Abstract: Harmonic Serialism and the Role of Underlying Representations

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The advent of Optimality Theory in the early 1990s rapidly led the depreciation of much study on underlying representations in phonological theory (Kramer 2012). In a single-step system which expressed all 'operations' as effectively occurring in parallel, there was little need for a complicated theory of URs, since the near-infinite candidate set could produce the correct output no matter the details of its input. Furthermore, Lexicon Optimization ultimately predicted the full specification of all lexical forms in order to minimize faithfulness violations (Prince & Smolensky 1993/2004; Kramer 2012). However, the development of Harmonic Serialism (McCarthy 2016), a serial variant of OT with a strictly limited candidate set, has undermined this context and requires a reexamination of the nature of the UR, faithfulness constraints, and consequently, the input.

A coda-stop lenition process in Chilean Spanish, in which /t d/→[j] in coda position (Piñeros 2001), functions as an excellent example of this new context. While the final step of the derivation makes sense, with both UR and SR being coronal segments, it is much more difficult to determine how such a drastic change can occur under the strict Gradualness requirements of HS. It becomes even more difficult to provide a clean derivation when one considers the feature changes at play, building on the standard HS assumption that deletion is gradual (McCarthy 2018), requiring changes to [continuant], [sonorant], [approximant], [consonantal], and in some cases [voice] features. It furthermore requires a shifting of the specific place features if full feature specification is assumed, making for a long derivation in which several required steps, most pointedly the place-shifting and the jump to [+approximant], are not harmonically improving.

Thus, this study concerns the implications for HS when one ceases to treat the segment as an abstract unity and instead decompose it into an emergent product of the deeper feature-geometric structure. In Feature Geometry (Clements 1985), phonological features are organized hierarchically, with groupings based on the tendencies of features to spread or delete together. Assuming changes between segments are just the emergent surface result of feature changes, then there must be some principle to the feature changes apart from a simple need to realize it as a different surface segment. Such a decomposition is ultimately required by the nature of gradual operations in HS. It thus becomes necessary to examine the nature of the input itself. Since the specified place features of underlying /t d/ cause trouble for the derivation, it is reasonable to consider whether the CORONAL node may in fact be underspecified, as is held for many languages (Cummings et al 2017). Similarly, since there is difficult competition between [r] and [j] as the final output on account of [consonantal], [consonantal] or some other ROOT node feature, may not be specified in Chilean Spanish.

This leads neatly into the examination of the implications of step-specific faithfulness in HS in the context of underspecification. When a segment is primarily defined by its featural structure, operations must refer to components of that structure, with whole-segment effects arising from these individual changes made on a smaller scale. HS faithfulness, in which constraints refer to the present-step input rather than the UR, forces researchers to be closely concerned with what exactly they are choosing as the input. If operations really target components of the segmental structure, then what underlying structure exists must be known. Furthermore, in HS each step is treated as a 'fresh start', without reference to earlier steps. The structure must be known at each step, so that possible operations can be determined and ruled out.

References

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