at La Push. The Clallam and Quinault, Salishan groups, are more distant neighbours and were not contiguous with the Ozettes. A common cultural pattern relates the Quileute and Makah, including secret ceremonial societies, material culture and economic practices including whaling and sealing. The Makah appear to have emphasized the halibut as a primary staple, while the Quileute exploited salmon runs as well as the halibut grounds around Tatoosh Island; but despite a few such distinctions the cultures of the Quileute and Makah were remarkably homogeneous. This culture is usually referred to as 'Nootkan', an unfortunate appellation, since it suggests the prejudice that the culture was totally of Nootkan origin and was simply adopted later by the Quileutes. Indeed, the elaboration of some cultural motifs among the Nootka and the use of various Makah loanwords in Quileute would suggest Nootkan groups as the diffusion point for certain aspects of the common Quileute and Makah culture. However, the issue is of interest to us only in suggesting the homogeneity of the cultural patterns of the two groups and what appears to be a considerable period of interaction between Quileute and Makah. It is this common Nootkan culture which is reflected in the remarkable artefacts continuing to be found at the Ozette site: basketry, ceremonial items, and tools and implements known to characterize this central area of the Northwest coast.

At the establishment of regular European contact (1850s), the Ozettes were considered a band of the Makah. Both Quileute and Makah tradition support this conclusion, although intermarriage had apparently resulted in some admixture of Quileute speakers among Ozettes. This may have been responsible for including the Cape Alava area in the Quileute cession to the United States (*BAE* Report, 1896–7: 800), a fact at odds with Makah claims. The village at Cape Alava (ʔose ʔiƛ) was considered one of the five original Makah villages (Colson 1953: 75) and was among the landmarks claimed to have belonged to them in pre-treaty days in a formal list prepared by Makah elders in 1941 (Colson 1953: 43). Some substance thus relates to the claim that the village at Cape Alava was a Makah community at the time of contact and that recent deposits at the Cape Alava site derive from a Wakashan-speaking Nootkan-culture group.

Can language data be presented which shed light on the populations responsible for the deeper, earlier strata at Cape Alava? A great deal of evidence suggests that the entire northern Olympic Peninsula was originally controlled by Chimakuan peoples. The time depth of Nootkan occupation of the north-west tip of the peninsula cannot be determined with accuracy, but an estimate based on linguistic evidence places it at approximately a millennium. The language evidence bearing importantly on the issue of Nootkan settlement relates to place-names, the mythic corpora of the Makah and Quileute, and Chimakuan comparative linguistics. Although we necessarily speak of estimates, data of several types complement each other in suggesting this figure.

Place-names

The place-names on the north-west tip of the Olympic Peninsula provide us with a crucial insight into the prehistory of the area. A number of significant features of the littoral included within traditional Makah territory have Chimakuan place names which are used by both the Quileute and Makah. We consider a place-name to be of Chimakuan origin if it can be shown to be composed of morphological components which are demonstrably Chimakuan, whether or not they are recognized as such by Quileute speakers (although in only two cases presented below are the names changed to such a degree that they are no longer recognizable). The following Chimakuan place names can be cited within Makah territory (numbers relate to fig. 6):

	Place name	*Meaning*	*Current name*
1	hokʷó ʔwa·	'drifting place'	Hoko River mouth
2	hač̇á·wat	'good beach'	Archawat Beach
3	ʔaƛá·bił	'Ears point'	
4	q̓ʷi·ƛa	'(rocks) falling off'	near Kydikkabit Point
5	kití·dit	'different'	Duncan Rock
6	wá· ʔač	'It's not there'	Waatch River
7	ta ʔóqʷat	'overlapping, pleated spot'	Strawberry Rock
8	c̓isciyapó·sa	'having hats on'	Mushroom Rock

Number six must be reconstructed to be seen as acceptable Chimakuan, for Quileute has generalized a morpheme (-x) making the 3rd person non-present suffix (-x̣ač). This place name maintains the earlier (*-ač) suffix. The last form derives from the Chinook Jargon term (ciyápos, meaning 'hat', from French *chapeau*). It is considered Chimakuan because it reduplicates and contains the Quileute suffix (-a) meaning 'having, wearing'.

