

Slovenian palatalization consonant harmony and Agreement-by-Correspondence

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Consonant harmony has been in the centre of phonological research of the last two decades. The typological surveys (Hansson 2001; Rose and Walker 2004; Bennett 2015) identified three core generalizations: (i) consonant harmony is often limited to specific subsets of consonants (Arsenault and Kochetov 2011), (ii) harmony can apply at a distance, ignoring intervening consonants (Hyman 1995), and (iii) blocking is rare, limited, or even unattested (Hansson to appear). These generalizations contrast with how other types of assimilation work. As such, formal accounts of assimilation as spreading (Odden 1994; Jurgec 2011) have been rejected in favour of Agreement-by-Correspondence (ABC; Rose and Walker 2004). The main idea of this approach is that harmonized consonants are in a non-local correspondence relationship and there is a pressure for these consonants to agree in some feature.

Despite the numerous studies, articulatory data have been scarce. A notable exception is Walker et al. (2008); this study finds that transparent segments in retroflex harmony exhibit coarticulation. Coarticulation is consistent with a spreading account (Benus and Gafos 2007), but is problematic for ABC since there is no reason for intervening consonants to be affected. Walker et al. (2008) also find a blocking effect which is again consistent with a spreading account, but generally cannot be captured in ABC. It thus seem likely that further articulatory data could shed light on the validity of ABC.

We present the first ultrasound study of consonant harmony to date. Zadrečka Valley Slovenian (henceforth, Slovenian) exhibits secondary palatalization triggered by specific suffixes and targeting consonants within the root (e.g. 'zve:zd-a 'star' ~ 'zʲvʲe:zʲdʲ-ε 'stars'). Most consonants, with the exception of [r], are reported to palatalize based on impressionistic transcriptions (Weiss 1998, 2001). We examined the articulation of consonants with an ultrasound analysis of 51 real-word minimal pairs pronounced by 5 participants.

Our results suggest that most consonants indeed undergo palatalization (for instance, /bund-ε/ → [bʲunʲdʲ-ε] 'jacket'). Underlyingly palatalized consonants do not trigger palatalization, which shows that consonant harmony requires a morphological trigger (/tsenʲik-e/ → [tsʲenʲikʲ-e] 'menu'). Crucially, [r] does not palatalize and has no coarticulation when appearing root-medially (/birt-e/ → [bʲirtʲ-e] 'master'), but blocks harmony when word-final (/tsifr-ε/ → [tsifr-ε] 'digit').

The lack of coarticulation supports ABC over spreading. Moreover, we show that the mixed transparency and blocking pattern found in Slovenian are predicted by ABC. This is because the same constraints that prefer correspondence and agreement among non-rhotics also prefer blocking when the rhotic appears in the root-final position. Alternative models would require significant modifications to capture this pattern.

The ultrasound data reveal that Slovenian has palatalization consonant harmony, which can ignore intervening non-palatalized consonants as well as palatalized non-triggers. This study presents one of the most convincing arguments for ABC to date.