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Morphologies in contact: form, meaning, and use in the grammar of reference

Abstract

It was once thought that in situations of language contact, substance is always borrowed before structure. More recent work, however, has been demonstrating that even under conditions of language maintenance, structure can be copied without substance, as multilinguals replicate categories and distinctions from one language in another. Such replication can be difficult to spot when it is accomplished with native forms. This paper examines contact effects on some fundamental morphological categories and patterns, most without substance, among some languages indigenous to Northern California. The focus is on grammar involving referents and reference: pronominal categories, core argument structure, coreference, and referential continuity across clauses and sentences.

1. The challenge

Speakers of unwritten languages are rarely conscious of bound morphemes or morphological processes, so they rarely copy them directly from one language to another. Ongoing work is making it ever clearer, however, that morphological categories and patterns are copied quite frequently (Heine & Kuteva 2005, Johanson 2008, among others). The substance itself is not copied. Speakers replicate categories and patterns with native material. Without the substance, the process can be difficult to detect. The more we can learn about the kinds of morphological copying that occur in languages of the world, the better-equipped we will be for detecting it in new situations. Here some morphological effects of language contact are investigated in a notoriously rich linguistic area, Northern California.

2. North American genetic diversity

North America is home to considerable linguistic diversity. Nearly 300 mutually unintelligible languages are known to have been spoken North of Mexico at the time of first contacts with Europeans, constituting around 58 distinct families, groups without demonstrable genetic relationships to each other. Over 20 of these families were

represented in California alone. Many California communities, particularly in Northern California, were quite small, so that exogamy and multilingualism were the norm.

One of the small languages of Northern California is Yuki, once spoken approximately 150 miles north of San Francisco, from the Pacific Coast to about 70 miles inland. The last known speaker died in 1983. There were three dialects or emergent languages: Coast Yuki, Yuki Proper, and Huchnom. Yuki is generally considered to be related to just one other language, Wappo, spoken about 50 miles to the south and separated from it by a number of other unrelated languages. There is little published material on Yuki. Major published sources are a grammatical sketch with text in Kroeber (1911), a vocabulary in Sawyer & Schlichter (1984), and a reconstruction of Proto-Yukian in Schlichter (1985). The location of the Yuki homeland can be seen in Figure 1.

Figure 1: Yuki and its neighbors (based on Heizer 1978: 8, ix)

Yuki speakers were surrounded by neighbors speaking unrelated languages: the Athabaskan language Kato (with dialects Cahto, Lassik, and Wailaki); the Pomoan languages (Northern Pomo, Northeastern Pomo, Eastern Pomo, Central Pomo, Southeastern

Pomo, Southern Pomo, and Kashaya); the Wintun languages Nomlaki and Patwin; the Maidun language Konkow; and the Utian language Lake Miwok.

In what follows, some fundamental aspects of the grammar are examined, with a focus on patterns of referential categories.

3. Case and grammatical relations

Yuki pronouns are independent words. There are three paradigms.

(1)   Yuki pronouns: Sawyer & Schlichter (1984)

	Set I	Set II	Set III
1SG	*ạp*	*i:*	*i:t*
2SG	*meʔ/miʔ*	*mis*	*me:tạʔ*
3SG	*kiʔ*	*kiʔạ*	*kiʔạt*
1INCLUSIVE.PL	*mi-/me-*	*miyạ/meya-*	*miyạt*
1EXCLUSIVE.PL	*us*	*usạ*	*usạt*
2PL	*moʔos/mos*	*moʔosiyạ*	*moʔosi:yạ*
3PL	*kima:se*	*kima:sạ*	*kima:set*

As noted, the only language related to Yuki is Wappo. Wappo pronouns occur in two basic cases. Oblique pronouns are formed by adding case endings to the Set II forms.

(2)   Wappo pronouns: Sawyer (1991: 52, Thompson et al. 2006: 25)

	Set I	Set II
1SG	*ah*	*i*
2SG	*miʔ*	*mi*
3SG.PROXIMAL	*hephi*	*te*
3SG.DISTAL	*cephi*	*te*
3SG.NEAR.OTHER	*wephi*	*te*
1PL	*isi*	*isa*
2PL	*misi*	*misa*
3PL.PROXIMAL	*heko:ti*	*heko:to*
3PL.DISTAL	*ceko:ti*	*ceko:to*
3PL.NEAR.OTHER	*weko:ti*	*weko:to*

The first and second person pronouns in Yuki and Wappo are similar in shape. In both languages, third person pronouns are based on demonstratives, used primarily for topic shift, emphasis, or contrast.

To the south of Yuki are the seven mutually-unintelligible Pomoan languages. The time depth of the Pomoan family has been compared to that of Germanic, around 2500

years. No genetic relationship has ever been proposed between Yuki or Wappo and Pomoan, and there is little shared vocabulary. It is interesting, however, to compare the pronouns.

(3)   Pronominal comparisons

	1SG		2SG	
	I	II	I	II
Yuki	*a-p*	*i:*	*mi?*	*mi-s*
Wappo	*ah*	*i*	*mi?*	*mi*
Pomoan				
Northern	*?a:*	*ṭo:*	*ma*	*mi-ṭo*
Central	*?a:*	*ṭo:*	*ma*	*mṭo*
Kashaya	*?a:*	*ṭo:mi*	*ma*	*ṭo*
Southern	*?a:?a*	*?a:-ṭo*	*?a:má*	*mi:-ṭo*
Eastern	*ha*	*wi*	*ma*	*mí*
Northeastern	*?a:*	*?ah-ṭo*	*?áma*	*míh-ṭo*
Southeastern	*?a:*	*wiṭ*	*ma*	*ṭi*

The Yuki and Wappo first person singular Set I pronouns 'I' are strikingly similar to those across the Pomoan family. Sawyer & Schlichter (1984: 280) note that Yuki *ạp* 'I' contains a suffix *-p* that matches the singular suffix *-p* on nouns referring to humans. (Initial glottal stop before vowels is not treated as distinctive by these authors.)

The Yuki and Wappo second person singular pronouns 'you' match the base of the Pomoan Set II pronouns. The case marker on the Yuki Set II pronoun *mi-s̱* appears nowhere else in Yuki. It does, however, occur in the unrelated neighbor to the east, Konkow, a language of the Wintun family. This ending can be traced back to Proto-Wintun.

