Cyclic morphological merger: Evidence from reduplication

Embick and Noyer (2001) argue that, under the framework of Distributed Morphology (Halle and Marantz 1993), transformations occurring after the late mapping of phonological form to syntactic structure –i.e. transformations after Vocabulary Insertion (VI)– are limited to a process of morphological merger/inversion under strict linear string-adjacency in the PF representation (see also Bobaljik 1995). Embick and Noyer (2001) and Embick (2006) claim that this morphological merger, or Local Dislocation (LD), is evaluated in some sort of cyclic fashion. For example, in (1a), Latin enclitic -que ‘and’ undergoes LD with the morpho-phonological element to its right; however, in (1b), the proclitic in ‘in’ must undergo string-vacuous LD with rebus ‘things’ before LD of -que. That is, the more embedded element in undergoes LD prior to the less embedded element -que, suggesting a cyclicity in LD operations. There are two theoretically possible ways to derive this cyclicity; either 1) LD of individual elements is evaluated during the VI process (i.e. LD occurs as soon as possible after phonological form is mapped to the relevant terminal) or 2) VI applies to all terminals in the structure at PF, and then LD is evaluated cyclically ‘from the inside out’ on the resulting morpho-phonological string. In this presentation, I investigate the nature of this cyclicity and argue that the former model is the correct one, supporting an architecture in which all morphological transformations take place before or during, but not after, VI.

The interaction of the passive ([w]), applicative ([el]), and reduplicative morphemes in Ndebele (Bantu: Zimbabwe) supports the proposed model of LD. (2) shows that Ndebele allows two possible syntactic structures with respect to the relative positions of the applicative and passive morphemes (data from Hyman et al. 1999). In the passivized applicative (2a), the benefactive/applicative argument is promoted to subject position, and in the applicativized passive (2b), the theme argument raises to subject. These correspond, respectively, to the structures in (3) (see Pylkkänen 2001; note that I assume verb-final -a to be epenthetic). Crucially, although these examples have different underlying syntactic structures, they exhibit the same surface order of morphemes within the verb. This is accounted for if the passive [w] undergoes LD with the applicative [el] in the applicativized passive; e.g. [phek w el] → [phek el+w]. (4) illustrates that when the passivized applicative and applicativized passive structures undergo reduplication, the patterns are not identical (reduplicant in bold). Note that reduplication in Ndebele may target just the root or any branching morpho-syntactic node (Hyman et al. 1999, Skinner 2008). For example, in the passivized applicative (3a)/(4a-d), the reduplicant may copy phonological features from just the verb root [phek], as in (4a) (with epenthesis of -a to meet disyllabicity), or it may copy the phonological features of the strings [phek el] or [phek el w], both producing (4b). Note, however, that (4c) is ungrammatical, since there is no point at which a phonological string [phek w] will be available for reduplicative copying, given the structure in (3a). However, such a string is available in the applicativized passive (3b) before LD of the passive and applicative morphemes. That is, if the reduplicant scopes over just the morpho-syntactic node {phek, w} in (3b), the reduplicant will copy the phonological features of the string [phek w] before VI applies to {el} and thus before LD of [w] occurs, producing (4g) (i.e. reduplicative copying takes place during VI). However, to derive (4f), reduplication must take place after LD of [w] and [-el]; i.e. the reduplicant scopes over the morphemes {phek, w, el}, but copies phonological features from the string [phek el+w]. Thus, LD must be able to occur both before and after phonological features are mapped (i.e. copied) to the reduplicant. I argue that this is only possible if LD occurs as soon as possible during VI cycles, rather than after all VI cycles are complete. If LD occurred after all VI, then we would predict that the reduplicant could not have access to the phonological string [phek el+w], since reduplication must occur during, rather than after, VI. Note that reduplication cannot copy a string [phek w el] (4h), since LD must occur in this string before the reduplicant is evaluated by VI. Thus, no morpho-phonological transformation takes place after VI.
(1) a. diu noctu-que
day.ABL night.ABL-and
‘by day and by night’
[diu ^ que ^ noctu] → [diu ^ noctu+que]
b. in rebus-que
in things-and
‘and in things’
[que ^ in ^ rebus] → [que ^ in+rebus] → [in+rebus+que]

(2) a. abantwana b- a- phek -el -w -a ukudla.
children they- PAST- cook -APPL -PASS -a food
‘the children were cooked food’
b. ukudla kw- a- phek -el -w -a abantwana.
food it- PAST- cook -APPL -PASS -a children
‘the food was cooked for the children’

(3) a. Passivized applicative
   \{phek, el, w\}
   \{phek, el\}
   \{phek\}
   \{-el\}
   \{-w\}
   \{w\}

   b. Applicativized passive
   \{phek, w, el\}
   \{phek, w\}
   \{phek\}
   \{-el\}
   \{w\}

(4) Passivized applicative
    Applicativized passive
    a. b-a-[phek-a]-phek-el-w-a
c. kw-a-[phek-a]-phek-el-w-a
b. b-a-[phek-e]-phek-el-w-a
f. kw-a-[phek-e]-phek-el-w-a
c. *b-a-[phek-w-a]-phek-el-w-a
g. kw-a-[phek-w-a]-phek-el-w-a
d. *b-a-[phek-w-e]-phek-el-w-a
h. *kw-a-[phek-w-e]-phek-el-w-a

References


