Metrical segmentation in a cross-linguistic perspective

Within the framework of a larger project on metrical segmentation this study presents the first results of a cross-linguistic experiment with Dutch and Turkish native listeners. Previous studies have shown that listeners interpret stressed or strong (non-reduced) syllables as potential beginnings of words in a.o. English (Cutler & Norris, 1988), and Dutch (Quené & Koster, 1998; Vroomen & de Gelder, 1995). This is interpreted as evidence for the Metrical Segmentation Hypothesis, which predicts that listeners have and use a parsing ability based on edge-aligned stress. However, most empirical evidence supporting this hypothesis comes from languages with (statistically dominant)[1] word-initial stress. Evidence for a facilitatory effect of right-edge aligned stress is sparse (although see Kabak et al., 2010), which leaves the question of how language-specific or universal metrical segmentation is, open. Furthermore, earlier studies only provided evidence for the use of *regressive* cues, i.e. a stressed syllable leads listeners to infer a word boundary prior to it. The question whether listeners can use stress to *anticipate* a word boundary has therefore not been answered. The current non-word spotting experiment was designed to address both of these issues by means of a cross-linguistic comparison of Dutch (penultimate word-stress) and Turkish (word-final stress). At the beginning of the experiment, participants learned two new words in an artificial language, designed by the researcher. In the next stage, participants were asked to react as quickly as possible whenever they heard one of these two words, which were now embedded in strings of syllables of the unknown language. The stress pattern of strings preceding the target was manipulated, in such a way that the only factor distinguishing the conditions was stress. Manipulation involved phonetic resynthesis of naturally recorded speech. The results show that the native pre-target stress pattern and the stress pattern on the target affect the rapidity of target recognition in Turkish ($p < 0.01$). For Dutch listeners, no such effect was found. The results support the hypothesis that the use of metrical cues in segmentation is language-specific. Furthermore, they lead to the question of whether the

[1] Dutch has predominant prefinal stress (Kager 1989; Trommelen & Zonneveld 1989), but with many exceptions. Statistically it is a hybrid between initial and prefinal stress (Vroomen & de Gelder 1995).

regularity of stress in a language affects how strongly listeners rely on metrical cues in segmentation.

References

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