(4)   Second person: Shepherd (2006: 127–128)

	2SG.SUBJECT	2SG.OBJECT
Yuki	*mi?*	*mi-s̱*
Nomlaki	*mi, mi?a*	*mi-s̱*
Proto-Wintun	**mi*	**mi-s̱*

The same object suffix *-s* occurs in Proto-Wintun first person: **ni* 1SG.SUBJECT, **ni-s̱* 1SG.OBJECT.

3.1. The Yuki pronominal system

At first glance, the Yuki pronouns appear to represent subjects and objects. Transitivity does not affect pronoun choice.

(5)   Yuki Set I *ąp* 'I': Sawyer & Schlichter (1984)
        <u>*Ap*</u> *lis k'ąn laʔaktekb.*   '<u>I</u> talked fast.'
        Kawaye <u>*ąp*</u> *munmek.*   '<u>I</u>'m going to steal the horse.'
        <u>*Ap*</u> *ki'e hosoʔotlek*   '<u>I</u> made him mad.'

(6)   Yuki Set II *i:* 'me'
        Kiʔ ąṭwošet <u>*i:*</u> *šąšetek.*   'That dog bit <u>me</u>.'
        Kiʔ <u>*i:*</u> *yaʔ šuʔute ha:mek.*   'He wants <u>me</u> to climb down.'
        Miʔ <u>*i:*</u> *hąw ča:newe*   'You gave <u>me</u> a fish.'

It is thus not an ergative/absolutive system. But the Set II pronouns are also used where English shows subjects.

(7)   Yuki Set II *i:* 'I'
        <u>*I:*</u> *hilyuʔ.*   '<u>I</u>'m sick.'
        <u>*I:*</u> *hamloʔotek.*   '<u>I</u>'m hungry.'
        <u>*I:*</u> *t'oloýotek.*   '<u>I</u> feel ashamed.'
        <u>*I:*</u> *mikaʔač mi:tek.*   '<u>I</u> am unlucky, have bad luck.'
        <u>*I:*</u> *šąk šąšek.*   '<u>I</u>'ve got a toothache.'
        <u>*I:*</u> *mat hąkimlek.*   '<u>I</u> can't shoot.'
        <u>*I:*</u> *hu:šlek*   '<u>I</u>'m happy.'
        <u>*I:*</u> *inha:mek*   '<u>I</u>'m sleepy.'

The examples in (7) might suggest that this could be an active/stative system, with Set I pronouns used in events, and Set II in states. The examples in (8) show that it is not. Set I pronouns also occur with states.

(8)   Yuki Set I *ap* 'I' with states
        <u>*Ap*</u> *ṭi:tamąp noʔohek.*   '<u>I</u>'m living on the mountain.'
        Mąl hu:yąp <u>*ąp*</u> *mehek.*   '<u>I</u>'m in the middle of the creek.'
        Ka <u>*ąp*</u> *onk'e šatk'e šuʔuhek.*   '<u>I</u>'m sitting on the cold ground.'

Set II pronouns also occur with events.

(9)   Yuki Set II *i:* 'I' with events
        <u>*I:*</u> *p'a:nessuyitwičk.*   '<u>I</u> fell down.'
        <u>*I:*</u> *k'aptek.*   '<u>I</u> choked.'
        <u>*I:*</u> *nahumtek.*   '<u>I</u> forgot.'

It might be proposed that sentences like those in (9) are actually transitive, with omitted 'dummy subjects': 'I am sick' is really '(It) sickens me.' But such an analysis is incompatible with many of the examples seen so far, such as 'I can't shoot' and 'I forgot'. And the Set II pronouns occur in transitive clauses with another argument.

(10)   Set II *i:* in transitives
    <u>I</u>: mis hạlek.   '<u>I</u> hear you.'
    Ink'uẏunạt <u>i:</u> hu:šlek.   '<u>I</u> love my father.'
    <u>I</u>: kuči naʔamtek.   '<u>I</u> lost my knife.'

The second argument in these examples is from Set III.

    The Yuki pronouns show an agent/patient pattern. Set I pronouns are grammatical agents, and Set II grammatical patients. Patient pronouns refer to humans who are not in control but significantly affected by the situation. They may perform actions, such as belching or yawning, but they do not control them. Case choice is lexicalized with each verb; speakers make few online choices about degrees of control or affectedness as they speak.

    Speakers can choose not to portray empathy or affectedness. In this situation a basic (semantically unmarked) agent form is used. The lack of specification of affecteness is most common with third persons. Speakers do not presume to know about the affectedness of another person.

(11)   Yuki unspecified affectedness
    <u>I</u>: lohwištek.   '<u>I</u> (PATIENT) coughed.'
    (Kiʔ) lohtek.   '<u>He</u> (AGENT) coughed.'

    Wok <u>i:</u> nạnaklạmek.   '<u>I</u> (PATIENT) learned to dance.'
    (Kiʔ) nạnak lo:ṭ.   '<u>He</u> (AGENT) learns slowly.'

Agent/patient systems are relatively rare cross-linguistically. In a genetically and areally balanced sample of 172 languages, Nichols (1992: 187) found just 14% with this pattern. Ergative patterns occurred in 19% of the languages in her sample, and nominative/accusative patterns in 65%.

3.2. The Wappo pronominal system: nominative/accusative

Interestingly, the Wappo pronouns do not show the agent/patient pattern. The Wappo Set I pronouns are grammatical subjects, whether they represent semantic agents or patients, whether the clauses represent events or states, and whether they are intransitive or transitive.

(12)   Wappo Set I subject *ah* 'I': Thompson et al. (2006)
    <u>Ah</u> pawata' tehwe'ikhiʔ.   '<u>I</u> jumped down once.'
    <u>Ah</u> šawo tac'miʔ.   '<u>I</u> flatten the bread.'
    <u>Ah</u> mi hak'šeʔ.   '<u>I</u> like you.'
    <u>Ah</u> mehpawtaʔ.   '<u>I</u> dropped it.'
    <u>Ah</u> i meʔ pik'eč'taʔ.   '<u>I</u> accidentally cut my hand.'
    <u>Ah</u> uwa pihkaseʔ.   '<u>I</u> feel bad.'
    <u>Ah</u> pahčhoṭikhiʔ.   '<u>I</u> got scared.'

