Chimariko Argument Structure:
Agents and patients, person hierarchy, and first person obligatoriness

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1. Introduction

- **Agent-patient based and hierarchical argument marking** are typologically uncommon features, but they have been reported for a number of Native American languages (Mithun 1991, 1999, 2008, in press)

- In **North America**, these languages are found in (1) **Northern California** (Chimariko, Hupa, Shasta, Karuk, Yurok, Wiyot, Yana, Yuki, Pomoan family), (2) **Northwest Coast** (Haida, Tlingit), and (3) **Southeast** (Muskogean family, Chitimacha, Tunica, Natchez, Atakapa), and in other areas.

- The **details** of each system vary. This paper focuses on the argument structure found in **Chimariko**, an extinct language from Northern California

- Chimariko is of particular interest and complexity as it reveals a **hierarchical marking system favoring speech act participants over third persons**, in addition to its **agent-patient distinction for first persons**

- The system found in Chimariko points to **subjectivity as a motivation for grammar** (Scheibman 2002), and to **affectedness as a governing factor for the patient category** (Mithun 1991).

2. Language & Data

2.1 The Chimariko language

- Chimariko is an extinct language of Northern California (see map in the appendix)
- The last speaker died in the 1940s
- The Chimariko tribe was very small numbering about 250 people in the 1850s
- There are no closely related languages => language isolate
- There are hypotheses on more distant genetic relationship: Hokan (based on Hokan, Chimariko is related to Karuk and Shasta, two other Northern California languages)
2.2 Chimariko Data

- **Main source of data:** 3500 pages of handwritten notes collected by a linguist, John Peabody Harrington, in the 1920s from the last speakers; available on microfilm (see appendix for sample page)
- **The notes include:** narratives with translations, sentences, vocabulary items, ethnographic information
- **Other sources:** data collected by other linguists and anthropologists (wordlist in Powers 1877; grammatical sketch in Dixon 1910; material from Sapir edited by Berman 2001; Grekoff 1950-1999)

2.3 Chimariko Typological Profile and Argument Marking

The typological profile of Chimariko comprises the following features:

1. Head-marking (core arguments are obligatorily marked on the verb; possession is marked on the possessed)
2. Case-marking occurs with instruments and companions; other nominal syntactic relations are unmarked
3. Mainly suffixes (some pronominal prefixes; possessive prefixes for inalienable possession)
4. Mostly agglutinating (roots and affixes are clearly separable with one exception: most verb roots have an initial vowel which sometimes fuses with certain prefixes)
5. Synthetic to polysynthetic (many different verbal affixes; verbs are often composed of three or more morphemes; but: sometimes, only two or three morphemes occur in one verb, and there are numerous mono-morphemic words)
6. Verb-final word order (but: only one discourse genre: oral narratives)
7. No preference in the order of nominal elements (Adj/N + N/Adj; Det/N + N/Det)

Chimariko Argument Marking

- Chimariko has free and bound personal pronouns
- The free pronouns are simple in form and mark only person and number but not semantic roles (1SG, 1PL, 2SG, 2PL, 3; see Table 1)

Table 1: Free Personal Pronouns

<table>
<thead>
<tr>
<th></th>
<th>Singular</th>
<th>Plural</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>no’ot</td>
<td>načʰihitot</td>
</tr>
<tr>
<td>2</td>
<td>mamot</td>
<td>mamqʰetot</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>pʰa’mot</td>
</tr>
</tbody>
</table>

1. Harrington 020-1125¹
   - mamqʰetot qʰuk’oʰ’nat č’imarot
   - mamqʰetot qʰ-uk’oʰ-na-t č’imar-ot
   - 2PL 2PL-talk-APPL-ASP person-DEF
   - ‘Did you (plural) talk to the person?’

- Chimariko also has two dual pronouns: no’otowa ‘we two’ and mamutowa ‘you two’

¹ The first three digits refer to the microfilm reel, and the last four digits refer to the page on the reel.
• The **bound pronominal system** is highly complex, manifesting an agent-patient distinction (=> 3) as well as hierarchical behavior (=> 4)  
• Bound pronominal affixes are either prefixed or suffixed depending on verb stem class