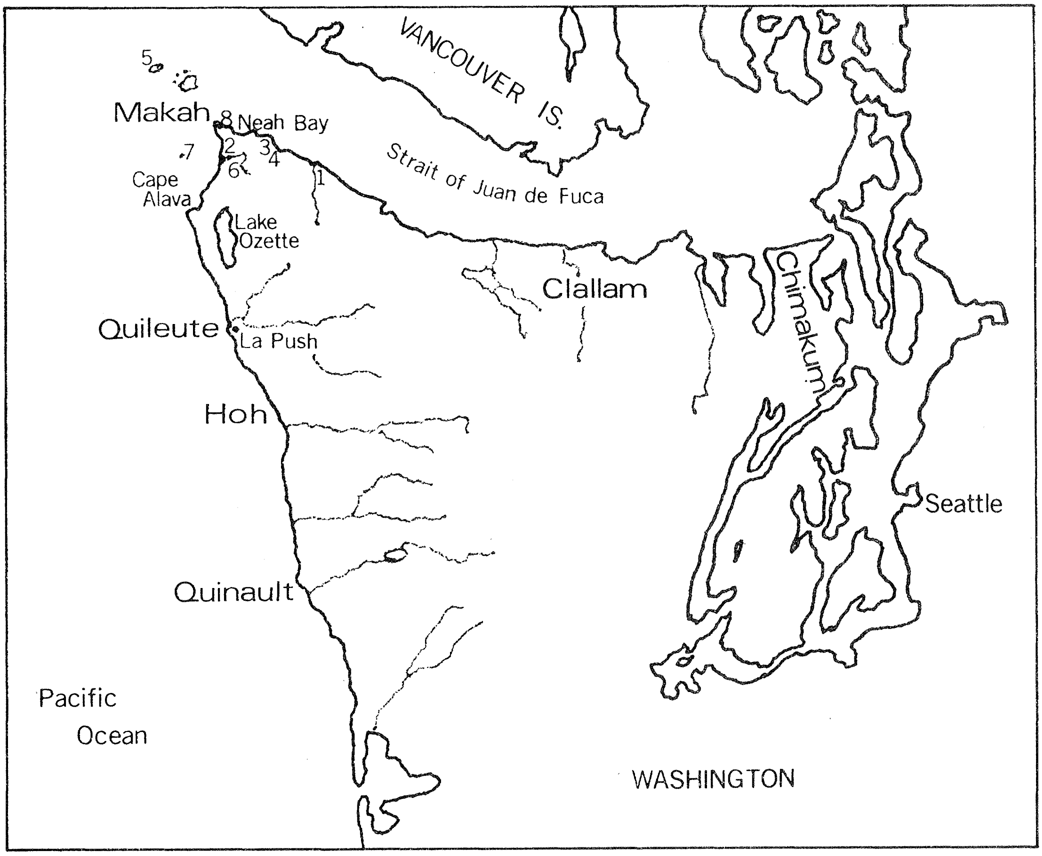
VANCOUVER IS.
Strait of Juan de Fuca
5
Makah
8
Neah Bay
7
2
3
4
6
1
Cape Alava
Lake Ozette
Clallam
Chimakum
Quileute
La Push
Hoh
Seattle
Quinault
Pacific Ocean
WASHINGTON

Figure 6 Olympic peninsula.

The explanation for the existence of Chimakuan place-names for such important features of the Makah landscape appears to be prior Chimakuan occupation, with their names continuing in use among the Nootkan community which displaced them. We refer to these prior inhabitants as Chimakuans, rather than specifically as ancestors of the Quileute. These original Chimakuan-speakers may have comprised part of a continuum of Chimakuan bands which were replaced by the arriving Nootkans. They may also have been the early Chimakums, who would have been displaced eastward by the Nootkans, and then later pushed further to the east (into the Port Townsend area) by the immigrating Clallams. This would also explain the separation of the Quileute and Chimakum.

Mythic and legendary corpora

A second aspect of the linguistic case for Olympic prehistory is the mythic and legendary tradition of the Makah and Quileute. Reconstructing folk movements on the basis of legend and folkloric memory is notoriously problematic beyond a time depth of a few centuries. However, it can be used to augment other data in an important and effective way if considered with care.

The Quileute creation myth suggests that the tribe was created on the Peninsula where they continue to live.

> Then ḳʷá·ti went on and reached the Quileute land. He saw two wolves. There were no people here. Then ḳ̓ʷá·ti transformed the wolves into people. Then he instructed the people saying: 'The common man shall have only one wife. Only a chief may have four or eight wives. For this reason you Quileute shall be brave, because you come from wolves.' Said ḳ̓ʷá·ti, 'In every manner you shall be strong.' (Andrade 1931: 85.)