      <u>*Ah*</u> *chachšeʔ.*   '<u>I</u> get cold.'
      <u>*Ah*</u> *eniya ohak'šeʔ.*   '<u>I</u>'m very hungry.'

The Set II pronouns are grammatical objects

(13)   Wappo Set II object *i* 'me': Thompson et al. (2006)
        Miʔ <u>*i*</u> *haṭalukh neʔkhiʔ.*   'You have to recognize <u>me</u>.'
        Miʔ <u>*i*</u> *hak'šeʔ heʔ?*   'Do you like <u>me</u>?'
        Cephi <u>*i*</u> *pehkhiʔ.*   'She looked at <u>me</u>.'

3.3. The Pomoan pronominal system

Significantly, the neighboring Pomoan languages also show the rare agent/patient pattern. In all of the Pomoan languages, Set I pronouns represent grammatical agents, Set II grammatical patients, and Set III obliques and possessors. Examples shown here are drawn from Central Pomo, but the patterns are essentially the same in all of the languages.

(14)   Central Pomo agent/patient system

	AGENTS	PATIENTS	OBLIQUES
1SG	*ʔa:*	*ṭo:*	*kʰe*
2SG	*ma*	*mṭo*	*mkʰe*
3SG	*mu:l*	*mú:ṭu*	*mú:kʰe*
1PL	*ya*	*yal*	*yá:ʔkʰe*
2PL	*máya*	*máyal*	*máya:ʔkʰe*
3PL	*mú:ṭuya*	*mú:ṭuyal*	*mú:ṭuya:ʔkʰe*

Third person pronouns are recent developments from the distal demonstrative *mu:l* **'**that', and are not generally used for continuing topics (Mithun 1990).
    The agent/patient pattern can be seen in the sentences in (15). The agent pronoun *ʔa:* 'I' appears in both events and states, and in both intransitive and transitive clauses.

(15)   Central Pomo agent *ʔa:* 'I'
      <u>*ʔa:*</u>   *wáq'iʔle.*   '<u>I</u> would go.'
      <u>*ʔa:*</u>   *pʰdí:law.*   '<u>I</u> dove in.'
      <u>*ʔa:*</u>   *sbíč'.*   '<u>I</u> got up.'
      <u>*ʔa:*</u>   *ʔṭów.*   '<u>I</u> peeled it.'
      <u>*ʔa:*</u>   *ʔná:č'.*   '<u>I</u>'m hiding.'
      <u>*ʔa:*</u>   *ma:báhč'in.*   '<u>I</u>'m conceited.'
      <u>*ʔa:*</u>   *ʔe bané:ʔṭ'aw.*   '<u>I</u>'m lazy.'

The patient pronoun *ṭo:* 'I, me' also appears in both events and states, and in both in-transitive and transitive clauses. Grammatical patients are significantly affected but not

in control. In some contexts they correspond to English subjects, and in others to English objects.

(16)   Central Pomo patient *ṭo:* 'I, me'
    Ṭo: ʔṭʰál.   '<u>I</u>'m sick.'
    Ṭo: qhóṭ'a.   '<u>I</u>'m ticklish.'
    Mu:l qadála <u>ṭo:</u> ʔúda:w.   '<u>I</u> really hate him.'
    Ṭo: ló:ya.   '<u>I</u> fell.'
    Ṭo: qʰá: snámʔkʰe.   '<u>I</u>'ll drown.'
    Ṭo: ʔqá:č'.   '<u>I</u> got lost.'
    Ṭo: qadálmada mu:l.   'He hates <u>me</u>.'
    Ṭo:wa mṭo ʔyá:qan?   'Do you remember <u>me</u>?'

Exactly as in Yuki, pronoun choice is lexicalized with each verb. Speakers do not generally make choices as they speak about degrees of control and affectedness. Some verbs have been lexicalized to occur with either, however, with a corresponding difference in meaning.

(17)   Central Pomo lexicalized alternations
    ʔa: sma mṭí:č'.   'I (AGENT) went to bed.'
    ʔa: sma mt:čka.   'I (PATIENT) must've fallen asleep'

Also just as in Yuki, speakers do not indicate the affectedness of inanimates or most animals. They can choose not to specify the affectedness of human referents as well. In these situations, the semantically unmarked agent forms are used. As speakers comment: "One cannot know what another is feeling." (Frances Jack, p.c.).

(18)   Central Pomo unmarked affectedness
    Mú:tu ʔa: hk'úm.   'I killed <u>him</u> (PATIENT).'
    Mu:l ʔa: hk'úm.   'I killed <u>it, him</u> (AGENT)'

3.4. Noun case

Yuki nouns can also be marked for case.

(19)   Yuki noun case suffixes: Kroeber (1911)
    -a   PATIENT (only with some animates)
    -at   GENITIVE (alienable)
    -ok   INSTRUMENTAL
    -ki   LOCATIVE
    -op   LOCATIVE 'on'
    -am   INESSIVE 'in'
    -pis   ABLATIVE 'from'
    -wit   TERMINALIS 'to, toward'

      -k'il   TERMINALIS 'to, toward'
      -han,   SUBESSIVE 'under'

Noun case marking also follows the same agent/patient patterns as pronouns. Compare the forms of the noun for 'Coyote' (the trickster in traditional tales) below, from a legend recorded by Kroeber.

(20)   Yuki Text extracts: Kroeber (1911: 375–378)

(20a) *Se-éi hạye ki <u>hulk'ói</u> ei hạ́ye t'ạsatlmil.*
      'And now <u>Coyote</u> revealed himself.   . . . '

(20b) *Se-éi <u>hulk'ói</u> náu-mil.*
      'And <u>Coyote</u> watched.   . . . '

(20c) *Hulk'ó-<u>a</u> muklawetmil*
→   'And <u>Coyote</u> (<u>PATIENT</u>) involuntarily moved to snap it   . . .'

(20d) *Se-éi ạtạ́ hulk'ó-<u>a</u> hạlt-mil.*
→   'And again <u>Coyote</u> (<u>PATIENT</u>) heard it.'

Only some human or personified nouns have patient forms.

