

## **Downstep and consonant-tone interaction in Dagara**

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*This paper presents a constraint-based analysis of the blocking of H tone spreading by depressor consonants in Dagara Wule, a Voltaic language spoken in Burkina Faso (Somé 1998). When  $H_1$  tone spreads to  $LH_2$  tone words, the  $H_2$  becomes downstepped:  $H_1 + LH_2 \rightarrow H_1 \square H_2$ . The blocking of downstep by depressor consonants is challenging because a theory should account for both the nature of downstep and the nature of blocking of H tone spreading by consonants.*

*Two competing views on downstep propose that downstep occurs either due to a floating low tone (Schachter and Fromkin 1968 and others), or due to adjacent H tones in the output (Odden 1982, Bickmore 2000). The latter view is adopted in this paper. Downstep occurs when faithfulness constraints on input tone outrank the markedness constraint (such as OCP).*

*Among theories on consonant-tone interaction (Bradshaw 1999, Tang 2008 and others), this paper adopts the proposal by Lee (2008). In his theory called Extended Tone Bearing Unit theory, all root nodes including non-moraic root nodes can be tone bearing units, no faithfulness constraint target non-moraic root nodes, and only markedness constraints such as  $*[+VOICED]/H$  regulate consonant-tone interaction.*

*In the absence of faithfulness constraints on non-moraic TBUs, markedness constraints such as  $ROOTNODE-TO-TONE$  ( $RN \rightarrow T$ ) interact with the constraint  $*TBU/T$ , which bans TBUs from having tone. Non-moraic root nodes have tone only if the constraint  $RN \rightarrow T$  dominates  $*TBU/T$ . In this case, if the constraint  $*[+VOICED]/H$  dominates other tonal faithfulness constraints, depressor consonants block H tone spreading.*

*Downstep is due to the ranking in which tonal faithfulness constraints outrank OCP. The ranking on consonant-tone interaction in turn blocks the downstep. If downstep were due to a low tone, we expect not to observe the blocking of downstep because a low tone associated with consonants will still allow downstep.*