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LANGUAGE ISOLATES OF NORTH AMERICA

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https://escholarship.org/uc/item/51c5h4fr

ISBN

978-1-138-82105-7

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Publication Date

2018

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2017. Language isolates of North America. Language Isolates. Lyle Campbell, Alex Smith, and Thomas Dougherty, eds. 193-228. New York: Routledge.

CHAPTER 8

LANGUAGE ISOLATES OF NORTH AMERICA

Marianne Mithun

Approximately half of the language families indigenous to North America North of Mexico have been identified as isolates, families consisting of a single language. The figure is necessarily approximate for several reasons. The first is the quality of data. Some languages are represented by so little documentation, often of poor quality, that demonstrating genetic relationships to any other languages with confidence is difficult. A second is the continuum between dialects and languages. A third is the potentially deep impact of language contact. Ultimately, isolate status does not entail particular structural characteristics inherent in the language itself: it is more about their potential relatives.

1 LANGUAGE ISOLATES AND UNCLASSIFIED LANGUAGES

There is an important distinction between isolates, that is, languages with no known relatives, and unclassifiable languages, those for which it is difficult or impossible to identify relatives due to the quality and quantity of documentation. But the line between the two is not sharp. There are no written records of most North American languages comparable in time depth to those of some languages of Europe and Asia. While some groups in eastern and southeastern North America encountered Europeans as early as the sixteenth century, others in the West saw no Europeans until the mid-nineteenth century. In too many cases their languages did not survive long after contact. Some we know about only from brief mention in historical accounts; with no data, these are necessarily unclassifiable. For others, data are sparse, mixed in among notes from brief encounters.

A clear example of an unclassifiable language is **Aranama**, also known as **Tamique**, the language of two groups at the Franciscan mission of Espiritu Santo de Zúñiga, founded on the lower Guadalupe River in Texas in 1726 (Goddard 1979: 373). Our entire documentation of the language consists of one single-word and one two-word phrase: *himiyána* 'water' and *Himiána tsýi!* 'Give me water!'. These were recorded by Albert Gatschet in 1884 from a Tonkawa man known as Old Simon, who also provided a short vocabulary of Karankawa, another Texas language. Old Simon himself identified the language as Hanáma or Háname (Gatschet 1884). The only people indigenous to that area with a similar name were those known as the Aranama, Saranames, or Jaranames.

Another example of an unclassifiable language is **Calusa**, once spoken in southern Florida. This language is represented by just a dozen words from the 1575 account of Escalante Fontaneda (1944), who had been a captive among the Calusa, and by 50–60 place names published in Swanton 1922 (Goddard 1996a: 17, Landar 1996: 725). Early accounts indicate that Calusa was distinct from other languages in the area, those spoken by the Timucua, Apalachee, Ais, Jeaga, Tequesta, Guale, and Yamasee (Marquardt 2004: 204), suggesting that it may have been an isolate. With such a small record, however, its status cannot be confirmed.

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Only slightly more information is available on a language referred to as **Solano**: a sheet with 21 words found in the manuscript for Swanton's 1940 work on languages from southern Texas and northeastern Mexico (Goddard 1979: 371). The page bore the following description: "Near the end of the original book of baptisms of the San Francisco Solano Mission, 1703–1708, is a brief vocabulary, presumably of the Indians of that mission". It was apparently sent to Swanton by H. E. Bolton from Queretaro, Mexico, about 1909, who characterised it as the language of the Terocodame band cluster associated with the missions opposite present Eagle Pass, Texas, in the early eighteenth century. It was published in Swanton 1915: 34–35 and 1940: 54–55, but it has not been possible to link the language to any other.

An important aspect of documentation is whether the language was recorded from native speakers. **Cotoname**, also called Carrizo de Camargo, was indigenous to the lower Rio Grande Valley of south Texas and northeastern Mexico. It is known to us only from a vocabulary of 104 words recorded by Berlandier around 1829 (Berlandier and Chowell 1828–1829) and some additional words recorded by Gatschet in 1886 from Comecrudo speakers (Goddard 1979: 370), totaling around 150 words in all. Goddard comments:

> In view of its source it is perhaps not surprising that there is more similarity between Comecrudo and Cotoname in Gatschet's materials than in Berlandier's. Two significant examples suggest that Gatschet's informants used original Cotoname words in both languages.
>
> (Goddard 1979: 370)

After close inspection of the sources, Goddard concludes that "Coahuilteco, Comecrudo, and Cotoname must all be considered independent isolated languages whose genetic relationships are at present unknown, and the fragments of Solano and Aranama cannot be put in any language grouping with any confidence" (1979: 379).

Similar challenges are presented by **Karankawa**, once spoken on the Texas coast. The last Karankawa speakers died in 1858 on Padre Island at the hands of Texas Rangers and Mexican soldiers. All of the attested material, over 400 vocabulary items and some phrases, sentences, and translations of English nursery rhymes, is assembled in Grant (1994). It comes from the following sources: French brothers Jean-Baptiste and Pierre Talon, who had been part of La Salle's expedition and were captured by Karankawas around 1686, dictated to M. de Boissieu in Brittany in 1689; the French sea captain Jean Béranger, who collected vocabulary near Matagorda Bay in 1720–1721; the Mexican geologist Rafael Chowell, who collected vocabulary in south Texas or Coahuila, Mexico in 1828–1829; the Tonkawa man Old Simon (mentioned earlier as the source for Aranama), dictated to Albert Gatschet at Fort Griffin, Texas, in 1884; a blind Tonkawa woman, Sallie Washington, who had once lived with a Karankawa man, dictated to Gatschet in 1884; and Alice Williams Oliver, a White woman who had lived near the Karankawa in Texas as a child and made a list of around 600 forms, though that list was subsequently lost. Gatschet discovered Mrs. Oliver living in Lynn, Massachusetts, and worked with her in 1888–1889. Not surprisingly, Grant found considerable variation in the material, since the language was spoken by a number of bands and so much came from non-native speakers. Nevertheless Grant, like others, concludes that it was a single language.

In some cases classification of a language depends not only on the quantity and quality of the data available on that language, but also on our knowledge about potential relatives. A German philologist comparing German *Hund* and English *dog* might not see

a relationship immediately, but with more extensive knowledge of English, the link to English *hound* would be clear, and further comparisons could confirm the connection. When Jacques Cartier first sailed into the Bay of Gaspé in 1534, he encountered fishermen from a settlement up the Saint Lawrence River at the site of present-day Quebec City. He took two captives back with him to France but returned with them the following summer, staying longer and going further upriver to a settlement at the site of present-day Montreal. When Champlain arrived in the region in 1603, these people had vanished from the area. But appended to the accounts of the first two Cartier voyages were vocabulary lists which together comprise a little over 200 words. From these lists it is possible to identify the language as Northern Iroquoian with certainty, in good part because the modern Northern Iroquoian languages are well known (Mithun 1982). It can even be seen that the words come from several different dialects or languages.

A group known as the **Adai** (also known as Adaizan, Adaizi, Adaise, Adahi, Adaes, Adees, or Atayos) was first encountered in what is now eastern Louisiana around 1530. Adai was the language of the Spanish Mission of Adayes founded in 1715 west of Natchitoches, but when that mission closed in 1792, the converts joined Caddoan groups in Texas. Their language is known only from a list of 275 words recorded around 1802 by John Sibley, the first Indian Agent of the United States (Sibley 1832: 722). The original manuscript has been lost, but a copy is in the American Philosophical Society Library, and vocabulary from it has been published in Adelung and Vater (1816: 3.2.278), Gallatin (1836, with errors), and Taylor (1963: 114). Sibley noted that the language "differs from all others, and is so difficult to speak or understand that no nation can speak ten words of it" (Powell 1891: 122). Gatschet saw some similarities to words of the neighboring Caddo. With better knowledge of Caddo, however, Wallace Chafe could determine with certainty that it is not Caddo (personal communication). This leaves us with a language which we can see is not related to the most likely neighbor and without demonstrable relationships to other well-known languages in the area, suggesting it is an isolate.

Knowledge about earlier stages of potential relatives can sometimes be useful. Slightly more documentation is available for **Beothuk**, once spoken in present-day Newfoundland. The Beothuk were first mentioned in the account of Cartier's 1534 voyage. Records of their language consist of 4 vocabularies together comprising over 400 items: one recorded by John Cline during the eighteenth century; one by John Leigh from a woman named Demasduit (Mary March) captured in 1819; one by a man named King; and one by W. E. Cormack from a voluntary captive named Shanawdithit (Nancy April), who died in 1829. All are published in Hewson 1978. Investigation into possible genetic relationships has focused on the surrounding Algonquian languages. A few similarities have been noted, but Voegelin and Voegelin (1946) concluded that the similarities were too close to be cognates and should rather be identified as loans. Hewson (1968, 1971, 1978, 1982) did see some similarities between the Beothuk vocabulary and certain Proto-Algonquian reconstructions. At present, however, the general consensus is that a relationship is unlikely though not impossible.

2 DIALECTS AND LANGUAGES

A second challenge for the identification of isolates is the continuum between dialects and languages. Technically two forms of speech are considered *dialects* if they are mutually intelligible, and separate *languages* if they are not. A group of dialects could together constitute a language isolate if there are no other relatives. Once the differences among them become so great as to interfere with intelligibility, they no longer constitute an

isolate. (It should be noted that into the early twentieth century, the term *dialect* was often used to refer to all speech varieties known to be related at any level.) Particularly for languages no longer spoken, it can be difficult to assess precise degrees of intelligibility. There are a number of such situations in North America.

