33   Contact and North American Languages

MARIANNE MITHUN

Languages indigenous to the Americas offer some good opportunities for investigating effects of contact in shaping grammar. Well over 2000 languages are known to have been spoken at the time of first contacts with Europeans. They are not a monolithic group: they fall into nearly 200 distinct genetic units. Yet against this backdrop of genetic diversity, waves of typological similarities suggest pervasive, longstanding multilingualism. Of particular interest are similarities of a type that might seem unborrowable, patterns of abstract structure without shared substance.

The Americas do show the kinds of contact effects common elsewhere in the world. There are some strong linguistic areas, on the Northwest Coast, in California, in the Southeast, and in the Pueblo Southwest of North America; in Mesoamerica; and in Amazonia in South America (Bright 1973; Sherzer 1973; Haas 1976; Campbell, Kaufman, & Stark 1986; Thompson & Kinkade 1990; Silverstein 1996; Campbell 1997; Mithun 1999; Beck 2000; Aikhenvald 2002; Jany 2007). Numerous additional linguistic areas and subareas of varying sizes and strengths have also been identified. In some cases all domains of language have been affected by contact. In some, effects are primarily lexical. But in many, there is surprisingly little shared vocabulary in contrast with pervasive structural parallelism. The focus here will be on some especially deeply entrenched structures.

It has often been noted that morphological structure is highly resistant to the influence of contact. Morphological similarities have even been proposed as better indicators of deep genetic relationship than the traditional comparative method. In his attempts to group North American families into larger superstocks, Sapir was adamant that morphology outlasts cognates: "so long as such direct historical testimony as we have gives us no really convincing examples of profound morphological influence by diffusion, we shall do well not to put too much reliance in diffusion theories" (1921: 206). The principle seems reasonable. The internal structure of words is generally less accessible to the consciousness of speakers, and, one would expect, less easily manipulated by bilingual speakers seeking to bring structures from one of their languages into the other.

Yet numerous morphological parallelisms appear in neighboring but genetically unrelated American languages. It might seem difficult to imagine how such structures could be transferred under contact: they involve abstract, largely unconscious patterns without the words or morphemes that carry them. Here some mechanisms will be suggested that might result in such transfers.

1 Detecting Contact without Philology

For most languages of the Americas, there are no written records comparable to those for major languages of Europe. Many communities did not encounter Europeans until the late eighteenth or nineteenth century. It is thus not generally possible to trace the effects of contact philologically, particularly grammatical patterns that develop gradually. Alternative strategies must often be explored.

The clearest evidence of contact is of course loanwords. Many languages of the Americas show the same kinds of lexical loans as languages elsewhere. The word *háyu* 'dog', for example, appears in neighboring but genetically unrelated languages of Northern California: in the Pomoan languages; in Bodega Miwok, Lake Miwok, and Southern Sierra Miwok but not Central Miwok or Northern Sierra Miwok; in Hill Patwin but not its sister Wintu; in Maidu but not its sister Nisenan; in the Western dialect of Wappo but not the Southern (Napa) dialect. Many American languages contain loans from the European languages of colonists: French in the Northeast, French and Spanish in the Southeast, Spanish in the Southwest and California, and Russian in Alaska (Mithun 1999: 311–13).

Among the shared words are items once thought to be unborrowable. Pronouns, particularly full paradigms, have sometimes been cited as indicators of deep genetic relationship. Yet Yuki and Wappo, two California languages, borrowed first and second person pronouns from the neighboring but unrelated Pomoan languages (Mithun 2008). There are even cases of borrowed bound pronouns. Alsea, a language of the Oregon Coast, contains subject enclitics attached to the first element of the clause. The full set of enclitics shows a perfect match with that reconstructed for Proto-Salishan, immediately to the north (Kinkade 1978). Of course the contact indicated by loanwords need not have been direct. Spanish loanwords in many California languages were not adopted directly from Spanish speakers but rather through the intermediary of other California languages. Importantly, the absence of loanwords does not necessarily indicate an absence of contact. Multilinguals sometimes take special pains to keep their languages distinct, often with a focus on vocabulary.

Establishing contact as the source of structural similarities can be more challenging, particularly when no substance is involved. Chance can be a greater factor in structural parallelism than in shared vocabulary: many languages show basic verb-final clause structure, for example, simply because the alternatives are so limited. An important strategy for detecting contact-induced grammatical change, particularly morphological change, is the comparison of structures in genetically related languages spoken in different geographical areas. Features shared

by a language with its neighbors but not with its relatives outside of the area are more likely to be a result of contact.

This situation can be illustrated with consonant inventories in the Algic family. The family consists of the Yurok and Wiyot languages on the northern California Coast, and the Algonquian group of nearly 30 languages distributed across the continent from Alberta, Montana, and Wyoming to the Atlantic Coast. The inventories of the two California languages differ strikingly from those of their Algonquian relatives.

(1)   Algic consonant inventories
    a.   Yurok: 27 (Blevins 2003):
        p, t, č, k, kʷ, p', t', č', k', k'ʷ, s, ł, š, x, m, n, l, r, w, y, w̓, γ 'w, 'l, 'r 'y, 'γ, ʔ, h
    b.   Wiyot: 25 (Teeter & Nichols 1993):
        p, t, c, č, k, kʷ, pʰ, tʰ, cʰ, čʰ, kʰ, kʰʷ, s, ł, š, h, b, d, g, l, r, m, n, w, y
    c.   Proto-Algonquian: 13 (Bloomfield 1946)
        p, t, č, s, š, h, m, n, θ, l, w, y

The Yurok and Wiyot inventories resemble those of their Northern California neighbors, Chimariko and the Pacific Athabaskan languages (Hupa, Tolowa, Mattole, and Eel River dialects). The Chimariko inventory contains 33 distinctive consonants with plain, ejective, and aspirated obstruents, and front and back apicals: *p, t, ṭ, c, č, k, q, p', t', ṭ', c', č', k', q', ʔ, pʰ, tʰ, ṭʰ, cʰ, čʰ, kʰ, qʰ, s, š, x, x̣, h, m, n, l, r, y, w* (Jany 2007). The Pacific Athabaskan languages contain in addition a voiceless lateral and labio-velars: *b, d, c, č, kʸ, g, q, tʰ, cʰ, čʰ, čʰʷ, kʰʸ, kʰ, t', c', č', ƛ', kʸ', k', q', s, ł, š, xʷ, x, m, n, ŋ, l, y, w, w̥, 'n, 'ŋ, 'l, ʔ, h* (Golla 1996). There is clear consensus that there are no genetic links among the Algic languages and their Chimariko and Athabaskan neighbors. Northern California is known as an area of longstanding multilingualism. Communities have always been small and intermarriage has been the norm. The consonant inventories reflect this history.

A number of fundamental grammatical structures show similar distributions, shared among neighbors but not among related languages outside of the linguistic areas.

2   Patterns of Core Argument Structure

On the basis of a survey of 174 genetically and areally diverse languages, Nichols (1992) proposes that core argument patterns, such as nominative/accusative, ergative/absolutive, etc. have "high genetic stability" and are potentially capable of revealing genetic relations more ancient than those recoverable through the comparative method: "Dominant alignment is genetically stable and not greatly susceptible to areal spread" (1992: 166). The proposal makes sense. Grammatical relations are typically coded by morphology, one of the most tightly integrated, systematic domains of grammatical structure, less accessible to the consciousness of speakers than independent words. Yet clusters of the core argument patterns

identified by Nichols as the rarest cross-linguistically appear in several geo-
graphical areas of North America, often cutting across genetic lines.

