

-(i)licious: a case of product-oriented allomorphy

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Overview

The distribution of *-licious* and *-ilicious* is conditioned by stress.

The likelihood of a speaker using *-ilicious* is affected by the word's eligibility to undergo the Rhythm Rule.

The interaction of *-(i)licious* and the Rhythm Rule supports an approach in which allomorph selection has some access to the output of phonology.

-(i)licious

The distribution of *-ilicious* and *-licious* is conditioned by stress: *-ilicious* occurs with stress-final roots; *-licious* occurs with stressless-final roots.

Examples from Corpus of Contemporary American English (Davies 2008).

ó + ilicious	ō + licious
hunkalicious	rubylicious
LowCarbolicious	turkeylicious
curvalicious	cougarlicious
starchalicious	Ferrellicious

In a forced choice experiment, subjects are more likely to select *-ilicious* with stress-final nouns than they are with stress-initial nouns (a mixed effects logistic regression shows that this result is significant, $p < 0.01$).¹

	ó-final words	ō-final words
-ilicious	84.7%	48.5%
-licious	15.3%	51.5%

-(i)licious has the same distribution as *-(e)teria*, described in Siegel (1974).

ó + eteria	ō + teria
clean eteria	basket eria
smoke eteria	candy teria
cake eteria	millin teria
hat eteria	soda teria

Many more suffixes follow a similar pattern: *-(a)thon*, *-(a)holic*, *-(a)palooza*, etc.

Source- or product-oriented?

There are two ways to state the distribution of *-(i)licious*: in terms of the input (source-oriented) or in terms of the output (product-oriented).

Source-oriented: Choose *-ilicious* with final-stressed roots.

Product-oriented: Choose the form that avoids stress clash in the output.

These correspond to the subcategorization approach (e.g., Paster 2006), in which allomorph selection is determined by lexical subcategorization, and the traditional OT approach (e.g., Mester 1994), in which allomorph selection is determined by markedness constraints.

Rhythm Rule

The source- and product-oriented approaches make different predictions with respect to the Rhythm Rule (RR: Liberman & Prince 1977).

RR retracts stress from a syllable when it's followed by another stressed syllable:
thirtéen mén → thírteen mén.

RR can only shift stress to an unreduced syllable, and cannot apply in a word like *aghash*: aghást stúdents → *ághast stúdents.

The question is:

Does a word's eligibility to undergo the Rhythm Rule affect its likelihood to select *-licious* or *-ilicious*?

Under the product-oriented approach, all combinations of RR application and suffix selection are considered at once. For a word like *canteen*, there are three possible clashless outputs. For a word like *police*, in which RR cannot apply, only one clashless output is possible.

cánteén-líicious	cánteén-ilíicious	pólice-líicious	pólice-ilíicious
cántéén-líicious	cántéén-ilíicious	police-líicious	police-ilíicious

If a speaker follows the product-oriented generalization, *police*-type words should occur with *-ilicious* more often than *canteen*-type words.

The source-oriented approach predicts no difference between *police*-type and *canteen*-type words. If allomorph selection and phonology are independent, the grammar is unable to look ahead to the output of RR when deciding between *-licious* and *-ilicious*. Since both *canteen*-type and *police*-type words have final stress, the subcategorization frame will favor *-ilicious* equally for both types.

Methods and materials

49 native English speakers completed a web-based forced-choice task, conducted through Ibox Farm.³

Subjects were presented with *-licious* and *-ilicious* versions of a noun and asked to choose the form they would be most likely to say.

Nouns were either able to undergo RR (e.g., *canteen*) or unable to (e.g., *police*). All nouns were disyllabic, consonant-final, and matched for frequency.

Results

Subjects were more likely to choose *-ilicious* with *police*-type nouns than *canteen*-type nouns.

	police-type	canteen-type
-ilicious	89.2%	82.4%
-licious	10.8%	17.6%

Data was analyzed using logistic mixed-effects regression. In addition to fixed effects for stress-type and word frequency, the model included random intercepts and slopes for stress-type, for both items and subjects. *Police*-type words are 1.15 times more likely to occur with *-ilicious* than *canteen*-type words. (odds ratio = 4.0, 95% confidence interval = 3.3 – 4.6, $p < 0.01$).

Discussion

These results suggest that speakers consider the output of RR when choosing between allomorphs. *-(i)licious* provides another argument for the product-oriented approach, in addition to cases such as Spanish (Mascaró 2007) and Estonian (Kager 1996), and work showing a bias for product-oriented generalizations in artificial language learning tasks (Becker & Fainleib 2009).

Becker, Michael and Lena Fainleib (2009). The naturalness of product-oriented generalizations. Ms, UMass Amherst.
 Davies, Mark (2008). The Corpus of Contemporary American English: 450 million words, 1990-present. Available online at <http://corpus.byu.edu/coca/>.
 Kager, René (1996). On affix allomorphy and syllable counting. In Kleinhenz, U., editor, *Interfaces in Phonology*, 155–171. Berlin: Akademie Verlag.
 Liberman, Mark and Alan Prince (1977). On stress and linguistic rhythm. *Linguistic Inquiry* 8, 249–336.

Mascaró, Joan (2007). External allomorphy and lexical representation. *Linguistic Inquiry*, 38.4, 715–735.
 Mester, Armin (1994). The quantitative trochee in Latin. *Natural Language and Linguistic Theory* 12, 1–61.
 Paster, Mary (2006). Phonological Conditions on Affixation. PhD thesis, University of California, Berkeley.
 Siegel, Dorothy (1974). *Topics in English Morphology*. PhD thesis, MIT.

¹ Joint work with Bailey Hilst. 52 participants. Methods and exclusions identical to RR experiment.

² Participants who responded exclusively with *-ilicious* or *-licious* were excluded.

³ Ibox Farm: spellout.net/iboxfarm (developed by Alex Drummond)