

There is phonologically-conditioned, but no melody-conditioned allomorphy

Problem. Phonologically conditioned allomorphy (PCA) is used in the OT literature (e.g. McCarthy 2002: 154f) in order to argue against a modular setup of grammar, which holds that phonology and morphology (or morpho-syntax) instantiate two distinct computational systems. If phonological properties are used to determine which allomorph is selected, goes the argument, the scrambling of morpho-phonological properties in one and the same computational system, as is common practice in OT, is unavoidable.

Empirical generalization. Regarding morphology proper, though, Embick (2010) shows that a strict modular separation makes correct predictions (no look-ahead) that scrambling approaches miss. The purpose of the talk is to establish a critical empirical generalization that is entirely unexpected by the scrambling perspective, while instantiating exactly the pattern predicted by modularity. The observation is that only non-melody, i.e. items located at and above the skeleton, may condition PCA: stress, tone, size, syllable structure, rhythm and the like. Melody on the other hand (i.e. items located below the skeleton that represent properties such as labiality, occlusion etc.) is never used when allomorph selection is computed. That is, PCA is entirely melody-free.

Interpretation. This is in line with modular standards or rather, in fact predicted by them, because the basic tenet of modularity, domain specificity, holds that distinct computational systems use distinct alphabets (or sets of vocabulary) as an input to their computation (e.g. Segal 1996). The input to phonology are those properties that occur below the skeleton: coronality, occlusion and the like. By contrast, items that are found above the skeleton are projections thereof (e.g. syllable structure) or use these projections (stress algorithms, rhythm, size calculus). Domain specificity (and hence modularity) excludes a situation where morphological computation reads the domain-specific vocabulary of phonology (melody) – but nothing withstands the implication of projections thereof.

Consequence. If allomorph selection is never sensitive to melody, the scrambling approach is in trouble: if the same computational system (constraint ranking) processes both morphological and phonological properties, all information should be constantly available and hence cases of PCA triggered by all possible phonological triggers should occur.

Empirical situation. In order to evaluate whether there is melodic conditioning in PCA, Paster's (2006) typological survey is parsed (137 cases of PCA in 67 languages discussed). Paster mentions 72 cases of segmentally conditioned PCA from 32 different languages. By far the largest group is of the C vs. V kind, as e.g. in Moroccan Arabic where the 3sg masculine object/possessor clitic is *-h* after V-final, but *-u* after C-final stems. These cases do not imply any melody since syllable structure replicates the C/V distinction: allomorphy computation only needs to access items above the skeleton.

Some PCA-looking pattern may in fact not involve any allomorphy (also following Paster). In Tahitian, the causative/factitive marker is *ha'a-* before labial-initial roots, while *fa'a-* is found elsewhere. On the obvious dissimilation-based analysis, the initial labial of the single underlier /fa'a-/ cannot occur before another labial, and dissimilates via lenition: $f \rightarrow h$ is a regular lenition trajectory. Hence there is a single underlier, and all processes involved are purely phonological: dissimilation and the derivation of the alternative segment ($f \rightarrow h$).

Conditions for a single underlier. PCA-looking patterns thus reduce to purely phonological computation if the alleged allomorphs in fact represent one single underlying form. This can be done when two conditions are met: 1) the trigger is phonological, a phonologically illegal situation may be identified (Tahitian: prefix-final and stem-initial consonants must not both be labials, i.e. dissimilation); 2) there is a plausible phonological pathway from the illegal to the legal alternant (Tahitian: $f \rightarrow h$ is a well-known lenition trajectory).

No plausible pathway. There are some rare patterns, though, where a phonological

trigger may be identified, but no case for a plausible phonological pathway from the illegal to the legal alternant can be made. These patterns are the tough ones, i.e. those where two distinct underlying forms, and hence allomorphy, seem to resist reduction to a single underlier.

In Caddo (Caddoan, Oklahoma), the simple future suffix is *-ʔaʔ* except after *ʔ*-final stems, where *-waʔ* appears. While the dissimilatory origin of the alternation is obvious (**ʔ-ʔ*), there is no phonological pathway from the general *-ʔ* to the rescue form: why does *-w* rather than, say, *-d* or *-r* do the job?. Their relationship is arbitrary, hence both must be recorded in the lexicon. This is the pattern of all tough cases mentioned by Paster (see below): one allomorph is general and the other (phonologically) specific, the latter rescuing the former in case the former cannot be used for phonological reasons (e.g. dissimilation).

Analysis. What is for sure is that the cases lacking a plausible pathway require the lexical recording of the alternating items. Two distinct lexical entries (i.e. allomorphy) are not the only solution, though. Regular autosegmental representations provide a simple way to encode lexical arbitrariness of two segments in one single lexical entry: the general item is lexically attached, while the rescue segment floats (see chart). In absence of phonological ill-

x		x	x
ʔ	w	a	ʔ

formedness, the lexical specification appears on the surface as such. The *w* will only be able to be realized instead of the *ʔ* in case the *ʔ* is disqualified for some reason (here dissimilation) and thus delinks. The floating "rescue" item then attaches to the vacated position. Note that the floating segment analysis is a purely phonological alternative to allomorphy that extends to all cases of the recurrent pattern described, i.e. where there is a phonological trigger but no plausible phonological pathway. That is, there is only one lexical entry, and no morphological computation (allomorph selection) at all – hence what looks like PCA turns out to be just regular phonology. In the case of Caddo (but which is quite general), the single underlier analysis accounts for the fact that only one segment of the three-segment affix shows arbitrary variation. When allomorphy and hence two distinct lexical recordings are assumed, this fact begs the question: the 2/3-identity of the two lexical items would have to be accidental.

Empirical coverage. It will be shown that the floating segment analysis is applicable to all cases (mentioned by Paster or otherwise known to me) which at first sight seem to be instances of melodically conditioned PCA. These include Yucunany Mixtepec Mixtec (Otomanguan, Mexico) where the 3sg familiar suffix is *-a* after *i*-final stems, but *-i* elsewhere, as well as to two cases of Hungarian: a) the 2sg indefinite object suffix is realized *-s* except when the stem ends in a sibilant, in which case *-El* appears (where *E* is a mid vowel subject to backness and rounding harmony); b) the 3sg, 2pl, 3pl indicative definite present tense suffix *-i* occurs after front stems, while *-ja* is found after back stems. The latter case is especially intriguing since there seems to be no rationale for a phonological trigger in the first place. It will be shown that in fact there is one, vowel harmony, and that the single underlier is */-I<a>/* (where *I* is realized [i] in nuclei but [j] in onsets, and *<a>* is floating). On the face of it, the former case also challenges the floating segment analysis since the two "allomorphs" are distinct by more than one segment. It will be shown, though, that the harmonic vowel *E* in fact does not belong to the suffix: it appears because word-final *Sl#* clusters are illegal in the language. Hence the single underlier is */-s<l>/* (where *s* is lexically associated, but *<l>* floats).

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