2.1 *Semantically based systems*

The Athabaskan-Eyak-Tlingit languages are distributed over a large area from the
Southwest through Alaska. All of the nearly 40 Athabaskan languages identify
core arguments by pronominal prefixes in their verbs. Subject prefixes occur at
the center of the verb immediately adjacent to the classifier + stem complex. (Basic
third person subjects are zero.) Object prefixes occur further from the stem,
potentially separated from it by various modal, aspectual, and adverbial prefixes.

(2) Navajo pronominal prefixes (Faltz 1998: 112–13, 156):
   a. *ha-n̠-s̠h-łteeh*
       up.out-2SG.OBJECT-1SG.SUBJECT-CL.handle.animate.object
       'I'm carrying you up.'
   b. *ha-s̠h-n̠i-łteeh*
       up.out-1SG.OBJECT-2SG.SUBJECT-CL.handle.animate.object
       'You're carrying me up.'
   c. *ha-n̠i-łteeh*
       up.out-2SG.OBJECT-CL.handle.animate.object
       '(He/she) is carrying you up.'
   d. *ha-n̠i-d-eesh-tééł*
       up.out-2SG.OBJECT-FUTURE-1SG.SUBJECT-
       CL.handle.animate.object.FUTURE
       'I'll carry you up.'

(3) Navajo subject *sh-* [š-] 'I' (Young, Morgan, & Midgette 1992):
yi-s̠h-háád	'I shook it.' (a rattle)	230
'adah 'ii-s̠h-ááh	'I went down, descended.'	664
ni-s̠h-chon	'I stink.'	82
'ádadii-s̠h-nih	'I got hurt.'	456

The Athabaskan languages are related as a group to the Eyak language of Alaska.
Eyak subject pronominal prefixes, which are cognate with those in Athabaskan
languages, also occur immediately before the classifier + stem complex.

(4) Eyak pronominal subject *x-* 'I' (Krauss 1982)
ich' qanuh qu'-x̠-tah	'I will show you.'	42
q'e' qu'-x̠-daqe:	'I am going to boat back.'	75
Datli: a'q' six̠uhłkłinu:	'I already shoveled them out.'	75
gala-x̠-tah	'I am alive.'	75
qu'-x̠-sinh	'I will die.'	119

Objects are represented by pronominal clitics preceding the full verb.

(5) Eyak object clitic *sik'ah* 'me' (Krauss 1982):
    sik'ah q'e' sdile'kł   'He released <u>me</u>.'   43
    de:dal <u>sixa'</u> k'usałyahł?   'What's this interfering with <u>me</u>?'   99

The Athabaskan-Eyak group is related in turn to the Tlingit language of Alaska.
Tlingit also contains a set of pronominal prefixes in the verb immediately before
the classifier + stem complex, cognate with the subject prefixes in Athabaskan and
Eyak. Again basic third persons are zero.

(6) Tlingit pronominal prefix <u>x</u>- 'I' (Story & Naish 1973):
    ka<u>x</u>ashxéet   '<u>I</u>'m writing.'   374
    x'úx' ka<u>x</u>shaxéet   '<u>I</u>'m writing a letter.'   374
    <u>x</u>waajá<u>k</u>   '<u>I</u> killed it.'   377
    <u>k</u>úna<u>x</u> oo<u>x</u>dzikàa '<u>I</u>'m really lazy.'   122
    yan sh ka<u>x</u>wjix'á<u>k</u>w '<u>I</u>'m sitting very comfortably,
                                 just the way I want to'   53

A set of pronominal clitics precede the verb.

(7) Tlingit pronominal clitic <u>xat</u> 'me' (Story & Naish 1973):
    <u>xat</u> woositèen   'He saw <u>me</u>.'   384
    <u>xat</u> woodoowagwál   'Somebody hit <u>me</u>.'   366
    <u>xat</u> yawsitá<u>k</u>   'He poked <u>me</u> in the face.'   155
    <u>xat</u> woodoodzi<u>k</u>éi 'They paid <u>me</u>.'   146
    tléil agé <u>xat</u> yayeetèen? 'Don't you recognize <u>me</u>?'   169

The Tlingit pronominals differ in a fundamental way from those in the
Athabaskan languages and Eyak, however. While the Athabaska-Eyak pro-
nominals show a clear nominative/accusative pattern, those in Tlingit show an
agent/patient pattern. The Tlingit prefixes, like <u>x</u>- in (6), represent participants
who typically instigate and are in control of situations: grammatical agents. The
clitics, like <u>xat</u> in (7), represent those who are not in control but are significantly
affected: grammatical patients. Some patients, like those in (7), would be categor-
ized as direct objects in English or Athabaskan languages. Others, like those in
(8), would be categorized as subjects.

(8) Tlingit clitic <u>xat</u> 'I' (Story & Naish 1973):
    <u>xat</u> seiwa.át'   '<u>I</u>'m cold.'   366
    <u>xat</u> woolitèesh   '<u>I</u>'m lonesome.'   127
    <u>xat</u> googanáa   '<u>I</u>'m going to die.'   366
    <u>xat</u> woodi.éik   '<u>I</u> was paralyzed, so shocked I couldn't act.' 145
    <u>k</u>úna<u>x</u> <u>xat</u> yanéekw '<u>I</u>'m real sick.'   190
    <u>xat</u> kawdikèi   '<u>I</u> failed completely.'   85
    yaa <u>xat</u> nadashán   '<u>I</u>'m growing old.'   141
    yées téel èetee-nax <u>xat</u> ya tèe '<u>I</u> need new shoes.'   139

<u>k</u>ut <u>x</u>at woodzigèet	'I was lost.'	129
<u>x</u>at <u>k</u>'eiwawáash	'I yawned.'	251
<u>x</u>at oowakích	'I sobbed.'	201
<u>x</u>at yadút'kw	'I frequently have hiccups.'	108
<u>x</u>at woodzigít	'I woke up.'	241
kindayígin <u>x</u>at woodzigèet	'I fell flat on my back.'	247

Though a semantic basis can be seen to underlie the Tlingit system, speakers do not make online decisions about degrees of agency, control, or affectedness as they speak. The pronominal set associated with each verb is lexicalized.

One of the patterns represents an innovation. Since the Athabaskan-Eyak languages are related as a group to Tlingit, the innovation could have occurred in either branch of the family. (Recent work by Vajda (2008a) indicates that Athabaskan-Eyak-Tlingit is related to the Yeneseic languages of Siberia, but as reconstructed by Vajda, their common ancestor had not yet developed a full system of either type (2008b), so the Yeneseic languages provide no help here.) Suggestive evidence of the direction of shift can be found in a neighbor.

Immediately to the south of the Tlingit are the Haida, who speak an unrelated language. Modern Haida territory was occupied until around 1700 by the Tlingit (De Laguna 1990: 203). De Laguna reports that there was intense Tlingit–Haida contact and intermarriage, and that "the Tlingit are known to have absorbed increments of Haidas and Tsimshians" (1990: 213). The two languages are quite different typologically. Haida pronouns are independent words or clitics rather than prefixes, and they show no similarity in form to those of Tlingit. They do, however, follow an agent/patient pattern.

