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Blevins, Juliette.

Oceanic Linguistics, Volume 43, Number 1, June 2004, pp. 208-213 (Article)

Published by University of Hawai'i Press

DOI: [10.1353/ol.2004.0003](https://doi.org/10.1353/ol.2004.0003)



Oceanic
Linguistics
VOLUME 43 NUMBER 1 JUNE 2004

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Squib

The Mystery of Austronesian Final Consonant Loss

Juliette Blevins

UNIVERSITY OF CALIFORNIA, BERKELEY

Within Evolutionary Phonology, recurrent sound patterns are argued to be a direct consequence of recurrent types of phonetically based sound change. Common phonological alternations like final obstruent devoicing, place-assimilation, intervocalic consonant lenition, and unstressed vowel deletion are shown to be the direct result of phonologization of well-documented articulatory and perceptual phonetic effects. Synchronic markedness constraints of structuralist, generativist, and optimality approaches are abandoned, and replaced, for the most part, with historical phonetic explanations that are independently necessary. Under the general Evolutionary Phonology approach, any recurrent sound pattern, like Austronesian final consonant loss, that does not lend itself to phonetic explanation is problematic.

In this squib, I re-examine Austronesian final consonant loss from the perspective of Evolutionary Phonology (Blevins, to appear). Final consonant loss as sound change is schematized in (1), and appears to have occurred as an independent sound change at least fourteen times in the history of Austronesian, as summarized in table 1, with perhaps the best-known and best-studied cases being those in Central Pacific and Nuclear Micronesian.¹

(1) FINAL C-LOSS

*C > Ø / __ ##

Because Proto-Austronesian is reconstructed with final oral stops, affricates, fricatives, nasals, rhotics, and glides, the sound change in (1), as formulated, targets all of these segments. The problem that arises within Evolutionary Phonology is that the sound change in (1) is not a *natural sound change*. Common sound changes leading to final-consonant loss (and consonant lenition more generally) are typically restricted to subclasses of obstruents and sonorants. Oral stops may be neutralized to glottal stop,

1. I am grateful to Bob Blust for supplying much of the information on this list, and to Malcolm Ross for offering comments on the distribution of C-loss in Western Oceanic. I also thank Bob Blust for access to his Austronesian Comparative Dictionary. All major groupings of Western Oceanic languages show some languages that have undergone C-loss and others that retain final consonants (Ross 1988, 1998). Given questions of subgrouping for these languages, as well as others, it could well be that the sound change in (1) has occurred more than fourteen times in the history of Austronesian. This is meant as a rough conservative estimate.

and then lost, as in the history of many Chinese languages. Nasal stops may weaken to nasal glides (often interpreted as velar nasals), and spur nasalization on a preceding vowel as in the history of French. Fricatives may weaken to *h*, and then undergo loss, as is on-going in many varieties of Spanish. And sound changes involving final rhotic-loss or lateral vocalization as in many dialects of English, are also not uncommon. In each of these types of sound change, a subset of consonants is targeted, be it oral stops, nasal stops, fricatives, rhotics, or laterals. However, the phonetic explanations proposed for these independent types of sound change cannot be extended to other consonant types. Loss of final oral stops via sound changes like $t' > ? > \emptyset$ will not apply to final fricatives that involve laryngeal spreading gestures. Mis-timing of velic and oral closure, which may account for vowel-nasalization and final nasal loss, cannot explain the loss of final nonnasal segments. Gestural reduction resulting in vocalization of [l] cannot be extended to oral stops, where gestural reduction will give rise to spirantization, not loss. A general sound change like that in (1) then, is not phonetically natural, where C includes oral stops, affricates, fricatives, nasals, rhotics, and glides.

Nevertheless, the possibility that all of these changes occurred in tandem cannot be ruled out. Indeed, there is evidence of oral stop neutralization to glottal stop, place neutralization of nasals, and loss of liquids and rhotics in languages that have not undergone the sound change in (1). Some languages undergoing more than one of these phonetically natural sound changes are listed in table 2.

TABLE 1. FINAL C-LOSS WITHIN AUSTRONESIAN

WESTERN-MALAYO-POLYNESIAN

1. Nias
2. Bungku-Tolaki and Muna-Buton (southeast Sulawesi)
3. Bima
4. Ngadha, Enda, and other languages of Flores
5. Savu (Hawu) of the Lesser Sundas

SOUTH HALMAHERA-WEST NEW GUINEA

6. Wadapi-Laut (and possibly other languages of Yapen Is.)

OCEANIC

7. Proto-Admiralty
8. Tabar (and possibly other languages of New Ireland)
9. Lakalai/Nakanai (and possibly other languages of New Britain)
10. Motu and other Central Papuan languages
11. North-Central Vanuatu languages
12. Iaa'i (New Caledonia)
13. Nuclear Micronesian
14. Central Pacific