No such certainty of origin is reflected in Makah tradition. Although Swan states that the Makah believe they were 'created on the Cape' (Swan 1870: 56), Colson elicited some uncertainty and contradiction:

> These things happened before history or before the Makah themselves existed. They distinguish a historic time of events through which they believe their own ancestors lived. These too are localized within the Cape region. Some say that the Makah have always lived here, created in the region by the Transformer when he came. Others think that an ancient flood, whose traces they still find in the shells and sand dug up away from the beaches, brought them drifting down from Vancouver Island. (Colson, 1953: 47.)

This confusion as to origin is also noted in the literature in a story of how the Makah came to control Neah Bay, told by D. Irvine (1921). According to the legend, Neah Bay was first owned (i.e. claimed, not necessarily settled) by the Nitinat, along with Tatoosh Island and several camp-sites. A Makah engaged in a hair pulling contest with one of the Nitinat and was killed. This so enraged the Makah that they went to war against the Nitinat and captured the present site of Neah Bay and Tatoosh Island.

Another account of the migration of the Makahs to Neah Bay, which is told among the Clallam and Quileute, suggests that a Nitinat princess gave birth to a litter of dog-children and was forced to leave Vancouver Island. Arriving at Neah Bay, she discovered that the puppies were really normal children in dog suits. Commandeering the dog costumes, she hid them and the Makah have been people ever since. The story has numerous versions, but implies that among the neighbours of the Makah as well, they are considered newcomers to the Neah Bay area. Such mythic evidence suggests that the Makah moved to the Cape Flattery area and that this migration occurred long enough ago to have become factually dim, but has not been eroded completely from folkloric memory.

Chimakuan comparative linguistics

A comparison of Quileute with its only documented sister language, Chimakum (formerly spoken near Port Townsend, but extinct since the 1930s), reveals that the two languages had been separated long enough for phonological, grammatical, and lexical innovations to appear. Under the influence of the Clallam (who apparently arrived on the Peninsula in late prehistoric times), Chimakum developed phonologically as follows:

*k > č < *y   *č > c < *c
*k̓ > č̓   *č̓ > c̓ < *c̓
*x > š   *š > s < *s
*w > kʷ < *kʷ

Quileute and Makah influenced each other, changing nasals to voiced stops:

*m > b
*n > d

This change apparently developed first in Quileute (some uncertainty as to the actual origin of this sound change on the Coast exists), and was adopted by Makah, and to some extent by Nitinat. Makah, on the other hand, has influenced Quileute. Makah loanwords into Quileute containing /ƛ/ have resulted in [ƛ] arising as a new phonemic unit in Quileute.

A reconstruction of the Proto-Chimakuan grammatical morphology indicates innovations on the part of both Quileute and Chimakum. Unfortunately, the extant Chimakum lexicon is insufficient to determine exactly how much lexical innovation had occurred in the two tongues. It is possible, however, to conclude that the languages remained mutually intelligible to some extent, a conclusion upheld by Quileute elders who recall speaking to Chimakums. Thus, comparative linguistics, while providing us no specifiable timetable of divergence for Quileute and Chimakum, allows us to decide that the two languages could have separated approximately one to two millennia ago, but little more than that. A time depth greater than that would make such mutual intelligibility highly improbable. Furthermore, it is altogether possible that the Chimakuans split long before the arrival of the Nootkans, with Quileute and Chimakum representing the ends of a continuum of Chimakuan communities or neighbours who were forced further apart when the newcomers settled between them.

Thus, three types of language data allow us to conclude that Chimakuan peoples originally controlled the northern end of the Olympic Peninsula, including the area around Cape Alava. Additional evidence deriving from Wakashan historical linguistics might further confirm the recent split of Makah from Nitinat, but these data are not available. No exact chronology of settlement can be provided; nonetheless the evidence suggests that settlement of the area by the Makah could easily have happened approximately 1,000 years ago. Admitting the necessarily tentative nature of the date, the conclusion seems quite defensible that habitation in the Cape Alava area previous to the commencement of the second millennium A.D. could represent Chimakuan-speaking communities.

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References

Andrade, M. J. 1931. Quileute texts. *Columbia University Contributions to Anthropology.* 12.

Bureau of American Ethnology Annual Report, 1896–97 (ed. J. W. Powell). Washington.