Table 2: Pronominal affixes for all verb stems

<table>
<thead>
<tr>
<th></th>
<th>Singular Agent</th>
<th>Plural Agent</th>
<th>Singular Patient</th>
<th>Plural Patient</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Verbal prefixes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First person</td>
<td>y-ˀ, ˀy-</td>
<td>ya-</td>
<td>ěh-</td>
<td>ěhˀa-</td>
</tr>
<tr>
<td>Second person</td>
<td>m-</td>
<td>qʰ-</td>
<td>m-</td>
<td>qʰa-¹</td>
</tr>
<tr>
<td>Third person</td>
<td>h-</td>
<td>h-</td>
<td>h-</td>
<td>h-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Singular Agent</th>
<th>Plural Agent</th>
<th>Singular Patient</th>
<th>Plural Patient</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Verbal suffixes</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>First person</td>
<td>-i(ī)</td>
<td>ya-</td>
<td>- ěh</td>
<td>- ěhˀ</td>
</tr>
<tr>
<td>Second person</td>
<td>-m</td>
<td>-qʰ</td>
<td>-m</td>
<td>-qʰ</td>
</tr>
<tr>
<td>Third person</td>
<td>-h/Ø</td>
<td>-h/Ø</td>
<td>-h/Ø</td>
<td>-h/Ø</td>
</tr>
</tbody>
</table>

¹ occurs only in transitive sentences with third person actors

• Core arguments are obligatorily marked on the predicate as pronominal affixes, whether coreferential nominals are also present in the clause or not

2. ‘Fugitives at Burnt Ranch’
   č’imar xotai heṭaheskut uwatkut, heṭaheskut č’utamdače
   [č’imar xotai h-etahe-sku-t] [uwa-tku-t] [h-etahe-sku-t] č’utamdače
   man three 3-run.away-DIR-ASP Ø-go-DIR-ASP run.away-DIR-ASP Burnt Ranch
   ‘Three men came as fugitives, they ran away to Burnt Ranch’
   
   ⇔ coreferential nominal č’imar xotai ‘three men’ in the first clause
   ⇔ no coreferential nominal in the second and third clauses
   ⇔ phonetically weak third person pronoun h- dropped in uwatkut ‘they came’

3. **Agent/patient system**

• Agent/patient distinction found in transitive and intransitive clauses for first persons
• In general, second and third persons do not show such a distinction except for second person plural forms in transitive clauses with third person actors (see 3.2)

3. ‘Woman wanders’
   no’ot č’ušehemde’w k’otihut, ṛawa hida imamda
   no’ot č’ušehemde’w k’ot-i-hu-t ṛawa hida i-mam-da
   1SG 1SG.P-take.along-DIR-DER run.away-1SG.A-CONT-ASP house lots 1SG.A-see-ASP
   ‘They took me off, I fled, I saw lots of houses’
4a. ‘Fugitives at Burnt Ranch’
makʰotaxantinda, k’otnihu  
m-akʰo-ta-xan-tinda k’ot-ni-hu  
2SG-kill-DER-FUT-PROG run.away-IMP.SG-CONT  
‘He is going to kill you, run away’

ˀirˀir musunda mamot, k’otnihu  
ˀirˀir m-usu-nda mamot k’ot-ni-hu  
stranger 2SG-be-ASP 2SG run.away-IMP.SG-CONT  
‘You are a stranger, run away’

Example 3: first person agent and patient affixes, čʰ- and i- respectively, differ,
Example 4: second person singular m- does not distinguish agent and patient forms.

• **Second person plural** affixes, however, show a distinction between agent and patient forms, qʰo-/qʰ- and qʰa- respectively

5a. Harrington 020-1126  5b. Harrington 020-1126
qʰuk’o’nan  qʰak’o’nan
qʰ-uk’o-ʔna-n qʰ-a-k’o-ʔna-n
2PL-talk-APPL-ASP 2PL.P-talk-APPL-ASP
‘You talked to him’ ‘He talked to you’

• A system where second person plural but not second person singular affixes show a distinction between agent and patient forms appears irregular and confusing
• **BUT:** Second person plural forms are also special in other Northern California languages, such as Karuk, and are used to show respect to elders (Mithun 2008)
• Only **Agent-patient distinction for first persons** occurs with ditransitive, transitive, and intransitive clauses
• The distinction is reflected only in the pronominal affixes; free pronouns show no distinction between agents and patients

6a. Harrington 020-1118  6b. Harrington 020-1113
no’ot ʔik’onip  no’ot ʔewčʰuxanat
no’ot ʔ-ik’o-nip no’ot ʔew-čʰu-xana-t
1SG 1SG.A-talk-PST 1SG big-1SG.P-FUT-ASP
‘I was talking’ ‘I am going to be big’

6c. ‘Woman wanders’
ˀiwo  hi.ta  č’awund amew  
ˀiwo  hi.ta  čʰ-awu-nd amew  
1SG-A-stay lots 1SG.P-give-PROG food  
‘I’ll stay here, they gave me lots of food’

