

## On pitch lowering not linked to voicing: the case of Southern Bantu depressors

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It is common, cross-linguistically, for voiced consonants to have a lowering effect on the pitch of the following vowel. As a result, featural theories in a variety of frameworks formalize an explicit link between [voice] and Low tone, in some cases considering them reflexes of the same feature: Peng (1992), Bradshaw (1999), Harris (1994), Halle & Stevens (1971), Halle (1995), Schack Tang (2006), Khumalo (1987). In this talk I will present evidence that consonant-triggered pitch lowering cannot be universally accounted for by a [voice]/Low correlation. First, lowering is not always triggered by consonants which are historically or synchronically voiced. Further, the lowering one finds is not always consistent with simply associating the consonants (or a following vowel) with a Low tone. I argue instead, in the spirit of Rycroft (1980) and Strazny (2003), that some forms of pitch lowering are best analyzed as a register effect, not a tone.

These arguments will be made based on the tone systems of some Southern Bantu languages in the Nguni and Shona groups that contain so-called depressor consonants: ones which have a lowering effect on the tone of a following vowel (Rycroft 1980; Hyman & Mathangwane 1998; Cassimjee & Kisseberth 1992, 2001; Bradshaw 1999). The depressor effects one finds include downstepping or deletion of a High tone, blocking of High tone spread or shift and the shifting of High tones away from the depressed mora. In some of these languages (Swati, Zulu), the depressor effect has also been grammaticalized: non-depressor consonants induce ‘depressed’ tone patterns in particular morpho-syntactic contexts like the imperative, demonstrative or copular constructions. Bradshaw (1999) argues these effects are consistent with proposing that depressor consonants are associated, at least in their inputs, with [voice] and therefore introduce a Low tone, since [voice] and Low tone are associated features. An input Low tone is responsible for the grammaticalized depressor effects.

However, there are several problems with this [voice]/Low analysis of the depressor effects. First, the depressor consonants of the Shona and Nguni groups are not uniformly voiced (Traill et al. 1987; Strazny 2003; Gick & Downing 2005). Indeed, many are phonetically voiceless, and there is no strong evidence they were ever voiced. Furthermore, languages like Zulu show that the depressor effect – whatever its phonetic motivation – is not best formalized as a Low tone. As Strazny (2003) and Cassimjee & Kisseberth (2001) point out, one problem is that the depressors are transparent for ‘normal’ High tone shift in these languages, which targets the antepenult or penult. In [uku-valéli:sa] ‘to bid farewell’, for example, the input source of the High tone (underlined) is the initial syllable; it shifts to the antepenult over the depressor consonant, ‘v’. In [uku-vilâ:pha] ‘to be lazy’, in contrast, the High tone shifts beyond the antepenult, to avoid being realized in the syllable containing the depressor ‘v’. This process of ‘depressor shift’ is, however, blocked by a depressor in the following syllable: [uku-vímbe:la] ‘to obstruct’ / \*uku-vimbê:la. This blocking is accounted for if the depressor introduces a Low tone, but then depressors should uniformly block High tone shift, not just in this context. A further problem is that depressor-induced High tone shift creates a falling tone on the penult vowel. Normal High tone shift to the penult does not: [uku-vilâ:pha] ‘to be lazy’ vs. [si-ya-lalé:la] ‘we are listening’. If shift results from associating a Low tone with the ‘depressed’ syllable, the output should be identical in these two cases.

I will show that this range of depressor effects can be accounted for if they are represented, in Optimal Domains Theory (Cassimjee & Kisseberth 1998) as the interference of a Depressor domain with High tone realization. This formalizes earlier proposals that depression is a register, not a tone, while avoiding the serialism of earlier accounts (Strazny 2003, Cassimjee 1998).