Chafe, W. L. 1973. Siouan, Iroquoian and Caddoan. *Current Trends in Linguistics, 10: Linguistics in North America*, pp. 1164–1209 (ed. T. A. Sebeok). The Hague.

Colson, E. 1953. *The Makah Indians.* Minneapolis.

Crawford, J. M. 1975. Southeastern Indian languages. *Studies in Southeastern Indian Languages*, pp. 1–120 (ed. J. M. Crawford). Athens, Georgia.

Cressman, L. S. 1960. Cultural sequences at The Dalles, Oregon. *Transactions of the American Philosophical Society*, 50. 10:1–108.

Goss, J. A. 1968. Culture-historical inference from Utaztekan linguistic evidence. Utaztekan Prehistory, pp. 1–42 (ed. E. H. Swanson). *Occasional Papers of the Idaho State University Museum, 22.*

Hoijer, H. 1960. Athapaskan languages of the Pacific coast. *Culture in History*, pp. 960–76 (ed. S. Diamond). New York.

Irvine, D. 1921. How the Makah obtained possession of Cape Flattery. *Indian Notes and Monographs.* 6:5–11.

Krauss, M. E. 1973. Na-Dene. *Current Trends in Linguists*, 10*: Linguistics in North America*, pp. 903–78 (ed. T. A. Seboek). The Hague.

Kroeber, A. L. 1955. Linguistic time depth results so far and their meaning. *International Journal of American Linguistics.* 21:91–104.

Langdon, M. 1974. *Comparative Hokan-Coahuiltecan Studies.* The Hague.

Michels, J. W. 1972. Dating methods. *Annual Review of Anthropology*, I:113–26 (ed. B. J. Siegel). Palo Alto.

Mooney, J. 1898. Calendar history of the Kiowa Indians. *Bureau of American Ethnology Annual Report*, 17:129–445.

Powell, J. W. 1891. Indian linguistic families north of Mexico. *Bureau of American Ethnology Annual Report.* 7:1–142.

Sapir, E. 1936. Internal linguistic evidence suggestive of the northern origin of the Navaho. *American Anthropologist.* 38:224–35.

Siebert, F. T., Jr. 1967. The original home of the Proto-Algonquian people. (Contributions to Anthropology: Linguistics I – Algonquian.) *National Museum of Canada Bulletin*, 214, *Anthropological Series*. 78:13–47.

Spencer, R. F. and Jennings, J. D., *et al.* 1965. *The Native Americans*. New York.

Suttles, W. and Elmendorf, W. W. 1963. Linguistic evidence for Salish prehistory. *Symposium on Language and Culture: Proceedings of the 1962 Annual Spring Meeting of the American Ethnological Society*, pp. 41–52 (ed. V. E. Garfield). Seattle.

Swadesh, M. 1956. Problems of long-range comparison in Penutian. *Language*. 32:17–41.

Swan, J. G. 1870. The Indians of Cape Flattery. *Smithsonian Institution Contributions to Knowledge*. 16.220:1–108.

Swanson, E. H., Jr. (ed.) 1968. *Utaztekan Prehistory. Occasional Papers of the Idaho State University Museum*, 22.

Taylor, W. W. 1961. Archaeology and language in western North America. *American Antiquity*. 27:71–81.

Teeter, C. V. 1973. Algonquian. *Current Trends in Linguistics, 10: Linguistics in North America*, pp. 1143–63 (ed. T. A. Sebeok). The Hague.

Trager, G. L. 1967. The Tanoan settlement of the Rio Grande area: a possible chronology. *Studies in Southwestern Ethnolinguistics*, pp. 335–50 (eds D. H. Hymes and W. E. Bittle). The Hague.

Voegelin, C. F. 1941. Internal relationships of Siouan languages. *American Anthropologist*. 43:246–9.

Abstract

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Language and the prehistory of North America

This paper addresses some of the problems involved in correlating a language spoken in the past with a particular archaeological site or geographical location, within the context of North America. It discusses both the values and limitations of linguistic data in attempting to assign a language to a particular location in prehistoric times or arrive at archaeological site/language correlations. Speculations regarding the area in which the ancestral forms of specific languages or language families were spoken, and procedures available to linguists and archaeologists in determining earlier residence of a linguistic group, are presented and discussed. The presentation and analysis of evidence bearing on the language group inhabiting a specific North American archaeological site, the Cape Alava or Ozette site in the state of Washington, concludes the paper.