

## Rounding harmony and loanword epenthesis in Yoruba

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While it is well-known that many languages epenthesize vowels to resolve non-native syllable structures in adapting loanwords, comparatively little is known about how languages choose the epenthetic vowel in different contexts (Uffmann 2006). This includes both relatively few languages studied and a lack of research on the extent to which patterns in the choice of epenthetic vowel are reflected in the lexicon of the borrowing language. Like some of the languages studied by Uffmann (2006), the choice of epenthetic vowel in loanwords into Yoruba involves complex dependencies on surrounding vowels and consonants. In this paper, we detail the patterns in Yoruba loanword epenthesis, showing that while the dependency on the backness/rounding of surrounding vowels is indeed reflected in the lexicon (Awobuluyi 1967), the dependency on surrounding consonants is not. These two factors interact, so we explore the implications to the analysis of loanword epenthesis.

Yoruba has many loanwords from English. Since Yoruba syllables are maximally CV, epenthesis occurs to break up consonant clusters and avoid codas in adapting English words into Yoruba (Pulleyblank 1988, Akinlabi 1993). The vowel epenthesized is generally high, but may be [i] or [u] depending on a complex interaction of rounding harmony and place feature of the preceding consonant (Awobuluyi 1967, Akinlabi 1993). The epenthesized vowel will be [u] if: (1) the following vowel is round (e.g., [dúròòmù] “drum”); (2) the preceding consonant is labial (e.g., [búrédì] “bread”); (3) the preceding vowel is [u], unless the preceding consonant is a posterior coronal (e.g., [kùùkù] “cook”, [bùùjì] “bush”); or (4) the preceding vowel is round, unless the preceding consonant is a posterior coronal or a dorsal (e.g., [kòòkì] “coke”, [dʒóòdʒì] “judge”, [kòòdù] “code”). If none of these factors apply, the epenthetic vowel is [i] (e.g. tírè “tray”).

Our thorough analysis of Yoruba CVCV sequences shows that rounding harmony is robustly attested within the Yoruba lexicon, and the gerundive shows an emerging [i]~[u] alternation based on stem rounding. We can therefore conclude that the rounding harmony aspect of the loanword epenthesis pattern is part of Yoruba phonology. In contrast, our lexicon analysis of the 7992 CV syllables in our Yoruba corpus shows that there is no pattern to which places of consonants occur with which rounding of vowels. For example, the Observed/Expected value of labials before [i] is 1.24, indicating slight over-representation, even though labials are consistently followed by [u] in loanword epenthesis. As such, the consonant-vowel interactions in loanword epenthesis do not appear to have any basis within Yoruba phonology.

Harmony and preceding consonant place interact in determining the epenthesized vowel in Yoruba, in that rounding harmony is blocked entirely by posterior coronals and subject to restrictions (i.e., a requirement that the triggering vowel be [u]) if the preceding consonant is dorsal. As such, we posit that the choice of loanword vowel must happen within the phonology, with consonant-vowel interactions acting as an emergence of the unmarked phenomenon. While it may be motivated through perception, we argue that perception-only accounts of loanword epenthesis fail to work for the complexities and phonological grounding of the Yoruba pattern.

**References:**

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