

The Representation of Complex Segments

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Clicks and labial-velars are complex segments involving two constrictions in the oral cavity. I present aspects of the representation of coronal clicks in Southern African Khoisan languages and labial-velars in the Ghanaian language Dagbani. I show, using phonological evidence and high-speed ultrasound imaging using the CHAUSA (Corrected High-speed Anchored Ultrasound with Software Alignment) method, that coronal clicks involve contrastive posterior constrictions. The central alveolar and lateral alveolar clicks involve tongue root retraction, and tongue body lowering, while the dental and palatal clicks solely involve tongue body lowering. I argue that an [RTR] feature accounts for the phonological patterning of clicks with respect to the Back Vowel Constraint, a co-occurrence constraint that rules out the occurrence of central alveolar and lateral alveolar clicks with front vowels. I argue that clicks are all specified for a lingual airstream feature, and that this accounts for the licensing of clicks in word initial position. I show that labial-velars in the Ghanaian language Dagbani also involve tongue dorsum and tongue root retraction. While Ladefoged (1968) describes tongue dorsum retraction as part of a velaric airstream mechanism, I argue that labial-velars are unspecified for an airstream feature in Dagbani. While there is a direct mapping between the presence of a phonetic tongue root gesture, and a phonological [RTR] feature (Hudu, Miller and Pulleyblank 2009), the phonetics-phonology mapping for the airstream feature is more complex, and thus more abstract (Miller 2009).