

## **Non-concatenative morphology in Dinka and Arabic: augmentation and replacement**

Russell Norton

SIL - Sudan

*Dinka is a Western Nilotic language known to have extensive non-concatenative morphology (Andersen 1993, 1994). Data will be presented from the Padang and Cam dialects showing how derived verbs are marked by alternations in the root. Vowel quality alternation can be attributed to phonology not morphology (Andersen 1993), while the verbal morphemes are contained in three other phonological tiers: mora, tone, and voice quality. Their effect on these tiers is not uniform: moras are conserved or augmented, but the tone and voice quality of the root are replaced.*

*A similar dichotomy holds in the (much older) non-concatenative morphology of Arabic. The so-called Arabic "broken plurals", illustrated in this paper from the Sudanese dialect, are augmentative with respect to the mora tier, with lengthening of the second syllable, but replacive with respect to the vowel tier e.g. *shamis* 'sun' \_ *shimuus* 'suns'. The testimony of Dinka and Arabic is the same: the non-concatenative type of morphology may be augmentative or replacive, not as a property of the morphemes, but of each phonological tier affected by the morphology.*

*These facts are analysed using paradigm uniformity constraints, of Optimality Theory, that conserve the features of each tier from base to stem. McCarthy (2000) has argued that a constraint conserving moras is active in the Arabic broken plurals. Here, we argue that mora-conservation is active in Dinka for a stem used in most verb derivatives. This assumes the mora counts for Dinka verbs in Norton (to appear). Tone-conservation and voice-conservation constraints are argued to be inactive in Dinka, leading to replacive morphology. This approach is compared favourably with a derivational approach, which faces a more distributed analysis of the facts, in which the typological similarity between Dinka and Arabic is obscured.*