Alsea, spoken along the central coast of Oregon, comprises either two dialects or closely related languages: Alsea and Yaquina. Frachtenberg, who worked with both in 1910, left a major manuscript grammar. There he reported on the recent history of the two, which he termed Yakonan:

> Until 1876 most of the Yakwina and Alsea Indians lived at the Yahatc reservation. Even at that time the number of Yakwinas still extant was limited. When, on the 26th day of April, 1876, this reservation was abolished, the remaining members of the Yakonan family were transferred to the newly established Siletz Agency (in 1913) but only one adult Yakwina and eight full-grown Alsea Indians were left, of whom only five may be said to have retained some knowledge of the language, traditions, and customs of their forefathers. With the demise of this handful the Yakonan group will have become a thing of the past.
>
> (Frachtenberg 1918 ms: 14)

Such proximity could have led to mutual intelligibility even if the two were not closely related, but further comments suggest that they were in fact close dialects:

> The differences between the Alsea and Yakwina dialects are very slight. As far as has been ascertained, there is only one phonetic deviation, and a limited number of stems are particular to each dialect. The Alsea combination of *al* appears in most instances in Yakwina as a *u* diphthong.
>
> (Frachtenberg 1918 ms: 15)

Frachtenberg provides four examples of pairs of words showing the phonological correspondence (among them *qalp-/qaup-* 'to roll'), and nine stems that differ (among them *pəlú:pəlu:/k'ins* 'beard'). His descriptions suggest that the two were indeed dialects, so together they would constitute a language isolate. (Distant relationships to neighboring Siuslaw and Coos have been proposed but are not considered established.)

Intelligibility is of course a matter of degree and experience. **Yana**, spoken in central Northern California, was well documented by Sapir early in the twentieth century, but it disappeared not long afterward. Four dialects are generally recognised: Northern Yana, Central Yana, Southern Yana, and Yahi. Sapir characterised their relationships as follows:

> The probability is strong that Southern Yana was a link between the Central and Yahi dialects, with a leaning, I surmise, to Yahi rather than to Central Yana. The Central and Northern dialects, though neatly distinct on a number of phonetic points, are mutually intelligible without difficulty. Yahi is very close in all essential respects to the two Northern forms of Yana, but there are enough differences in phonetics, vocabulary, and morphology to put it in a class by itself as contrasted with the other two. It is doubtful if a Northern or Central Yana Indian could understand Yahi perfectly, but it is certain that he could make out practically all of it after a brief contact.
>
> (Sapir and Spier 1943, cited in Sapir and Swadesh 1960: 14)

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Atakapa, once spoken by a number of small groups along the Gulf of Mexico from Vermillion Bay and Bayou Teche in Louisiana to Galveston Bay and up the Trinity River in Texas, presents a cloudier picture. It is sometimes said to comprise three languages, sometimes two, and sometimes one. Three varieties were recognised by Swanton. A list of 45 words, recorded in 1721 by the sea captain Jean Béranger from a captive taken at Galveston Bay, Swanton identified as Akokisa (published in Villiers du Terrage and Rivet 1919). Another list of 287 words collected by Martin Duralde in 1802 at modern Martinville, Louisiana, he identified as Eastern Atakapa (published in Vater 1820–1821 and Gallatin 1836). The most extensive documentation, consisting of around 2,100 words and sentences, as well as 9 texts, was obtained by Gatschet in 1885 at Lake Charles, Louisiana, from 2 of the last speakers to know the language well. This material Swanton identified as Western Atakapa. A grammatical sketch based on all sources is in Swanton 1929a, and a dictionary with texts in Gatschet and Swanton 1932. Swanton's classification may not actually have been meant as a linguistic one, however. Martin notes that "the relatively small and unsystematic variation seen in the data provide little support for these groupings" (2004: 79). If the three varieties are indeed very closely related, as it appears they are, together they comprise a language isolate. (Hypotheses of more remote relations once grouped it with neighboring languages in a Gulf superstock, described below.)

Ultimately the status of a language as an isolate depends more on possible relatives than on the language itself. The **Timucua** were first encountered by Ponce de León in 1513 near present-day St. Augustine, Florida. Their language was documented early by two priests who were in the area between 1603 and 1627, Francisco Pareja and Gregorio de Movilla. They left a grammar, three catechisms, a confessional, a *doctrina*, and other materials, with a total of about 2,000 pages of bilingual Timucua-Spanish text. The grammatical sketch, by Pareja, was published in Mexico between 1612 and 1627 and reprinted in 1886. Two catechisms by Movilla were published in Mexico in 1635. There are also two letters with Spanish translations, one written to the governor of Florida in 1636 by a Timucua chief, and another by six Timucua chiefs addressed to the king of Spain in 1688 (Crawford 1979: 326–327). By the early nineteenth century, few Timucua people remained. Granberry published a grammatical sketch (1990) and grammar (1993) based on these resources.

In 1707 a man named Lamhatty appeared at the estate of Colonel John Walker in Virginia, saying that he was from the village of Tawasa near the Gulf of Mexico but had been captured by the Tuscarora. Walker recorded 60 words of his language, but soon afterward Lamhatty disappeared. Swanton (1929b) noted resemblances in the wordlist to Timucua, as well as to some Muskogean languages. Since then, the status of Tawasa has been under discussion. The wordlist is reprinted in Granberry (1993: 10). A number of the Tawasa forms are so similar to Timucua as to suggest they are the same language, represented with different spellings: Tawasa *hĕmè*, Timucua *hime* 'come'; Tawasa *néăh*, Timucua *nia* 'woman'; and so on. Some differences could be attempts at representing sounds not in the native languages of the transcribers: Tawasa *soua*, Timucua *soba* 'meat' for something like [soβa], or Tawasa *héwah*, Timucua *hiba* 'sit down', for [hiβa]. There are also forms that match those in neighboring Muskogean languages, likely loans in one direction or the other: Tawasa *hássey*, Alabama *haši*, Timucua *ela* 'sun'. Martin (2004: 78) notes that most of these are probably loans from Creek. If Tawasa was actually Timucua itself or a dialect of that language, Timucua would remain an isolate, as it was identified by Powell (1891: 123) and Sapir (1921, 1929). If Tawasa was an unrelated language, Timucua would still be an isolate. (There is also a long history of attempts to link Timucua to other

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languages of the area as well as Middle and South America, discussed in Crawford 1979, 1988.)

The possibility of clear-cut distinctions between dialects and languages is also challenged by dialect chains, situations in which speakers of different varieties may be able to understand their immediate neighbors, but those at the edges may not understand each other. An example is **Keres**, with seven varieties spoken in pueblos in New Mexico. Two major groups can be distinguished: Eastern Keres, consisting of Cochiti, Santo Domingo, San Felipe, Santa Ana, and Zia, and Western Keres, consisting of Laguna and Acoma. Each dialect is mutually intelligible with its neighbors, but differences are greater between those of pueblos located at larger distances, such as Cochiti and Acoma. Davis (1959) estimates the time depth of the group at not more than 500 years, a period over which change can be slight or substantial. Keres is generally considered an isolate.

Apparent intelligibility can of course also come from exposure or bilingualism. **Cayuse** was spoken in the early nineteenth century in the plateau region of northeastern Oregon and southeastern Washington. Documentation consists primarily of nineteenth-century wordlists published in Rigsby 1969. For some time, Cayuse was linked to the neighboring Molala. Rigsby (1966: 369) traces the original idea of a relationship to an 1846 publication by Horatio Hale containing Cayuse and Molala vocabularies. Hale did not explicitly declare that the two were related, but he listed them together in a Waiilatpu family. Rigsby suspects that this grouping may have been stimulated by a remark from Marcus Whitman, who established a Presbyterian mission in the area in 1836, and assumed the languages were mutually intelligible when he heard Cayuse and Molala people speaking together. The grouping was retained in the Powell classification of 1891 and carried into the Sapir classifications of 1921 and 1929. After careful examination of the material from both languages, however, Rigsby concluded that the two are in fact not related:

> Cayuse and Molala do not appear to be genetically relatable, though there are obvious areal relations involved since they share a small number of identical or near-identical lexical items.
>
> (Rigsby 1966: 370)

In the situations observed by Whitman, the Cayuse speakers may have learned some Molala, the Molala speakers may have learned some Cayuse, or both may have simply acquired enough passive bilingualism to be able to understand the other, while still speaking their own languages. Cayuse is now considered an isolate.

3 DEEP GENETIC RELATIONSHIPS, CHANCE, AND CONTACT

Related languages are traditionally defined as those descended from a common ancestor. But a relationship cannot be simply proven or disproven. Evidence may be strong, weak, somewhere in between, or lacking. Where languages share sufficiently pervasive, systematic similarities that are clearly not due to contact, onomatopoeia, or chance, a relationship is considered established. Where they share just some such features, a common origin may be considered probable or possible. But there is no disproof of relationship: it can only be determined that there is insufficient solid evidence to posit one.

The history of classification of languages indigenous to North America is traced in detail in Goddard 1996b and Campbell 1997. Early schemes were in Gallatin in 1836 and 1848, though at that time some languages were still unknown or sparsely documented.

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Later in the century, a comprehensive classification with 58 families including isolates was published in Powell (1891). Small changes were made in subsequent editions.

In 1903 Dixon and Kroeber noted typological similarities among language families of California:

> The main purpose of the paper is to point out that California languages may be classified into several groups. It must be clearly understood, however, that the classification that has been attempted deals only with structural resemblances, not with definite genetic relationships; that we are establishing not families, but types of families.
>
> (Dixon and Kroeber 1903: 3)

In 1913, however, they proposed some remote genetic relationships among California languages (1913a, 1913b). One they termed "Penutian" included Costanoan, Miwok, Maiduan, Yokuts, and Wintuan (1913b). As samples of evidence of relationship, they provided five lexical sets ('bow', 'three', 'fire', 'liver', 'forehead'); some case suffixes; and structural similarities, including elaborate vowel mutations, lack of prefixes, seven cases on nouns, absence of instrumental or locative affixes on verbs, and intransitive, inceptive, voice, mode, tense, and person suffixes. They concluded:

> There is available enough information on the structure of the five Penutian languages to prove their genetic affinity beyond a doubt even without recourse to lexical similarities.
>
> (Dixon and Kroeber 1913b: 649)

A second group they termed "Hokan" included Karuk, Chimariko, Shastan, Pomoan, Yana, Esselen, and Yuman (1913b). They illustrated their proposed relationship with another five sets of stems ('tongue', 'eye', 'water', 'stone', 'sleep'), as well as some structural similarities, including no plural form for most nouns, frequent pairs of distinct verb stems differing in number, verb prefixes denoting instruments and often pronominals, and verb suffixes marking plurality and location.