(9) Haida Agent/Patient system: 1SG Agent *hl* and Patient *dii* (Enrico 2003):

<u>hl</u> sral-gan	'I fixed it.'	491
Joe <u>hl</u> qing-gan	'I saw Joe.'	51
'laa <u>hl</u> st'ida-gan	'I warned him.'	433
<u>hl</u> 'iij-angqasaa-ang	'I am going to go.'	565
<u>dii</u> 'la gu'laa-gang	'He likes <u>me</u>.'	79
<u>dii</u>-gingaan 'la qeenggaa	'He looks like <u>me</u>.'	84
<u>dii</u> hlrwaaga-ang	'I am afraid.'	87
<u>dii</u> rahgal-gang	'I am tired of it.'	82
<u>dii</u> gudang-gang	'I want to.'	71
<u>dii</u> q'ud-ang-gan	'I wasn't hungry.'	41
'laa-gingaan <u>dii</u> qeenggaa	'I look like him.'	84

The evidence strongly suggests that the Tlingit system developed under Haida influence.

There is no philological record of the transfer, but a likely scenario can be imagined. It is not uncommon cross-linguistically for third persons not to be mentioned overtly in every clause, so long as reference is clear. Such a propensity can

even be borrowed (Myers-Scotton 2002: 210). The absence of overt third person reference can set the stage for the reanalysis of nominative/accusative systems as agent/patient systems and vice versa. Transitive clauses with a single overt object argument could be reinterpreted as intransitive clauses with a single patient argument, or the reverse.

(10) (SUBJECT)   (TR) VERB OBJECT   PATIENT (INTR) VERB
    (*It/something*) *scared*   <u>*me*</u>.   < > <u>*I*</u>   *was/am scared*

Such a development could happen spontaneously in a language. It could also be stimulated by contact, as bilinguals strive to reconcile their two grammatical systems.

The Tlingit–Haida parallel is not an isolated case. Clusters of agent/patient systems appear in several other areas in North America. The Wappo and Yuki languages of California mentioned earlier are distantly related to each other, but no further relationships have been identified. The first and second person singular pronouns in the two are nearly identical in form (borrowed from Pomoan). Third person pronouns, used only for emphasis, developed recently in each language from demonstratives. The Wappo pronouns show a nominative/accusative pattern. The Yuki pronouns show an agent/patient pattern, one which matches that of their Pomoan neighbors down to the finest detail (Mithun 1991; 2008).

Agent/patient systems also appear in the Southeast, Great Plains, and Northeast, in all languages of the Siouan-Catawba, Caddoan, and Iroquoian families, as well as in all languages of the Muskogean family and isolates Chitimacha, Tunica, Natchez, and Atakapa. Together these languages cover a wide area from Canada to the Gulf of Mexico, and from the Atlantic across the Great Plains. They also appear in the Pueblo Southwest, in languages of the Kiowa–Tanoan family as well as in dialects of the Keresan language. In some languages the pronominals are prefixes, in some suffixes, and in some both. The affixes also show no similarities in form across family boundaries.

Nichols found agent/patient patterns rare cross-linguistically, occurring in just 13.5 percent of her sample (1992: 101). This rarity, combined with the pervasiveness of the agent/patient systems in North America, suggests contact effects. The most likely mechanism of transfer is not unusual: a reanalysis of clause structure by bilinguals seeking to reconcile the argument categories of their two languages.

2.2   Hierarchical systems

The rarest type of pattern found by Nichols is that termed hierarchical. She noted this pattern in just 5 percent of the languages she examined.

The Wakashan languages are indigenous to the Northwest Coast of North America. In them, core arguments are identified by pronominal enclitics to the predicate, which is basically clause-initial.

(11)   Ahousaht Nuuchahnulth clitic =*s* (Nakayama 2003; George Louie,
       speaker):

wałši?ax̣=s̱	'I̱ went home'	195
wik?aqx̣=s̱ suutił wiiqhap	'I̱ will not harm you'	383
na?aa=s̱	'I̱ understood'	169
?uuyimłckʷi=s̱	'I̱ was born'	163
ſiiḥši𝑥=s̱	'I̱ cried'	166
iič'im?ax̣=s̱	'I̱ am old'	451
wałsaap'at=s̱	'They sent m̱e home'	167
n'aacsaat=s̱ qʷayac'iik?i	'The wolf was watching m̱e'	383

Clitic choice is not affected by transitivity, so this is not an ergative/absolutive
system: the clitic =*s* 'I̱' appears in both 'I̱ went home' and 'I̱ will not harm you'.
It is not an agent/patient system: the same clitic appears in 'I̱ was born'. It is not
active/stative: the same clitic appears in 'I̱ am old'. But it is not nominative/
accusative either: the same clitic represents both subjects ('I̱ will not harm you')
and objects ('They sent m̱e home').

   It is a hierarchical system. Only one argument is represented pronominally in
a verb. The choice of argument depends on person, according to the hierarchy 1,
2 > 3. If a first or second person acts on a third (**1**/3, **2**/3), that first or second
person is represented. If a third person acts on a first or second (3/**1**, 3/**2**), again
the first or second person has priority ('The wolf saw **me**').

   One might wonder how speakers could distinguish 'I found him' from 'He
found me'. Nuuchahnulth has a suffix *-'at*, somewhat comparable to a passive
in other languages. Agents may or may not be mentioned lexically in *-'at*
clauses.

(12)   Nuuchahnulth *-'at* (Nakayama 1997: 168, 170):
       a.   *ha:ſan?aniṯs̱*
            ha:ḥan-'a̱t-it=s̱
            invite-<u>PASSIVE</u>-PAST=1SG
            'I was invited.'
       b.   *x̣'iči?a̱ṯx̣a   mamałn'i*
            x̣'i-či-?a̱t-x̣a: mamałn'i
            shoot-MOMENTANEOUS-<u>PASSIVE</u>-also whiteman
            'He was shot at by white men again.'

The *-'at* construction is used extensively for insuring that a continuing discourse
topic is the core argument of the clause. It also functions to maintain the hier-
archy. If a first or second person acts on a third ('I found her') the *-'at* construction
cannot be used. If a third person acts on a first or second, the *-'at* construction
must be used ('I was found').

   When a clause involves only first and second persons, just the agent is repre-
sented by a clitic. The other participant may be identified in a separate word.

(13)   Local relations (1/2, 2/1) (Nakayama 2003: 383):
       wikʔaqƛ̲s   *suutiɬ*   *wiiqʕap*
       wik-ʔaqƛ=s̲   sut-čiɬ   wi:q-ʕap
       not-FUTURE-<u>1SG</u>   you-doing.to   unpleasant-do
       '<u>I</u> will not harm you.'

There is only one context in which two arguments are identified by clitics. Special transitive pronominal enclitics representing combinations of first and second persons are used in imperatives.

The hierarchical system cannot be reconstructed for Proto-Wakashan. To the south of Nuuchahnulth are the two other South Wakashan languages: Nitinaht (Ditidaht) and Makah. Both also show the 1, 2 > 3 hierarchy. Both maintain it by means of constructions cognate with the Nuuchahnulth *-'at* construction. The hierarchical system has not penetrated their grammars quite as thoroughly, however. Any time first and second persons act on each other, transitive clitics are used.

The hierarchical system has been extended even less deeply in the three North Wakashan languages. Immediately to the north of Nuuchahnulth is Kwak'wala. In this language subjects are identified by enclitics, and objects by verbal suffixes. There is one gap in the pronominal paradigm: there are no first person object forms. In place of an inherited object form, a word based on the verb 'come' is used, or an oblique construction. North of Kwak'wala are Heiltsuk and Haisla. These two languages show no trace of a hierarchy. Full sets of subject and object pronominals exist and are used in all combinations.

To the south of the Wakashan family is the Chimakuan family, consisting of Chemakum and Quileute. Documentation of Chemakum is sparse, but the Quileute system is clear. Arguments are identified by pronominal subject enclitics and object suffixes, but not all subject/object combinations occur. There is a hierarchy: 2 > 3, also maintained through passivization, but the forms of the Quileute pronominals and passive suffixes are completely different from those of the Wakashan languages.

