Unifying phrasal and subword Right-Node Raising: A multidominance account

Introduction. Artstein (2005) notes two puzzles concerning example (1a):

(1) a. Bill and Martha are ortho-$_{\text{(remnant)}}$ and perio-$_{\text{(correlate)}}$dontists$_{\text{(pivot)}}$.
b. Bill and Martha are orthodontists and periodontists.

First, the coordinator conjoins word parts that for most speakers are meaningless in isolation (*ortho-* and *perio-*). Second, unlike (1b), (1a) can receive a distributive reading according to which Bill is an orthodontist and Martha a periodontist. Therefore, (1a) cannot simply be derived from (1b) via deletion. To solve these puzzles, Artstein proposes a novel grammatical operation, *phonological decomposition*, that can conjoin meaningless strings. In this work, we argue that (1a) can be accounted for using only independently available operations: a multidominance analysis of Right-Node Raising (RNR) (Belk et al., 2023; Barros & Vincente, 2011) and contextual allosemy (Marantz, 2010, 2012). We thus provide a unified account of phrasal and subword RNR, in line with architectures such as DM (Halle and Marantz, 1993, 1994) that posit no modular difference between syntax and morphology. Unlike Artstein's, our analysis also explains why subword RNR is often unavailable. The subword level is more prone to idiosyncrasies in semantic interpretation which can block RNR due to a semantic identity constraint holding on multidominated constituents.

Previous work. Artstein (2005) proposes that in (1a), *ortho-* and *perio-* denote themselves, i.e., the strings, and that *-dontist* denotes a function which takes a string and returns the meaning of the word consisting of the input string concatenated with *-dontist*:

(2) $[\![\text{dontist}]\!] \in D_{eet}$: the function $h : D_e \rightarrow D_{et}$ such that for all $\alpha \in D_e$, $h(\alpha) = [\![\alpha\text{dontist}]\!]$ if αdontist is a word and $[\![\alpha\text{dontist}]\!] \in D_e$, undefined otherwise (Artstein, 2005:363)

Any strings can thus be coordinated. Only prosodic restrictions apply: the remnant needs to be a prosodic word, and correlate and pivot must be separated by a foot boundary. Artstein argues that phonological decomposition only applies when regular semantic decomposition – which can derive, e.g., (3)–(5) – fails.

(3) pre- and post-war (4) over- and underestimate (5) plant- and meat-eaters

Unlike (1b), (1a) has only one plural morpheme: [[dontists]] first takes a plural inner argument of type *e*, namely [[ortho and perio]] = [[ortho]] $\oplus$ [[perio]] $\in D_e$. Second, in the lexical entry, [[dontists]] restricts its outer argument to plurals, and enables the distributive relation between the inner and outer arguments to be assigned (Artstein, 2005). We highlight **three problems**. **First**, while Artstein can account for the fact that subword RNR is blocked if one word receives an idiomatic interpretation, requiring phonological decomposition, while the other is semantically decomposed (6a), it does not make clear why RNR is blocked when both compounds receive an idiomatic interpretation and could be phonologically decomposed (6b) (Chaves, 2008; Smith, 2000). **Second**, words that are fully non-compositional cannot be separated by a coordinator even if prosodic restriction are obeyed (7a) (Bruening, 2010; Chaves, 2008; Wilder, 2008).

(6) a. *black- and floorboards (7) a. *Man- or Winchester
b. *black- and hummingbirds b. court- or town-jester (Wilder, 2008:282)

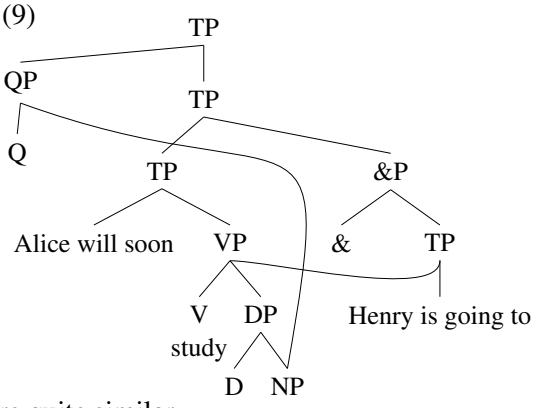
Third, Artstein's base-generation analysis predicts that any string can correspond to a node in the syntax. This is not in line with the very basic assumption that the input to syntax is a finite set of atomic elements. In sum, phonological decomposition, even if correctly deriving (1a), vastly overgenerates.