A flurry of work followed, aimed at uncovering deeper relationships among the Powell families and refining subgrouping. In 1919 Dixon and Kroeber presented lexical sets obtained from translations of 225 English terms into 67 languages, as well as some additional forms. For Penutian, they found 171 stem resemblances between two or more languages, proposed some sound correspondences, discussed phonological changes, and listed some structural similarities. To Hokan, they added Washo, Salinan, and Chumash in California and Seri and Chontal (Tequistlatecan) in Mexico, drawing in part on work by Sapir (1917a) which showed similarities among Yana and other possible Hokan languages.

Sapir continued the search for remote relations, ultimately proposing classifications of all of the languages into just six superstocks or phyla (1921, 1929): Eskimo-Aleut, Algonkin-Wakashan, Nadene, Penutian, Hokan-Siouan, and Aztec-Tanoan. With this scheme there were no isolates.

Some of Sapir's subgroups within the phyla are now generally accepted as families. One is the Tlingit-Athabaskan family, which was Sapir's Continental Nadene subgroup of his Nadene superstock (with the later addition of Eyak). Another is the Algic family, his Algonkin-Ritwan subgroup of his Algonkin-Wakashan superstock. (Wiyot and Yurok of California, linked as Ritwan, are no longer seen as a subgroup.) A third is the Utian

family, his Miwok-Costanoan branch of his California Penutian subgroup of his broader Penutian hypothesis. A fourth is the Uto-Aztecan family, a subgroup of his Aztec-Tanoan. A fifth is the Kiowa-Tanoan family, another subgroup of his Aztec-Tanoan. Some other proposals appear promising to varying degrees but are not yet generally considered fully established, such as his Plateau Penutian subgroup (Sahaptian, Molala, Klamath-Modoc); Takelman (Takelma and Kalapuya, which he linked as two of three members of his Oregon Penutian subgroup); his Iroquoian-Caddoan; and his Siouan-Yuchi. Other proposals of his have been abandoned. In many cases the discovery of more remote relationships may never be possible because the languages are no longer spoken, and time depths would be so deep that few common inheritances remain.

In what follows, languages identified as isolates are surveyed by geographical area. There is insufficient space to list all references to unpublished and published documentation and comparative work on the languages, or to describe each language in full, but additional detail can be found in Goddard 1996a, 1996b, 1996c; Campbell 1997; Mithun 1999; and Golla 2011.

3.1 The Northwest

Haida is spoken on the Queen Charlotte Islands off the coast of British Columbia and to the north in Alaska. There is a Southern dialect (Skidegate, Ninstints) and a Northern dialect (Kaigani, Masset), both groups representing amalgamations of villages. The two dialects are only partially mutually intelligible, with practice (Krauss 1979: 838). Good documentation exists. Notable are a Kaigani dictionary with a substantial grammatical sketch by Leer (Lawrence 1977), a grammar of Skidegate in Levine 1977, and a grammar of both Masset and Skidegate in Enrico 2003. There are texts in Eastman and Edwards 1983, 1991; Edwards 1995; Edwards and Eastman 1995; and Enrico 1995, and additional works on specific aspects of the language.

The Haida consonant inventory is typical of the Northwest, with three series of stops and affricates. Enrico's (2003) practical orthography distinguishes unaspirated *b*, *d*, *j [dž]*, *g*, *r [ɢ]*, *ʔ*; aspirated *t*, *ts*, *k*, *q*; and ejective: *t'*, *ts'*, *k'*, *q'*. As in neighboring Tlingit-Athabaskan languages, there is a wealth of laterals: *dl*, *tl* [ɬ], *tl'* [ɬ'], *hl* [ɬ], *and 'l* glottalised *l*). The Massett dialect also has a pharyngealised fricative *ħ*. There are two series of nasals: plain *m*, *n*, *ŋ*, and glottalised *'m, 'n*. Glides are *y*, *w*, *h*, and vowels *i, e* [ɛ], *a, o* [ɔ], *u*, with long vowels written as double. The Canadian dialects have distinctive tone, but it has a low functional load.

Pronominals show an agent/patient pattern: referents in control are generally identified by agent forms, and those not in control by patient forms, independently of aspect or transitivity. Paradigm choice is lexicalised with each verb. The pattern appears in first person forms in both dialects, and in second singular and third persons as well in Skidegate

(1) Haida: Enrico 2003: 24
Tsiin-ee 'laangaa hl dah rujuu-ʔwa-gan.
salmon-DEF 3PL.POSS 1SG.AGT buy all-PL-PAST
'I bought all their fish.' (Masset)

(2) Haida: Enrico 2003: 1209
Dii st'i-gihl tay-gan.
1SG.PAT sick-PUNC lie.down-PAST
'I got sick and lay down.' (Skidegate)

(3) Haida: Enrico 2003: 1254

’laa	dii	’la	kil	q’alasdla-gan.
3	1SG.PAT	3	vocally	get.suspicious.of-PAST

‘He made me suspicious of him by what he said (about him).’ (Masset)

There is a set of means/manner/instrumental markers with functions similar to the prefixes of many unrelated languages to the south. In Haida they are separate words which occur pre-verbally, but their combinations with the following verb are generally lexicalised. Among them are:

q’i ‘with knife’
qii ‘throwing down’
ʔun ‘lying on’
ja ‘using chisel, wedge’
sda ‘kicking’
sgi ‘hitting with ax, chopping’
qahl ‘freezing’
kun ‘hitting with front of vehicle’
xi ‘sawing’
ru ‘sitting on, with buttocks’

tl’ah ‘slapping’
tla ‘manipulating with hands’
yah ‘kicking’
da ‘pushing with hand’
q’u ‘biting’
t’a ‘stepping’
ri ‘with side of body’
hlk’yaaw ‘with broom’
qa ‘slicing (fish fillet only)’
tl’ii ‘sewing’
kil ‘by vocal action’

gi ‘bending’
stl’a ‘with fingernails’
cal ‘from heat’
t’a ‘stepping on’
q’u biting’
ki ‘poking with stick’
dang ‘pulling’
gii ‘from wave action, tide’
hlri ‘digging’
tl’a ‘squeezing between thumb and forefinger’
xa ‘manipulating with hands’
k’a ‘pounding’
ra ‘moving’
cu ‘blowing’
ʔis ‘moving past’
k’u ‘with lips’
hlku ‘with cupped hand’
ts’a ‘using scissors’
xay ‘weaving’
kyuu ‘tying’

(Enrico 2003: 1149–1150)

(4) Haida: Enrico 2003: 1148

Dam.an	raa	’la	sgi	jagii.a-gan.
very.much	PP	3	chopping	unable-PAST

‘He was really unable to chop it.’ (Masset)

(5) Haida: Enrico 2003: 1147

ʔaajii-ga-gu	dang	q’u	gwaawaa?
this-PP-Q	2	biting	not.want

‘Don’t you want to eat this?’ (Masset)

Haida was listed as an isolate (Skittagetan) in Powell’s (1891) classification, but grouped with Tlingit-Athabaskan by Sapir in his Nadene stock (1915, 1929). Eyak was later related to Tlingit and Athabaskan. There are some structural similarities between Haida on the one hand and Tlingit, Eyak, and Athabaskan languages on the other. Like Haida, those languages have rich consonant inventories. Tlingit, for example, has three

series of stops and affricates: plain (written as voiced) *d, ƛ, ʒ [dz], ǯ [dž], g, gʷ, ɢ, ɢʷ, ʔ, ʔʷ*; aspirated *t, ƛ̓, c, č, k, kʷ, q, qʷ*; and ejective *t', ƛ', c', č'k', k'ʷ, q', q'ʷ*; plain fricatives *ɬ, s, š, x, xʷ, χ, χʷ, h, hʷ*; glottalised fricatives *ɬ', s', x', x'ʷ, χ', χ'ʷ*; and sonorants *n, y, ÿ* (rounded), and *w*. It also has a simple vowel system: *i, e, a, u* (Leer 1991a: 10). Tlingit also shows agent/patient patterning in pronominals, Tlingit verbs, like those in Athabaskan languages, contain incorporated nouns (or remnants of them) near the beginning of the template, which can indicate unspecified involvement of a kind of entity.

(6) Tlingit: Story 1966: 98

ǰi- 'hand'	du ǰín 'his hands'
ǰi-yasádg	'he's quick with his hands'
ǰi-waƛ'égʷ	'he dodged his fist'
duʔìde **ǰi**-ndagú	'Go and beat him up!'

There are, however, conspicuously few lexical similarities apart from loans. The agent/patient patterning of Tlingit pronominals is likely an effect of contact from Haida, as the Eyak and Athabaskan cognates show nominative/accusative patterning (Mithun 2008). According to native tradition, the Kaigani Haida (Masset) moved from the Queen Charlotte Islands north into southeastern Alaska, formerly Tlingit territory, around 1700. Tlingit village names remain there (De Laguna 1990: 203). Story (1966: 10) notes that Tlingit people have intermarried extensively with other groups and moved to live with them. Pinnow (1964), Levine (1979), Leer (1990, 1991b), and Jacobsen (1993) have shown that the similarities that originally served as the basis for this grouping, mainly structural, are actually the result of misanalysis and contact. Haida is once again generally considered an isolate.

Kutenai (=Kootenai=Kootenay) is spoken in communities in British Columbia, Montana, and Idaho. It was the dominant community language until about the mid-twentieth century, when parents stopped passing it on to their children. During the nineteenth century, various visitors collected vocabulary. In 1891 Chamberlain worked with all of the dialects, collecting vocabulary, grammatical material, and texts (1893, 1894a, 1894b, 1894c, 1895a, 1895b, 1902, 1906, 1910). In 1894 the missionary Canestrelli published a grammar in Latin (republished in 1927 by Boas). Boas visited the Kutenai in 1888 and 1914, when he worked through the Chamberlain texts and collected additional material, which he published in 1918. Garvin published lexical material (1947, 1948a); a grammatical sketch (1948b, c, d, 1951a); a narrative text (1953) and conversation (1954); and articles on further topics (1951b). A major grammar with texts is by Morgan (1991).

