Dzongkha Segments and Tones: A Phonetic and Phonological Investigation

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Abstract

In this thesis, we make, for the first time, an acoustic investigation of supposedly unique phonemic contrasts: a four-way stop phonation contrast (Voiceless, Voiceless Aspirated, Voiced, and Devoiced), a three-way fricative contrast (voiceless, voiced, and devoiced) and a two-way sonorant contrast (voiced and voiceless) in Dzongkha, a Tibeto-Burman language spoken in Western Bhutan. Paying special attention to the ‘Devoiced’ (as recorded in the literature) obstruent and the ‘Voiceless’ sonorants, we examine the durational and spectral characteristics, including the vowel quality (following the initial consonant types), in comparison with four other languages, viz., Hindi and Korean for obstruents, and Mizo and Tenyidie for sonorants.

While the ‘Devoiced’ phonation type in Dzongkha is not attested in any language in the region, we show that the devoiced type is very different from the ‘Breathy’ phonation type, found in Hindi. However, when compared to the three-way voiceless stop phonation types (Tense, Lax and Aspirated) in Korean, we find striking similarities in the way the two stops (‘Devoiced’ and ‘Lax’) employ their acoustic correlates. We extend our analysis of stops to fricatives, and analyse the three fricatives in Dzongkha as: Tense, Lax and Voiced.

In sonorants voiced-voiceless distinctions, we show that while the voiceless nasals in Dzongkha pattern with voiceless nasals in Mizo, as pre-aspirated types, the voiceless laterals pattern with voiceless laterals in Tenyidie, as post-aspirated. We also show that the voiced-voiceless distinction in sonorants can be made with two acoustic cues, viz., the sonorant duration and the different phonetic composites of the voiceless sonorants.

Having established the segmental contrasts, we finally make an acoustic study of the tones in Dzongkha. We show Dzongkha to be an incipient, lexically bi-tonal language, supported by the lexical tone specification on the syllables with voiced sonorant onsets. In obstruents, the ‘Tense’ group occurs in the High Register while the ‘Lax’ group occurs in the Low Register.