Squib

The Laryngeal Gesture in Austronesian Languages: A Terminological Quibble

Mark Donohue

NATIONAL UNIVERSITY OF SINGAPORE

Hajek and Bowden (*Oceanic Linguistics* 41:222–224) report on the unusual ejective series in Waimoa, an Austronesian language of East Timor. I argue that, while phonetically odd, it is not a phonological oddity to find ejectives in an Austronesian language, especially not one in the Timor region. A possible historical pathway for the genesis of the ejectives is proposed, and some questions are raised about the acoustic nature of ejectives and about their phonological representation.

Hajek and Bowden (2002) report the "typologically unusual" ejectives of Waimoa. While not disputing the facts in this language (I have only spent a total of about four hours in what was then East Timor), I would like to raise some questions about the unusualness. Why do we suppose that ejectives are phonologically unusual in Austronesian languages? It is true that ejectives are vanishingly rare segments to find reported in the phonetic inventory of an Austronesian language. But is their appearance phonologically unexpected? I would argue that it is not. There are three salient points to my argument: (1) what is the nature of these ejectives, (2) where do these ejectives "fit" in the phonological system of the language, and (3) are there analogues of "ejectives" in other Austronesian languages? I examine these points in the following sections, and conclude that, phonologically speaking, the appearance of ejectives in Waimoa is neither unexpected nor an oddity.

"Ejectives." What are the ejectives in Waimoa? An ejective is a voiceless stop that, during the oral closure, exhibits a closed glottis followed by raising the larynx, which serves to increase air pressure in the oral cavity, so that at the time of release of the oral closure there is some extra … what? There must, logically, be more turbulence following an ejective than a "normal" stop, just as there is more turbulence following an aspirated stop than following an unaspirated stop. But how do we perceive the difference between the turbulence that accompanies an ejective and the turbulence that accompanies aspiration? Aspiration we can understand, running as it does on the VOT parameter, but ejectives are a different beast. I don't dispute their existence, and their distinctive qualities (the ones I have heard have been in Wakashan languages, and they were most memorable), but they seem

Oceanic Linguistics, Volume 42, no. 1 (June 2003)

to be more of a coarticulation than a distinct series. Are any languages reported with, for instance, a consonant like [k͡pʼ], which in my hypothesis would involve triple coarticulation, and so be disallowed?

Phonotactics. Where, judging from the notes in Hajek and Bowden, do these ejectives appear? On the initial segment of putative verbs: the forms that they cite with ejectives are mainly verbal, and they note that they do not occur in clusters, where other consonants (all other consonants?) are able to appear. In other languages of the area, consonantal clusters are restricted to initial position (see, for instance, the excellent description of Tetum in van Klinken 1999, where she describes the initial *k* that is the only consonant permitted in clusters [and then only initially] as an extrametrical consonant).

Now, given a *k > ʔ sound change, not uncommon in the area,[1] we would then have a series of clusters with glottal stops as their first elements. A glottal stop may be readily realized in the environment #__C if C is a sonorant, but not so readily if C is a stop. In just this environment we would almost expect the laryngeal gesture to be realized in effect as a coarticulation of the C.

$$\text{k-C} \rightarrow \text{ʔ-C} \rightarrow \widehat{\text{ʔC}} \rightarrow \text{C}^{\text{ʔ}} \text{ or C'}$$

It is not clear to me just what the difference is, phonetically, between $C^{ʔ}$ and C'; I know that, definitionally, there is a greater oral air pressure in the case of the C', but I am not yet aware what this means phonetically (this is fertile ground for future reporting). Most importantly, I do not believe that $C^{ʔ}$ and C' are phonologically distinct, even if they can be phonetically differentiated. In languages like the Wakashan languages, and Navaho, the ejective series of fricatives are usually pronounced as (for example) [$s^{ʔ}$] rather than [s']; the stops are more likely to be heard as (for example) [t'], but [$t^{ʔ}$] is not unheard (of). The C' stops have not been widely reported in Austronesian languages, but $C^{ʔ}$ or $\widehat{ʔC}$ certainly have—could this be just another phonetic side of the same phonological coin? If so, where is the (expected?) 18 percent of Austronesian languages with some sort of glottal coarticulation?

