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Nasals and Nasalisation in Kusaal: An Element-based perspective

Nasals are very common segments and have received considerable attention across the world's languages (Moran & McCloy 2019). However, nasals and nasalisation have received less attention both in descriptive and analytical studies in Kusaal, a Maba (or Gur) language spoken in northern Ghana. The language has both nasal consonants [m], [n], [ɲ], and [ŋ] and nasal vowels [ĩ, ũ, ẽ, õ, ã] (Musah 2010, 2018, Musah & Akanlig-Pare 2024, Niggli 2014, Abubakari 2018). The paper, therefore, seeks to describe the distributional patterns of the nasal segments and nasalisation process in Kusaal and provide an analysis within the framework of the Element Theory (Backley 2011). I explore the contexts where nasalisation is blocked, its triggers, targets, and directionality. The data for this paper were gleaned from existing literature, including the Kusaal dictionary, the Kusaal bible, Musah (2010; 2018), Niggli (2014), and my own native intuition.

The nasals [m, n] can be syllabic and occur in both syllable initial and final positions, whereas /ɲ/ occurs only in the initial position. In this study, I show that /ŋ/ can be both lexical and derived through assimilation of /n/ to [g] or [k]: /sɔŋ-g/ → [sɔŋ] 'mat' vs [sɔŋ-a] 'mat-s' /bɔŋ-kɔ̃bug/ → [bɔŋkɔ̃bug] 'animal'. The /m/ and /n/ undergo homorganic nasal assimilation by losing their place of articulation to a following consonant (Musah 2010, Musah & Akanlig-Pare 2024). In the following example, the nasal [n] keeps its nasality but loses its place of articulation to the following obstruent.

(1) gbin 'butt' + vɔ:r 'hole' → [gbi~~n~~vɔ:r] 'anus'

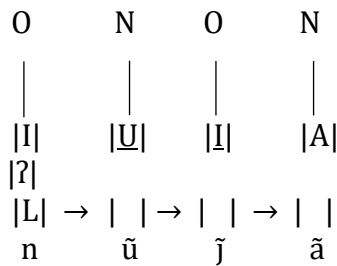
Nasalisation is triggered by both nasal consonants and nasal vowels, targeting vowels to the right, and is blocked by all consonants except /j/, /ʔ/ and /h/.

- (2) a. [nɔ̃b-a] 'leg-pl' d. [nũ-ĩã] 'drink-perf'
b. [ɔ̃sɪr] 'sweat' e. [tẽɹẽs] 'think'
c. [nũlis] 'to cause to drink' f. [ãhãb] 'uncle'

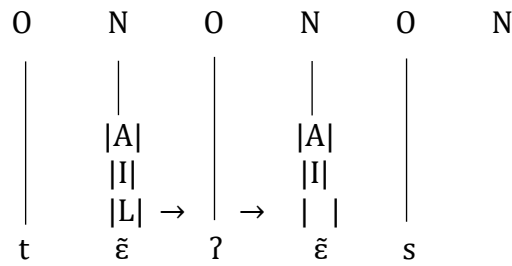
As can be seen, in (2a-c), opaque segments include stops, fricatives, and liquids, whereas transparent segments are laryngeals and glides as shown in (2d-f). It is suggested that the direction of nasalisation can be both regressive and progressive (Musah, 2010, 2018; Niggli, 2014; Musah & Akanlig-Pare, 2024). However, I argue that only oral vowels that occur after nasal consonants can be nasalised, and I conclude that nasalisation is

progressive. Vowels that precede nasal consonants do not get nasalised, as in [tu:mã] ‘work’ and [kum] ‘hunger.’ By employing the Element Theory, I show that the element |L|, which represents nasality, is spread from a nasal consonant or a nasal vowel to a following vowel or glide, but it is stopped by a stop, fricative, or a liquid, as shown in (3).

(3) a. [nũ-jã] ‘drink-perf.’



b. [tẽʔɛs] ‘think’



In the representation, the glide—which is transparent to nasal harmony—also undergoes nasalisation, as shown in (3a), whereas the glottal stop, though a transparent segment, is not a target of nasalisation, as shown in (3b).

The data and analysis presented here provide both a descriptive and an analytic perspective of nasality in Kusaal. While drawing on previous research, the study refines the direction of the effect by concluding that nasalisation in Kusaal is mostly progressive. Moreover, it uncovers the contexts where nasalisation is blocked for the first time, to our knowledge. This research contributes to a deeper understanding of the phonology of Kusaal and to the knowledge about nasal effects and behaviour at a broader phonological level.

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