Restrictions on allomorphy across words

0. Of the two main types of contextual allomorphy, grammatically conditioned allomorphy (GCA; cf., e.g., *fox-**es***, *ox-**en***), unlike phonologically conditioned allomorphy (PCA; cf., e.g., ***a** pear*, ***an** apple*), is never triggered across the domain of the word, even if the standardly assumed locality conditions, namely, membership in the same spell-out domain and linear adjacency of the trigger and the target (Embick 2010, 2015, Marantz 2013), are respected. After presenting evidence for this restriction (**1**), I show how it is not accounted for by current syntactic theories of allomorphy (**2**), and I advocate for the existence of an m-word cycle at PF, proposing that m-words, even within the same spell-out cycle, are phonologically processed relatively independently (**3**).

1. Syntactic theories of morphology and the lexicon have capitalised on the idea that the word is not a privileged domain for special sound and meaning correspondences. In particular, Marantz (1995, 1997) points out that these correspondences are often found in domains smaller or larger than the word. However, the word does not seem to be completely negligible as a domain for interpretation, at least at PF. In this respect, a particular morphological interaction that does not seem to obtain between elements pertaining to different words is GCA, that is, the kind of allomorphy whose trigger "is a specific set of grammatical elements (i.e., a set of Roots, or morphemes, or features)" (Embick 2015:174), and not a phonological representation (the case of PCA). Tentatively, I assume the following:

(3) The Contextual Allomorphy Restriction (CAR):
GCA, but not PCA, is restricted to morphemes within the same word.

A straightforward case for the CAR is that of verbal inflectional morphology in English. Thus, while the affixal past tense morpheme shows allomorphy (*-d*, *-t*, *-∅*) as determined by the root, the freestanding future morpheme does never show allomorphy:

(4) a. *sigh-ed*, *bough-t*, *sank-∅* b. *will seep*/*weep*/*sink*

Another domain in which we find GCA is the expression of number distinctions. English itself shows GCA plurals, as in *ox-**en*** or *childr-**en***. Examples from other languages are the following:

(5) Dholuo (de Lacy 2012:141): [pi], [pi-**ge**] 'water'; [diɛ-l], [die-**k**] 'goat'
(regular plural: suffix -ɛ and subsequent phonological changes)

(6) Nez Perce (Deal 2016:2): *yuʔc*, *yuʔc-**me*** 'poor'
(regular plural: prefix- *he-* or reduplicative prefix C*i-*, according to phonology)

In the above cases, it is the identity of particular roots (Engl. OX, Dholuo PI 'water' or Nez Perce YUʔC 'poor'), and not any phonological factor, that triggers the selection of the marked plural allomorph. By contrast, in a sample of 78 languages from the 170 ones classified by the WALS site (http://wals.info) as using a "plural word" (see illustrations in 7 and 8), none of them was found to show GCA in plurals, as conforming to the CAR:

(7) Gula (Nougayrol 1999:92): *mōmā **gē*** 'women'; *mādā **gē*** 'babouins'

(8) Port Sandwich (Crowley 2002:653-655): *nöai **ngail*** 'rivers'; *rokolö **ngail*** 'traditions'

PCA contrasts with GCA since it does not seem to be restricted to the word domain. Thus, alongside the well-know case of the Korean nominative suffix, whose allomorphy is sensitive to phonological properties of the root, we find across-the-word PCA in the indefinite article in English and in even a group of prenominal

adjectives in French (contra Carstairs 1990); in all three cases allomorphy is triggered by the presence of a consonant or a vowel in the immediate context:

(9) Korean (Embick 2015:174): pap-i/*pap-ka ‘cooked rice’, ai-ka/*ai-i ‘child’

(10) English: *an*/**a* {*apple*/*enormous apple*}, *a*/**an* {*pear*/*big apple*}

(11) French: *bel*/**beau homme* ‘handsome man’, *beau*/**bel garçon* ‘handsome boy’

2. The standard version of the theory of allomorphy in Distributed Morphology (Embick & Marantz 2008, Embick 2010, 2015, Marantz 2013), does not predict the CAR. This theory entertains two locality conditions for two terminals to participate in an allomorphic interaction: 1) belonging to the same spell-out domain, as determined by phase theory and 2) linear adjacency (allowing for intermediate null exponents). Allomorphy amounts to the existence of different Vocabulary Items for the same morpheme, but these can only make reference, in their insertion contexts, to elements that respect the mentioned conditions. But the cases of the future tense in English and of the analytic plurals in Gula and Port Sandwich comply with both conditions. As to 1), they involve a terminal —T_{fut}, Num_{pl}— that evidently falls within the same spell-out domain as the root, since both are non-cyclic heads above the cyclic heads v and n, respectively (see Embick 2010:51f for details):

(12) a. …[$_{TP}$ T_{fut} [$_{vP}$ ROOT-v]] b. …[$_{NumP}$ Num_{pl} [$_{nP}$ ROOT-n]]

With respect to 2), both T and Num are linearly adjacent to the root in the above representations, if no other proviso is introduced. In a discussion on local dislocation, Embick (2007) proposes that subwords are linearised with respect to each other only within the m-word domain. If Vocabulary Insertion takes place locally, at the level of the subword, this has the effect that a Vocabulary Item for a given terminal cannot make reference to an adjacent morpheme if they do not belong to the same m-word, effectively accounting for the lack of GCA across words. On the other hand, Bobaljik (2012:12) puts forth a locality condition whereby the trigger and the target in an allomorphic interaction cannot be separated by a maximal projection. Thus in (12) the roots cannot trigger allomorphy of T_{fut} and Num_{pl} because there is a vP and an nP projection intervening, respectively. They can however trigger allomorphy in v or n because they belong to the same complex head. Both Embick’s (2007) and Bobaljik’s (2012) conditions correctly rule out GCA interactions across words. But they also predict the impossibility of PCA interactions across words, contrary to fact (see 9 through 11). They thus fail to predict the CAR in toto.

3. M-words are linearised with respect to each other, which involves that, within a spell-out domain, for any two mutually adjacent M-words x and y, the last subword of x, X_z, is linearly adjacent to the first subword of y, Y_1:

(13) [$_{\text{spell-out domain}}$ … {X_1-… -X_i-… -X_z}$_x$ {Y_1-… -Y_i-… -Y_z}$_y$ …]

M-words are submitted to Vocabulary Insertion one by one and according to depth of embedding. Thus, beginning with y, Vocabulary Insertion takes place at Y_1 and then rightwards up to Y_z, after which the *identity* of all these morphemes is lost in favour of their phonological representation. Thus, when X_z is to undergo Vocabulary Insertion, no information about Y_1 *as such* is available, accounting for the impossibility of X_z being a target for GCA by Y_1. However, the Vocabulary Item can make reference to phonological information adjacent to X_z, making it a possible target for PCA.

Selected references. Bobaljik, J. D. 2012. *Universals in comparative morphology: Suppletion, superlatives, and the structure of words*. MIT Press. **Embick**, D. 2007. Linearization and local dislocation: Derivational mechanics and interactions. *Linguistic Analysis* 33. 2-35. —. 2010. *Localism versus globalism in morphology and phonology*. MIT Press. **Marantz**, A. 2013. Locality domains for contextual allomorphy across the interfaces. In *Distributed Morphology today: Morphemes for Morris Halle*, ed. by O. Matushansky and A. Marantz, 95-115. MIT Press.