Kutenai was listed as an isolate (Kitunahan) in Powell 1891. Sapir 1921, 1929 included it as one of three branches of his Algonkin-Wakashan superstock, beside Algonkin-Ritwan and Salish-Wakashan. An Algonquian language, Blackfoot, is spoken immediately to the east, and Salishan languages are spoken to the west and south.

The possibility of a remote relationship to Algonquian was further investigated by Haas (1965). Kutenai does show certain structural similarities to Algonquian languages, in particular obviation, a kind of ranking of third persons. In both Kutenai and Algonquian languages, if there is only one third person in a clause, this will be the unmarked proximate. If there is more than one, the more topical one is proximate, and all other subsidiary third persons are marked as obviative. In the sentence below, the man is proximate and the bee obviative.

(7) Kutenai: Morgan 1991: 432

N'itk'un**aps**i	titqat'	yuwat's.
n=iʔt-k'u-ʔ-n-**ap-s**=i	titqat'	yuwat'-s
PRED=become-by.point-TR-CONN-INVERSE?-**3OBVIATIVE**=IND	man	bee-**OBV**

'The bee (OBV) stung the man (PROX).' = 'The man got stung by a bee.'

Persons form a hierarchy, essentially echoing degrees of general topic-worthiness.

1, 2 > 3PROXIMATE > 3OBVIATIVE

If one participant acts on another to its left on the hierarchy, a special marker occurs in the verb. In the Kutenai sentence above, the obviative bee is acting on the proximate man, and the suffix *-ap* appears in the verb (3OBV > 3PROX). In the sentence below, a third person (the bee) is acting on a first person (me), and the suffix *-ap-* again appears in the verb (3 > 1).

(8) Kutenai: Morgan 1991: 433

N'itk'un**ap**ni	yuwat'.
n=ʔiʔt-k'u-ʔ-n-**ap**=n=i	yuwat'
PRED=become-by.point-TR-CONN-**INVERSE?**=1SG=IND	bee

'I got stung by a bee.'

Comparable verb suffixes in Algonquian languages are termed *inverses*. The Kutenai system differs slightly from its Algonquian counterparts, however. In Kutenai, first and second persons are equivalent on the hierarchy (1, 2 > 3PROX > 3OBV), while in Algonquian, second persons are ranked over first (2 > 1 > 3PROX > 3OBV). Morgan proposes that, though the Kutenai suffix *-ap* may have originally been an inverse marker, it now functions more like a first and third person singular object marker. The second person object suffix is *-is*, and the first person plural object suffix is *-awas*. (The actual forms of the morphemes show no similarities between Kutenai and Algonquian.)

Morgan (1991: 497) reexamined evidence of a distant relationship to Algonquian with lexical comparisons and identified only 14 Kutenai morphemes or, at the outside 24, that might be similar enough to Algonquian forms to suggest either cognate relations or borrowing. He concluded that the resemblances are likely due to chance. A common origin for Kutenai and Algonquian is no longer considered likely, though similarities like the proximate/obviative distinction and inverse system indicate that even very abstract structures can be transferred through language contact.

Both Algonquian and Salishan languages contain verbal suffixes with meanings much like lexical nominals, likely descendants of incorporated nouns. Kutenai shows such constructions as well, like *-q'anku-* 'firewood' in the verb 'pack-firewood' below.

(9) Kutenai: Morgan 1991: 517

ʔAt	skikiɬ	hucawisq'ahkusi	tiɬnamuʔis.
ʔat=	s-kik-iʔɬ=	hucawis-**q'anku**-s=i	tiɬnamuʔ-ʔis
IPFV=	CONT-SUFFIX-ADV=	pack-**load.of.firewood**-3OBV=IND	old.woman-3POSS

'His wife would be bringing **wood** to their home.'

The phonological inventory of Kutenai is typical of the Northwest: consonants *p, t, c, k, q, ʔ; p', t', c', k', q'; s, ɬ, x̣, h; (l), y, w, m, n; m', n'*, and vowels *i, a, u; i:, a:, u:*. It is

strikingly similar to that reconstructed for Proto-Salishan: *p, t, c, k, kʷ, q, qʷ, ; p', t', ƛ', c', k', kʷ, q', qʷ; ɬ, s, x, xʷ, x̌, x̌ʷ, (h); m, n, l, y, (ɣ), w, ʕ, ʕʷ; m', n', l', y', (ɣ'), w', ʕ', ʕʷ* (Kroeber 1999: 7, after Thompson 1979). Reconstructed Salishan vowels are *i, a, u, ə*. Morgan (1980, 1991: 494–498) investigated possible relationships between Kutenai and the Salishan family and found 144 possible cognate sets, which he groups by recurring sound correspondences. He reports that of 99 Kutenai grammatical morphemes, 42 appear to be cognate with Salishan morphemes (1991: 494). Another 23 sets he identifies as the results of lexical borrowing, most from Salishan languages into Kutenai. He predicts that additional sets are unlikely to be found, and that if there is a genetic link, it is very remote:

> The more one chooses to see the linguistic connection between Kutenai and Salishan as diffusional, rather than genetic, the stronger the case can be for the idea that the Kutenai language was in sustained contact with a variety of Salishan languages, including not only the presently neighboring Interior Salishan languages, but also probably Proto-Interior Salish, and quite possibly also Proto-Salish itself. Both Proto-Interior Salish, and Proto-Salish were evidently spoken directly to the west of what is now Kutenai territory.
>
> (Morgan 1991: 497)

3.2 The West: Oregon and California

Oregon is home to a number of languages that have been identified as isolates: Siuslaw, Takelma, Klamath-Modoc, Molala, and Cayuse (discussed earlier).

Siuslaw was spoken on the Oregon Coast, with closely related dialects Siuslaw proper and Lower Umpqua. Major documentation of the language was carried out by Frachtenberg in 1911, when he worked with an elderly Lower Umpqua woman, Louisa Smith, and her husband, William Smith. The work was challenging. Mrs. Smith knew no English:

> Her memory of old traditions was almost entirely gone, and she had lost the faculty of relating facts coherently and in consecutive order. Besides, her narratives, such as could be obtained, were too much interspersed with Chinook Jargon.
>
> (Frachtenberg 1914: 1)

William Smith was an Alsea man who knew Lower Umpqua as a second language. Nevertheless, Frachtenberg produced remarkable documentation, publishing a text collection with vocabulary (1914) and a detailed grammatical sketch (1922). The language was gone by the 1970s.

In the mid-nineteenth century, Latham (1848) and Gatschet (1884) recognised Siuslaw and Lower Umpqua as dialects of an isolate. On the basis of a vocabulary he collected in 1884, Dorsey linked the two with Alsea and Yaquina in a Yakonan stock, a grouping adopted by Powell in his 1891 classification. After more intensive work, however, Frachtenberg, disagreed:

> After a superficial investigation, lasting less than a month, Dorsey came to the conclusion that Siuslaw and Lower Umpqua were dialects belonging to the Yakonan stock. This assertion was repeated by J.W. Powell in his "Indian Linguistic Families" (*Seventh Annual Report of the Bureau of American Ethnology*, p. 134), and was held to be correct by all subsequent students of American Indian languages. This view, however, is not in harmony with my own investigations. A closer study of Alsea

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> (one of the Yakonan dialects) on the one hand, and of Lower Umpqua on the other, proves conclusively that Siuslaw and Lower Umpqua form a distinct family, which I propose to call the Siuslawan Linguistic stock.
>
> (Frachtenberg 1922: 437)

Frachtenberg did not entirely dismiss the possibility of more remote relations:

> It is not at all impossible that this stock, the Yakonan, Kusan, and perhaps the Kalapuyan, may eventually prove to be genetically related. Their affinities are so remote, however, that I prefer to take a conservative position, and to treat them for the time being as independent stocks.
>
> (Frachtenberg 1922: 437)

Sapir combined those languages in his Oregon Penutian subgroup, but at present, this grouping is not generally considered established.

Takelma was spoken in southern Oregon in the Rogue River Valley. There were at least four dialects (Kendall 1982). It was no longer spoken by the mid-twentieth century. Sapir published a collection of texts (1909) and impressive grammatical sketch (1922) on the basis of one and a half months of work with a single speaker, Frances Johnson, at the Siletz reservation. Further references are in Kendall (1977 and 1990).

The language was listed as an isolate in Powell (1891). In 1918 Frachtenberg suggested a relation to the Kalapuyan family to the north in what he termed Takelman:

> While carding and indexing my Kalapuya field material (collected three years ago), preparatory to the writing of a grammatical sketch of these languages, I was forcibly struck by some marked correspondences in the lexicography of Kalapuya and Takelma, and of Kalapuya and Chinook. . . . The resemblances between Kalapuya and Takelma are much greater and far more numerous, although, as has been stated before, only part of the Kalapuya data have thus far been tabulated.
>
> (Frachtenberg 1918: 178)

On the basis of 55 Takelma-Kalapuya lexical pairs, he posited sound correspondences. Sapir linked Takelma, Kalapuya, and his Coast Oregon Penutian (Coos, Siuslaw, Yakonan) into an Oregon Penutian branch of Penutian (1929). Since that time, various researchers have pursued the Takelman hypothesis. In 1956, Swadesh included Takelma with his Penutian stock and provided (mostly identical) consonant correspondences (1956: 36). In 1965, after work with Kalapuya speakers, he compared 100-word basic vocabulary lists from Takelma and the three Kalapuyan languages and estimated that they were 48% cognate, which he saw as 'equivalent to a minimum of 24 centuries of divergence' (1965: 237). He included additional comparisons and sound correspondences. In 1969 Shipley proposed a reconstruction of Proto-Takelman based on Sapir's phonemicised Takelma and his own reconstructed Proto-Kalapuyan. Berman (1988) assembled additional possible lexical similarities and sound correspondences. Kendall, who had done substantial work with Takelma, looked further into analysis and internal reconstruction of the language, which could facilitate comparisons to Kalapuyan (1982 and especially 1997). He reported:

> Based on these works and my own investigation, it seems certain that Takelma and Kalapuyan share a common, though remote, origin. That the two languages belong to the same subgroup within Penutian must remain a working hypothesis.
>
> (Kendall 1997: 1)

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In 1998, however, Tarpent and Kendall reexamined the evidence and concluded that the similarities noted previously were erroneous and that Takelma is an isolate after all.