(21)   Yuki: Sawyer & Schlichter (1984: 137, 190, 186)

(21a) *Ki' in-k'aʔan-<u>a</u> nạwewe.*   (PATIENT *-ạ*)
      'He saw <u>my mother</u> (<u>PATIENT</u>).'

(21b) *Ki saʔak ạp ʔinnạmtlek.*   (no case suffix)
      'I put the <u>baby</u> to sleep.'

(21c) *Mil ạp matkwe.*   (no case suffix)
      'I shot the <u>deer</u>.'

Wappo also shows nominal case, with case enclitics on all noun phrases. Here the pattern is nominative/accusative, just as with pronouns.

(22)   Wappo case enclitics
      =i   NOMINATIVE
      =Ø   ACCUSATIVE
      =thu   DATIVE
      =ma   BENEFACTIVE
      =thiʔ   INSTRUMENTAL
      =k'a   COMITATIVE
      =meʔ   GENITIVE

The Wappo nominative and accusative case markers appear with all nouns, regardless of humanness or animacy.

(23)   Wappo nominative/accusative: Thompson et al. (2006: 18)
      Ce   *k'ew*   *huw'iš=<u>i</u>*   *ewe-Ø*   *ţ'oh-taʔ.*
      DEM   man   happy=<u>NOM</u>   fish-<u>ACC</u>   catch-PAST
      'That happy guy (NOMINATIVE) caught the fish (ACCUSATIVE).'

The Pomoan languages also inflect nouns for case. The system is exactly like that in Yuki. It follows an agent/patient pattern. Agent forms are unmarked, while patient forms carry a patient suffix *-l , but only some nouns, generally referring to humans, particularly close kinsmen, have patient forms. The system can be reconstructed for Proto-Pomoan.

Thus though both Yuki and Wappo show case marking on nominals, the patterns are not the same. The Yuki markers are suffixes that distinguish agent and patient case, while the Wappo markers are enclitics that distinguish subjects and objects. The Yuki system actually matches those of its Pomoan neighbors, down to the last detail of usage. Only the actual form of the patient case suffix is different. In Yuki it is *-ạ*, and in the Pomoan languages it is *-l*.

3.5. The mechanism

It appears that the Yuki categories distinguished in pronouns and noun case were remodeled on the basis of the neighboring Pomoan languages. The actual process by which this occurred may have been the following. Transitivity is not necessarily overtly marked in either Yuki or Pomoan. Furthermore, identifiable third persons, particularly continuing topics, are not usually represented overtly. Under these circumstances, it would be easy for speakers to reanalyze the transitivity of clauses. Transitive clauses with third person singular agents could be reanalyzed as intransitive. A nominative/accusative system could then be reanalyzed as an agent/patient system, with former direct object pronouns and accusative marked nouns reinterpreted as grammatical patients. (Reanalysis in the opposite direction would be equally possible.)

(24)   Possible reanalysis

(SUBJECT)	VERB	OBJECT			PATIENT	VERB
(*Something*)	*scared*	<u>*me*</u>.	<	>	<u>*I*</u>	*was/am scared*

4. Inclusive/exclusive pronoun categories

Yuki shows another interesting development. Pronouns distinguish inclusive and exclusive first person: 'you and I' (inclusive) versus 'he/she/they and I' (exclusive).

(25)   Yuki pronouns: Sawyer & Schlichter (1984)

	AGENTS	PATIENTS
1SG	*ạ-p*	*i:*
2SG	*miʔ/meʔ*	*mis*

1INCLUSIVE.PL	*mi:/me:*	*miyą/meya*
1EXCLUSIVE.PL	*us*	*usą*
2PL	*moʔos/mos*	*moʔosiyą/moʔoseyą*

There is no inclusive/exclusive distinction in Wappo. Comparison of Yuki and Wappo pronominal forms suggests that it was the inclusive category that was innovated in Yuki. The Yuki exclusive pronouns resemble the Wappo general first person plural pronouns.

(26)   Wappo pronouns: Sawyer (1991: 52), Thompson et al. (2006: 25)

	SUBJECTS	OBJECTS
1SG	*ah*	*i*
2SG	*miʔ*	*mi*
1PL	*isi*	*isa*
2PL	*misi*	*misa*

There is no inclusive/exclusive distinction in the Pomoan languages either, so the Yuki innovation could not have come from the south. The distinction is widespread in the languages to the east of Yuki (Jacobsen 1980). It is present in the adjacent Wintun languages Nomlaki and Patwin and is reconstructed for Proto-Wintun. Shepherd reconstructs a Proto-Wintun inclusive pronoun **p'e* (Shepherd 2006: 56). (It is unrelated to the second person forms in **mi*.) The Proto-Wintun exclusive dual and plural pronouns are based on the first person singular **ni/ne* plus number suffixes.

(27)   Wintun first person plural pronouns: Shepherd (2006: 38–56)

	SUBJECTS	OBJECTS
Nomlaki		
1SG	*ni*	*ni-s*
1INCLUSIVE.DU	*p'e:l*	
1INCLUSIVE.PL	*p'e:le:*	
1EXCLUSIVE.DU	*ne:la*	
1EXCLUSIVE.PL	*nihtak*	*nihtak-am*
Patwin		
1SG	*čʰu*	*na-t*
1INCLUSIVE.DU	*p'epel*	*p'epel-et, p'epe-:t*
1INCLUSIVE.PL	*p'ele*	*p'ele-:t*
1EXCLUSIVE.DU	*nepel*	*nepel-et, nepe-:t*
1EXCLUSIVE.PL	*neč'u*	*neč'u-t*

The Yuki inclusive/exclusive distinction was likely created on the model of the neighboring Wintun languages, with the addition of an inclusive form to the pronominal system. Yuki speakers did not copy the Wintun form itself; they apparently created a new form based on their own second person pronouns, a not uncommon strategy. The spread

of an inclusive/exclusive distinction through language contact is not uncommon cross-linguistically, as noted by Jacobsen.

> This category is probably one that diffuses fairly readily, as it is purely semantic and not bound to the syntactic structure of a language in the way that, for example, a category of case would be. (Jacobsen 1980: 204).