Phonological analogues of the ejectives. Now, the production of an ejective involves a complete closure of the glottis, otherwise the necessary air pressure cannot be generated in the oral cavity. The place to look for likely relatives of an ejective series is, then, glottalized consonants, or consonants with some other glottal gesture.

Various other oral segments are found, with glottalic gestures as part of their articulatory specification. Among other examples, we can note imploded consonants (Djawanai 1983, Djawanai and Grimes 1993, Walker 1982), which are not necessarily voiced (van den Berg 1989, Donohue 1999) (typically the bilabial *ɓ* is phonetically more imploded than the velar *ɠ*, but nonetheless a full series is not uncommon—Donohue 1999:27). Glottalized consonants are also found contrastively in various languages (Sika: Rosen 1986, Donohue 1993, Donohue forth-

1. The fact that *k* is attested in Waimoa would not falsify this hypothesis, since we do not know the historical origins of Waimoa *k*.

coming; Muna: van den Berg 1989), and noncontrastively in others (Tsou: Wright and Ladefoged 1997). The glottal mechanism employed in at least some languages with imploded stops can also, at least optionally, have a glottal stop as part of the articulation (Donohue 1999:16ff); and an imploded stop is, after all, simply an oral stop coarticulated with a glottal closure and subsequent lowering of the larynx (rather than raising, as is the case for ejectives).

In some cases the imploded stops are simply the historical development of the Proto-Austronesian stop series (which have been assumed to be voiced stops, but which we of course lack any phonetic data for): Tukang Besi shows *ɓaɛ* for *pajey 'rice (either cooked or uncooked in Tukang Besi)', and *ɓulu ŋusu* for 'moustache', reflecting *bulu (alongside the more common *βulu* 'body hair, feather, fur'). But in other cases there is a complex origin for the glottally coarticulated stops. Describing Sika, Rosen (1986:52) notes that "one of the unique features of the Maumere language is the existence of the laryngealized consonants /ʕl/, /ʕw/, and /ʕr/, which are made by lowering the larynx. These sounds have a swallowed quality. They often occur as the initial consonant with some verbs which are marked for person when the first person singular form is used."

Now, it is quite clear that the "laryngealized consonants" (two of which, the rhotic and the lateral, sound just like preglottalized consonants in the dialect I've heard) of Sika are historically derived from *k- or *q- initial words, such as *ʔlipan* 'centipede', from *qalipan. The appearance of these consonants with the 1SG inflection of verbs that otherwise have *l-, w-,* or *r-* as their initial element makes it clear that they reflect an earlier inflectional *k-* '1SG subject', widely attested in the area (van Klinken 1999 again provides us with an example), and a quite recent sound change. A word such as *ləbɛ* 'cover' inflects in 1SG as *ʔləbɛ*, showing a modern reflex of an earlier *k-ləbɛ. In other words, the synchronically monoconsonantal onsets reflect earlier clusters. We have evidence for the development of glottalized consonants from earlier clusters (I assume that the vowel of the initial syllable of trisyllabic roots such as *qalipan was earlier reduced, thus #qVC → #qC → #ʔC). It now appears that in 1SG verbs in Sika there is also a plausible historical source of the glottalized consonants.

If the 1SG conditions were not met in all instances in another language (such as might be the case in Waimoa), we might invoke reanalysis on the basis of the 1SG form, or note that many stative verbs in the East Nusa Tenggara area have an affixal *k* or *n* added to the root that we would derive from Proto-Austronesian. This may well find its way to becoming a prefix.

We know that the languages just east of Timor show verbal inflections that "wrap-around" the verb stem, as in the following Leti example:

/mi-tɔli/
1PL.EXCL-sleep
[mtjɔli]
'We sleep.'