Klamath-Modoc (= Lutuamian) consists of two dialects, Klamath proper and Modoc. They were spoken in south central Oregon along the eastern slope of the Cascade Mountains, Klamath to the north and Modoc to the south. The last speaker died in 2003. Good documentation exists. Most important are a two-volume work containing a dictionary, grammatical sketch, and texts in Modoc by Gatschet (1890) and especially a dictionary, grammar, and texts by Barker (1963a, b, 1964). Additional work on particular aspects of the language has been published as well.

The language was listed as an isolate by Gallatin (1848) and Powell (1891). Others saw possible relationships to neighboring languages. Gatschet (1880) assembled 18 pairs of words in Klamath and Northern Sahaptin, noting:

> The Sahaptin and Wayíletpu [Klamath-Modoc] families are the only ones with whom a distant kinship is not altogether out of the question.
>
> (Gatschet 1880: lvi, cited in Aoki 1963: 107).

Frachtenberg also noted some similarities:

> [I have] gathered voluminous data supporting previously expressed contentions concerning the genetic relationship between Lutuamian [Klamath-Modoc], Wailatpuan [Molala-Cayuse], and Sahaptin, which will be published as soon as additional material from the Sahaptin field will be made available.
>
> (Frachtenberg 1918: 176)

Sapir considered a relationship among Klamath-Modoc, Sahaptian, and Molala-Cayuse 'either probable or very possible' and classified them as a Plateau subgroup of Penutian. In 1963 Aoki drew up a set of sound correspondences linking Klamath-Modoc to the two languages of the Sahaptian family, Nez Perce and Sahaptin. The correspondences were based on 99 lexical sets, 57 containing forms from Klamath and both Sahaptian languages, 35 with just Klamath (K) and Nez Perce (NP), and 7 with just Klamath and Sahaptin (S). Much of it is core vocabulary, such as K *ptisap*, S. *psit*, NP *pist* 'father'; K *č'ole:ks*, NP *cilá:kt* 'meat, flesh, body'; K *k'ek'e:č'* vein', NP *kikéʔt* 'blood'; and K *č'moks* 'darkness', NS *cimúxcimux* 'black', S *cmúk* 'black'. In 1987, Rude pointed out some grammatical similarities among the languages. One is the Klamath genitive suffix *-am* and the Nez Perce genitive/ergative with kinship terms *-em*. On nouns, the Klamath genitive case is *-ʔam*, the Nez Perce *-nim*, and the Sahaptin *-nmí*. The Klamath accusative case suffix is *-n* on demonstratives and articles, and the general Sahaptian accusative **-ne*. There is a Klamath nominaliser *-s* comparable to Nez Perce *-s* and Sahaptin *-š*. Klamath *-waas* derives place names, as does Nez Perce *-niwees*. Personal pronouns are similar in shape: Klamath 1 *ni*, 2 *mi*, 3 *bi*; Nez Perce 1 *ʔiin*, 2 *ʔiim*, 3 *ʔipi*; and Sahaptin1 *in*, 2 *im*, 3 *pən*. Various other similarities in grammatical markers are given as well. DeLancey, Genetti, and Rude (1988) identified further lexical similarities bringing the total to 293 (of varying quality, as they note). DeLancey (1992) draws attention to Klamath-Sahaptian similarities in the first four numerals and notes that the higher numbers in Klamath all have semitransparent etymologies, but he agrees with Rigsby (1965: 109–152) that they could be the result of ancient contact.

Molala was spoken in west central Oregon in the Cascade Mountains. The last speaker, Fred Yelkes, died in 1958 (Berman 1996). There is considerable documentation, most

unpublished. In 1910–1911 Frachtenberg worked with speaker Stevens Savage, collecting vocabulary, some grammatical material, and texts. Between 1927 and 1930 Jacobs worked with speakers Kate Chantèle (Molala Kate), Fred Yelkes, and Victoria Howard, collecting vocabulary from Mr. Yelkes and texts from Mrs. Chantèle and Mrs. Howard, though most of these remain untranslated. Berman (1996) describes the phonology and morphology.

As noted above, Molala was earlier identified as a dialect of Cayuse, and on that basis, it was listed with it by Powell and Sapir. After a reexamination of the material, Rigsby (1966, 1969) concluded that any lexical similarities were due to contact. But Berman has found possible evidence of a relation to Klamath-Modoc and the Sahaptian languages Sahaptin and Nez Perce. Potential cognates are affixes: on nouns, a kinship prefix and genitive and locative suffixes; on pronouns, a distributive plural prefix and plural and accusative suffixes; on verbs, a causative prefix and benefactive applicative, celerative ('immediately'), and horative suffixes and a nominaliser. He notes that there are many shared lexical items, but the majority appear to be loanwords, chiefly names of birds and animals and other non-basic vocabulary. At present, relations among Klamath-Modoc, Sahaptian, and Molala are seen as promising.

Six isolates have been identified in California and adjacent Nevada: Yana (discussed above), Karuk, Chimariko, Washo, Esselen, and Salinan.

Karuk (= Karok) is spoken in northwest California along the Klamath River. It is no longer being acquired as a first language by children, and first-language speakers are few, but revitalisation work is underway. Various vocabulary lists were collected during the second half of the nineteenth century, and texts were recorded by Curtin in 1889 and Kroeber in 1902–1903. Harrington published a body of texts (1930, 1932a) and bilingual description of traditional tobacco use (1932b), and de Angulo and Freeland published a text collection with grammatical notes (1931). Bright produced a detailed grammar, dictionary, and text collection (1957) in addition to other more specific works. A website created at the Department of Linguistics at Berkeley in collaboration with the Karuk Tribe (http://linguistics.berkeley.edu/~karuk/index.php) contains an online dictionary, search functions for examples and texts, and a rich text collection which can be viewed a) in paragraph form with parallel columns for the Karuk and English, b) by sentences followed just by a free translation, c) by word-by-word glossing and free translation, or d) by morphological parsing and free translation. Some of the texts are accompanied by audio files.

Karuk was listed as an isolate (Quoratean) in the Powell 1891 classification, but it was linked to Chimariko, Shastan, Pomoan, Yana, Esselen, and Yuman by Dixon and Kroeber (1903, 1913a, 1913b, 1919) and included in Sapir's Hokan stock. Kroeber reported that speakers of one upriver dialect were bilingual in Shasta (1936: 35–37). Bright commented on possible relations:

> The Karok language is not closely or obviously related to any other. It has, however, been classified as a member of the northern group of Hokan languages, in a subgroup which includes Chimariko and the Shastan languages, spoken in the same general part of California as Karok itself. Considerable work remains to be done before the historical position of Karok can be properly clarified.
>
> (Bright 1957: 1)

The language is generally considered an isolate today.

To the south of Karuk still in northwestern California is **Chimariko**, spoken in the nineteenth century in a few small villages in Trinity County. The first encounter between Chimariko speakers and Europeans was in the 1820s or 1830s. The last speaker probably

died in the 1940s. An excellent resource is in Jany (2009), based primarily on 3,500 pages of handwritten field notes collected by John Peabody Harrington in the 1920s. Jany (2009) contains both a grammatical description and typological comparison with other languages in the area.

Chimariko was listed as an isolate in the Powell (1891) classification. In 1910, on the basis of 57 lexical comparisons, Dixon suggested that it was related to Shasta, Achomawi, and Atsugewi (1910: 306). Jany points out that the Chimariko spent years in exile with the Shasta before becoming Dixon's consultants, so at least some similarities he noted may have been the result of contact (2009: 2). Sapir classified those languages as a subbranch of his Northern Hokan.

Further south and east, in an area centering around Lake Tahoe into Nevada, is **Washo**. Major documentation includes a grammatical sketch in Kroeber (1907) and grammar and grammatical sketch in Jacobsen (1964, 1986); and texts in Dangberg (1927) and Lowie (1963). More recently Alan Yu and colleagues have created a website with online audio dictionary and bibliography of works on the language at https://lucian.uchicago.edu/blogs/washo/?page_id=90.

Examining early vocabularies, Gatschet (1882: 254–255) identified Washo as an isolate. On the basis of his own work with speakers in 1883, Henshaw echoed this judgment:

> From the fragmentary vocabularies of this tongue before accessible the Washo had been supposed to be the sole representative of a linguistic stock, a supposition which the present vocabulary sustains.
>
> (Henshaw 1887: xxx, cited in Jacobsen 1964: 11)

The language was accordingly listed as an isolate in Powell (1891). In 1917 Harrington announced similarities between Washo and the Chumashan languages to the south (1917: 154), which led Sapir to classify Washo as Hokan, since the Chumash family was already in that group (1917b: 449–450). (The proposed Hokan affiliation of Chumash has since been abandoned.) Dixon and Kroeber noted that originally Washo "was credited with remarkably few parallels to any other. Superficial examination indeed reveals very few similarities between it and Hokan tongues" (1919: 104). Stimulated by a comment from Sapir on a possible relationship, however, they assembled a list of lexical similarities between Washo and other languages hypothesised to be Hokan:

> The outcome is about sixty parallels of greater or less validity. This is not a wholly convincing showing. But the general plan of Washo structure is so similar to that of Hokan that material resemblances weigh more heavily.
>
> (Dixon and Kroeber 1919: 105)

The structural similarities were described in a note:

> For instance, the noun without cases but with numerous local suffixes and with possessive prefixes; the verb with pronominal and instrumental prefixes, local and modo-temporal suffixes; verb stems frequently different for singular and plural; composition in abundance.
>
> (Dixon and Kroeber 1919: 105)

In the same work they included a longer list of Washo-Hokan similarities assembled independently by Sapir, with lists of stems, pronouns, prefixes, noun suffixes, postpositions,

local suffixes on verbs, and other verb suffixes. The subsequent history of classification of Washo is described in detail in Jacobsen (1964: 10–21). At present, Washo is still generally considered an isolate.