West of the Wakashan and Chimakuan languages are the 23 Salishan languages. The northernmost Salishan languages Bella Coola, Comox, and Sechelt show no restrictions whatsoever on argument combinations. Immediately to the south along the coast, Squamish, Halkomelen, and the Saanich dialect of Northern Straits show a limited hierarchical system: 2 > 3. South of them, the Sooke and Lummi dialects of Northern Straits, and the Klallam language, show a more extensive hierarchical system, equivalent to those of their South Wakashan neighbors to the west, Nitinaht and Makah: 1, 2 > 3. None of the Salishan languages further south (Lushootseed, Twana, Quinault, Lower Chehalis, Upper Chehalis), nor those of the Interior, show hierarchies at all.

The differences in the extent to which the hierarchical systems have penetrated the grammars of the different languages and dialects cut across genetic lines. The patterns show clear areal grouping, however, with the most extensive system, that of Nuuchahnulth, at the geographical core. But how could such abstract structures be transferred without the morphemes that carry them?

The systems need not have been transferred in their modern forms. It is more likely that what was transferred was a precursor to the systems: a recurring stylistic choice. In languages with a grammatical subject category, certain kinds of participants tend to be preferred over others for this role. Animates tend to be preferred over inanimates, humans over nonhumans, first and second persons over third, agents over patients, given referents over new, and identifiable (definite) over indefinite. Such characteristics do not always coincide in a single participant: the speaker (first person) may not be a semantic agent, for example. Speakers of one of the Northwest Coast languages, perhaps Nuuchahnulth, may have tended to prioritize person under such circumstances, often passivizing clauses with third person agents acting on first or second person patients. This stylistic tendency could easily be transferred by bilinguals from one language to another. The structural equivalences already existed in all of the languages: first, second, and third person pronominals, and passive constructions. What would have been transferred was the frequency of the structures. Recurring choices could become routinized and ultimately obligatory. (The systems are further described in Mithun 2007b.)

Hierarchical patterns are found elsewhere in North America as well. An intriguing cluster is in northern California. There the mechanisms used to maintain the hierarchies vary, drawn from various resources originally present in different languages, but the resulting systems have begun to converge.

Chimariko, an isolate, shows a strong hierarchical system. Verbs contain pronominal affixes with an agent/patient base. Most verbs appear with prefixes, but one set appear with suffixes. First, second, and third persons are distinguished, and singular and plural number. In addition, different pronouns distinguish first person singular agents and patients, and also first person plural agents and patients. Only one argument is represented within any verb. In transitive verbs, the choice depends on a 1, 2 > 3 hierarchy: speech-act participants have priority over others. Verbs with meanings like 'I found him' and 'He found me' both contain only a first person pronoun, but the difference between the two is clear from the form of the first person prefix. 'I found him' contains just a first person agent prefix; 'He found me' contains just a first person patient prefix. When both arguments are speech-act participants ('I found you', 'You found me'), only the agent is represented in the verb. A second argument may be identified with an independent emphatic pronoun. Special transitive forms are used in imperatives.

To the southeast of Chimariko is Yana. In Yana, core arguments are identified by pronominal suffixes on verbs. This system shows a nominative/accusative basis. The same pronominal forms are used to represent subjects of intransitives and transitives, semantic agents and patients ('I pound it up', 'I am shaking with fear'), and those involved in events and states ('I killed him', 'I am ugly'). The transitive pronominal suffixes are now fused complexes, but earlier internal structures can be detected. As in many pronominal affix paradigms, there is no overt marker for third persons. When a first or second person acts on a third (1/3, 2/3), the form is the same as for intransitives (1, 2). The third person object is simply not mentioned. When a third person acts on a first or second (3/1, 3/2), an

additional element *-wa-* appears, and the stem shows ablaut. The source of this *-wa-* element is a passive marker. Passive formation involves the suffix *-wa(ʔa)* plus ablaut. Pronominal suffixes representing combinations of first and second persons are fossilized, but they also contain recognizable elements. All include a remnant of the passive suffix *-wa(ʔa)*. Various other markers have been added over time, apparently to clarify reference in potentially ambiguous situations. An element *-ki-* in forms involving first person plurals comes from a verbal suffix 'hither'. An element *-wii-* in combinations with second person plural subjects matches a noun plural. An element *-m-* in 'I/you.all' and 'we/you.all' is a second person pronominal apparently reinforcing the second person.

There is a third hierarchical system in the area. To the west of Chimariko, on the Coast, is Yurok, an Algic language clearly unrelated genetically to either Chimariko or Yana. In Yurok, core arguments in indicative verbs are identified by pronominal suffixes. The suffixes generally show nominative/accusative patterning: transitivity, semantic role, and aspect make no difference. In transitive constructions, however, both arguments are not always represented overtly. In certain combinations involving third person patients, the third persons are not represented at all. In certain other combinations, there is obligatory passivization by means of the passive suffix *-ey* or *-oy*: *nekcenoy* 'he/she meets us' is literally 'we are met' (meet-PASSIVE). Yurok thus shows some of the strategies at work in neighboring languages to ensure a person hierarchy, but they have not been extended through the full grammar. Both participants are still represented in the combinations 1SG/2SG, 1SG/3SG, 1SG/2PL, 1SG/3PL, 2SG/1SG, 2/3SG, 3SG/1SG, 1PL/2SG, 1PL/3SG, 2PL/1SG, and 3PL/1SG. There is a slight priority given to second persons: third person agents are never expressed in the presence of second persons.

There is also a fourth hierarchical system in the area. The isolate Karuk is spoken to the north of Chimariko and immediately to the east of Yurok. Here arguments are identified by pronominal prefixes on verbs. The system has a nominative/accusative base. First person subject and object suffixes have different forms: *ní-mmah* 'I see him', *ná-mmah* 'He sees me.' But here, too, only one argument is expressed in a verb. As in the other languages, first and second persons are always chosen over third. Third persons are simply unmentioned. The difference in form between first person subjects and objects keeps roles clear for first persons. When a second person pronominal prefix represents an object, an inverse suffix *-ap* is added to the verb (Macaulay 1992). Interestingly, second person plurals are chosen over all other participants, resulting in the hierarchy 2PL > 1 > 2SG > 3. Speakers of other languages in the area, such as those of the Pomoan family, use second person plural forms for respect, particularly to elders and in-laws.

Northern California thus provides another example of shared abstract structure not transferred with substance. Chimariko, Yana, Yurok, and Karuk all show person hierarchies in their pronominal affixes on verbs. The forms of their pronominal affixes are different. Some are even prefixes while others are suffixes. The bases for the pronominal systems are different: Chimariko shows an agent/

patient base, while Yana, Yurok, and Karuk show a nominative/accusative base. The person hierarchies are slightly different, and they have penetrated the pronominal paradigms to differing extents. Importantly, the hierarchies are insured by different mechanisms: differences in the forms of first person agent and patient or subject and objects markers, obligatory passivization, a directional marker 'hither', and an old inverse marker. The systems differ in their pathways and endpoints of development, but the similarities are striking. Given the over- all rarity of hierarchical systems cross-linguistically, and the longstanding, intense multilingualism in the area, there is every indication that the similarities are due to language contact. As in the Northwest, it is likely that the modern struc- tures were not transferred directly as abstract grammatical systems. Rather, what may have been transferred were their precursors, certain recurring patterns of expression, which subsequently crystallized in each language. (Further details are in Mithun in press).

