Phonetic detail in phonological representations: Evidence from Hungarian

Ruben van de Vijver

Surface representations are assumed to be discrete by some phonologists (Bermúdez-Otero, Bermúdez-Otero, and references therein), while others argue in favor of phonetic detail in phonological representations (Ernestus, 2014; Hay & Foulkes, 2016). Most arguments in favor of having phonetic details in phonological surface representations come from the effect of surface frequencies on processing words. I will present evidence in favor of phonetic details in surface representations that come from alternations concerning transparent vowels in Hungarian, thereby strengthening the evidence in favor of the presence of phonetic detail in phonological representations.

Hungarian has backness harmony, which means that the backness of the final vowel of the stem determines the backness of suffix vowels. The so-called transparent vowels (front non-low vowels) [i:, i, e:], however, are in some, lexically determined cases, followed by back suffixes (Törkenczy, 2016; Törkenczy, 2011).

Benuš & Gafos (2007) and Szeredi (2016) found that transparent vowels in unsuffixed words are pronounced with a phonetically more front vowel when they are followed by suffixes that take front vowels in other word forms in the paradigm, than in unsuffixed words that are followed by suffixes with back vowels. Their findings contrast with the ones reported in Blaho & Szeredi (2013), who found no difference between the two types of transparent vowels.

We measured the acoustic properties of transparent vowels in monosyllabic words. 21 Hungarians were asked to silently read a sentence with an inflected, existing monosyllabic word. In the next sentence this word or nonsense word occurred uninflected and they were asked to pronounce this uninflected variant. We then measured the formants of the transparent vowel. Our measurements show that [i] is lower when followed by back vowels elsewhere in the paradigm. This result is illustrated in figure 1. The effects for the other vowels are not significant, but they show that for [i:]

is numerically more back for back vowels than [e:] is. The direction of our effects is similar as reported in (Benuš & Gafos, 2007). The fact that we found only a significant effect for short [i] is not surprising, since it is different phonetically in that it shows a greater amount of variation than long [i:] and long [e:] (Mády & Reichel, 2007).

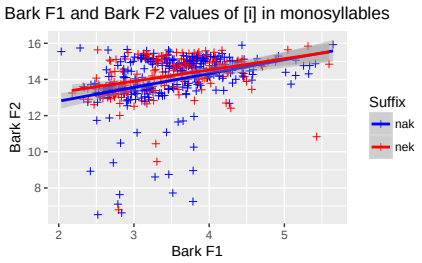

Figure 1: **Hungarian transparent [i] in unsuffixed monosyllabic items.**

The articulation of a transparent vowel in uninflected words is affected by the backness of the vowel in its inflected variants. In inflected words the transparent vowel may be affected by the vowel in a suffix. Inflected words must be stored in order to affect the uninflected words. This shows that surface forms contain phonetic details.

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