5. The co-referential pronoun category

Still another pronominal distinction appears in Wappo but not Yuki. Wappo contains an additional third person category of a type referred to in the literature by a variety of terms, among them coreferential, empathetic, anaphoric, logophoric, cross-clause reflexive, and non-clause-bounded reflexive. These pronouns are used for third person referents that are coreferential with the subject of their clause or a higher clause. (They are not used for objects that are coreferential with the subject of the same clause, because there is another reflexive construction.) The Wappo system is described in Li & Thompson (1993). The special coreferential pronouns are abbreviated CO.

(28)   Wappo third person pronouns: Thompson et al. (2006)

	SUBJECT	OBJECT	POSSESSOR (ALIENABLE)
3SG	*cephi*	*te*	*te-meʔ*
3PL	*ceko:ti*	*ceko:to*	*ceko:tameʔ*
3SG.CO	*me*	*me-meʔ*	*me-meʔ*
3PL.CO	*mesa*	*mesa-meʔ*	*mesa-meʔ*

The coreferential pronouns often appear in dependent clauses.

(29)   Basic third person: Thompson et al. (2006: 30)
       Ah te uwa pihkahse te=thu cewstaʔ.
       'I asked <u>him</u> if <u>he</u> was feeling bad.'

(30)   Coreferential third: Thompson et al. (2006: 28)
       Thal yoh cephi me hak'še hah-šiʔ.
       'What does she say <u>she</u> wants?'

They also appear in alienable possessive constructions.

(31)   Wappo basic third person possessor: Sawyer (1965: 51)
       Ah te=meʔ papel' pehkhiʔ.
       'I am looking at <u>her</u> book.'

(32)   Wappo coreferential possessor: Thompson et al. (2006: 27)
       Cephi me=meʔ papel' peh-khiʔ.
       'She is looking at <u>her own</u> book.'

For inalienable possessive constructions, especially frequent with kinship terms, there is a special third person coreferential possessive prefix.

(33) Coreferential inalienable possession: Radin (1924: 4)
      <u>*Mé*</u>*=tewélalo'kwen* <u>*mé*</u>*=misi tó'ta'.*
      'When <u>he</u> returned, (he) whipped <u>his</u> wife.'

Wappo's only relative Yuki lacks such a pronominal category. The immediate neighbors to the west, however, the Pomoan languages, have just such a category.

(34) Central Pomo third person pronouns

	AGENT	PATIENT	POSSESSOR
3SG	*mu:l*	*mú:ṭu*	*mú:kʰe*
3PL	*mú:ṭuya*	*mú:ṭuyal*	*mú:ṭuya:ʔkʰe*
3SG.CO	*ṭi:*	*ṭí:ṭo*	*ṭí:ʔkʰe*
3PL.CO	*ṭíya*	*ṭíyal*	*ṭíya:ʔkʰe*

The pronouns are required in exactly the syntactic contexts described for Wappo, when the referent is the same as the subject of that clause or a higher clause (Mithun 1990).

(35) Central Pomo syntactic requirement: Frances Jack, speaker p.c.
      Mé:n=ʔṭi   *mú:ṭuya*   <u>*ṭí-ya:-ʔkʰe*</u>   *čanú*   *ʔel,*
      so=but   3PL   3CO-PL-POSS   word   the

      hínṭil   *čanú*   *ʔel*   *dí-m-ma=ʔle.*
      Indian   word   the   hold-ESSIVE-COLLECTIVE=CONDITIONAL

      ʔa: <u>*ṭíyal*</u>   *ba-yé:n=ʔkʰe*   *kay*   *do:*
      1SG   3CO-PAT   orally-teach-IMPFV=FUT   also   QUOT

      hí-č-a:q-a.
      say.PL-SEMELFACTIVE-DISTRIBUTIVE-now

      'But they could also hold onto <u>their own</u> Indian language. (They) say I should teach <u>them</u>.'

The Pomoan languages also contain a special coreferential possessive pronominal prefix for inalienable possession, primarily relationships to certain near kinsmen. The form of that prefix is *ma-*, exactly as in Wappo. The prefix can harmonize in fast speech with a front vowel in the following root to *me-*, again as in Wappo.

(36) Central Pomo coreferential inalienable possession: Frances Jack
      Mí: *k'ayé:*   *ʔčʰá:-w*   <u>*ma-ṭʰé-l*</u>   *q'alá:w=hlaw.*
      there   alone   live-PFV   3CO.POSSESSOR-mother-PATIENT   die-PFV=after
      'He lived alone up there after <u>his</u> (own) mother died.'

The third person coreferential pronominal category was obviously copied. The details of usage are the same in Wappo and in the Pomoan languages. The forms of the independent pronouns are not: the Wappo pronouns are based on a root *me*, and the Pomoan pronouns on a root *ṭi:*. Intriguingly, both Wappo and the Pomoan languages also have special possessive pronominal prefixes for this category used only with terms for certain kinsmen. Here the form is the same in Wappo and Pomoan: *ma-*. The form *ma-* can be reconstructed for Proto-Pomoan. But Radin, who worked with Wappo early in the 20th century, suggests a possible etymology for the pronouns and the prefix within Wappo.

> There is little doubt but that we are dealing here with two pronouns, *te* 'that, he';
> *me* 'that', referring to oneself. The latter is, in short, a reflexive related to *mai'*
> reflexive. (Radin 1929: 143)

6. Reference across sentences

Yuki contains two particles that appear pervasively in the narrative material collected by Kroeber at the beginning of the 20th century. One is *sạ-éi* and the other is *si-éi* (with variants *si-ei, si-ii*, and *se-éi*). Both are rendered as 'and' in Kroeber's free translation. Because of space limitations, the Yuki text cannot be given here, but the translation is in (37), with the *sạ-ei* and *si-ei* of the original.