Further south on the California coast was **Esselen** (= Huelel), spoken by early converts at Mission Carmel. Shaul (1995a: 191) surmises that it was probably the first known California language to have become extinct. Because of its early demise, documentation is sparser than for some other California isolates. Sources are described in Beeler (1977, 1978); Turner and Shaul (1981); and Shaul (1995a). There is a list of 20 words (including 10 numerals), collected during the La Pérouse expedition of 1786, and a list of 107 words and a trilingual (Esselen/Spanish/English) catechism by Father Lasuén, collected during the Galiano-Malaspina expedition of 1792. The numerals were collected again in 1840–1842 by Duflot. The Franciscan missionary Felipe Arroyo de la Cuesta recorded 58 words and 14 phrases and sentences at the Soledad Mission in 1832 (Kroeber 1904). Later documentation comes from non-native speakers and rememberers. In 1878 Pinart collected about 140 items from a woman whose husband had been Esselen (Heizer 1952: 73–82), and in 1888, Henshaw collected 110 words and 50 phrases and sentences from a Rumsen speaker whose mother had been Esselen (Kroeber 1904: 49–57, Heizer 1955). After that time a few words were collected from people who were not speakers but remembered having heard the language (Shaul 1995b). Descriptions of Esselen phonology, morphology, and syntax are in Shaul (1995a), along with a transcription of the complete Galiano-Malaspina catechism.

Esselen was classified as an isolate in Powell (1891). In 1913 Dixon and Kroeber added it to their Hokan stock on the basis of three words plus an ending *-nax*, which they related to an ending *-na* in Yana: Esselen *a sa-nax*, Yana *ha-na* ‘water’; Esselen *šie fe*, Yana *k’ai-na* ‘stone’; Esselen *a tsi n*, Yana *sa m* ‘sleep’ (1913b: 651). Sapir adopted the proposal and linked Esselen with Yuman as a subgroup of Hokan. At present it is generally agreed that there is too little evidence to link Esselen to any other languages.

Immediately to the south of Esselen on the central coast was **Salinan**, with two documented closely related dialects, Antoniano (from Mission San Antonio, founded in 1771) and Migueleño (from Mission San Miguel, founded in 1797). The dialect situation may have been more complex before the mission period. A third dialect was mentioned in early accounts, Playaño (on the beach), but it was never documented. The language was last spoken around 1960. Sources are detailed in Turner (1987 and 1988). Franciscan priests at both missions apparently spoke the language and left important documentation (Golla 2011: 116). Fathers Buenaventura Sitjar and Miguel Pieras, who founded the San Antonio mission, assembled a bilingual dictionary (Sitjar 1861) and a *confesionario*. Later Father Pedro Cabot, who served there from 1804 to1835, and Father Juan Sancho, there from 1804 to1830, added to the dictionary and translated a number of religious texts. Additional material was collected through the nineteenth century and the first half of the twentieth. Kroeber collected some Migueleño vocabulary and grammatical material (1904: 43–49). J. Alden Mason worked with speakers of both dialects in 1910 and 1916 and published a grammatical sketch and texts in 1918. J. P. Harrington worked with speakers of both dialects in 1922 and 1931–1933, collecting over 5,000 words, much of it re-elicitation of earlier material. His nephew Arthur Harrington made audio recordings of hours of monolingual Miegueleño texts in the mid-1930s. Jacobsen worked with the last speakers of both dialects in 1954, 1955, and 1958. His field notes and recordings are archived in the Survey of California and Other Indian Languages at the University of California, Berkeley: http://linguistics.berkeley.edu/Survey/. The work by J. P. Harrington

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and Jacobsen is particularly valuable for its phonetic precision not always present in the earlier records. A longer grammar is in Turner (1987).

Salinan was identified as an isolate in the Powell classification of 1891. Dixon and Kroeber had noted some structural similarities to the Chumashan languages to the south and proposed a grouping of the two they termed Iskoman, but they recognised that lexical similarities were not 'conspicuous' (1913b: 652–653). When Harrington saw resemblances between Chumash languages and Yuman, already part of the Hokan hypothesis, Salinan was 'folded into' Hokan and remained part of this stock in the 1929 Sapir classification. As reported by Turner, further work has not unearthed compelling similarities to Chumashan languages (apart from loans) or other languages classified as Hokan:

> Attempts to discover genetic relationships with other languages or language families in California have been fruitless. The result of my earlier historical, typological and areal study of Salinan (Turner 1983) is that the Salinan language shows as much influence from its contacts with unrelated California languages as it does evidence of genetic affiliations with any other putative Hokan languages.
>
> (Turner 1987: 3)

Salinan is again considered an isolate.

The Oregon and California isolates were all grouped by Sapir into one of two phyla. In fact all of the Oregon isolates (Siuslaw, Takelma, Klamath-Modoc, Molala, Cayuse) were classified as Penutian, though his Penutian languages were spoken over an area extending from British Columbia with Tsimshianic, through Oregon and California (with the Wintun, Maidun, Utian, Yokuts families) and into Mexico (with Mixe-Zoque and Huave). All of the California isolates (Yana, Karuk, Chimariko, Washo, Esselen, Salinan) were classified with the Hokan subgroup of his proposed Hokan-Siouan phylum, which extended over California into Mexico with Seri and Tequistlatecan (Chontal). The West has long been recognised as a linguistic area, centered in Northern California (Haas 1976, Conathan 2004, O'Neill 2008). For a time it was thought by some that contact is generally limited to vocabulary, so that parallels in grammatical structure would be good indicators of deep genetic relationship. Structural parallels did indeed enter into many hypotheses of remote relations, including Penutian and Hokan. It is now recognised, however, that structure is often replicated in language contact as well. Most communities in this linguistic area have long been relatively small, so exogamy and multilingualism were the norm. People typically spoke the language of the community they were in, as a courtesy to their hosts. When bilinguals make a choice about which of their languages to use in a particular context, they tend to focus on those aspects of the language over which they have the most conscious control: vocabulary. More abstract structural patterns, and propensities to choose certain alternatives, are easily transferred unconsciously. Particularly early bilingualism can facilitate another kind of structural transfer. Bilinguals used to expressing a distinction in one of their languages often create constructions to express them in the other, using resources native to that language.

Contact effects are illustrated by Jany in her work on the isolate Chimariko, of Northern California. As Jany shows, Chimariko resembles its neighbors, many of which have never been proposed to be related. Sapir classified Chimariko in his Hokan superstock. Among its neighbors are Wintu (Wintun family, grouped by Sapir with Penutian); Hupa (Athabaskan, grouped by Sapir with Na-Dene); and Shasta (grouped by Sapir with Hokan). Chimariko has three series of obstruents: plain *p*, *t*, *c*, *ṭ*, *č*, *k*, *q*, *ʔ*; aspirated p^h, t^h, c^h, $ṭ^h$, $č^h$, k^j, q^h; and ejective *p'*, *t'*, *c'*, *ṭ'*, *č'*, *k'*. This inventory matches that of its

immediate neighbors Wintu and Hupa but not Shasta (which lacks an aspirated series). Its uvular series (*q*, *q'*, q^h) matches those of Wintu and Hupa but not Shasta. Other languages classified as Penutian show inventories similar to Chimariko, such as Takelma with *p, t, k,* k^w*,;* p^h*,* t^h*,* k^h*,* k^{hw}*; p', t', c', k', k'*^{w}*,* ʔ*; w, s, y, x, h*; *m, n*; *a, e, i, o, u, ü*, and Molala with *p, t, c, ƛ, k, q;* p^h*,* t^h*,* k^h*,* q^h*; p', t', c', k', q',* ʔ*; f, s, ɬ, x, h; m, n, l, ; w, y*; *i, a, u*, and *i:, a:, u:* (Berman 1996: 3).

Chimariko arguments are identified on the predicate by pronominal prefixes, which show agent/patient patterning with a hierarchical overlay. Just one argument is represented on the verb, according to a hierarchy (1, 2, > 3; Agent > Patient). In the sentences below, only first persons are identified in the verb, a grammatical patient *č-* in the first clause, and a grammatical agent *i-* in the last.

(10) Chimariko: Jany 2009: 145

Noʔot	**č**-ušehe-**m**-deʔw	k'oti-hu-t,
1SG	**1SG.PAT**-take.along-**away**-INDEF.AGT	flee-CONT-PFV

'They took **me off**, I fled,

ʔawa	hida	**i**-mam-da.
house	lots	**1SG.AGT**-see-PFV

'**I** saw lots of houses.'

Hierarchical systems can be seen to have developed through contact in the area, but from different resources in the different languages. They can be seen as well not only in Karuk and Yana (both isolates classified as Hokan by Sapir), but also in Hupa (Athabaskan) and Yurok (Algic). Possession in Chimariko is marked on the possessor (the head of possessive construction) as in Hupa but not Shasta (or Wintu).

One of the structural features originally cited as characteristic of Hokan languages is means/manner/instrumental prefixes on verbs. Chimariko contains such prefixes, among them *mitei-* 'with the foot', *wa-* 'by sitting on', *e-* 'with the end of long object', *a-* 'with a long object', *me-* 'with the head', *tsu-* 'with a round object', and *tu-* 'with the hand' (Jany 1009: 133).