3   More General Morphological Structures

A significant difference between multi-word sentences and polymorphemic words is the salience of their parts. Speakers of unwritten languages can typically isolate and identify individual words in sentences, but not necessarily mor- phemes in words. Recognition of bound morphemes is undoubtedly facilitated by such factors as clarity of morpheme boundaries, absence of extensive allomorphy, isomorphism between syllable and morpheme boundaries, and position at the edge of the word. There are some well-known cases where a particular affix has been transferred on the back of lexical items that contain it, such as French *-age* into English. But North America contains certain wide areas where abstract morphological structure is shared among genetically unrelated but geographically neighboring languages, without shared substance.

3.1   *Lexical suffixes*

All of the Wakashan languages of the Northwest Coast contain large inventories of suffixes with meanings typical of roots in other languages: meanings that often seem more concrete and specific than those usually associated with affixes cross- linguistically. Some of the suffixes have meanings expressed in other languages by noun roots, such as *-sac* 'bag', *-sii* 'family', *-ʼaqs* 'woman', *-qʔičħ* 'year', and *-ʔin* 'costume'. Some are expressed in other languages by verb roots, such as *-ḥa* 'buy', *-naqa* 'use as bait', *-taqa* 'blame', *-ht* 'exit the woods', *-ʼaɫak* 'love, and *-ʼiˑs* 'copulate'. Some are expressed by adjectives, such as *-apʼii* 'coiled', *-siikʷ* 'complete', *-aaʔaƛ* 'destined for', *-ʔaɫ* 'aware of', and *-isim* 'principal'. Some have adverbial meanings, many indicating locations or directions, such as *-suːʔis* 'far out at sea', *-aˑt* 'out of the woods', *-ʼaːči* 'in a bay', *-spuɫ* 'between the legs', *-it* 'in the body', *-yin* 'at the bow of a boat', and *-saqƛ* 'under the covers' (Stonham 2005). Some examples of their uses are below.

(14) Ahousaht Nuuchahnulth (Nakayama 2003: 323):
  sus<u>w'isčaʔa</u>.
  sus-<u>w'isč</u>-'aʔaˑ.
  swim-<u>move.up.bank</u>-<u>on.rock</u>
  'They swam ashore onto the rocks.'

(15) Ahousaht Nuuchahnulth: Nakayama 2003: 378
  qʷaaƛaa   ḥaaw'iłaƛ   <u>łučḥaa</u>
  qʷa:-ƛa: ḥa:w'iłaƛ   <u>łuč</u>-ḥaˑ
  also   young.man   <u>woman</u>-buy
  'On the other hand, a young man proposes

  ʔu<u>ca</u>čiƛ   ḥaw'iłʔi   ḥakʷaƛ<u>nak</u>ʔi.
  ʔu-<u>ca</u>-čiƛ   ḥaw'iłʔi   ḥakʷaƛ-<u>naˑk</u>-ʔi.
  it-<u>go.to</u>-мом   chief-DEF   daughter-<u>having</u>-DEF
  by going to the chief who has a daughter.'

It might be wondered whether these are indeed suffixes. Formally, there is no question about their status. The languages are uniquely suffixing, and these morphemes never occur at the beginning of a word. They always follow a stem. They can differ subtly from stems functionally as well. The languages generally contain stems with meanings similar to those of the suffixes. Alongside of the suffix *-sac* 'bag' Stonham lists the unrelated *niisaakʷ* 'bag'; the suffix *-sii* 'family' and the word *ʔuštaqimł* 'family'; the suffix *-'aqs* 'woman' and the word *łuucsma* 'woman'; the suffix *-'aap* 'buy' and the root *maakuk* 'buy'; the suffix *-taqa* 'blame' and the root *wišk* 'blame'; the suffixes *-ačišt* 'on the sea' and *-c'aˑtu* 'out to sea' and words *tup'ał* 'sea' and *ƛaaʔas* 'by the sea'. We expect affixes to have more abstract and general meanings than stems or words. Despite their concrete and specific translations, many of these suffixes do have broader meanings than their stem counterparts. The suffix *-sac* is translated by Stonham variously as 'vessel, dish, box, container'. The suffix *-saqƛ* 'under the covers' is also 'under one's clothing', 'in a shelter', and 'inside'. Still, the lexical suffixes found throughout the Wakashan family are typologically unusual for the concreteness of their meanings and the sizes of the inventories, numbering in the hundreds.

  What is even more surprising is that large inventories of similar suffixes appear in the neighboring families Chimakuan and Salishan as well. A sample of Quileute (Chimakuan) suffixes includes *-takil-* 'footprint', *-wi:yi'-* 'wall', *-spe:-* 'fire', *-t'ło:-* 'dirt', *-sida* 'water', *-xa-* 'eat', *-k* 'go to a definite place', *t's-* 'make', *-t'co'-* 'have inside', *-kits'* 'dance, kick', *-qo-* 'make use of', and *-sqa-* 'carry' (Andrade 1933: 262). A sample of Lushootsheed (Salishan) suffixes includes *-us* 'face, head, upper part', *-ač* 'hair of head, crest or topknot of bird, hackles of dog', *-ič* 'cover, surface, on top of, over, string, cord, spine', *-ulč* 'container, belly', *-iʔł* 'baby, child', *-ikʷ* 'shirt', *-lc* 'round thing, money, curved objects', *-dup* 'ground, floor', *-iqad* 'incline, slope, bank, hill', *-ucid* 'body of water', *-ac* 'tree, bush', and *-ic'aʔ* 'clothe, wear, support from shoulder' (Bates, Hess, & Hilbert 1994). In these

languages as well there is no question about the formal status of the suffixes. They never serve as the foundation of a word on their own, but must always follow a stem. They also tend to show more general and diffuse meanings than their root counterparts.

The cross-linguistic rarity of affixes like these suggests that the parallelism is the result of contact. But the suffixes themselves have not been borrowed. How could such a deeply embedded morphological structure be transferred? The pattern may not have been transferred in its current state. The functions of the suffix constructions are strikingly close to those of compounds, in many cases noun incorporation. They are used to create lexical items, such as the Nuuchahnulth *qawaš-sac* 'salmonberry dish' ('salmonberry-container') and *łučḥaa* 'propose' ('woman-buy'). They are also used to convey background information not worthy of the attention given to separate words. A likely origin of the lexical suffix constructions is in compounds.

Compounding is common cross-linguistically and can be reconstructed for Proto-Salishan. A propensity for compounding could easily be spread by bilinguals. As single words, compounds have just one primary stress. Over time, roots that occurred as unstressed members of a substantial number of compounds could undergo further phonological reduction, resulting in the lexical suffixes of today. The large inventories would be explained by the fact that the members of compounds are drawn from the full inventory of stems. Their relatively concrete meanings would be explained by the fact that they became bound while they still had the concrete meanings of stems. The fact that they do not designate syntactic arguments or specify particular syntactic roles also follows directly from an origin as members of compounds. (More detailed discussion is in Mithun 1997, 1998.)

3.2   *Manner and direction*

Another abstract morphological structure shows a wide areal distribution in the West, particularly in modern Oregon, California, and Nevada. It appears in languages of numerous distinct families, crossing boundaries between even the deepest hypothesized superstocks.

