Abstract morphological information cued by phonotactics:
Noun class disambiguation in Xhosa

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Are Bantu noun classes lexically stored?

Common assumption: Bantu noun classes are based solely on semantic criteria, and thus are stored lexically (Katamba 2003, Idiata 2005, inter alia).

In other domains, phonotactics can provide clues about abstract morphology (Tucker et al. 1977, Moreton & Amano 1999, Gelbart 2005).

We show that in Xhosa (Bantu, South Africa) speakers make use of root phonotactics when assigning noun classes to nonce words.
- Nonce words are not lexically stored, so choice of a noun class prefix must be influenced by non-semantic/non-lexical factors.

Synchronic choices between abstract morphological categories can be influenced by phonotactic patterns that have resulted from historical processes.

Xhosa noun classes

Xhosa has 15 noun classes. Class 5 and class 9 are both realized as /i-/ in certain contexts. Nouns of shape *i*-CVCV are ambiguous between class 5 and class 9. Disambiguation is possible in plural forms.
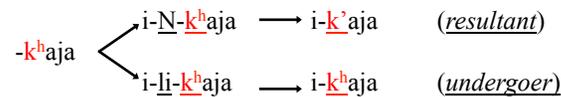
		Singular	Plural	Gloss
Class 5/6	a.	i-kʰaja	ama-kʰaja	'home(s)'
	b.	i-gama	ama-gama	'name(s)'
Class 9/10	c.	i-moto	ii-moto	'car(s)'
	d.	i-ŋk'omo	ii-ŋk'omo	'cow(s)'

Phonotactics from historical patterns

Class 5 was historically *li-, while class 9 was *n(i)-. The nasal in historical class 9 *n(i) induced changes on stem-initial consonants:
- Deaspiration
- Fortition of fricatives and /l/

These changes didn't happen to nouns in class 5. Ergo: modern stems with deaspirated or fortited Cs are more likely to be class 9 than class 5.

-kʰaja

i-N-kʰaja ⟶ i-k'aja   (*resultant*)

i-li-kʰaja ⟶ i-kʰaja   (*undergoer*)

Stimuli

20 nonce nouns (CV and CVCV).

Half had undergoers as root-initial consonants, half had resultants as root-initial consonants.

Undergoers: *i-lama, i-hlonu, i-luva, i-khelu, i-thunka*

Resultants: *i-ngoya, i-tusa, i-bhi, i-pula, i-nyu*
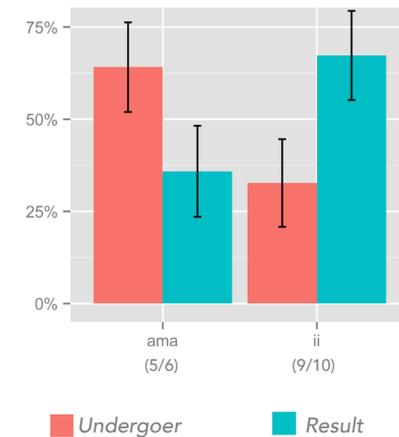
Experiment

10 native speakers of Xhosa.

Speakers were shown a singular nonce word with the *i*-prefix: ambiguous between class 5 or class 9.

Speakers provided the plural. Expected responses:
ama-: class 6 plural   ⟵ noun treated like class 5
ii-: class 10 plural   ⟵ noun treated like class 9

Results

Speakers use *ama-* (class 5/6 pl.) more if initial C is an undergoer, and *ii-* (class 9/10 pl.) more if initial C is a resultant.

Discussion

Speakers have intuitions about nonce words' noun class—even with no semantic information.

Undergoers are likely to be identified as class 5/6, while resultants are likely to be identified as class 9/10.

Synchronic phonotactics can come from historical patterns.

Speakers can use phonotactic clues to determine noun class—noun classes are not arbitrary or simply semantic.

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