Acceptability of homophonous sequences in adjective-derived adverbs

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The adverbial suffix *-ly*$_1$ and adjectival suffix *-ly*$_2$ do not typically combine: **ghost* + *-ly*$_2$+ *-ly*$_1$ (intended meaning: "in a ghostlike manner", as in "The figure meandered ?ghostlily around the old mansion"). Explanations for this phenomenon have been made using phonological constraints on affixal identity or Obligatory Contour Principle constraints (Plag, 1998; Yip, 1998), phonological coalescence (De Lacy, 1999), or usage-based constraints (Walter, 2007). This may lead us to believe that these sequences are never acceptable, but this is not the case. We investigate what combination of these constraints makes the "lily" sequence more or less acceptable in multimorphemic words.

This combination of suffixes can be observed in naturalistic speech when a speaker is "backed into a corner" syntactically, and are also infrequently attested in corpora like the Corpus of Contemporary American English (Davies, 2008-) in examples like this self-aware New York Times quote (Brantley, 2008): "…is being seriously silly. Or is it sillily serious? Sillily -- that can't be right." Ackerman and Drake (2018), henceforth A&D, performed an acceptability judgment task rating the naturalness of sentences containing the target words. They found that sentences containing words like *jollily* (*stem*+*ly*), where the stem contains the sequence *ly*, were rated as significantly more natural than sentences containing words like *smellily* (*stem*+*y*+*ly*) or *lovelily* (*stem*+*ly*+*ly*). Based on this, A&D propose that an interaction of phonological and morphological constraints affected the acceptability of the ADJ + ADV sequence. However, the lack of significant difference between *smellily*-type words and *lovelily*-type words is puzzling for suggestions of morphological complexity since they comprise derivational morphemes of similar complexity, and the standout difference in acceptability for *jolly*-type words is equally puzzling for phonological constraints, as all contain the same *-lily* string. This study characterizes these observations using a lexical decision task as a more precise method for exploring gradient differences in acceptability between the three word types.

Stimuli comprise three types of words with English stems, summarized in Table 1 below: where *-ly* is contained in the adjectival stem (*jolly*), where *-l* is contained in the stem and adjectival *-y*$_2$ is appended (*smell*), and where the full adjectival *-ly* is appended to the stem (*love*). These were contrasted with adverbial real-word fillers and two types of nonwords: where the final string *-ily* was appended to a nonword stem, and where the final string *-lily* was appended, mimicking the form of the target words. If morphological and phonological constraints following A&D, we expect to find an interaction whereby *jollily*-type words are processed differently from *smellily*-and *lovelily*-type words. If we find that all three types are processed in similar ways, we may conclude the effects observed by A&D are due to conscious introspection.

33 native American English speakers (age 18-30, 25 F) completed the lexical decision task. Mean RTs and standard errors are shown in Figure 1 and Table 2. From this data, we see a distinct pattern in which *love*-type words and nonword+*lily* words produce similar reaction time behaviors. In both these conditions only, YES responses, i.e., "yes, this is a word" were over 50ms faster than NO responses, with similar rates of YES and NO responses; pairwise comparisons show that they are not patterning differently from each other. In all other non-filler conditions, YES and NO responses were within 20ms of each other.

These results indicate that processing *love*-type words is similar to processing nonword+*lily* stimuli, but unlike any other type. This suggests that, in fact, *stemly*+*ly* words are not being parsed as deadjectival adverbs; rather, it is more likely they are being parsed as compound nouns *word*+'lily' (e.g., *tigerlily*). Although this indicates speedy access of well-formed 'lily words', it also means that they are not perceived in the same way as the more frequent (and more acceptable) *jolly-* and *smell-* word types. Thus, not only must we account for morphological complexity and phonological similarity when assessing the plausibility of these words, but also the inference of 'lily' as a stem in its own right.

Table 1. Types of words contrasted in the study

Condition	# of tokens	Stem	Adj. suffix	Adjective	Adv. suffix	Adverb
stem+ly	10	jolly	ø	jolly	-ly	jollily
stemy+ly	10	smell	-y	smelly		smellily
stemly+ly	10	love	-ly	lovely		lovelily
nonword	30			clousti-		cloustily
nonword+lily	30			friestli-		friestlily
filler	30					grumpily

Figure 1. Response RTs and standard errors by word type

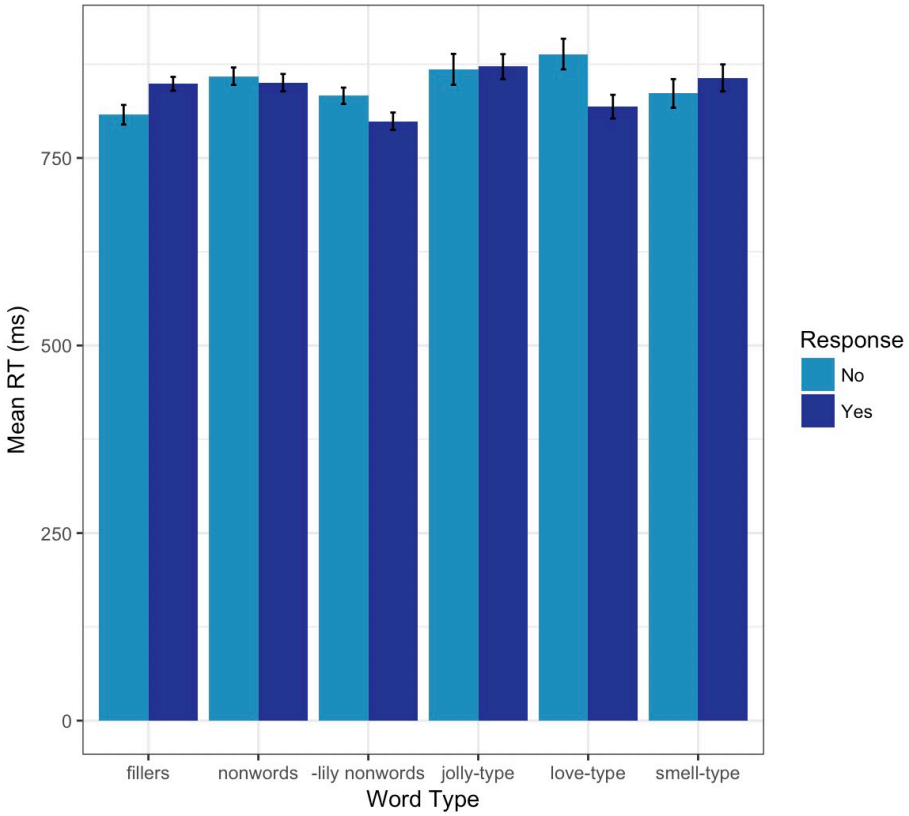

Table 2. Response RTs and standard errors (SE) by word type and response

Response	NO	YES
Condition	**Mean RT (SE)**	
filler	807.6 (13.8)	848.9 (9.2)
nonword	858.9 (11.6)	850.4 (11.6)
stem+ly	868.1 (20.6)	871.8 (16.6)
stemy+ly	835.0 (19.1)	856.7 (17.0)
stemly+ly	888.5 (20.4)	818.4 (15.6)
nonword+lily	832.9 (10.9)	799.0 (11.5)