(37)   Yuki text: Coyote and Wildcat: Kroeber (1911: 375)
         Wildcat, it is said, was playing with a deer heart.
         Coyote, it seems, was watching (him) from somewhere.
         And [*sạ-éi*] (he) gradually walked toward (him).   S
         And [*si-ii*] (he) was again throwing (it) on a slope, they say, playing.   D
         And [*se-éi*] that Coyote was watching (him) from somewhere.   D
         And [*se-éi*] (he) kept doing that, they say, playing.   D
         And [*se-éi*] then Coyote revealed himself.   D
         And [*se-éi*] Wildcat stopped his playing.   D
         And [*se-éi*] Coyote asked, "What were you playing, Sister's Son?"   D
         And [*se-éi*] Wildcat said, "What was I doing? Nothing. Just sitting here."   D
         "That's not true, Sister's Son.
           I watched you throwing something pretty smooth for a long time."
         And [*si-ei*] Wildcat said, "What was I throwing?"   D
         And [*sạ-éi*] (he) threw an oak gall which (he) had on the slope.   S
         And [*se-éi*] Coyote said, "Not so, not so, Sister's Son.
           I watched for a long time", as that Wildcat sat.
         And [*se-ei*] "What makes Sister's Son think me foolish?   D
           Sister's Son regards me as a baby?"
         And [*sạ-éi*] "Come, Sister's Son, play that!"   S
           Then I will watch you, Sister' Son."

And [*si-éi*] now that Wildcat threw that deer heart on the slope.   D
And [*se-éi*] Coyote watched.   D
And [*se-éi*] again (he) threw (it) on the slope.   D
And [*se-éi*] when (it) rolled back, Coyote snapped at (it).   D
   For that, Wildcat almost cried.
And [*ṣạ-éi*] then (he) took (it). "I've known you for a long time."   S
And [*si-éi*] Coyote said, "It is not so, it is not so, Sister's Son;   D
   I was just about to help you play, Sister's Son."
And [*se-éi*] Coyote said, "Come, Sister's son, hurry, Sister's Son.   D
   Does Sister's Son think I am a baby?"
And [*se-éi*] (he) threw (it) on the slope.   D
And [*se-éi*] (it) rolled.   D
And [*se-éi*] as (it) began to roll, (he) snapped (it) up.   D
And [*ṣạ-éi*] (he) split (it).   S
   For that, Wildcat cried.
And [*se-éi*] pressing (it) together, (he) gave (it) (to him).   D
And [*ṣạ-éi*] (he) said, "Here, Sister's Son, here, Sister's son."   S
And [*ṣạ-éi*] (he) gave (it) (to him).   S
And [*si-éi*] again (he) threw (it).   D
And [*se-ei*] as (it) began to roll back, (he) snapped (it) and swallowed (it).   D
And [*si-éi*] Wildcat cried all the way back to his house.   D

An obvious question is how *ṣạ-éi* and *si-éi* differ. Kroeber explains that the first indicates that the subject of the following sentence is the same as that of the previous sentence, and the second that it is different.

> The most frequent of these connectives are *ṣạ* and *si*, which can be used independently or as a base for other connectives. They form a contrasting pair. *Ṣạ* indicates that the subject of the sentence which it opens is the same as the subject of the preceding sentence. *Si* indicates a corresponding change of subject. These two particles enable the speaker to narrate at great length complicated and varying reciprocal actions of two persons without any designation of them, by either noun or pronoun, after their first mention. (Kroeber 1911: 369)

(The second element of each is a hearsay evidential *íi* or *éi*.)

To show how the system functions, initials have been added in (37) to the right of the lines, S (SAME) when the sentence is introduced with *ṣạ-*, and D (DIFFERENT) when the sentence is introduced with *si-*. Several additional introductory linkers exist, contributing the distinctions below.

(38)   Additional distinctions in Yuki

    -k: *si-k, ṣạ-k, si-k-ii, ṣạ-k-ii*   'and' (contemporaneous)
    -m   *si-m-ii*, etc.   'and finally'
    -kiṭ   *si-kit, ṣạ-kiṭ-ii*   'and then' (sequential)
    -kạ   *si-kạ*, etc.   'thereupon' (action of preceding continues)

The last, *si-ka* 'thereupon', occurs in the text in (36) above.

(39) Yuki 'thereupon'
      'Come, Sister's Son, play that! Then [*si-ka*] I will watch you, Sister's Son.'

It is easy to see from the text that these sentence connectors serve an important role in keeping reference straight. There are few overt mentions of the third person referents: Coyote, Wildcat, and the ball. The connectors signal referential continuity and discontinuity.

The elaborate Yuki system has no counterpart in Wappo. Wappo contains connective particles, but none reflect shifts in subject. The neighboring Pomoan languages, however, contain clause-linking markers that are strikingly similar to those in Yuki. Dependent clauses are marked by sets of enclitics (McLendon 1979, Oswalt 1983, O'Connor 1987, Mithun 1993, Walker 2009). The dependent clause markers distinguish irrealis from realis clauses, and within the realis category, simultaneous from consecutive events. All of the markers have two forms, one, here called SAME, linking clauses portrayed by the speaker as essentially part of the same event, the other, here called DIFFERENT, linking clauses portrayed as a separate event.

(40) Central Pomo clause linkers: Mithun (1993)

	SAME	DIFFERENT
IRREALIS	*-hi*	*=hla*
REALIS		
SIMULTANEOUS	*-in*	*=da*
CONSECUTIVE	*-ba*	*=li*

 Examples of their use are below.

(41) Coincident same *-in*: Frances Jack, speaker p.c.
      Ya   qʰá   ʔel   pʰwí-ma-n
      1PL.AGT   water   the   see-COLLECTIVE-SIMULTANEOUS.SAME
      p'k'é:l-m-aq-ač'.
      wish-COLLECTIVE-PL-IMPFV.PL
      'We look at the water wistfully.' ('Looking at the water, we wish.')

(42) Coincident different *=da*: Frances Jack, speaker p.c.
      ʔa: čʰó-w=da,   ma
      1SG   be.not-PFV=SIMULTANEOUS.DIFFERENT   2SG
      ʔ-bá:n-č'i-w=ʔkʰe.
      mentally-suffer-REFLEXIVE-PFV=FUT
      'When I am gone, you will suffer.'

(43) Sequential same *-ba*: Frances Jack, speaker, p.c.
      Qʰá   bé-č-ba   bal   mi: bé-m.
      water   hold-SML-CONSECUTIVE.SAME   this   there   hold-ESSIVE
      'She got the water and stood there holding it.'

(44)   Sequential different: *=li*: Frances Jack, speaker p.c.

> *Bal*   *há=w*   *mčá-:č-'=li*
> this   mouth=in   throw.PL-SML=<u>CONSECUTIVE.DIFFERENT</u>
> *bal*   *mú:ṭu* *há=w*   *čóq'.*
> this   3PAT   mouth=in   sting-PFV
> '<u>When</u> he threw them into his mouth, it stung him.'

