

The descriptive advantage of word-based models extends to agglutinative inflection

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Word-based theories of inflection are in principle applicable to any inflectional system, and empirically plausible since they reflect speakers’ real-life exposure to full inflected forms (see e.g. Blevins 2006, 2016, O’Neill 2014). In practice, such theories are framed as necessary for inflectional systems of ‘fusional’ types, with pervasive non-canonical exponence and irreducibly morphological (morphomic) structure. For systems classed as ‘agglutinative’, morpheme-based analyses may be considered descriptively adequate (Deen & Hyams 2006, Stump 2016:14-17, Meadows 2020). This talk argues that word-based approaches afford a descriptive advantage for agglutinative systems, taking as a case study verb inflection in standard Swahili (North-East Coast Bantu), one of the most classic illustrations of agglutinative inflection.

Like other Bantu languages, Swahili verb inflection is conventionally analysed as involving concatenation of morphemes according to a position-class template, as illustrated below for *wanasoma* ‘they are reading’ and *hawasomi* ‘they do not read’. The template comprises a series of slots, traditionally labelled as representing morphological features or feature values, and an inventory of the exponents which can appear within each slot (Nurse 2008, Stump 2016, Goldsmith & Mpiranya 2018).

pre-SM	subject marker	secondary negative	tense/aspect	object marker	lexical root	derivational extension	final vowel	post-FV
	wa		na		som		a	
	3PL		PRS.PROG		‘read’		‘FV’	
ha	wa				som		i	
NEG	3PL				‘read’		PRS.NEG	

While the verb forms above can readily be segmented into distinct substrings, and these substrings assigned to position classes, the relationship between individual substrings or position classes and meaning is not canonical: the final vowel /a/ is an empty morph, while the final vowel /i/ exhibits cumulative exponence of tense and polarity; negation receives extended exponence; tense and aspect values are variously expressed by an overt exponent in the ‘tense/aspect’ slot, by the ‘final vowel’, and by the distinctive combination of filled and unfilled slots (no overt exponent in the ‘tense/aspect’ slot for present negative). Additional examples of non-canonical exponence and form-function mismatch are adduced by Ashton (1944), Stump (1993), Nurse & Hinnebusch (1993).

More challenging still for morpheme-based analyses of Swahili is the presence of irreducibly morphological phenomena, including inflectional classes, and the arbitrary, systematic and conventionalised distribution of exponents across inflectional forms (notably final vowel contrasts, /i/ in present negative, /ε/ in subjunctive, negative imperative and second person plural positive imperative, /a/ elsewhere; and presence/absence of a formative /ku/). These morphomic, relational patterns are more plausibly captured by word-based analyses, as are the many other instances where the phonological shape of an inflected wordform is not compositionally computable from its meaning, or vice versa.

Significantly, both human and machine learners of Swahili can produce ‘correct’ segmentations without knowledge of meaning (Goldsmith & Mpiranya 2018): thus, subword units are inferred by generalisation across multiple inflected wordforms, as in ‘abstractive’, word-based approaches (Blevins 2006, 2016, Beniamine et al. 2017), and essentially concern form rather than meaning (compare Round 2015). The observations discussed here combine to indicate that word-based approaches are both realistic and empirically preferable for Swahili, and, by extension, other languages with ‘agglutinative’ inflection.

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