

## Phonetically-based abstractions

The theoretical debate over the role of phonetics in phonology has been characterized by communication problems for which both sides are responsible. Those espousing the view that phonetics is ‘irrelevant’ (e.g. Gussmann 2007) apparently assume that all phonetics research has been ‘done’ and there is nothing more they need to learn about speech. When phonetic findings conflict with phonological evidence, these scholars often assume that they have no bearing on phonology, rather than refine their theory to make it compatible with the phonetic results. On the other hand, many phoneticians apparently forget that phonetic research often rests on phonological assumptions. For example, phonetic research into the gradient and variable aspects of vowel quality still takes for granted the existence of something called a ‘vowel’. While phonetics can describe their physical characteristics, vowels nevertheless constitute a phonological category.

The crux of the problem, as pointed out by Ladd (2011), is that both phoneticians and phonologists typically posit a level of ‘systematic’ or ‘categorical’ phonetics that is supposed to mediate between speech and abstract phonological representations. However, even the most detailed allophonic transcription is not a faithful representation of speech, and Ladd shows convincingly that attempts to map ‘systematic’ phonetics to the speech signal are doomed to failure. Instead, there is evidence that the mapping between speech and grammar accesses representations that are more abstract than is generally assumed (cf. Harris and Lindsey 1995). At the same time, however, abstraction is usually thought of in terms of phonemic contrast, which is problematic for any theory of the phonetics-phonology interface, since plenty of non-contrastive features behave in a phonological manner (cf. Donegan 2002).

The Onset Prominence representational framework (OP; Schwartz 2010 et seq.) is an attempt to model the speech-grammar relationship while at the same time reconciling communication problems between theoretical camps. Abstraction in the OP model is based not on segments or phonemic contrast, but on perceptual ambiguities inherent in the speech signal (cf. Ohala 1981). These ambiguities, whose phonetic credentials are well established, create parameters in the representational system that explain the phonological origins of non-contrastive phonetic properties that differ systemically across languages. This talk will illustrate a number of these phonetically-based abstractions in action, demonstrating how the framework facilitates the formulation of new hypotheses for experimental phonetic study.

Returning to the phonetics-phonology debate, the general outlook of OP is captured nicely by Ohala (1990: 168; emphasis mine): “my own view is that between phonology and phonetics, *phonology is the superordinate discipline*, ... because it looks at and seeks answers to a much broader range of phenomena involving speech behavior”. Considering that Ohala is best known as a phonetician, this quote is remarkable, and might be interpreted as an appeal to other phoneticians to consider new phonological possibilities. That is the mission of the OP model.