Central Pomo, a northern California language seen earlier, contains a set of prefixes that occur pervasively throughout the verbal lexicon:

(16)   Some Central Pomo verbs

ṭ'é:č'	'stick together, be alongside of each other'
<u>*da*</u>-*ṭ'é:č'*	'push on something that sticks in your hand'
<u>*'-*</u>*ṭ'é:č'*	'stick on with fingers, as chewing gum under a table'
<u>*ma*</u>-*ṭ'é:č'*	'step on a nail or something that sticks in your foot'
<u>*ča*</u>-*ṭ'é:č'*	'sit on a thorn, put a patch on pants'
<u>*h*</u>-*ṭ'é:č'*	'stick up a pole, pitchfork, shovel, etc. in the ground'
<u>*m*</u>-*ṭ'é:č'*	'catch fire'
<u>*pʰ*</u>-*ṭ'é:č'*	'hammer a nail into the wall, nail something on'
<u>*pʰa*</u>-*ṭ'é:č'*	'something floating downriver gets stuck on the bank'

| s̠-ṭ'é:č' | 'while one is drinking, something gets into the mouth that does not belong, such as a bug or dirt' |
| š̠a-ṭ'é:č' | 'stick a support, as a box, next to something long, like fence posts stored upright for use' |

Such morphemes are sometimes called 'instrumental prefixes', because they suggest a means or manner of motion, but there is no explicit specification of the role of an entity beyond general involvement. They are not specifically nominal or verbal: often translations like either 'with the foot' or 'by stepping' would be appropriate. They can also co-occur with nouns specifying an instrument:

(17) Central Pomo prefixed verbs with nouns
Qʰabéwi   čʰbá:č'.
qʰabé=wi   čʰ-bá:-č'
rock=with massive.object-split-SEMELFACTIVE.PERFECTIVE
'He cracked it open with a rock.'

These prefixes can be reconstructed for Proto-Pomoan. Prefixes with similar functions occur in a number of other families and isolates in the area: Yuman, Karuk, Yana, Palaihnihan, and Washo. All of these were included at one time or another in proposals for a larger Hokan stock by Sapir and others. But the prefixes are absent from other languages and isolates grouped as Hokan: Shasta, Esselin, and Salinan. They also occur in California languages not grouped as Hokan. They appear throughout the Chumashan family, in Wappo, and Yuki. They occur in some isolates and families hypothesized by Sapir to be part of a larger Penutian stock in California, Oregon, and Idaho: Maiduan, Klamath, Takelma, and Sahaptian (Sahaptin and Nez Perce). But they are absent from other families and isolates grouped as Penutian: Wintuan, Utian (Miwok-Costanoan), and Yokutsan. They even occur in a number of Uto-Aztecan languages of the area, in the Numic branch: Kawaiisu, Tümpisa (Panamint) Shoshone, etc. The languages vary substantially in their inventories and the productivity of prefixes, and none of the forms themselves are cognate across genetic lines.

Central Pomo also contains a set of directional suffixes:

(18) Central Pomo suffixes
čá-w	'run' (one)
čá-:la-w	'run down'
čá-:qač'	'run up (as up a hill)'
čá-č'	'run away'
čá-way	'run against hither, as when a whirlwind came up to you'
čá-:'w-an	'run around here and there'
čá-mli-w	'run around it (a tree, rock, house, pole etc.)'
čá-mač'	'run northward'
čá-:q'	'run by, over (along on the level), southward'
čá-m	'run over, on, across (as bridge)'

The suffixes can appear in verbs containing the means/manner prefixes described above.

(19)   Central Pomo prefix–suffix combinations
    da-dí-:la-w   'push something over a cliff'
    ma-dí-:la-w   'kick something over a cliff'
    pʰa-dí-:la-w   'slowly glide into a swimming pool'
    pʰ-dí-:la-w   'jump down, over a cliff, into the water'
    ča-dí-:la-w   'chase (dog) downhill'
    ba-dí-:la-w   'walk downhill singing'
    '-dí-:la-w   'carry something downhill in hands'
    š-dí-:la-w   'carry something downhill by the handle'

Like the prefixes, these directional suffixes are pervasive throughout the verbal lexicon and can be reconstructed for Proto-Pomoan.

Suffixes with similar meanings occur in other languages once proposed as part of Hokan: Karuk, Shasta, Palaihnihan (Atsugewi, Achumawi), and Yana. There is, however, no mention of them in other languages grouped as Hokan, even some that contain means/manner prefixes, such as languages of the Yuman family and Washo. They appear in some isolates and families proposed as part of Penutian: Maidun, Klamath, and Sahaptian (Sahaptin, Nez Perce). But other languages and families grouped as Penutian lack them, including some that contain the prefixes: Wintun, Utian, Yokuts, Takelma, Coos, Siuslaw, and Alsea. Again, the forms are not shared across genetic lines.

There is thus a widespread morphological structure, appearing with varying degrees of robustness over a large geographical area that extends over California, Oregon, and areas inland. The prefixes occur in over a dozen genetically distinct units, and the suffixes in seven. The functions of the prefixes and suffixes are strikingly similar, but the forms differ. An obvious explanation would be contact, but how could such abstract structure, below the level of consciousness of words, be transferred, particularly without the forms themselves? It seems unlikely that bilingual speakers would spontaneously create affixes in one of their languages by analogy with affixes in the other.

Here again, the structures need not have been transferred in their modern state. It is more likely that the precursors to these structures were transferred. The most obvious precursors are particular compounding patterns.

Prefixes at an early stage of the development can be seen in languages near the periphery of the area. All of the Uto-Aztecan languages show extensive compounding: Noun–Noun, Verb–Verb, and Noun–Verb compounds. Some languages of the Numic branch of the family show prefixed verbs as well:

(20)   Kawaiisu (Zigmond, Booth, & Munro 1991):
    Noun root *moʔo-* 'hand'   *moʔo-zɨgɨ*   'hand-wash'   'wash one's hands'
                                moʔo-paʔa   'hand-stir'   'stir by hand'
    Prefix *ma-* 'manually'   *ma-gavi-*   'manually-cut'   'break off'
                                  ma-guri-   'manually-circle' 'stir by hand'

A typical feature of nouns in compounds is the lack of a specific syntactic relationship to the verb. As can be seen above, the noun root in Kawaiisu noun–verb compounds can represent entities in a variety of semantic roles, including that of an instrument.

Kawaiisu also contains directional suffixes:

(21)   Kawaiisu directional suffixes (Zigmond et al. 1991):
   ʔga-   'enter'   *ʔga-<u>kwee</u>-*   'go in'   *ʔga-<u>ki</u>-*   'come in'
   yaa-   'carry one'   *yaa-<u>kwee</u>-*   'take one'   *yaa-<u>ki</u>-*   'bring one'
   huʔma- 'carry several' *huʔma-<u>kwee</u>-* 'take several' *huʔma-<u>ki</u>-* 'bring several'

Kawaiisu still has a verb root *-kwee* 'go' and a verb root *-ki* 'come'. The directional suffix constructions appear to be descended from verb–verb compounds.

The morphological structure so prevalent in the area today appears to have developed from compounding patterns. Bilinguals could easily spread a tendency to form noun–verb or verb–verb compounds with an initial member indicating a means or manner of motion, and a tendency to form verb–verb compounds with a second member specifying direction. Over time, frequently occurring unstressed elements of such compounds could be reduced to affixes like those seen throughout the area (Mithun 2007a).

3.3   *Morphological form: clitic structures*

The North Wakashan language Kwakw'ala shows a somewhat unusual morphological structure. Case is marked on demonstratives which precede the noun phrase. What is surprising is that the clitics are attached phonologically not to the following noun phrase in their scope, but to the preceding word, whatever its function.

(22)   Kwakw'ala nominative and accusative case (Boas 1911a: 557):
   dó:xʼwaλél=<u>e</u>   *Dzá:wadalalisa=<u>x</u>-a*   *élkwa.*
   doqʷ-'aλela=<u>e</u>   Dzawadalalisa=<u>x</u>-a   elkʷ
   see-suddenly=<u>NOM.PROPER</u> NAME=<u>ACC.COMMON</u>-DEM blood
   'Dzawadalalis [NOMINATIVE] saw the blood [ACCUSATIVE].'

