Final Glottalization in Barbareño Chumash and Its Neighbors*

Tsuyoshi Ono, Suzanne Wash, and Marianne Mithun

University of California, Santa Barbara

0. Introduction

Final glottalization in Barbareño Chumash appears in a variety of environments which include reduplication, imperative, and emphasis. Interestingly, we have found that final glottalization occurs in similar environments in neighboring languages which include Uto-Aztecan, Yokuts, and Yuman languages. Below, we will present final glottalization data from Barbareño and report the results of a small survey of the functions of final glottalization in neighboring languages. We hope our paper will stimulate discussion and further investigation by interested individuals.

1. Data

Barbareño data come from microfilms of John Peabody Harrington’s manuscripts. Barbareño transcription has been regularized because Harrington used a variety of symbols for individual segments over the course of his work. The data for other languages are taken from published sources such as grammars and dictionaries. We have generally retained the transcriptions of the sources.

2. Barbareño Chumash Final Glottalization

In this section, we will present final glottalization data from Barbareño Chumash. We will first discuss its phonetic

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1Final glottalization probably appears in similar environments in other Chumash languages. For instance, all the environments described in this paper are reported in Ineseño (Applegate 1972). Final glottalization is also found with transitivization and nominalization in Barbareño. Interestingly, these other uses also seem to be shared by neighboring languages. This awaits for future investigation.

2The microfilms were kindly made available to us by the Santa Barbara Museum of Natural History.
characteristics then present the three different, but related, functions associated with it.

2.1. Form

Several instances of the reduplicated form of ku 'person', recorded by Harrington, can be seen in (1):

(1)
kuk?2 kuhk?2 'people'
kuk?2 kuhk?2
kuk?2 kuhk?2
kuk?2 kuhk?2
kuk?2 kuhk?2

Harrington transcribed final glottalization either as a glottal feature of a particular consonant or as an independent glottal stop. There is also some variation in Harrington's transcription. However, since this glottalization always occurs on the last syllable, we would like to take it essentially as a feature associated with the entire last syllable. As the transcriptions may indicate, final glottalization is usually accompanied by some kind of stress and lengthening.

2.2. Functions

There are three different uses associated with final glottalization in Barareho. First, it is used for emphatic purposes:

(2) Emphasis

sum? w?n 'sweeten'
suum?w?n 'sweeten a lot'
?napesth 'be fine'
?napesth 'be of such fineness'
kf? pi 'now'
kf? pi 'right now'

When it is a female baby ...

dzi naalsa? meq hist? nh

But if it's going to be a male baby ...

The glottalized member of each pair has a more emphatic meaning.

The examples show that this use of final glottalization is observable across different parts of speech. The most notable is the last example where the male baby is contrasted with the female baby and is marked by final glottalization.

The second use of final glottalization is in imperatives:

(3) Imperatives

dzi p?gh 'tell (someone)'
dzi p?gh 'tell him!
ul? d?ah 'grasp'
ul? d?ah 'grasp it!
ap?ik 'put in'
ap?ik 'put (it) in!
exp?ik 'sing'
exp?ik 'sing!'

The final glottalization forms imperatives from stems. Finally, final glottalization accompanies nouns:

(4) Accompaniment to reduplication

dala y?h 'trail'
dala y?h 'trails'
kav? yu 'horse'
kav? yu 'horses'
p?k? 'skin'
p?k? 'skins'
puhw? 'dish'
puhw? 'dishes'

In the above pairs, reduplication indicates plurality, and final glottalization appears with the reduplicated forms.

In all of these uses, final glottalization can be considered to function as an intensifier. Thus, there are two characteristics which unite these different uses of glottalization: position and semantics. For these reasons, we will treat this final glottalization as a single morpheme with one larger function 'intensification'. This is the analysis adopted by Harrington (n.d., Reel 33 Frame 273R and elsewhere). All three of its uses, emphasis, imperative, and accompaniment to reduplication, seem to be highly productive.

It is of interest that the three different uses of final glottalization can be aligned along a kind of continuum of degree of grammaticization:

Emphasis < Imperative < Accompaniment to reduplication

less grammaticized ----------------- more grammaticized

The emphatic use occurs with a variety of parts of speech and seems to be the most discourse-related, two facts that indicate that grammaticization is still under way. Imperatives are (continued...)
Languages from three distinct language families, which are neighbors of Barbareño, exhibit similar uses of final glottalization. In this section, we will present data from these languages.