TABLE 2. FINAL C-NEUTRALIZATION / WEAKENING[†]

	T# > ?	N# > ŋ	{l,r}# > ʔ	s# > h
WESTERN MALAYO-POLYNESIAN				
Mandar, Makasarese (South Sulawesi)	✓	✓	IV	sV
Sangir (Sangiric)	✓	✓	IV	sV
CENTRAL MALAYO-POLYNESIAN				
Kom	✓	✓	r# > h, ʔ	✓
Manggarai, Sika	∅, t, k	n > ŋ	l, r	s

[†] T = voiceless obstruent, N = nasal stop

In Mandar, Makasarese, and Sangir there is regular neutralization of all final voiceless oral stops to glottal stop, and place neutralization of nasals to the velar nasal. But in these same languages, *l and *s are directly inherited, with a distinct sound change inserting a final vowel after the once-final consonant. In Kom, there is simultaneous weakening or neutralization of oral stops, nasals, liquids, and fricatives. This language then, comes closest to instantiating the possibility of multiple sound changes in tandem leading to the seeming occurrence of general C-loss as in (1). And, comparison with other CMP languages like Manggarai and Sika suggests that Kom may be a later stage of sound changes that have just begun in these languages, where place contrasts for oral and nasal stops have become more limited word-finally, but not eliminated altogether. Within the entire Austronesian family, however, Kom appears to be the only language with evidence of multiple sound-changes in tandem for each distinct manner class (oral stop, nasal stop, liquid, fricative). And the attribution of (1) to patterns like that found in Kom leaves unexplained why languages like Kom are rare, and why CMP is the only major Austronesian subgroup where final C-loss is unattested.

The abruptness and monolithic nature of (1) is supported, not only by the rarity of languages like Kom, but also by two independent observations. First, in the languages and subgroups listed in table 1, there is simply no record of a gradual weakening of final consonants, or a set of independent sound changes that cooccurred. As illustrated in table 3, the typical pattern is a set of alternating “thematic” consonants, across all place and manners of articulation that are present in medial position, but absent word-finally as a consequence of the proposed sound change in (1) (Hale 1973, van den Berg 1989, Lichtenberk 2001, Pawley 2001).

Second, there are cases of sister languages where one language has evidently undergone C-loss as stated in (1), while sisters show final consonants intact. This situation is clearly incompatible with an analysis that attributes the semblance of final C-loss in (1) to gradual weakening of different groups of consonants at more or less the same general time-period. In Nias, there is evidence of (1), but in other NW Sumatra–Barrier Island languages, the same consonants are intact. Compare: Nias *awi* ‘girdle, belt (for women)’, Dairi-Batak *abit* ‘sarong’; Nias *mumu* ‘nearly decayed tree trunk’, Dairi-Batak *mumuk* ‘broken, in pieces, as a rope or chain’; Nias *aso* ‘sourness’, Dairi-Batak *acem*; Nias *ai* ‘wind’, Dairi-Batak *ain*; Nias *buluy* ‘leaf’, Dairi-Batak *bulu*; Nias *baru* ‘kill’, Dairi-Batak *bumuh*; Nias *bisi* ‘shin bone’, Dairi-Batak *bitis* ‘lower leg’; and so forth. Similarly, in Bima, final C-loss is in evidence, but in other seemingly closely related languages of the Lesser Sundas, final consonants are intact. In sum, there is ample evidence that (1) is a recurrent sound change in the Austronesian family, and

TABLE 3. C/Ø ALTERNATIONS IN SOME AUSTRONESIAN LANGUAGES

SUBGROUP	LANGUAGE	THEMATIC CONSONANTS
Western Malayo-Polynesian	Muna	p, t, k, f, s, ʁ, m, n, ŋ, l, r, w
Western Oceanic	Manam	t, m, n, ŋ, l, r, w, ?
Central-Eastern Oceanic		
Southeast Solomons	Toqabaqita	t, f, s, m, n, ŋ, l, r, w, ?
Central Pacific	Māori	t, k, m, n, ŋ, r, wh, h

very little evidence that it is the result of tandem gradual processes of natural phonetic segmental weakening processes that are widely attested cross-linguistically.

Further support for the non-natural status of (1) comes from even more general typological patterns. Nowhere outside of the Austronesian language family have I been able to find across-the-board loss of final consonants through a sound change parallel to (1).²

The sound change in (1) appears to have occurred at least 14 times in the history of the Austronesian language family, but not elsewhere in the world. It appears to be accurately characterized as a single sound change, since intermediate stages or instances of partial C-loss are unattested in the cases where closely related languages can be examined. On the contrary, sister languages in some cases show sound patterns which suggest that (1) has occurred in one sister, but not in the other. At the same time, it is difficult to view (1) as phonetically natural. If the apparently regular sound change in (1) is not an instance of phonetically motivated sound change, then what is it?

