

Paradigmatic opacity in Nuer

Constraining morphological complexity is the goal of much of morphological theory. The success of such accounts is partly dependent on the plausibility of the models of feature structure and human cognition that they assume, but more importantly on their empirical coverage. While a small residue of unexplained data need not be fatal for a theory, examples may come up which undermine our most basic assumptions about the way morphology ought to be structured. Either all theoretical constructs must be scrapped, reducing the study of morphology to an uninformative list of forms, or we need to relativize the role of theory in explanation.

The affixal system of nouns of Nasir dialect of the West Nilotic language Nuer (Wright 1999) confounds formalization both in the paradigm-internal and the transparadigmatic dimensions. This is due to the way a mere three case-number suffixes are distributed across different lexemes.

For any given noun, the actual morphosyntactic value of the case suffixes is close to unpredictable (see Tables 1 and 2). The suffixes *-ka* and *-a* are used for genitive singular or locative singular or both (and in one class, for genitive plural as well) while the suffix *-ni* is used for the genitive plural or locative plural, or for the locative plural and nominative plural, or for all plural cases. The problems that this pattern creates for an underspecification approach are clear, nor can Impoverishment play a role, as contrastive stem alternation patterns may be maintained under apparent affix deletion. Equally though, a stipulative approach, while it may overcome the gross technical difficulties, fails to uncover any governing principles.

A consequence of these variable patterns of syncretism is that nouns fall into 24 declension classes (see Table 3), representing what is probably the most extreme violation on record of the No-Blur Principle (Cameron-Faulkner and Carstairs-McCarthy 2000). Nor does a Word-and-Paradigm approach offer much clarity; by Finkel and Stump's measure of paradigm transparency (Finkel and Stump 2007), the declension classes average 0.1654 (where a value of '1' means that every form in the paradigm can be deduced from every other form, while a value of '0' means that every form is unpredictable). This brings Nuer declension perilously close to a system in which *everything* must be stored.

The prominent role of lexical storage is even more apparent in the system of stem alternations. Each noun has from 1 to 5 distinct stems; out of 58 logically possible alternation patterns (from AAAAAA to ABCDEE), 54 are actually found. Further, there is no significant correlation between the stem alternation patterns and affix distribution. Given the high degree of irregularity in the formation of the stem alternants, characteristic of West Nilotic in general, the lexicalization of their distribution across the paradigm is perhaps not surprising. What *is* surprising is that the case suffixes, so simple and regular in their formation, should obey an equally lexicalized paradigmatic distribution. While the case suffixes look rule governed, they must largely be ascribed to rote memorization. If we do not want to entirely reject the role of constraining principles in morphology (such as No-Blur), let alone the very idea of rules and analogy, then we had best accept the contingent and language-specific nature of their application, and concentrate on how and when they enter into force.

	‘potato’	‘ring’	‘cookie’
NOM SG	tac	nyanyet	patpat
GEN SG	tac-kä	nyanyet	patpat-kä
LOC SG	tac	nyanyet-kä	patpat-kä

Table 1: variant suffix patterns in the singular

	‘fish’	‘thief’	‘bear’	‘cat’
NOM PL	rɛɛc	wään	leet	nyaw-ɲi
GEN PL	rɛɛc-ɲi	wään	leet-ɲi	nyaw-ɲi
LOC PL	rɛɛc	wään-ɲi *	leet-ɲi	nyaw-ɲi

**degemination of nn is morphophonologically regular*

Table 2: variant suffix patterns in the plural

	1	2	3	4	5	6	7	8	9	10	11	12
NOM SG	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
GEN SG	a	a	a	ka	ka	ka	ka	ka	ka	ka	ka	ka
LOC SG	a	a	ka	a	a	ka	ka	ka	ka	ka	ka	ka
NOM PL	ni	∅	∅	ni	∅	ni	ni	∅	∅	∅	∅	∅
GEN PL	ni	ni	ni	ni	ni	ni	∅	ka	ni	ni	∅	∅
LOC PL	ni	ni	ni	ni	ni	ni	ni	ni	ni	∅	ni	∅

	13	14	15	16	17	18	19	20	21	22	23	24
NOM SG	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅	∅
GEN SG	ka	ka	ka	∅	∅	∅	∅	∅	∅	∅	∅	∅
LOC SG	∅	∅	∅	a	a	ka	ka	ka	∅	∅	∅	∅
NOM PL	ni	∅	∅	ni	∅	ni	∅	∅	ni	∅	∅	∅
GEN PL	ni	ni	ni	ni	ni	ni	ni	∅	ni	ni	ni	∅
LOC PL	ni	ni	∅	ni	ni	ni	ni	ni	ni	ni	∅	∅

Table 3: suffix distribution across the declension classes

References

- Cameron-Faulkner, T. and A. Carstairs-McCarthy. 2000. Stem alternants as morphological signata: Evidence from blur avoidance in Polish nouns. *Natural Language and Linguistic Theory* 18. 813-835.
- Finkel, R. and G. Stump. 2007. Principal parts and degrees of paradigmatic transparency. Technical Report No. TR 470-07, Department of Computer Science, University of Kentucky.
- Frank, W. J. 1999. *Nuer noun morphology*. M.A. thesis, State University of New York, Buffalo.