Vowel-pair frequencies and phonotactic restrictions in Lozi

Stephen Nichols, University of Manchester

Here I present a case study of vowel-pair frequencies in Lozi (Bantu; Zambia) using a database available on CBOLD. I argue that the results provide evidence that the only synchronically active phonotactic vowel co-occurrence restriction in the language is against /o.u/ and that this applies regardless of part of speech.

Within Bantu, height harmony is extremely widespread (Odden 2015:§1). By far the commonest pattern is "canonical" height harmony (see Hyman 1999:238), on which the vast majority of work has focused (e.g. Mtenje 1985, Beckman 1997). Lozi, however, has a non-canonical system in which only rounded back vowels are affected (Hyman 1999:245). For example, the reversive suffix surfaces as /-olol-/ after /o/ and elsewhere as /-ulul-/. Unlike in most Bantu languages, a similar restriction is not found for the front unrounded vowels. Thus, the causative suffix always surfaces with /i/ and the applicative suffix always surfaces with /e/.

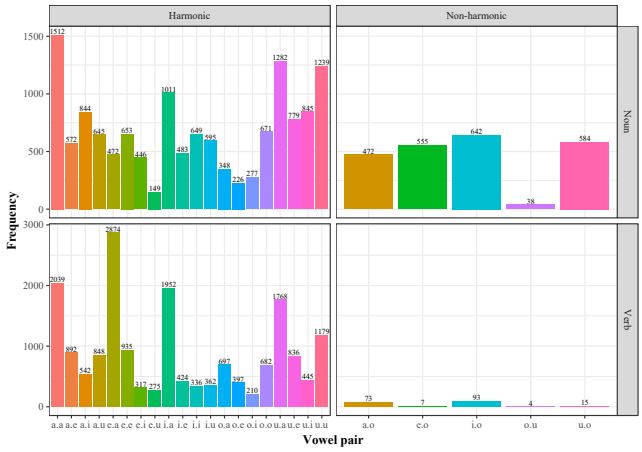

Figure 1: Observed vowel pair frequencies

The frequency counts are displayed in Figure 1. The top row shows vowel pairs in nouns, the bottom in verbs; the first column shows vowel pairs expected to be in the majority in verbs, the second those expected to be in the minority in verbs. Indeed, the pairs /a.o e.o i.o o.u u.o/ are extremely uncommon in verbs, with /o.u/ being almost entirely absent. However, /o.u/ also is also extremely infrequent in nouns, unlike /a.o e.o i.o u.o/.

This suggests that there is a synchronically active phonotactic restriction against the vowel pair /o.u/ that is blind to part of speech and that the remaining vowel pairs in the verbs are historically accidental rather than synchronically militated against in verbs but not nouns. It may well have been the case historically that /a.o e.o i.o u.o/ were once also phonotactically disallowed throughout the language at some prior stage in the language's development but that these prohibitions are no longer active in the phonology. This would have removed any examples of /a.o e.o i.o u.o/ that once existed and prevented new ones from arising. However, once this restriction was lifted, small numbers of innovative verb forms containing these vowel pairs arose. These may also be more frequent in nouns because of a higher rate of lexical innovation. To a certain extent, it may also be an artefact of the data set: verbs in their citation form have no prefixes, but nouns are usually included with a noun class prefix. However, even taking this into consideration, although /a.o e.o i.o u.o/ do occur less frequently, they are still not as strikingly infrequent as /o.u/. Higher levels of lexical innovation in nouns than verbs may also explain why instances of /o.u/ are commoner in nouns than verbs. Additionally, such instances are not entirely random: 63% have intervening labial consonants, 16% an intervening lateral. There are therefore potential phonetic reasons that may lead to a limited number of violations of a ban on /o.u/. Nevertheless, there are still though many counter-examples even in these environments; that is, in the vast majority of cases where /o.u/ might occur, /o.o/ is found instead.

The implication of these data is that any synchronic analysis of Lozi must only enforce a single vowel pair gap—/o.u/—by phonotactic means and that this gap is blind to part of speech.

References

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