(23)   Kwakw'ala nominative and oblique case (Boas 1911a: 533):
   'né:xʸso:'la=<u>e</u>   *Q'ámtalała=<u>s</u>*   *Q'áne:qe:'lakʷ*
   'ne:xʸ-so:-'la=<u>e</u>   Q'ámtalała=<u>s</u>   Q'áne:qe:'lakʷ
   tell-PASSIVE=HEARSAY=<u>NOM.PROPER</u> NAME=<u>OBLIQUE</u>NAME
   'It is said, Q'amtalał [NOMINATIVE] was told by Q'aneqe'lakʷ [OBLIQUE].'

The full clitic structure cannot be reconstructed for Proto-Wakashan. In the two other North Wakashan languages, Heiltsuk and Haisla, it occurs only before obliques.

(24) Heiltsuk (Rath 1981: 1.85):
    Dáduqvlá wísmá-x̱i w'ác'iá-x̱ hi=s̱ dúǧváyúa-x̱i.
    watch man-DEM dog-DEM DEM=<u>OBL</u> binocular-DEM
    'The man watched a dog with [OBLIQUE] binoculars.'

Case clitics do not occur at all in the South Wakashan languages.

   Even more remarkably, this unusual clitic structure appears in languages in the unrelated Tsimshianic languages, immediately to the north of the North Wakashan languages. The systems are not identical: while the Kwakw'ala enclitics show a nominative/accusative pattern, the Tsimshianic enclitics show an ergative/absolutive pattern. Tsimshianic clitics are discussed in detail in Stebbins (2003).

(25) Sm'algyax (Coast Tsimshian) (Boas 1911b cited in Mulder 1994: 204):
    Da gwaant=ga 'wii gyisiyaask.
    then blow=<u>COMMON.ABSENT.ABS</u> great northwind
    'Then the great northwind blew.'

(26) Sm'algyax (Boas 1911b cited in Mulder 1994: 81):
    Dm dzakda=s̱ga ġibaw=ga haas-ga
    FUT kill=<u>COMMON.ABSENT.ERG</u> wolf=<u>COMMON.ABSENT.ABS</u> dog-DEM
    'The wolf will kill the dog.'

There is no doubt about the phonological bond between the clitics (called "connectives" in the Tsimshianic literature) and the preceding word. Dunn observes:

> In hesitating and pausing, speakers always tie the connective to the preceding word, that is, they always pause after a connective. They never continue a sentence (after a pause) by starting with a connective; they may repeat the last word before the pause but never just the connective. (Dunn 1979: 131–2)

The cross-linguistic rarity of this structure suggests that the similarity is unlikely to be due to chance. The transfer of such a pattern of bound morphology seems at first unlikely. But again, the structure need not have been transferred in its modern form.

   A number of languages in North America show a recurring rhetorical structure by which speakers manage the flow of information. Typically speakers introduce no more than one major new item of information at a time in a prosodic phrase (Chafe 1987; 1994; Pawley 2000). This information might set the scene, introduce a new participant, present a new event, etc. Particularly in predicate-initial languages like those of the Wakashan and Tsimshianic families, a prosodic phrase may consist of an initial verb that provides an outline of an event, followed by a demonstrative that functions cataphorically to promise further information to come, such as more precise identification of a participant. Such a structure can be seen in the South Wakashan language Nuuchahnulth.

(27)   Ahousaht Nuuchanulth (Nakayama 2003: 586):
   histaqšiƛitquu   *ʔaḥ, hitaqƛił.*
   his-taq-šiƛ-it-qu: ʔaḥ, hita-aqƛił.
   there-come.from-MOM-PAST-COND.3 this there.MOM-in.a.sound
   'He could have started from here – the Puget Sound area.'

A recurring rhetorical pattern of this type, where a demonstrative is grouped prosod-ically with the preceding material, could set the stage for morphological fusion. It would be easy to transfer a rhetorical pattern like that in (27) through contact: the initial predicates and demonstratives already existed in both languages. The social circumstances for transfer were in place as well. There was intense contact among Wakashan and Tsimshianic-speaking peoples, including intermarriage and extensive multilingualism, that extended into recent times (Codere 1990: 360; Halpin & Seguin 1990: 275–6; Hamoi-Torok 1990: 306; Hilton 1990: 314–17). Ceremonies involving elaborate oratory were also shared.

4   Conclusion

The Americas provide rich examples of effects of language contact, far beyond those mentioned here. In most cases, the details of these effects are not documented by a philological record comparable to those for certain languages of Europe, but comparisons of modern languages can be revealing. Many of the languages offer a look at the potential role of contact in stimulating the development of struc-tural parallelisms, even in the absence of borrowed words and morphemes. Considering the structures in diachronic perspective can often open the way to understanding the mechanisms by which such parallelisms can arise. Abstract pat-terns need not be transferred as such. Their development can have been set in motion by contact at an earlier stage, with the transfer of particular patterns of expression and frequencies of stylistic choices.

REFERENCES

Aikhenvald, Alexandra 2002. *Language Contact in Amazonia*. Oxford: Oxford University Press.

Andrade, Manuel J. 1933. Quileute. In Franz Boas (ed.), *Handbook of American Indian Languages*, vol. 3. New York: Columbia University, pp. 151–292.

Bates, Dawn, Thom Hess, and Vi Hilbert 1994. *Lushootseed Dictionary*. Seattle: University of Washington Press.

Beck, David 2000. Grammatical convergence and the genesis of diversity in the Northwest Coast Sprachbund. *Anthropological Linguistics* 42.2: 147–213.

Blevins, Juliette 2003. The phonology of Yurok glottalized sonorants: segmental fission under syllabification. *International Journal of American Linguistic*s 69: 371–96.

Bloomfield, Leonard 1946. Algonquian. In Harry Hoijer et al. (eds.), *Linguistic*

Structures of Native America (Viking Fund Publications in Anthropology 6), facsimile reprint 1963. New York: Johnson, pp. 85–129.

Boas, Franz 1911a. Kwakiutl. *Handbook of American Indian Languages* (Bureau of American Ethnology Bulletin 40.1). Washington DC: Smithsonian Institution, pp. 423–558.

Boas, Franz 1911b. Tsimshian. *Handbook of American Indian Languages* (Bureau of American Ethnology Bulletin 40.1). Washington DC: Smithsonian Institution, pp. 283–422.

Bright, William 1973. North American Indian language contact. In Thomas Sebeok (ed.), *Linguistics in North America* (Current Trends in Linguistics 10). The Hague: Mouton, pp. 713–26.

Campbell, Lyle 1997. *American Indian Languages: The Historical Linguistics of Native America*. Oxford: Oxford University Press.

Campbell, Lyle, Terrence Kaufman, and Thomas C. Smith-Stark 1986. Mesoamerica as a linguistic area. *Language* 62: 530–70.

Chafe, Wallace 1987. Cognitive constraints on information flow. In Russell Tomlin (ed.), *Coherence and Grounding in Discourse*. Amsterdam: John Benjamins, pp. 21–51.

Chafe, Wallace 1994. *Discourse, Consciousness and Time: The Flow and Displacement of Conscious Experience in Speaking and Writing*. Chicago: University of Chicago Press.

Codere, Helen 1990. Kwakiutl: traditional culture. In Wayne Suttles (ed.), *Handbook of North American Indians*, vol. 7: *Northwest Coast*. Washington DC: Smithsonian Institution, pp. 59–77.