3.1. Uto-Aztecan

We first examine data from Uto-Aztecan languages from several different branches of the family.

Kawaiisu

In Kawaiisu, a Numic language, final glottalization is used to mark imperatives:

(5) Imperatives (Zigmond et al. 1990:35)

naakee- 
‘to hear’

ka2ati2i=ni
‘eat’

-gwee-
‘go in order to’

\( \text{naake}2e \)

\( \text{ka2ati2i=ni} \)

\( \text{magatii-gwe2e} \)

\( \text{‘to hear’} \)

\( \text{‘eat’} \)

\( \text{‘go in order to’} \)

\( \text{‘ Listen!’} \)

\( \text{‘Feed me!’} \)

\( \text{‘Go feed it!’} \)

Restricted to verbs, and final glottalization is the sole segmental indicator of this function, facts that suggest that final glottalization has become part of the verbal morphology. Finally, in the third use, final glottalization accompanies reduplication: it occurs with nouns and does not have independent status as a meaningful marker. In other words, its occurrence is an automatic consequence of noun reduplication. This may indicate that final glottalization is more fully integrated into the morphology than in the case of imperative.

Mono

Mono, another Numic language, seems to use final glottalization to indicate emphasis:

(6) Emphasis (Lamb 1958:220-221)

cawu ‘good’
pyty ‘after a while’
cawu ‘very good’
pyty ‘pretty soon’

Túbatulabal

Final glottalization seems to have some intensification function in Túbatulabal, which by itself makes up a separate subgroup of the Uto-Aztecan family:

(7) Iterative (Distributive) (Voegelin 1935:110-111)

atatdaha ‘it bursts open’
a’attda ‘they (pl.subj.) burst open’
y’tibika ‘it breaks’
y’tiba ‘it broke in many places’
y’tidtya ‘it is sawed up’
y’tidy ‘the sticks (pl.subj.) got sawed up’
atsabaha ‘it is torn’
a’tsaba ‘it got torn in many places’
a’ama ‘tree is felled (through an impersonal agent)’
a’am ‘the trees (pl.subj.) got felled (in the wind)’

Voegelin uses the terms ‘iterative’, but the term ‘distributive’ seems to capture the function better. Notice in these pairs

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\( \text{kywapaah ‘beside’} \)

\( \text{kywa’paah ‘beside (and very close to)’} \)

\( \text{ma -ni -hi} \)

\( \text{mani’hi ‘just like that’} \)

\( \text{that-like-DEM} \)

\( \text{‘like that’} \)

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\( \text{Kroeber and Grace (1960:138) present the following set of data from Luiseño, a Takic language (another branch of Uto-Aztecan). Though they describe these data in terms of pluralization, it looks very much like the distributive use of final glottalization in Túbatulabal:} \)

(continued...)}
that final glottalization is accompanied by lengthening and stress as in Barbareño.

**Kitanemuk**

Similar examples are found for Kitanemuk, a Takic language:

(8) Accompaniment to reduplication (Anderton 1988:59, 61)

2a-mukpí ‘his nose’ 2a-mu-mukpí ‘points of land’
hayá’y ‘bird sp.’
huyhuy ‘bird sp.’
caycia’y ‘bird sp.’

Though there are no simplex forms for the last three examples, the pattern is still very suggestive. In fact, these forms may never have had simplex counterparts; the final glottalization could have been due to an analogy to regular reduplicated forms which may also have had automatic final glottalization.

Kitanemuk also shows the imperative use of final glottalization:

(9) Imperative (Anderton 1988:698)

wiroy ‘play instr.’ wiroy?’yi imp.

This may not be a very productive process because it is the only example we found in the source.

**Cahuilla**

Cahuilla, another Takic language, shows the imperative use:

(...continued)
kotí ‘cover it!’ kotí2i ‘cover them!’
hol ‘spread it’ hol2i ‘spread them’

hu:yaki ‘pull out two’ hu:i2i/hu:y2i? ‘pull them out, up’

hu:yaq ‘is left over, exceeds’

A closely related language, Serrano, exhibits an intriguing pattern where the glottal seems to be moved to the end to form imperatives (Hill 1967:217):

či’a ‘pick it up!’
pli’a ‘throw it!’