Analysis, pt. I: Interpretation of complex words. We argue that cases of subword RNR fall into four different classes. **1. Regular semantic decomposition**: all word parts have an independent denotation and combine in a regular fashion; e.g., (3)–(5). **2. Contextual allosemy**: the pivot has an independent meaning, but remnant and correlate are only interpretable in the context of the pivot (and certain other morphemes as well). This class includes (1a): *-dontist* means *dentist*; *ortho-* and *perio-* in the context of *-dontist* mean, roughly, *dealing with misaligned teeth* and *dealing with gums and supporting structures*, respectively. **3. Idiomatic interpretation**: the word is syntactically decomposed, but an interpretation can only be assigned to the sequence of nodes in combination. **4. No syntactic decomposition**: the word parts correspond to a single node in the syntax. For our purposes, classes 3 and 4 can be indistinguishable; one of them includes (6b). Class 4 includes (7a). We argue that only classes 1 and 2 can participate in RNR.

Analysis, pt. II: Multidominance. Belk et al. (2023), following Barros & Vicente (2011), propose a dual multidominance-plus-ellipsis account of RNR. One of the diagnostics for RNR-multidominance is a distributive reading of plural DPs as in (8a), where Alice and Henry each study one Oceanic language. The reading is blocked in (8b), indicating that it cannot be derived via ellipsis.

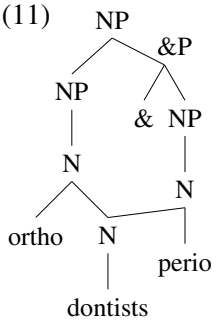
(8) a. Alice will soon, and Henry is going to, study two Oceanic languages.
b. Alice will soon study two Oceanic languages, and Henry is going to study two Oceanic languages.

Belk et al. argue that to derive the distributive reading, *study two O.L.* is multidominated across conjuncts, with the object then undergoing Quantifier Raising (QR) to take wide scope over the coordination. Here, we adopt Johnson's (2012) multidominance analysis of QR according to which only the NP is multidominated (9) (see also Citko, 2005). Belk et al. do not specify how exactly to derive the distributive reading from the high scope of the NP. We have no full solution but suggest pursuing a parallel to cases of split antecedence (10): the QR'ed constituent is interpreted as a plurality triggering plural agreement in the relative clause, while its low copies are singular (Fox & Johnson, 2016).

(9)


(10) A man entered the room and a woman went out who were quite similar. (Perlmutter & Ross, 1970:350)

Extending the distributive reading of phrases to that of subwords, we argue that in (1a), *-dontists* is multidominated in the coordinated NP (11) and then undergoes QR (not shown, analogous to (9)). This movement is unorthodox for two reasons. First, QR is traditionally considered a phrasal movement, but *-dontists* is a word part. However, in bare phrase structure, there is no principled reason why terminals cannot undergo QR as long as semantic type constraints are obeyed. Second, words are known to be islands (e.g., Bresnan & Mchombo, 1995). However, to our knowledge, this has not been shown for covert movement. We suggest that the islandhood of words is due to reasons related to spell-out, leaving QR of word parts a viable movement. **We now derive our four-way classification of subword RNR.** Regularly compositional class 1 compounds can straightforwardly participate in RNR. Class 2 compounds can also do so since *-dontists* is local to both *ortho-* and *perio-* and thus triggers allosemic interpretation. We argue that RNR with idiomatic class 3 compounds is blocked by an identity constraint holding on multidominated constituents. In (6b), *-bird* would have to be part of two different idiomatic interpretations and thus make a different semantic contribution to the two conjuncts. Lastly, RNR with syntactically non-compositional class 4 compounds is trivially ruled out. In addition, some cases of subword RNR might be blocked by constraints holding at the PF interface (Newell, 2008).

(11)


Discussion. We see several tasks for further research. **First**, how to derive the distributive reading of plural DPs needs to be worked out more in detail. **Second**, multidominated DPs can trigger plural agreement (12):

(12) Mary is proud that John, and Alma is glad that Ryo, have traveled to Cameroon. (Grosz, 2015)

We believe that distributive readings of DPs and cumulative agreement should ultimately receive a unified account, *contra* Belk et al. **Third**, the connections between subword RNR and subword focus are worth exploring (Artstein, 2004; Wagner, 2022). **Fourth**, our proposal predicts that RNR can be used as a diagnostic to distinguish between holistic and decompositional (whether allosemic or regular) interpretation of complex words, a distinction that has been explored in the experimental literature (e.g., Meunier & Longtin, 2005, 2007; Solomyak & Marantz, 2010; Taft, 2004). **Overall**, the relevance of our work is to show that subword RNR is subject to the same syntactic principles that are operative at the phrasal level. However, the subword level is more likely to display idiosyncrasies in interpretation such as contextual allosemy and idiomaticity, which can block RNR if they violate semantic identity under multidominance.