INDIAN INSTITUTE OF TECHNOLOGY GUWAHATI
SHORT ABSTRACT OF THESIS

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SHORT ABSTRACT

The physical constraints of articulatory and/or auditory speech mechanism are vital to sound change in human language (Hombert 1977, Ohala 1974, 1993). These constraints often affect the way speech sounds are produced and perceived by listeners. A speaker's pronunciation may get distorted and may not be perceived as intended, thus creating space for inclusion and/or reduction of the phoneme inventory. Several factors causing sound change over generations are found in all human speakers. One of the striking outcomes of such sound changes such as the loss of voicing contrast, or otherwise the loss of underlying breathiness property among the obstruents often leads to the emergence of (lexical) tone in many of the world languages. In this dissertation, with the help of production experiment(s) we first explored the phoneme inventory of a previously undocumented language, i.e. Sylheti. The phoneme inventory of this language is substantially reduced due to the loss of (underlying) breathiness contrast ([d̪ʰan>**d̪**an] 'paddy', [t̪ʰala>**t̪**ala] 'plate'), spirantization ([por] > [**ɸ**ɔr] 'read', [pʰul] > [**ɸ**ul] 'flower', ([kali] > [**x**ali] 'ink', [kʰal] > [**x**al] 'drain/channel'), and deaffrication ([tʃa] > [**s**a] 'tea', [tʃʰuti] > [**s**uti] 'holiday', [dʒal] > [**z**al] 'net', [dʒʰal] > [**z**al] 'spicy'). These changes, especially the loss of breathy voice contrast [+spread glottis] among the obstruents (both voiced and voiceless) in Sylheti give birth to a high tone ([d̪á̰n] 'paddy' [d̪ʰ>d̪] and [d̪à̰n] 'donate', [bá̰t̪] 'rice' ([bʰ>b]), and [bà̰t̪] 'arthritis'). This study explores the tone system of Sylheti and provides a detailed phonetic and phonological account of Sylheti tonogenesis.

The foundation of canonical theories of tonogenesis is driven by the interaction between consonantal features and predicable pitch patterns of the following vowel. Generally voiced obstruents are expected to lower the f_0 of the following vowels whereas their voiceless counterparts may even raise it. However, such predictions do not seem to

work in case of Sylheti. Further, we have also observed that in Sylheti, each homophonous pair is marked with a contrastive tone, regardless of the voicing property of the adjacent (onset) consonant. As such, the loss of (underlying) breathiness property of Sylheti obstruents is not limited to a high tone (only) --- a low tone can also arise if the conditioning environment of the homophonous pair witness similar pattern of evolution (such as the loss of underlying breathiness contrast in both the homophonous pair): ([xál] 'drain/channel' [kʰ> x], [xàl] 'skin' [ʧʰ> x]). Similarly, a low can also evolve following a voiceless obstruent ([ɸɔ́r] 'read' [p>**ɸ**], and [ɸɔ̀r] 'guard' [p>**ɸ**]). The phonological patterns, which seem to be divergent as observed in the case of Sylheti, i.e., the unpredictability of consonant-tone interaction, are explained through the phonetic motivations of these changes. The phonation qualities of the vowels bearing contrastive tones confirm that the vowels associated with low tones have slightly 'laxer' voice qualities than those bearing high tones ('tenser' phonation). This study further reveals that contrastive tones in Sylheti are perceived in a categorical manner. We conclude that tone assignment in morphologically derived words as observed in the process of Sylheti suffixation yields a process of tonal complexity - the suffixes attached to noun roots are toneless and takes the tone opposite to that on the root they are attached to; thus displaying a case of tonal polarity. The verbal suffixes, on the other hand, bear an (underlying) high tone, and display an instance of tone reversal; i.e., when added to a verb form with underlying high tone, the derived verb form surfaces with a post affixation low tone.