Restricting non-segmental contrasts

Non-segmental features can serve a contrastive role in the phonology, and various models have been developed to account for different phenomena such as length (CV, X-slot, and moraic theory), tone (autosegmental theory), and stress (metrical theory). I argue for a unified model of non-segmental phonology in which word-level contrasts are captured by interactions between two tiers: a CV-tier, representing segmental root nodes, and a prosodic tier, representing features such as lexical tone and lexical stress. Pure quantity contrasts are generally represented by double root node linking on the CV-tier, while tone or non-derivable (lexical) stress contrasts are generally represented on the prosodic tier. I suggest that such a model together with parametrisable restrictions on associations between the two tiers can derive a range of prosodic systems, from stress, to pitch accent, to pure tone contrasts, without predicting co-occurrences that are not attested.

This predicts that a single language may not use more than two non-segmental contrasts. That is, lexical tone, lexical stress, and contrastive quantity may not co-occur within the same system, contra existing conceptions in which tones, moras/CV-slots, and metrically strong positions are represented by distinct primitives in the grammar, all of which might be expected to be exploited within the same language. Instead, I propose that Universal Grammar provides the mechanism of defining contrasts and the organization thereof (autosegmental association lines across two tiers), in the vein of Dresher (2013); the phonetic correlates of a given contrastive feature are language specific and based on phonological and phonetic behaviour. I illustrate my proposal with case studies of several languages that show multiple interacting non-segmental contrasts.

Serbo-Croatian has a pitch accent system characterized by interactions between contrastive quantity and tone. The language is also described as having stress, but this is predictable based on the placement of tone (Inkelas and Zec 1988). Stress may thus be a perceptual or phonetic phenomenon, but it has no contrastive status. The word-level phonology can thus be captured with only two tiers: tone on the prosodic tier, and quantity on the CV tier.

Papiamentu is described as having both contrastive tone and contrastive stress. However, it is not said to have a length contrast. I propose that tone is represented on the prosodic tier, while stress is represented as quantity on the CV-tier; this is in line with measurements by Rivera-Castillo and Pickering (2004), which show that duration is the main correlate of Papiamentsu stress.

Finally, Estonian is said to have a three-way quantity contrast, but overlong quantity is accompanied falling pitch, which can serve as the sole perceptual correlate distinguishing it from the long degree, such that the language is moving towards a kind of pitch accent system (Lehiste 2003). I show how long/overlong alternations can be captured by a two-tiered analysis in which the elements on the prosodic tier have a prime phonetic realization of pitch, which is enhanced with additional duration only in certain contexts.

References


