Echoes of lost segments: The evolution of floating prosodic units in Nuer (West Nilotic)

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West Nilotic languages are notable for their remarkable ability to encode a vast amount of grammatical information within monosyllabic words – a phenomenon unparalleled elsewhere in the world's languages. For example, the Nuer word gɛ́ɛr (‘ride’) can express over a dozen distinct meanings through subtle stem-internal phonological shifts, including vowel lengthening or shortening, tone changes, and variations in vowel and voice quality (Table 1).

Table 1. Paradigmatic forms of the Nuer word ‘ride’.

gɛ́**ɛ**r to ride something	g**ɛ̀a**r to ride something repeatedly	g**ɛ̄ɛɛ**r to ride	g**éɛɛ**r to ride repeatedly	g**èɛ**r to ride something for someone	g**ɛ̤̀ɛ̤**r to ride for someone
gɛ̄ɛr Ride something!	gɛ̀r not riding something repeatedly	g**ɛ̤̄ɛ̤ɛ̤**r not riding	g**ɛ̤́**r not riding repeatedly	g**ɛ̤́ɛ̤**r not riding something for someone	gɛ̀ɛr to ride something repeatedly for someone

Comparative evidence suggests that West Nilotic languages originally used suffixes to mark grammatical categories (Andersen 1988, 1989, 1990, 1999, 2006, 2014; Reh 1996). In several of these languages, the suffixes were lost in their segmental form, leaving behind prosodic elements such as morae and tone. These migrated into monosyllabic roots, giving rise to the distinctive stem-internal morphology characteristic of the family.

More strikingly, beyond encoding morphological information on the words themselves, these prosodic elements also influence the surrounding context by crossing word boundaries. While such behaviour is not unusual for tone cross-linguistically, the situation where prosodic units like morae traverse word boundaries is unprecedented in other language families and presents a fascinating area for theoretical exploration.

This study focuses on floating morae located at the left edge of some Nuer nouns. Consider two nouns: gàt ‘child’, which lacks floating prosodic elements and ᵘ́dɔ̀k ‘Dok person’ (a member of the Dok clan), which has a floating mora and high tone. The floating elements do not surface when the words occur in isolation or phrase-initially: [gàt] and [dɔ̀k]. However, in certain contexts they trigger vowel lengthening and, in some cases, changes in tonal melody on the preceding open syllable: [nêɛɛn**ɛ̀** gàt] vs [nêɛɛn**ɛ̌ɛ** dɔ̀k] ‘S/he sees the child/Dok person’ and [cwɛ̄atk**ɔ̂** gàt] vs [cwɛ̄atk**ɔ̂ɔ** dɔ̀k] ‘We are clicking teeth at the child/Dok person’.

Through comparative evidence and fieldwork with Nuer speakers, this research traces the origins of the floating mora to the reanalysis of the prefix *a- attested in closely related languages (Storch 2005, 2014; Reid 2010; Cien et al. 2016; Andersen 2014; Remijsen & Ayoker 2020).

This case study illustrates how segmental loss can give rise to floating prosodic units (morae), revealing a diachronic pathway by which they can persist despite the loss of segments and influence neighbouring material by crossing word boundaries. The findings underscore the importance of incorporating prosodic units into historical analysis to capture phonological change.