

Lexical exceptions in variable phonology

Research on phonological variation shows that variable processes do not necessarily apply at the same frequency to all lexical items. Rather, some words undergo processes at distinctively different rates: for example, in English, *and* shows exceptionally high rates of final coronal stop deletion (CSD); in Spanish, final sibilant deletion affects *entonces* at an exceptionally high rate; and in Portuguese, a similar process affects the first plural verbal morpheme *-mos* more than other comparable words.

What is the explanation for such facts, and how should they be modeled? These cases are analogous to the lexical exceptions to general processes discussed in formal theory, such as English words like *obese-obesity* that fail to follow the laxing alternation found in *obscene-obscenity*, *serene-serenity*. The theoretical discussions have advanced two types of treatments for such cases: a lexical approach encodes the exceptional properties directly in the lexical entry, while a phonological approach uses exception features to co-index the exceptional items with the phonological operators (rules in generative phonology, lexically-indexed constraints in OT) that they are subject to or exempt from (cf. Chomsky & Halle 1968:373-6 for the pioneering discussion of this approach). For the most part, theoretical phonology has not produced decisive arguments favoring one or the other of these approaches.

Both approaches are applicable to variation. An exception feature equates to an additional factor in a Goldvarb analysis for each exceptional word or class of exceptions; these would occur in a factor group for lexical identity, opposed to a residual factor for non-exceptional words. Words whose associated lexical feature was above or below .5 would undergo the variable process at an exceptionally high or low rate compared to other words. A lexical analysis, however, would represent exceptional words with alternative lexical entries: *and* would have an alternate underlying representation without a final stop (*an'*). This has the effect of boosting the apparent surface deletion rate in such forms, because a surface corpus would include tokens derived from *an'*, with 100% 'deletion', and tokens derived from *and*, deleted at the same rate as other words.

Crucially, however, these approaches make different mathematical predictions about the effect of other constraints on variation. The exception feature treatment assumes that all words pass through the same process; hence exceptional words should show the same effect of other factor groups as nonexceptions. For example, the following segment constraint on CSD should apply equally to *and*: there should be more deletion preconsonantly in *cheese and crackers* than prevocally in *ham and eggs*. But if some tokens of 'deleted' *and* result from underlying *an'*, following context will have no effect on these items; their inclusion in a surface corpus will attenuate the apparent effect of following context.

Phonological variation thus offers a test of the two models. This paper presents data on exceptional cases in three languages. They consistently demonstrate that the exceptional items show weakened effects of external constraints, supporting the lexical analysis, and contradicting the exception feature approach.