Examples 6a (first person agent) and 6b (first person patient) are intransitive clauses
Example 6c contains a ditransitive clause with a first person patient pronoun
Example 6d shows that the agent/patient distinction for second person plural forms occurs only in transitive clauses (otherwise 6d should show the second person plural patient form qa- as in 5b give that tew ‘to be big’ takes the patient forms)

- The patient marking in intransitive clauses depends on the verb stem
- Due to lexicalisation and semantic change, a clear patient category involving affectedness, involuntary actions or the lack of control is no longer observable for the verbs with patient markers, although many describe actions or states where the participant has no or limited control and is affected (see Mithun 1991).
- Predicates with patient markers include actions, such as give a warcry, cry out, yell (animal), blink, grow up, fall, and sneeze and others
- Predicates with patient markers include states, such as be called, be mad, be old, be pregnant, be exhausted, be angry, be soft, be decayed, be black, be red and others
- A number of verb stems can take either agent or patient affixes

4. Hierarchical system

- In general, only one core argument is marked on the predicate following a hierarchy whereby speech act participants, i.e. first and second persons, are favored over third persons
- The hierarchical system is apparent only in transitive clauses
9. ‘Dailey chased by the bull’

\[
\text{moxowetnan}, \ p^h\text{a}^\text{yit} \ p^h\text{uncarye} \\
\text{mo-\text{x-owet-na-n} \ p^h\text{a}^\text{yit} \ p^h\text{uncar-ye}} \\
2SG-NEG-hook-NEG-ASP \ thus.say \ woman-POSS
\]

‘He didn’t hook you, thus said his wife,’

3>2 => 2

Example 7: person hierarchy: when a first person acts on a third, as in \text{yek}^h\text{hotinda} ‘I killed him’, the first person is marked; the first person is also marked in \text{čhaxadu}^?\text{xakon} ‘they will kill us’, when a third person acts on a first

Example 8: person hierarchy: only one person marked on the predicate

Example 9: person hierarchy: when a third person acts on a second as in \text{moxowetnan} ‘he didn’t hook you’, the second is marked on the predicate

- In clauses where only speech act participants occur both participants are marked

\[
2>3 \Rightarrow 2 \quad 3>2 \Rightarrow 2
\]

9a. \text{mokoxana}^? \\
\text{m-oko-xana-}^? \\
2SG-tattoo-FUT-Q

‘Are you going to tattoo her?’

2>1 \Rightarrow 2 + 1 patient

\[
2>3 \Rightarrow 2
\]

9b. \text{q}^h\text{ak}^\text{o}^?\text{na}^? \\
\text{q}^h\text{ak}^\text{o}^?\text{na-}^? \\
2PL-talk-APPL-Q

‘Was he talking to you?’

10a. \text{mexota} \\
\text{m-e-xota} \\
2SG-1SG.P-look.at

‘You look at me’

\[
2>1 \Rightarrow 2 \ + \ 1 \ patient
\]

10b. \text{mixota} \\
\text{m-ixota} \\
2SG-look.at

‘You look at it’

11b. \text{mek}^h\text{oxana}^? \\
\text{m-e-k}^h\text{o-xana-}^? \\
2SG-1SG.P-kill-FUT-Q

‘Are you going to kill me?’

11b. \text{mak}^h\text{oxana}^? \\
\text{m-ak}^h\text{o-xana-}^? \\
2SG-kill-FUT-Q

‘Are you going to kill him?’

Examples 9a and 9b: only one person marked if not only speech act participants involved

Examples 10a and 10b: same verb: if only speech act participants => both persons marked

Examples 11a and 11b: same verb: if only speech act participants => both persons marked

- However, the first person patient marker in 10a and 11a, \text{e}-, differs in shape from the first person patient pronoun in other instances \text{čh(a)}-

\[
\Rightarrow \text{First persons are always marked in Chimariko either as agents or as patients or as undergoers with second person actors}
\]
• Similarly, in imperative constructions a first person patient affix occurs in addition to the imperative affix

• Two sets of imperative affixes: \( n-, ne- \) for commands given to a single person and \( čʰ-, čʰa- \) for commands given to more than one person

• The vowels, \( e \) and \( a \) respectively, indicate a first person patient, i.e. the fact that the undergoer of the action of the command is a first person

\[
\begin{array}{ll}
2SG>1 & 2SG>3 \\
\hline
nek'o'na & nik'o'na \\
n-e-k'o-ʔna & n-ik'o-ʔna \\
IMP.SG-1SG.P-talk-APPL & IMP.SG-talk-APPL \\
'Talk to me!' & 'Talk to them!'
\end{array}
\]

\[
\begin{array}{ll}
2PL>1 & 2PL>3 \\
\hline
čʰuk'o'na & čʰuk'o'na \\
čʰ-ak'o-ʔna & čʰ-uk'o-ʔna \\
IMP.PL-1PL.P-talk-APPL & IMP.PL-talk-APPL \\
'Talk to us!' & 'Talk to him!'
\end{array}
\]