The standard markedness account will not do. The sound change in (1) cannot be a simple consequence of the unmarked status of open syllables, for if this were true, we could not explain why (1) is common within Austronesian, but unattested elsewhere. Nor could we explain why there are not languages that lose coda consonants simultaneously in all positions, not just word-finally.

Another possibility is that (1) is an instance of contact-induced change. Non-Austronesian languages limiting word-final segments to vowels are found throughout the New Guinea area, and from Eastern Highlands languages (e.g., Fore, Usarufa, Gadsup) to the Eleman languages of the Gulf of Papua (e.g., Oroko, Toaripi, etc.) However, this hypothesis is unable to explain the distribution of final C-loss within the Austronesian family. The sound change in (1) has occurred at least five distinct times in the history of Western Malayo-Polynesian, in subgroups that arguably have had no contact with speakers of Papuan languages. In addition, contact-induced change also makes the wrong predictions for the patterns of final C-loss within Oceanic. Western

2. Three potential parallels come to mind. French shows latent consonants that appear to reflect historical word-final C-loss. However, at the earliest stages, up to the beginning of the sixteenth century, the pattern described for French was one in which final consonants were pronounced (with possible devoicing) in prepausal position, lost before following consonant-initial words, and pronounced (with possible voicing) in prevocalic position (Nyrop, 1967:324–28.) In French, then, the regular sound change was a general rule of cluster simplification within the phonological word or phrase (*C₁C₂ > C₂), not an instance of word-final C-loss. A parallel to this cluster simplification in the history of Austronesian is the development in Proto-Central-Eastern Malayo-Polynesian, where PMP *CVCCVC are simplified to CVCVC, with final consonants intact.

Another instance of latent consonants associated with C-loss are those in Lardil nouns (Hale 1973, Kenstowicz 1994). When an absolutive noun loses its final vowel, labial and velar consonants are lost as well. However, coronal sonorants and obstruents are free to occur word-finally in Lardil, making the sound changes in uninflected nouns interpretable as strict adherence to preexisting word-final phonotactics.

In the history of Slavic, final consonants have been lost as part of the “open syllable conspiracy.” However, as detailed by Nowak (2002), this happened via a sequence of independent sound changes over hundreds of years, not by one general sound change as in (1).

Finally, it is worth pointing out that though the open-syllable stage of language acquisition is sometimes equated with the “naturalness” and unmarked status of CV syllables, there is mounting evidence that this, as well as other “simplifications” of child speech, is a consequence of articulatory difficulties encountered during the development of speech motor skills. For a summary, see Vihman (1996).

Oceanic is the group expected to show the greatest number of instances of C-loss, because it is the subgroup with the most languages in contact with non-Austronesian languages. However, the situation is the reverse: within Oceanic, C-loss is more common outside of Western Oceanic than within this group.

Another potential explanation for (1) comes under the general rubric of drift. There is something about the structure of Austronesian languages that makes them more prone to losing final consonants than other languages. An important observation is that (1), where it has occurred, gives rise to languages where all words and syllables are vowel-final. Interestingly, sound changes quite distinct from (1) give rise to the same open-syllable pattern in Austronesian. So, for example, in the history of Kambera, a Central Malayo-Polynesian language, there has been neutralization of *n > ŋ, as in Manggarai and Sika (table 2), but a subsequent sound change inserting -u after all final consonants, gives rise to words where all syllables are open: Kambera *wulau* 'moon' < *bulan; Kambera *unu* 'to drink' < *inum; *waratu* 'West wind' < *habaRat; and so forth. The sound change involving u-insertion after obstruents and sonorants alike seems no more or less natural than (1). In both cases, the output of sound change is a language with only open syllables. Could it be that in languages where *nearly* all syllables are open, there is a tendency to treat all syllables as open? In other words, could the preponderance of open syllables in the stage prior to the sound change in (1) itself play a role in instigating the change? An analysis of this sort has been proposed for the distribution of unstressed vowel syncope within the Austronesian family (Blevins and Blust, 2003), where the absence of closed syllables may be seen to inhibit the reanalysis of open syllables as closed ones. It seems just as plausible that a preponderance of open syllables in a language might facilitate the reanalysis of closed syllables as open ones.

Final consonant loss as stated in (1) is a recurrent sound change within the Austronesian language family that appears to lack phonetic motivation. While widely attested within Austronesian, parallel sound changes are unknown outside the Austronesian family. Without recourse to markedness accounts, one is faced with a true mystery: if final C-loss is not a natural phonetic process, then what is it? Perhaps by simply asking this question, we are one small step closer to answering it.

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