(11) Chimariko mean/manner/instrumental prefixes: Dixon 1910: 329, cited in Jany 2009: 133.

n-**a**-klucmu	'knock over with a bat'
ni-**e**-klucmu	'knock over with end of pole by thrust'
ni-**mitci**-klucmu	'knock over with foot'
ni-**mitci**-kmu	'roll log with foot'
ni-**tu**-kmu	'roll log with hand'
ni-**wa**-tcexu	'break by sitting on'

(The initial *ni-* prefix is likely an imperative.) Such prefixes appear not only in Chimariko, the isolate Karuk, and Achumawi (all classified by Sapir as Hokan), but also in the isolates Yana and Washo, and in the Pomoan, Yuman, and Chumashan languages, all in California and all classified at least at some point as Hokan. They do not, however, appear in other languages classified as Hokan, namely Shastan or the isolates Esselen, or Salinan, also in California. Furthermore they occur in languages not classified as Hokan. In California they appear in the Maidun languages (Maidu, Konkow, Nisenan) spoken at

contact immediately to the south of Yana and Atsugewi and to the north of Washo, classified as Penutian. In Oregon they appear in the isolates Klamath and Takelma, and the Sahaptian languages, also classified as Penutian. But they do not occur in other languages classified as Penutian; there is no mention of them in descriptions of the Wintun, Utian, or Yokuts languages in California, nor the Oregon languages Coosan, Siuslaw, or Alsea (Mithun 2007). They also occur in neighboring languages classified as neither Hokan nor Penutian: Yuki and Wappo (Sapir's Yukian) and Uto-Aztecan (though at certain points there were attempts to add Uto-Aztecan to Penutian).

Another structural feature originally cited as characteristic of Hokan languages is an inventory of locative/directional suffixes in the verb. Chimariko shows just such an inventory: *-ktam/-tam* 'down', *-ema/-enak* 'itno', *-ha* 'up', *-hot* 'down', *-lo* 'apart', *-ro* 'up', *-sku* 'towards', *-smu* 'acrsoss', *-tap* 'out', *-tku/-ku* cislocative ('towards here'), *-tmu/-mu* translocative (towards there), *-kh* 'motion towards here', *-m* 'motion towards there', *-tpi* 'out of', *-xun/-xunok* 'in, into', *-a^{h}a* 'along', *-pa* 'off, away', *-q^{h}utu* 'itno water', *-č'ana* 'to, toward', *-čama* 'in, into'.

(12) Chimariko locative suffixes: Jany 2009: 134

Č'imar	xotai	h-eṭahe-**sku**-t	uwa-**tku**-t,
man	three	3-flee-**towards**-PFV	go-**towards.here**-PFV

'Three men came as fugitives;

h-eṭahe-**sku**-t	č'utamdač.
3-flee-**towards**-PFT	Burnt.Ranch

they ran away to Burnt Ranch.'

As Jany notes, neighboring Shasta, Karuk, Yana, and Achumawi, all classified as Hokan, also have such suffixes, but the neighboring Maidu, classified as Penutian, does as well. Prefixes with similar functions occur in other languages of the area classified as Hokan: Yana, Washo, and Pomoan. But they also occur in other languages classified as Penutian: not only Maidu, but also the isolate Klamath and the Sahaptian languages. They do not appear in all members of either group, however. There is no mention of them in the Yuman family (classified as Hokan), or in the isolates Takelma or Siuslaw, nor in the Wintun, Utian, Yokuts, Coosan, or Alsea families (all classified as Penutian). They are not mentioned for Chumashan Yukian. Like the means/manner/instrumental prefixes, the locative/directional suffixes appear to be very old structures that were spread through contact.

The possibility of deeper relations among languages in the West remains to some extent an open question. Much of the structural evidence put forth for earlier groupings has turned out to be a likely result of longstanding contact. Identification of lexical cognates is hampered by the extensive phonological processes that many of the languages have undergone, such as ablaut and phonological reduction. At least some of the proposed deeper relations remain intriguing, however. Kaufman (1988ms, 1989) has pursued both lexical and structural similarities among hypothesised Hokan languages; has reconstructed consonants, phonotactics, and word structure; and has presented preliminary ideas on the reconstruction of vowels. He, like others, sees some of the original members more likely than others, including isolates Karuk, Chimariko, Yana, Washo, Esselen, Salinan, and Coahuiltecan. Others remain unconvinced.

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3.3 The Southwest

Several languages indigenous to the Southwest have been identified as isolates. One is Keres, discussed earlier.

Another is **Zuni**, still with many speakers, some still in their twenties (Adrienne Tsikewa, personal communication, 2016). Most live at Zuni Pueblo in western New Mexico, but some are in eastern Arizona. There are grammars of the language in Bunzel (1934) and Newman (1965, 1996); a dictionary (Newman 1958); and texts (Bunzel 1932, 1933), as well as numerous works on individual topics.

Structurally Zuni is quite different from the other isolates discussed so far. It has just one series of obstruents, *p, t, c, č, k, kʷ, ʔ; s, š, ł, h*, and five sonorants: *m, n, l, w, y*. Unlike many North American languages, it is primarily dependent marking: pronouns, which show nominative/accusative patterning, are independent words rather than affixes. Locative and directional relations are marked on nominal phrases rather than the predicate.

(13) Zuni: Newman 1996: 500

ʔikʷʔałt	suski	powa=kʷin	ʔa:č	ʔi-ka.
back	coyote	rest.on.ground=ALLATIVE	they.two	come-PAST

'The two came to the place where ere Coyote was resting.'

Zuni was identified as an isolate in the Powell (1891) classification, but Sapir included it in his Aztec-Tanoan superstock. Similarities to Uto-Aztecan are generally attributed to contact, however. Suggestions of numerous other links have been proposed as well, including Penutian, Hokan, and Keres, but none are considered convincing. Zuni is again generally identified as an isolate.

3.4 Texas

A number of languages were spoken at contact in what is now Texas and adjacent Mexico. Troike (1996: 644) reports that so far as is known, all had become extinct by the mid-twentieth century. Some of those mentioned in historical sources are unclassifiable because there is little or no documentation. As seen earlier, Aranama, Cotoname, and Karankawa present challenges because of the limited quantity and quality of data from them. There are still others, however, which have been identified as isolates with more confidence.

Coahuilteco was spoken in south Texas and northeastern Mexico. It is described in detail in Troike (1996). The primary documentation is a confessor's manual apparently written by a Spanish Franciscan missionary, Bartolomé García, at Mission San Francisco de la Espada in San Antonio. A version published in 1760 in Mexico City includes 88 numbered pages of text with parallel columns of Spanish and Coahuilteco. Troike reports:

> The text consists primarily of short sentences or paragraphs. These include questions, statements, and commands, with questions predominating. . . . The total number morphs in the text is estimated at about 20,000. The short and often repetitious nature of the sentences in many cases facilitates analysis, but at the same time the limitations of the text sometimes make it impossible to determine the composition of certain unique constructions or to discern the semantic significance or contextual conditioning of particular functional elements.
>
> (Troike 1996: 646)

García, who spent 12 years at the mission and knew the language well, probably completed this polished version in 1738 (Troike 1978, 1996) An earlier, undated draft entitled *Confesonario de Indios* was discovered in 1962, accompanied by another document entitled *Cuadernillo de lengua de. . . Pajalates*. The *Cuadernillo* contains vocabulary and verb paradigms from the same dialect and was attributed to Father Gabriel de Vergara, president of the San Antonio missions from 1725 to about 1737.

The **Tonkawa** were first encountered in the eighteenth century in central Texas. Over the nineteenth century, travelers recorded vocabulary. In 1884 Gatschet recorded around 1,000 words and 50 pages of texts, still unpublished. From 1928 to 1931 Hoijer carried out major documentation, working primarily with speaker John Rush Buffalo. At that time only six elderly speakers remained. Hoijer published a grammar (1931–1933), grammatical sketch (1946), dictionary (1949), and texts (1972), in addition to work on specific topics.

Tonkawa was listed as an isolate in Powell (1891). In 1915 Swanton proposed a family consisting of two branches: Cotoname-Tonkawa and Coahuilteco-Comecrudo-Karankawa. In 1920 Sapir linked this group to Hokan and then included it in his Hokan-Siouan superstock. In 1940, however, after further examination and work by various other scholars, Swanton reconsidered. He wrote:

> In view of the marked divergences exhibited by three supposedly "Coahuiltecan" dialects, their almost equally close connection with the supposedly independent Karankawan, and the further divergence shown by the San Francisco Solano vocabulary, I am of the opinion that the present classification of the tongues of this region into Coahuiltecan, Karankawan, Tamaulipecan – and probably also Olivean and Janambrian – families is wholly artificial, and that we do not know how many stocks there were.
>
> (Swanton 1940: 144, cited in Troike 1996: 649)

Manaster Ramer (1996) proposed that Coahuilteco, Cotoname, Comecrudo, Garza, and Mamulique are all related in a family he termed Pakawan, related in turn to Karankawa and perhaps Atakapa to the east. After careful examination of the evidence presented by Manaster Ramer, Campbell (1996) concluded that at present, there are insufficient grounds for positing these relationships. Haas briefly explored the possibility of a relationship between Tonkawa and Algonquian (1959, 1967). Coahuilteco and Tonkawa are now considered isolates.

3.5 The Southeast

In addition to Atakapa and Timucua discussed earlier, the Southeast is home to the isolates Chitimacha, Natchez, Tunica, and Euchee (Yuchi).

The **Chitimacha** were first encountered in southern Louisiana in the late seventeenth century by the French. The last two speakers were Benjamin Paul, who died in 1934, and Delphine Ducloux, slightly less fluent, who died in 1940. Chitimacha vocabulary was recorded over the course of the nineteenth century. In 1881–1882 Gatschet collected vocabulary and texts. In 1907 Swanton collected more vocabulary and produced a manuscript dictionary. On subsequent visits he added more vocabulary and texts. Between 1932 and 1934 Swadesh carried out major documentation and produced numerous works, particularly a 1939 manuscript grammar with texts and vocabulary and a grammatical sketch (1946a).

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The **Natchez** were near present-day Natchez, Mississippi, when La Salle's expedition came through in 1682. Over the next 50 years, their numbers were seriously diminished by wars with the French. Survivors took refuge among other Southeastern groups, particularly the Cherokee, Creek, and Chickasaw. When these groups were force to move to Oklahoma during the 1836 Removal, the Natchez accompanied their hosts. Some vocabulary was recorded during the eighteenth and nineteenth centuries, all reprinted in Van Tuyl 1979. In 1907, 1908, and 1915 Swanton collected lexical, grammatical, and textual material in Oklahoma from five of the last speakers. In 1934 and 1936 Haas collected much more from the last two, Watt Sam and Nancy Raven. The Swanton and Haas materials remain unpublished, but Haas produced a 1975 manuscript grammar sketch, which served as the basis for a shorter published sketch by Kimball (2005).