Imperatives (Langacker 1977:54-55)

me-’ -tee-’
me-you-see-IMP
‘Look at me’
paxa -ni ‘enter-CAUS-IMP your-pet
‘Stable your horse’

**Cupeño**

Imperative glottalization also appears in Cupeño, another Takic language:

(11) Imperatives (Hill 1966:164)

yéloce ‘clean’ yéloci2 ‘clean (it)’
célo ‘snip’ célo2 ‘Snip (it)’
kaw ‘be hollering’ kw ‘hollex!’
qá?aye ‘speak Luiseno’ qá?aye2 ‘Speak Luiseno’

3.2. Yokuts

**Wikchamni**

One Yokuts language, Wikchamni, uses final glottalization to mark imperatives:

(12) Imperatives (Gamble 1978:19, 64)

tilí ‘to sink’ tilí? ‘sink!’
taka ‘to stay’ taka? ‘stay overnight!’
čutu ‘to urinate’ čutu? ‘urinate!’

3.3. Yuman

**Diegueño**

Finally, one Yuman language, Diegueño, uses final glottalization to mark imperatives:

(13) Imperatives (Hill 1966:164)

kúpe ‘sleep’ kúpe2 ‘sleep!’
cáspale ‘mend’ cáspe2ale ‘mend!’

Hill (1966:164) also gives the following data, which show that glottalization is not always on the final syllable. According to her, the position depends on the verb class:

kúpe ‘sleep’ kúpe2 ‘sleep!’
cáspale ‘mend’ cáspe2ale ‘mend!’
A fourth possibility is chance. First of all, Langacker (1977:54) states that the imperative suffix -t/ is attested in both Northern and Southern branches of the Uto-Aztecan family: the two divisions of the family. It seems possible to think this morpheme was in the proto-language and it has resulted in a simple final glottalization through the reduction of the vowel in the language we discussed above.

Similarly, some Yokuts languages including Wickchamni seem to use a glottal suffix to mark the future tense (Newman 1944). A semantic change from future to imperative seems to be common cross-linguistically. These facts may independently developed the intensifying final glottalization, and thus the similarity among the languages of these two families may be due to chance.

However, even if the scenarios given above turn out to be correct, we still have to account for the situations in Barbareño and Diegueño, especially the former, which uses the final glottalization extensively. Here we should remind ourselves that the segment in question, glottal stop, is rather small, and naturally involves glottalization in its expressive modes. That is, glottalization may be produced naturally when humans are vocalizing in certain expressive (or excited) modes. It is not impossible that this could lead to the grammaticization of glottalization to encode intensification.

This suggestion would predict that the type of morphemes we described above should then be common in languages of the world. However, our informal survey of other Native American languages does not seem to support this prediction. That is, though there are some languages which have the same kind of morphemes, they are not very common and there is certainly nothing like the kind of concentration of languages which we discussed above.

A third possibility is contact. There are several points which should be made here. First of all, these languages are all spoken in a relatively small area and, in fact, contact among the speakers of these languages has been amply demonstrated (Heizer 1978). It is especially noteworthy that, compared with these groups, Barbareño had a relatively small amount of contact with its northern neighbor, Salinan and that we did not find any relevant patterns in Salinan. An incompletion of the Salinan database is probably not the reason for this because the main portion of the Salinan data was collected by Harrington in 1920s and 1930s. By that time, he was quite familiar with the grammars of Chumash languages. If he had found anything similar in Salinan, he would not have missed it.

Another pertinent fact comes from the Yuman family. Diegueño, which uses final glottalization to mark imperatives, is spoken in the most northern part of the Yuman speaking area, the closest among many Yuman languages to the languages in this paper. These facts regarding Salinan and Diegueño may point to contact as the ultimate factor. However, Mauricio Mixco (p.c.) has pointed out that Kiliwa, another Yuman language spoken in Mexico, also uses final glottalization in similar environments. Intriguingly, Mauricio Mixco also has pointed out that Diegueño and Kiliwa are the only Yuman languages which have this feature and that the migration history of the speakers of these languages is not very clear.

4. Possible Explanations

Thus we have seen that the intensification function of final glottalization in Barbareño is shared by neighboring languages from distinct families. There could be four possible explanations for this phenomenon. A first possibility is common genetic inheritance. However, Chumash, Yokuts, Uto-Aztecan, and Yuman are all separate families. A further grouping has not been successful.

A second possibility is a universal human propensity. It seems reasonable to entertain the idea that human vocalization naturally involves glottalization in its expressive modes. That is, glottalization may be produced naturally when humans are vocalizing in certain expressive (or excited) modes. It is not impossible that this could lead to the grammaticization of glottalization to encode intensification.

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