Now, as we noted above, a glottal stop may be readily realized in the environment #__C if C is a sonorant, but not so readily if C is a stop. Earlier I posed the question of

the "missing" ±220 Austronesian languages with some sort of glottal-coarticulation. The C' stops have not been reported much in Austronesian languages, but $C^{\widehat{?}}$ or $\widehat{?C}$ certainly have, and these, along with imploded stops (also widely reported), are likely to go a long way toward finding these Austronesian fugitives.

The point. Yes, the presence of a series of ejective stop consonants in an Austronesian language is rare, but it shouldn't be entirely unexpected. The Austronesian languages, especially in the Timor area, show ample evidence of utilizing laryngeal gestures in some way in their phonologies. So does Waimoa. While Waimoa presents us with some phonetic oddities, there is nothing phonologically surprising about the data. The comparative perspective that we have from examining other Austronesian languages, even if we confine our view to other languages in the region where Waimoa is found, shows that the presence of ejectives, rather than surprising us, is a confirmation of a pattern that has long been observed elsewhere in the family. Given the evidence in Cho and Ladefoged (1999) (using, among others, Austronesian data) a link between ejective, glottalized, and other nonoral coarticulated stops is entirely expected, and is phonetically as well as phonologically motivated. Waimoa simply shows us that this phonological prediction is attested.

REFERENCES

Baker, Brett. 1999. *Word structure in Ngalakgan*. Ph.D. thesis, Department of Linguistics, University of Sydney.

Cho, Taehong, and Peter Ladefoged. 1999. Variation and universals in VOT: Evidence from eighteen languages. *Journal of Phonetics* 27:207–229.

Djawanai, Stephanus. 1983. *Ngadha text tradition: the collective mind of the Ngadha people, Flores*. Series D-55. Canberra: Pacific Linguistics.

Djawanai, Stephanus, and Charles E. Grimes. 1995. Ngada: Introduction and wordlist. In *Comparative Austronesian dictionary: An introduction to Austronesian studies,* part 1, fascicle 1, ed. by Darrell T. Tryon, 593–599. Trends in Linguistics. Documentation, 10. Berlin and New York: Mouton de Gruyter.

Donohue, Mark. 1999. *A Grammar of Tukang Besi*. Berlin: Mouton de Gruyter. Grammar Library series No. 20

———. To appear. Sika Notes. In *NUSA: Linguistic studies in Indonesian and other languages in Indonesia*, ed. by Hein Steinhauer.

Hajek, John, and John Bowden. 2002. A phonological oddity in the Austronesian area: Ejectives in Waimoa. *Oceanic Linguistics* 41:222–224.

Harvey, Mark. 1991. Glottal stop, underspecification, and syllable structures among the Top End languages. *Australian Journal of Linguistics* 11:67–105.

Lewis, E. Douglas, and Charles E. Grimes. 1995. Sika: Introduction and wordlist. In *Comparative Austronesian dictionary: An introduction to Austronesian studies,* part 1: fascicle 1, ed. by Darrell T. Tryon, 601–609. Trends in Linguistics. Documentation, 10. Berlin and New York: Mouton de Gruyter.

Merlan, Frances. 1983. *Ngalakan grammar, texts and vocabulary.* Series B-89. Canberra: Pacific Linguistics.

Rosen, Joan. 1986. Phonemes, verb classes and personal endings in Maumere. In *NUSA: Linguistic studies in Indonesian and other languages in Indonesia,* ed. by Soenjono Dardjowidjojo, vol. 25, pt. 8, 39–69.

van den Berg, René. 1989. *A grammar of the Muna Language*. KITLV, Verhandelingen 139. Dordrecht/Providence: Foris.
van Klinken, Catharina Lumien. 1999. *A grammar of the Fehan dialect of Tetun*. Series C-155. Canberra: Pacific Linguistics.
Walker, Alan. 1982. *A grammar of Sawu. NUSA: Linguistic studies in Indonesian and other languages in Indonesia,* vol. 13.
Wright, Richard, and Peter Ladefoged. 1997. A phonetic study of Tsou. *Bulletin of the Institute of History and Philology, Academica Sinica* 68:987–1028.

mark@donohue.cc