Lardiere’s (2009) Feature Reassembly Hypothesis (FRH) states that acquiring the formal features of a second language involves a substantial period of time wherein the learner must readjust features from one’s L1 onto formal counterparts in the L2. These formal linguistic features are packaged onto lexical items of every language and are purported to come from a universal repository that all children have access to but that learners have to rearrange due to the presence of already firmly rooted features and representations in one’s native language. Rice and Avery (1995) hold that phonological features are universal as well and are organized in unique ways by languages, resulting in distinct phoneme inventories and representations. Brown (1998) noted that if a learner’s L2 grammar lacks the phonological feature that can differentiate a non-native contrast, then that learner may forever have their L2 representations impinged as a result. Best’s (1995) direct realist view of crosslanguage speech perception posits that L2 learners will perceptually assimilate L2 phonemes to phonemes already present in their L1. Best’s Perceptual Assimilation Model (PAM) states that a learner’s L1 serves to constrain one’s sensitivity to non-native contrasts during the acquisition process and that non-native sounds are delineated into several categories based on similarities or differences with one’s own native language.

A Mandarin learner of L2 English has to contend with a substantially expanded L2 vowel inventory in the early stages of acquisition. Mandarin has five monophthongal vowels structured triangularly and English has at least 11 situated in a quadrilateral vowel space. Phonologically, the Mandarin learner has to grapple with the addition of pronounced features less prevalent in their L1. The laryngeal articulator is used heavily in Mandarin to create the language’s distinct tones but that is not the case in English. English does not employ the larynx to the degree that Mandarin does, instead relying on the tongue root in the creation of tense and lax distinctions. In Avery & Idsardi’s (2001) feature geometry paradigm, tongue root acts as both a dimension and an articulator and its completion rules are realized through advanced and retracted tongue root (ATR/RTR) gestures, requiring subtle manipulation and refinement of these two positions to produce accurate contrasts. As Duanmu (2007) explains, Mandarin vowels are mostly considered “long” and, as such, have advanced or retroflex tongue roots features, yet “short” vowels, absent of tongue specification, exist only in a few environments in the language and are not contrastive. This difference is needed in order to make conceptual contrasts possible.

In an attempt to account for vowel acquisition difficulties and possible routes to progress for L1 Mandarin learners of L2 English using Best’s direct realist approach, this work follows the Toronto School of contrastive phonology which holds that phonological representation is determined primarily through the use of contrastive features (Dresher et al, 1994; Dresher, 2008). Contrast is initiated from the inventory of a language by the Successive Division Algorithm (SDA), which results in a contrastive hierarchy for a particular language where all segments have a contrastive specification. Several cases from recent phonetic research are first presented that serve to catalogue longitudinally the progress of Mandarin learners as they attempt to incorporate the vowel inventory of English into their second language repertoire and, at the same time, contend with heavy influence from their existing native set. These studies provide inroads into the underlying phonological processes occurring in a phonological feature reassembly process and serve as the the basis for a preliminary model of Dresherian contrastive hierarchy in language acquisition using elements of Avery & Idsardi’s feature geometry paradigm. The model provides a theoretical roadmap showing that, as a Mandarin learner progresses in the attempt to successfully incorporate the English vowel inventory into the second language set, the learner’s L2 hierarchy evolves in successive stages as contrast between English’s tense and lax vowels is perceived and categorized.
Selected References