Not surprisingly, there is a strong correlation between same event and same subject on the one hand, and between different event and different subject on the other. Situations packaged as a single event typically share the same topical participant. Examination of an extensive body of spontaneous speech in Central Pomo reveals that eventhood rather than subjecthood is the determining factor in choices among the clause linkers in that language. Researchers working with other Pomoan languages have described those systems in terms of subjecthood or agenthood. The systems are thus often referred to as 'switch-reference'. Because continuity of events and subjects so often cooccur, it is easy to imagine that one kind of system could evolve into the other, as new speakers reinterpret the basis for choices among markers.

Central Pomo and other Pomoan languages show a further development. Whole sentences are often linked to previous discourse by a particle like *me:n* 'so, thus', plus the verb *ʔi-* 'be, do' with a dependency marker. The whole could be translated 'thus being', thus doing', 'thus having done', etc. The sentence in (45) was introduced with *mé:n ʔin* containing a SIMULTANEOUS SAME marker. It linked this sentence to the previous one as a continuation of the same idea.

(45)   Central Pomo simultaneous same: *-in*: Frances Jack, speaker p.c.

> 'After I am gone, you will suffer. Nobody will come around and cook your food and set it before you.'
> *Mé:n ʔi-n*   *ʔe*   *ʔá:*   *bál*   *šṭ'ó,*
> so   be-<u>SIMULTANEOUS.SAME</u>   COP   1SG.AGT this   now
> *ʔa:*   *qašóy-da,*   *ʔa:*   *mú:l* *mkʰe*   *yhé-:n.*
> 1SG.AGT alive=SIM.DIFF   1SG.AGT that   you-for do-IMPFV
> 'That is the reason why now, while I am still alive, I do this for you.'

(It should be noted that in the second line of (44), the dependent clause 'while I am still alive' is set off with the SIMULTANEOUS <u>DIFFERENT</u> marker *=da*, though this clause has the same subject as the matrix 'I do this for you.' It is the situations that are portrayed as different, being alive and doing this, not the subjects, which are both 'I'.)

The sentence in (46) was linked to the previous sentence as representing a simultaneous but different event.

(46)   Simultaneous different: *=da*: Frances Jack, speaker p.c.

> 'The man I call my grandfather, I cared for him a lot.'
> *Mé:n=da*   *mú:ṭu* *me:n* *mu:l* *míhduw*   *ʔel*
> so=<u>SIMULTANEOUS.DIFF</u> 3SG.PAT so   3SG   say-PFV   the

ṭo:	há	ʔṭʰal.
1SG.PATIENT	mouth	hurt

'Her talking that way about him insulted me.'

The sentence in (47) was linked to the previous sentence as part of the same idea.

(47)   Consecutive same: -*ba*: Frances Jack, speaker p.c.
       'So they say today, one fish swims around with lots of bones.'

Mé:n	*ʔí-ba*	*bal*	*dú:*	*ʔel*	*kay*	*yá:*	*čʰó-w.*
so	be-CONSECUTIVE.SAME	this	other	the	also	bone	be.not-PFV

       'And so now the other has no bones.'

The sentence in (48) was linked to the one before as a distinct event: 'The sucker won. Thus it started.'

(48)   Consecutive different =*li*: Frances Jack, speaker p.c.
       'So they started playing. They played for a long time. Finally, there was a show-down. The sucker won.'

Mé:n	*ʔí-w=li*	*mída*	*hṭów*
so	be-PFV=CONSECUTIVE.DIFFERENT	there.at	from

há:dabič'	*ʔdóma*	*bal,*
start-SEMELFACTIVE-PFV	HEARSAY	this

       'And so, they say, that is how it all started. One fish offered all of his bones to another, to another fish.'

The Yuki system of sentence connectors is in many ways similar to those of the Pomoan languages, particularly in distinguishing same versus different subject/event. None of the forms match, however, and there is no internal evidence within Yuki of a development from dependency markers comparable to that in Pomoan. The system cannot be reconstructed to a possible Yuki-Wappo proto language, because there is no counterpart in Wappo. The Pomoan system, by contrast, can be reconstructed for Proto-Pomoan (Oswalt 1976: 297). Circumstances thus suggest that a set of sentence connectors developed in Proto-Pomoan out of a system of dependency markers that distinguished not only realis/irrealis and simultaneous/consecutive events, but also same/different subjects or events. Still in Pomoan, sentence connectors were formed from the verb 'be, do' with the dependency markers. The Pomoan sentence connectors, which distinguished same/different subject or topic, were then replicated in the neighboring Yuki, but using native material.

    There may be more to the story, however. The Maidun languages, spoken to the east of Yuki, also contain switch-reference systems. Clause and sentence connectors in Konkow, the Maidun language closest to Yuki geographically, are described by Ultan (1967). Clause subordinators indicate whether the subject of the dependent clause is the same as or different from that of the matrix.

(49)   Konkow clause subordinators: Ultan (1967: 115–116, 120, 164)

    -c'e   DIFFERENT.

        occurs when the subjects of the dependent and main clauses are different: 'when, as soon as, while, if'

        mì màko: wó:timinc'ehàj, nì mýt'akì:n.

        '<u>If</u> you catch the fish, I'll roast it.'

    -isʔan   SAME

        used when subjects of the participial and the main clause are identical. Its functions are otherwise equivalent to those of *-c'e*.

        hỳbo:di ʔýdiknosʔàn, bìspajk'úton nìk!

        '<u>When</u> you get to my place, wait for me!'

There is also a set of sentence connectors that consist of the anaphoric demonstrative *ʔá* plus a suffix. One contains the suffix *-c'e* described above. (Without the surrounding text it is not possible to determine whether the connector is sensitive to subject or topic continuity or not.)

(50)   Konkow sentence connector *ʔá-c'e* 'so': Ultan (1967: 164)

    ʔác'e   'so, therefore, then'

        ʔác'e, májdym ʔama ʔík'altin.

        '<u>Then</u> the people dried it.'

The switch reference system occurs in all languages of the Maidun family, and it is reconstructible to Proto-Maidun (Oswalt 1976: 302). Maidu Proper contains the subordinator *-c'et*, apparently cognate with the Konkow DIFFERENT subordinator (Shipley 1964: 52). Although Shipley does not discuss continuity of reference, all of his examples of this suffix show shifts in subject.