• The only patients marked in addition to an agent are first persons

• The difference between the stem-initial vowel /i/ in 12b and /u/ in 13b is due to a morphophonemic process

5. Summary and Conclusions

• The agent/patient and the hierarchical system are summarized in Tables 3 and 4 below:

<table>
<thead>
<tr>
<th>Actor &gt; Undergoer</th>
<th>Pronoun on verb</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&gt;1</td>
<td>1 agent</td>
</tr>
<tr>
<td>1&gt;2</td>
<td>1 agent</td>
</tr>
<tr>
<td>1&gt;3</td>
<td>1 agent</td>
</tr>
<tr>
<td>2&gt;1</td>
<td>2 + 1 undergoer¹</td>
</tr>
<tr>
<td>2&gt;2</td>
<td>2</td>
</tr>
<tr>
<td>2&gt;3</td>
<td>2</td>
</tr>
<tr>
<td>3&gt;1</td>
<td>1 patient</td>
</tr>
<tr>
<td>3&gt;2SG</td>
<td>2</td>
</tr>
<tr>
<td>3&gt;2PL</td>
<td>2PL patient</td>
</tr>
<tr>
<td>3&gt;3</td>
<td>3</td>
</tr>
</tbody>
</table>

¹ The shape of the first person undergoer is different from the first person patient forms
Table 4: Agent/patient system in intransitive clauses

<table>
<thead>
<tr>
<th>Person</th>
<th>Possible pronoun on verb</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1 agent or 1 patient</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

=> Person hierarchy in terms of argument structure: 1 > 2PL > 2SG > 3
=> Person hierarchy in terms of number distinction 1, 2 > 3 (for free and bound pronouns)

=> The ranking found in Chimariko morphosyntax: first persons > speech act participants > third persons coincides with the widely attested animacy hierarchy (Silverstein 1976)

Similar systems in other North American languages:

- **Haida** (spoken in British Columbia, Canada) shows an agent/patient distinction for first persons only (Mithun 1999)
- **Karuk** (spoken in Northern California) shows a hierarchical system with one participant marked on the predicate following the hierarchy 2PL > 1 > 2SG > 3, in addition to an agent/patient distinction for first persons (Mithun 2008)
- **Yana** (spoken in Northern California) shows a hierarchical system with one participant marked on the predicate following the hierarchies (1) 1, 2 > 3 and (2) actor > undergoer (Mithun 2008)

Subjectivity and affectedness as explanation for Chimariko argument structure:

- Scheibman (2002) examines the influence of the speaker's point of view on language structure and confirms that subjective expressions (use of first persons) are used most frequently in conversation
- The fact that first persons always surface and show the most distinctions can be related to subjectivity, given that speakers tend to use subjective expressions most often in conversation
- If affectedness is a decisive feature for patient marking, it makes sense to have only first-person patient markers, as speakers tend not to know to what degree others are affected

6. Conclusions

- The pattern found in Chimariko illustrates that first persons are better patients than others and that speech act participants are better agents and patients overall
- Demonstrating a close integration of syntax and semantics at the level of predicate-argument relations, this work aims at contributing to theories defining the nature of grammatical relations
7. Bibliography


Harrington, John Peabody. 1921, 1926, 1928. Field notes on microfilm.

Jany, Carmen.

Mithun, Marianne.


LIST OF GLOSSES
A Agent
ASP Aspect
APPL Applicative
COMP Completive
CONT Continuative
DEF Definite
DER Derivational
DET Determiner
DIR Directional
FUT Future
IMP Imperative
NEG Negative
P Patient
PST Past tense
PL Plural
POSS Possessive
PROG Progressive
SG Singular
Q Interrogative
Appendix: Harrington Sample Page

Test for Fugitives at Fort Wash.

If man gatai he tao he iskut
three men came no fugitives
now best, he tao he iskut of hita dake.

Kimot u'min as under, if ask.
These are strangers.
He tao he iskut a sun da.
They are running away.
No kill them.

'Ma toj isku, jagak to ma zi.
I speak the country. We won't kill them.

Ma'ta ga tinda ko bimni hu,
he is go kill you manos bimni hu,
'wir me am on ga (tinda).
you are a stranger (an and pun, antity)
wa wawum, gule na ab
you can understand
go home!

Hitam ni mut hi shemda hita bina
he led him by neck.

10
Appendix: Languages of California