Jeff Mielenke (2008) argues that phonological features are emergent rather than innate. Thus, “Because features are abstract, there need not always be a connection between phonetics and phonological patterns, and features do not necessarily always refer to phonetically natural classes” (Mielenke 2008:9). This view contrasts sharply with what Postal (1968:55–77) called the “naturalness condition,” according to which classes of segments that behave together phonologically must be definable in phonetic terms. Ladd (2014), among others, argues forcefully that the naturalness condition must be abandoned. This presentation will look at two phenomena that are difficult to reconcile with the naturalness condition but are compatible with the notion of emergent features.

First, as has been documented in many studies (e.g., Kim, Beddor and Horrocks), the laryngeal features of word-initial lax and aspirated stops in Seoul Korean have been shifting rather dramatically from a contrast between unaspirated and aspirated to a contrast between relatively weakly aspirated and relatively strongly aspirated, with low f0 in the immediately following vowel serving as an increasingly important cue for the lax stops. In the wake of the pioneering work by Lisker and Abramson (1964), it was widely accepted that there were three universally available VOT categories: lead (voiced), short lag (voiceless unaspirated), and long lag (voiceless aspirated). However, subsequent research in the half century since indicates Seoul Korean is just one many cases that do not fit comfortably into these putatively universal categories. On the other hand, the difference between lax and aspirated stops is represented systematically in Hangeul orthography, and the traditional labels (平音 pyeong-eum and 激音 gyeog-eum) presumably denote psychologically real categories for native speakers. If features are emergent, the ongoing changes in phonetic realization need not disrupt the system and make it problematic for future generations of speakers. The two phonological classes can, of course, be characterized in phonetic terms throughout the progress of the change, although not with innate features. This phenomenon is thus a relatively minor problem for the naturalness condition.

Second, although rendaku in Tokyo Japanese is almost always described as a voicing process, because of well-understood diachronic changes, rendaku actually pairs voiced and voiceless consonants that in most cases differ in more than just the presence vs. absence of vocal-fold vibration (Vance 2015:397–398). On the other hand, the orthographic representation of rendaku in kana is straightforward and consistent. For example, the difference between the /h/[h] in hana ‘flower’ (はな) and the /b/[b] in beni+bana (べにばな) ‘safflower’ is represented in exactly the same way as the difference between /t/[t] in tana (たな) ‘shelf’ and /d/[d] in hon+dana (はんだな) ‘bookshelf’. There are traditional orthographic terms for syllables beginning with a voiceless obstruent (but excluding [p]) (清音 seion), and for syllables beginning with a voiced obstruent (but for some speakers including [n]) (濁音 dakuon), and there is little doubt that these categories are psychologically real for native speakers. If features are emergent, it is not necessarily problematic to posit paired categories for which diachronic changes have disrupted the parallelism in phonetic realization. This phenomenon is, however, a more serious challenge for the naturalness condition, since the categories cannot reasonably be construed as phonetically based.
References