The **Tunica** were near present-day Vicksburg, Mississippi, when they first encountered the French in the late seventeenth century. A century later they were dispersed, and many moved to an area near present Marksville, Louisiana. In 1886 Gatschet collected vocabulary and texts. Twenty years later Swanton visited the group and ultimately produced a grammatical sketch (1921). Between 1933 and 1939 Haas worked with the last semi-fluent speaker, Sesostrie Youchigant, which resulted in a full grammar (1941), grammatical sketch (1946), text collection (1950), and dictionary (1953),as well as work on more specific topics. There is an active revitalisation program underway on the Tunica-Biloxi reservation at Marksville.

Atakapa, Chitimacha, Natchez, and Tunica were all identified as isolates in Powell (1891). During the first half of the twentieth century, various scholars noted similarities among these languages and those of the neighboring Muskogean family. Swanton linked Atakapa to Chitimacha and Tunica (1919), and Natchez to Muskogean (1907, 1924). Sapir classified these two larger groups, along with his Iroquoian-Caddoan and Siouan-Yuchi, as part of his Hokan-Siouan superstock (1929). Further work was directed at uncovering additional links among Atakapa, Chitimacha, Natchez, Tunica, and Muskogean. Swadesh presented 258 lexical sets with sound correspondences between Atakapa and Chitimacha (1946b, 1947). Haas assembled reconstructions for 'water' (1951) and 'land' (1952) for a stock she termed Gulf, consisting of Atakapa, Chitimacha, Natchez, Tunica, and Muskogean. She noted additional similarities between Natchez and Muskogean languages (1956). In 1969 Gursky published some lexical comparisons among Atakapa, Chitimacha, and Tunica, revising some earlier proposals by Swanton. In 1979, Haas reconsidered some of the relationships, and in 1994, Kimball detailed further difficulties with the Gulf hypothesis. Attempts have also been made to connect Gulf to other groups. In 1958 Haas sought evidence of links between the hypothesised Gulf stock and Algic, but evidence was weak and the hypothesis has since been abandoned. In 1994 Munro looked into possible connections to Yuki in California, but that proposal has not been pursued. Proposals involving they hypothesised Gulf and relations beyond the Southeast are assessed by Campbell (1997: 305–309).

The **Euchee** (= Yuchi) were encountered by Europeans in present-day Georgia at the beginning of the eighteenth century, but they were forced to move, along with the Shawnee and Lower Creeks, to eastern Oklahoma during the 1832–1834 Removal. There are now a very few speakers near Sapulpa, in northeastern Oklahoma. Several vocabulary lists were collected during the nineteenth century. Between 1904 and 1908 Speck recorded additional vocabulary as well as texts. During 1928 and 1929 Wagner worked with Yuchi speakers in Oklahoma and published a text collection (1931) and grammatical sketch (1933). A comprehensive grammar is in Linn (2000).

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The language is not demonstrably related to any other. It was listed as an isolate (Uchean) in Powell (1891). Sapir suggested a relation to the Siouan family and then combined his Siouan-Yuchi group into his larger Hokan-Siouan superstock. Crawford, who worked with Yuchi speakers intermittently between 1969 and 1973, pursued the possibility of a link to Siouan, and concluded that evidence was insufficient to establish a relationship. He concluded:

> If Yuchi and Siouan are related, the time depth of separation is probably so great that it will be exceedingly difficult, if not impossible, to prove the relationship. I say this in spite of the fact that it is possible to find homophonous and nearly homophonous morphemes and segments of morphemes in Yuchi and Siouan. One would expect that languages, no matter how distantly related, might share a few identity correspondences and a certain number of homophonous or nearly homophonous cognates. But when all the evidence for a genetic relationship consists of nothing else and when the identity correspondences are not regular and recurrent, one is inclined to suspect that the similarities may be coincidental or due to borrowings. It is quite possible that borrowing may be the explanation for many of the Yuchi-Siouan similarities.
>
> (Crawford 1979: 342–343)

By 1979 Haas felt that Timucua, Atakapa, Chitimacha, Natchez, Tunica, and Yuchi are isolates. She reported:

> In the past, similarities among languages have often been considered explainable only on a genetic basis. This is true in spite of the fact that many of the earlier groupings were originally suggested by typological similarities. Moreover Boas' (1920, 1929) well-known objection to some of the genetic schemes of Kroeber, Radin, and Sapir were resisted at the time as representing an anti-historical bias. But in recent years an increasing amount of attention is being given to areal linguistics, i.e. the tracing of traits across the basic genetic boundaries. This is fast becoming a very promising field of investigation, especially since it is now generally recognised that genetic linguistics and areal linguistics are not antithetical but complementary. Consequently the proper delineation of linguistic prehistory requires us to take full advantage of both lines of investigation.
>
> (Haas 1979: 319)

It is now generally agreed that so far, resemblances among the hypothesised Gulf languages are due to contact, though a remote relationship between Euchee and Siouan is possible. The Southeast, like the Northwest and West, is a well-known linguistic area. Phonologically labial fricatives are rare across North America, but they occur in the isolates Atakapa, Chitimacha, Tunica, Yuchi, and Timucua. They are reconstructed for Proto-Muskogean, ancestor of the major language family of the Southeast (Booker 1980: 254). They also occur in Ofo and (marginally) Biloxi, languages of the Siouan family, as a result of a regular sound change Proto-Siouan **s* > Ofo *fh* (Robert Rankin, personal communication). Cognates in Siouan languages outside of the area show *s* or *š* in their place. In the isolates, the fricatives tend to occur in loanwords.

Another structural feature shared by many languages of the area is agent/patient patterning of pronominal affixes. Such a pattern is reconstructed for Proto-Muskogean and Proto-Siouan, and it also appears in Atakapa, Chitimacha (in first person only), Natchez, and in variants in Tunica. There are several mechanisms by which such patterns can

spread. In all of these languages, third persons are unmarked, intransitive and transitive verbs are not distinguished formally, and basic word order is predicate-final. It would thus be easy for speakers to reanalyze a nominative/accusative pattern as agent/patient and vice versa:

'(It) me.OBJECT scared.' < > 'Me.PATIENT scared.'

Another mechanism for transfer can be the reanalysis of transitive impersonal constructions as intransitives, a likely source for some Tunica constructions:

'Something me.OBJECT choked' > Me.PATIENT choked.'

Still another pervasive feature across languages of the Southeast is the propensity of speakers to specify the posture or position of entities, typically 'sitting', 'standing' (vertical), or 'lying' (horizontal). Because of their frequency, in most of the languages they have developed into aspectual auxiliaries or suffixes. Such constructions occur, not only in languages of the Siouan and Muskogean families, but also in the isolates Atakapa, Chitimacha, Natchez, and Tunica. It is easy to see how such structures could spread through long-term intensive contact. Bilinguals used to specifying position systematically in one of their languages could easily transfer this propensity to the other, since the lexical means would already be available. Rankin (1977, 1978, 2004, 2011) has demonstrated that the construction was apparently brought into the Southeast by speakers of Siouan languages (Quapaw, Osage, Biloxi, Ofo). It can be reconstructed for Proto-Siouan. It occurs in all of the modern Muskogean languages, but the forms are not cognate across the daughter languages. The construction has developed to varying degrees in the isolates (Mithun 2010, 2017).

4 IMPLICATIONS

In the end, isolate status is not an either/or matter: there are degrees of quantity and quality of documentation; of mutual intelligibility between dialects and separate languages; of likelihood of chance resemblance; and of identifiability of areal phenomena. Many isolates are represented by small, closed corpora. This is of course not a necessary feature of isolates: in North America, Zuni is known through a grammar, grammatical sketch, dictionary, and texts (though much more would be desirable), and it is still used by substantial numbers of speakers of nearly all ages. Often, however, apparent isolates are represented solely by data collected during brief encounters by scribes unfamiliar with the language, perhaps working through an interpreter, trying to render unfamiliar sounds in a writing system without equivalent categories. The speakers themselves may not have had native command of the language. Small vocabulary lists do tend to be heavy in basic vocabulary, of the kind most likely to remain in languages over long periods of time, but more data of better quality might reveal relationships to other languages.

Isolate status depends entirely on the existence of related but distinct languages. Identification of relatives can depend on the quantity and quality of documentation of potential candidates. And assessing the nature of the relationships can present challenges. If potential relatives are mutually intelligible, they can be considered dialects, and the group as a whole an isolate. If they are not, the language is no longer an isolate but a member of a larger family. Yet assessing degrees of mutual intelligibility is not always straightforward, particularly in the case of languages no longer spoken. Understanding can vary along a continuum and be facilitated by experience.

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Perhaps the greatest challenge in identifying isolates is detecting remote relationships: spotting possible cognate vocabulary and structure, on the one hand, and distinguishing common inheritance from contact effects and chance, on the other. In North America, as elsewhere, the challenges persist, as more is learned about earlier stages of languages and language families and about the possible effects of language contact under various kinds of circumstances. Ultimately there is no proof of isolate status: we can only surmise that there is insufficient evidence for positing relationships to any other languages.

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LANGUAGE ISOLATES

Lyle Campbell

Routledge
Taylor & Francis Group
LONDON AND NEW YORK

15031-1065d-1pass-r02.indd 3 7/17/2017 5:46:22 PM

First published 2017
by Routledge
2 Park Square, Milton Park, Abingdon, Oxon OX14 4RN

and by Routledge
711 Third Avenue, New York, NY 10017

Routledge is an imprint of the Taylor & Francis Group, an informa business

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British Library Cataloguing-in-Publication Data
A catalogue record for this book is available from the British Library

Library of Congress Cataloging-in-Publication Data
A catalog record for this title has been requested.

ISBN: 978-1-138-82105-7 (hbk)
ISBN: 978-1-315-75002-6 (ebk)

Typeset in Times New Roman
by Apex CoVantage, LLC

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