(51)   Maidu subordinator *-c'et*: Shipley (1964: 52)

    -c'et   'although, at the moment that, while, whatever'

        Tetét woʔó-c'et, kak'ás wisétmenmàpem.

        'No matter how much they howl, I don't get frightened.'

Maidu has another subordinating suffix *-myni*, which also shows discontinuity of reference. The two suffixes differ in the relationship between the events they mark: *-c'et* relates simultaneous events, while *-myni* relates consecutive ones. The difference mirrors those in Yuki and the Pomoan languages. Other suffixes *-wetén* 'as soon as, having' and *-dom* '-ing' link clauses with continuity of subject (or eventhood).

    Maidu Proper also contains sentence connectors based on the demonstrative *ʔa* plus various suffixes, among them the clause connectors just mentioned: *ʔa-c'et* and *ʔa-myni*. The connector *ʔa-c'et*, is typically glossed as 'however', 'but', 'whereupon', or not at all. In the texts recorded by Shipley, it introduces sentences describing a simultaneous event or state with a shift in subject.

(52)   Maidu connector: SIMULTANEOUS DIFF *Ɂa-c'et*: Shipley (1963: 10)
        'Along toward dark, he arrived back at camp.'
        Ɂac'ét, jákyc'òjɁam.
        '<u>But</u> it clouded up.'

(53)   Maidu connector SIMULTANEOUS DIFF: Shipley (1963: 12)
        'Then they slept.'
        Ɂac'ét, myjím kylókbem tújc'òjɁam.
        'That old woman slept too.'

The other major Maidun language, Nisenan, shows a similar pattern even more robustly. In the texts recorded by Uldall & Shipley (1966), most sentences begin with either *hac'e* or *han*, the first occurring with a a shift in subject, the second with subject continuity.

So what does this mean for the story behind the Yuki sentence connectors? Their development could have been stimulated from several possible directions. It also points to a larger phenomenon. Northern California is an ancient linguistic area, with deep layers of contact effects. Multilingualism has long been the norm. It is probably no accident that switch-reference (or switch-event) systems can be reconstructed for both Proto-Pomoan and Proto-Maidun, families that have never been considered related genetically. In fact systems with similar features exist in languages all over California (not in all languages), though the forms of the markers are different. There is every indication that the developments of many of these systems were stimulated by contact. Because they are so old, and because we cannot always know the prehistoric locations of the communities, it is impossible to know for certain where they originated and how they were copied.

7. Conclusion

Identifying the role of language contact in shaping the development of morphological systems can present special challenges, because most often, no actual substance is copied. Speakers rarely borrow bound morphemes, especially on their own. Bilinguals more often create categories in one language on the model of another, out of native material. What is striking in the Northern California languages examined here is the detail of the similarities among major categories and constructions in these genetically unrelated but neighboring languages.

The Yuki pronouns closely resemble those of its relative Wappo, but surprisingly, they also resemble those of their unrelated neighbors. The Yuki and Wappo first person singulars match those of their Pomoan neighbors, and their second person singulars match not only those of Pomoan but also those of their Wintun neighbors to the east. It is generally agreed that there is no evidence of any genetic relationship among the three families: Yuki-Wappo, Pomoan, and Wintun. The resemblance is particularly striking

against the relative paucity of other borrowed lexical items, and also a commonly-held assumption that pronominal forms are never borrowed.

More surprising is the fact the Yuki pronominal categories show little resemblance to Wappo, but match those of the neighbors in the finest detail. Core categories in both Yuki and Pomoan pronouns and nouns are semantically based, grammatical Agents and Patients. Grammatical Agents are formally and semantically unmarked. Grammatical Patients are not in control but significantly affected. Patient case is distinguished only on pronouns referring to persons, and on some nouns, generally some core kinship terms. In both languages, speakers can opt not to specify the affectedness of referents and use the unmarked Agent forms. Significantly, the actual forms of the case markers are completely different in Yuki and Pomoan.

Yuki shows an inclusive/exclusive distinction in its first person pronouns, but Wappo does not. The Yuki distinction appears to be an innovation modeled on that in the Wintun languages to the east. It was apparently created through the innovation of an inclusive category. The Yuki exclusive pronouns match those in Wappo, and the Wintun exclusive pronouns are transparently based on the first person singular forms. The forms of the Yuki and Wintun inclusive pronouns are completely different, however.

The Wappo pronominal paradigm contains a special coreferential third person category not present in Yuki. The category is present, however, in the languages of the Pomoan neighbors to the west. These pronouns are used for third persons coreferential with the subject of the same clause or a higher one. The precise details of use are the same, but the forms are not, with one exception. A special coreferential possessive pronominal prefix is used with core kinship terms. It has the same form *ma-* in both Wappo and all of the Pomoan languages.

Finally, Yuki shows pervasive use of sentence connectors that distinguish continuity/discontinuity of subject reference. Wappo shows no comparable markers. But Yuki's neighbors to the south, the Pomoan languages, and its neighbors to the east, the Maidun languages, both show such sentence connectors. It is generally agreed that Yuki, Pomoan, and Maidun are genetically unrelated. Linking devices that track continuity and discontinuity in this way, sometimes called 'switch-reference' markers, are actually pervasive among languages indigenous to Northern California, part of a group of shared features characterizing the region as a linguistic area. Here again, the markers themselves are not similar in form.

Overall the languages share relatively little substance, but they do show striking similarities in certain morphological categories and patterns, and in fine details of usage. The situation can be understood in terms of the situations which produced them. So far as is known, there were not strong differences in prestige among the languages indigenous to California. Comments from speakers born early in the 20th century indicate that language was generally viewed in a utilitarian way, primarily as a tool of communication. People usually spoke the language of the community they were in, out of respect. When a person chooses to speak a particular language, he or she normally focuses on

the lexicon: speaking language X means using the words of language X. More abstract patterns of expression, or frequencies of use of particular constructions, are less likely to be under conscious control. For this reason, customary patterns of use are easily carried from one language to another by multilinguals. The ultimate crystallization of rhetorical patterns into grammar can result in the kinds of morphological structures we see in California, with fine similarities in structure and usage, but few similarities in substance.

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