De Laguna, Frederica 1990. Tlingit. In Wayne Suttles (ed.), *Handbook of North American Indians*, vol. 7: *Northwest Coast*. Washington DC: Smithsonian Institution, pp. 203–228.

Dunn, John 1979. Tsimshian connectives. *International Journal of American Linguistics* 45: 131–40.

Enrico, John 2003. *Haida Syntax*. Lincoln: University of Nebraska Press.

Faltz, Leonard 1998. *The Navajo Verb*. Albuquerque: University of New Mexico.

Golla, Victor 1996. Hupa. In Ives Goddard (ed.), *Handbook of American Indians*, vol. 17: *Languages*. Washington, DC: Smithsonian Institution, pp. 364–89.

Haas, Mary 1976. The Northern California linguistic area. In Margaret Langdon and Shirley Silver (eds.), *Hokan Studies*. The Hague: Mouton, pp. 347–59. (Reprinted 1978 in Mary R. Haas, *Language, Culture, and History: Essays by Mary R. Haas*. Stanford, CA: Stanford University Press, pp. 353–69.)

Halpin, Marjorie and Margaret Seguin 1990. Tsimshian peoples: Southern Tsimshian, Coast Tsimshian, Nisgha, and Gitksan. In Wayne Suttles (ed.), *Handbook of North American Indians*, vol. 7: *Northwest Coast*. Washington DC: Smithsonian Institution, pp. 267–84.

Hamori-Torok, Charles 1990. Haisla. In Wayne Suttles (ed.), *Handbook of North American Indians*, vol. 7: *Northwest Coast*. Washington DC: Smithsonian Institution, pp. 306–11.

Hilton, Susanne 1990. Haihais, Bella Bella, and Oowekeeno. In Wayne Suttles (ed.), *Handbook of North American Indians*, vol. 7: *Northwest Coast*. Washington DC: Smithsonian Institution, pp. 312–22.

Jany, Carmen 2007. Chimariko in Cross-linguistic Perspective. Doctoral dissertation, University of California, Santa Barbara.

Kinkade, M. Dale 1978. Alsea pronouns. Paper presented at the 1978 annual meeting of the American Anthropological Association, Los Angeles.

Krauss, Michael 1982. *In Honor of Eyak: The Art of Anna Nelson Harry*. Fairbanks: Alaska Native Language Center.

Macaulay, Monica 1992. Inverse marking in Karuk: the function of the suffix *-ap*. *International Journal of American Linguistics* 58: 182–201.

Mithun, Marianne 1991. Active/agentive case marking and its motivations. *Language* 67: 510–46.

Mithun, Marianne 1997. Lexical affixes and morphological typology. In Joan Bybee, John Haiman, and Sandra A. Thompson (eds.), *Essays on Language Function and Language Type*. Amsterdam: John Benjamins, pp. 357–72.

Mithun, Marianne 1998. The sequencing of grammaticization effects. In Monika S. Schmidt, Jennifer R. Austin, and Dieter Stein (eds.), *Historical Linguistics 1997*. Amsterdam: John Benjamins, pp. 291–314.

Mithun, Marianne 1999/2001. *The Languages of Native North America*. Cambridge: Cambridge University Press.

Mithun, Marianne 2007a. Grammar, contact, and time. *Journal of Language Contact*. (e-journal) THEMA 1: 133–55. www.jlc-journal.org.

Mithun, Marianne 2007b. Integrating approaches to diversity: argument structure on the Northwest Coast. In Yoshiko Matsumoto, David Oshima, Orrin Robinson, and Peter Sells (eds.), *Diversity in Language*. Stanford: CSLI (Center for the Study of Language and Information), pp. 9–36.

Mithun, Marianne 2008. The emergence of agentive systems in core argument marking. In Mark Donohue and Søren Wichmann (eds.), *The Typology of Semantic Alignment*. Oxford: Oxford University Press, pp. 297–333.

Mithun, Marianne, in press. Core argument patterns and deep genetic relations: hierarchical systems in Northern California. In Bernard Comrie (ed.), *Typology of Argument Structure and Grammatical Relations*. Amsterdam: John Benjamins.

Mulder, Jean 1994. *Ergativity in Coast Tsimshian (Sm'algyax.* (University of California Publications in Linguistics 124). Berkeley: University of California Press.

Myers-Scotton, Carol 2002. *Contact Linguistics: Bilingual Encounters and Grammatical Outcomes*. Oxford: Oxford University Press.

Nakayama, Toshihide 1997. Discourse-Pragmatic Dynamism in Nuu-chah-nulth (Nootka) Morphosyntax. Doctoral dissertation, University of California, Santa Barbara.

Nakayama, Toshihide (ed.) 2003. *George Louie's Nuu-chah-nulth (Ahousaht) Texts with Grammatical Analysis* (Endangered Languages of the Pacific Rim Publications Series A2-028). Kyoto, Japan: Nakanishi Printing Co.

Nichols, Johanna 1992. *Linguistic Diversity in Space and Time*. Chicago: University of Chicago Press.

Pawley, Andrew 2000. The one-clause-at-a-time hypothesis. In Heidi Riggenbach (ed.), *Perspectives on Fluency*. Ann Arbor: University of Michigan Press, pp. 163–99.

Rath, John C. 1981. *A Practical Heiltsuk-English Dictionary with a Grammatical Introduction* (Mercury series, Canadian Ethnology Service Paper 75). Ottawa: National Museums of Canada.

Sapir, Edward 1921. *Language*. New York: Harcourt, Brace and World.

Sherzer, Joel 1973. Areal linguistics in North America. In Thomas Sebeok (ed.), *Current Trends in Linguistics*, vol. 10: *Linguistics in North America*. The Hague: Mouton, pp. 749–95. (Reprinted 1976 in Thomas Sebeok (ed.), *Native Languages of the Americas*, vol. 1. New York: Plenum, pp. 121–73.)

Silverstein, Michael 1996. Dynamics of linguistic contact. In Ives Goddard (ed.), *Handbook of North American Indians* vol. 17: *Languages*. Washington, DC: Smithsonian Institution, pp. 117–36.

Stebbins, Tonya 2003. On the status of intermediate form classes: words, clitics, and affixes in Sm'algyax (Coast Tsimshian). *Linguistic Typology* 7: 383–416.

Stonham, John 2005. *A Concise Dictionary of the Nuuchahnulth Language of Vancouver Island* (Native American Studies 17). Lewiston, NY: The Edward Mellen Press.

Story, Gillian and Constance Naish 1973. *Tlingit Verb Dictionary*. Fairbanks: Alaska Native Language Center.

Teeter, Karl and John Nichols 1993. *Wiyot Handbook* (Algonquian and Iroquoian Linguistics Memoirs 10, 11). Winnipeg: Algonquian and Iroquoian Linguistics.

Vajda, Edward 2008a. A Siberian link with the Na-Dene languages. Dene-Yeneseic

Symposium, Ms., University of Alaska, Fairbanks.

Vajda, Edward 2008b. Losing semantic alignment: from Proto-Yeniseic to Modern Ket. In Mark Donohoe and Søren Wichmann (eds.), *The Typology of Semantic Alignment*. Oxford: Oxford University Press, pp. 140–61.

Young, Robert, William Morgan, and Sally Midgette 1992. *Analytical Lexicon of Navajo.* Albuquerque: University of New Mexico.

Zigmond, Maurice, Curtis Booth, and Pamela Munro 1991. *Kawaiisu: A Grammar and Dictionary with Texts* (University of California Publications in Linguistics 119). Berkeley: University of California Press.