NAD (Net Auditory Distance) and morphonotactics: Accomplishments and challenges

Katarzyna Dziubalska-Kołaczyk

Phonotactics is an essential topic in phonology. Every phonological theory needs to be able to provide an account of permissible combinations of phonemes within a given language. It needs to be able to explain why particular phonemes "stick together" while others do not. For example, initial /tr-/ is possible in English, but /rt-/ is not. In Polish both sequences are allowed. A phonological theory looks for the criteria or rules which govern the possible phoneme sequences in a language, i.e. it looks for language-specific phonotactic constraints. More interestingly, however, it also looks for explanations of such constraints on a more general, universal level.

Explanatory models of phonotactics very often rely on the syllable as the domain of phonotactic constraints. The co-occurrence restrictions refer to the shape of onsets and codas as well as syllable rhymes. Descriptive models of phonotactics most often describe word-internal combinatorics. However, both types of models tend to ignore word-internal morphological complexity.

It is clear that monomorphemic phonotactics differs from the phonotactics of complex words derived by morphological operations. The latter is part of morphonotactics, defined as "the area of interaction between morphotactics and phonotactics" (Dressler and Dziubalska-Kołaczyk 2006: 250).

In this talk I will present and review a model which considers both the purely phonotactic constraints governing the structure of *intra*morphemic (non-derived lexical) sequences and the morphotactic regularities which give rise to partially or entirely morphologically motivated sequences. In this way credit is given to phonology and morphology in their roles of shaping sound sequences in a language without pretending that phonology itself does it.

In particular, I will report on the team project whose outcomes are included in the recently published book (Zydorowicz et al. 2016). The aim of the project was to verify the applicability of the Net Auditory Distance (NAD, cf. Dziubalska-Kołaczyk 2009, 2014) to the study of phonotactics and of the natural morphonotactics model to the study of morphonotactics. Another aim was to provide extensive descriptive observations concerning the consonantal phonotactics and morphonotactics of Polish and, to some extent, English. Three major hypotheses were formulated to guide the empirical investigation of the clusters. The first hypothesis refers to the size of a cluster: *Cluster size corresponds to morphological complexity. The longer a cluster, the more likely it is to be morphonotactic.* The second hypothesis refers to the difference between phonotactic and morphonotactic clusters: *The degree of phonological preferability is inversely proportional to morphological complexity. Morphonotactic clusters are expected to have a lower degree of preferability than phonotactic ones.* The third hypothesis refers to frequency of a cluster: *The degree of cluster preferability is directly proportional to frequency. Preferred clusters are expected to be more frequent than dispreferred clusters.* The hypotheses have been corroborated to different degrees, which will be critically discussed in the talk.

Additionally, I will report on the most recent study on NAD-phonological properties of word-medial consonantal clusters as predictors of the lexicalization of English compounds (cf. Lijewska et al. 2016). We have obtained rather interesting though unexpected results, which are worth pursuing.

References

Lijewska, Agnieszka, Katarzyna Dziubalska-Kołaczyk, Bartosz Brzoza and Paulina Zydorowicz. 2016. Phonological properties of word-medial consonantal clusters as predictors of the lexicalization of compounds. *New Sounds 2016*, Aarhus.

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