

Conclusion

This study has focused on elucidating the notion of locality in phonology. Locality expresses the conditions under which two sounds can assimilate to one another. The central thesis is that locality has its basis in the notion of articulatory contiguity between gestures. Here, I wish to recapitulate the sources of evidence for this central thesis, as adduced in the main body of this dissertation.

The study began by identifying a general asymmetry between vocalic and consonantal gestures in simple VCV and CVC sequences. I have argued that in VCV sequences, the two vocalic gestures are contiguous, while in CVC sequences the two consonantal gestures are not contiguous. I have proposed that the notion of articulatory contiguity between gestures provides the condition of locality for phonological assimilations. This is the essence of Articulatory Locality, as defined in (1) below.

1. Articulatory Locality

Two gestures of the segments S1 and S2 are in a phonologically local relation if and only if their articulations are contiguous.

Diverse evidence from various areas of phonological theory confirms the prediction of Articulatory Locality that assimilations must respect articulatory contiguity. The first source of evidence is cross-linguistic sound patterning, and in particular the asymmetry that exists between the distribution of vowel harmony and consonant harmony. Vowel harmony is relatively common in the languages of the world, whereas consonant harmony is rather limited. This asymmetry directly reflects the articulatory facts of contiguity, namely, the asymmetry between the presence of V-to-V

contiguity in a VCV sequence versus the absence of C-to-C contiguity in a CVC sequence. Presence of V-to-V contiguity implies a local relation between the two vowels and hence predicts the possibility of assimilations. Absence of C-to-C contiguity implies no locality between the two consonants and hence predicts no C-to-C assimilations, except for the very specific range of consonantal gestures discussed below.

Consonant harmony involves assimilations between the two consonants in CVC sequences. Articulatory Locality predicts that the two consonants could assimilate to one another only if the assimilating gesture of the trigger consonant could propagate through the intervening vowel to affect the consonant on the other side of the vowel (contrary to the more general pattern). Indeed, consonant harmony appears in various forms in the languages of the world but the underlying typology of the phenomenon in terms of the assimilating gestural parameter is rather limited. The only gestural parameters attested to assimilate in consonant harmonies are the parameters of Tongue-Tip Constriction Orientation (TTCO) and Tongue-Tip Constriction Area (TTCA) which control the mid-sagittal and cross-sectional shape of the tongue tip-blade, respectively. TTCO and TTCA can pass through vowels because (a) the shape of the tip-blade can be maintained during the production of a vowel, and (b) this shape has no significant effect on the acoustics of that vowel.

Turning to experimental evidence, Articulatory Locality predicts that, in assimilations between the two vowels in a VCV sequence, the physiological correlates of the assimilating gesture must be present during the production of the articulatorily contiguous consonant. Electromyographic (EMG) patterns and corresponding articulatory tracings confirm this prediction of Articulatory Locality. In Turkish, a language with rounding harmony, sequences like [utu] exhibit a plateau pattern in the activity of the orbicularis oris throughout the whole VCV sequence, indicating that the assimilating rounding posture of the lips persists during the production of the intervening consonant(s). This is in contrast to the trough pattern attested in languages with no rounding harmony, such as English, French, Spanish, and Swedish. In these latter languages, the trough, coincident with the production of the consonant, indicates that there is cessation of the activity of the orbicularis oris during the production of the intervening consonant.

Yet another confirmation for Articulatory Locality is found in the area

of non-concatenative morpho-phonology. Here we began with a *prima facie* counterexample to Articulatory Locality: long-distance consonantal spreading, which spreads a whole consonant over a vowel to create a symmetric CVC sequence where the two consonants are identical. This type of spreading is predicted not to be possible according to Articulatory Locality: spreading of a consonant must propagate through the articulatorily contiguous vowel, and thus it would completely obscure the vowel. Indeed, on closer scrutiny, it turns out that the phenomena formerly analyzed as 'spreading' should instead be analyzed by means of the same mechanism underlying reduplication, namely, segmental copying. I have shown that the failure of previous analyses to recognize the true character of the alleged long-distance consonantal spreading derives from a rigid notion of reduplication, based on inviolable conditions. Adopting Optimality Theory, in which reduplication and the grammar in general are based on violable constraints, I have shown how long-distance consonantal spreading can be formally reanalyzed as segmental copying in the verbal morpho-phonology of the South-East Asian language Temiar, a language wherein both long-distance consonantal spreading and reduplication were once thought to be necessary. I have then shown how the analysis can in principle be extended to Semitic languages as well.

Two welcome consequences of the proposal to eliminate long-distance consonantal spreading from the theory should be noted. First, as I have argued, the geometric premise of long-distance consonantal spreading, V/C Planar Segregation, is both undesirable and unnecessary. This leads to a unification of the representational apparatus of concatenative and non-concatenative languages. Second, I have identified as a key characteristic of non-concatenative morpho-phonology a type of reduplicative affixation where the reduplicant is not specified for a prosodic target. This type of affixation, which I call a-templatic reduplicative affixation, is expected, given the documented cases of templatic specification or lack thereof in the literature on Prosodic Morphology: templatic specification of the base, templatic specification of the affix (ordinary templatic reduplication), and no templatic specification of the base. Both consequences provide independent evidence for the proposed reanalysis of long-distance consonantal spreading, and hence independent confirmation for Articulatory Locality.

In short, Articulatory Locality makes strong predictions which are

repeatedly confirmed in diverse areas of phonological theory.