

Output-Output Correspondence in Nuer Nominal Inflection

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Introduction: This study presents new data on grammatical tone in the Eastern Jikany dialect of the western Nilotic language Nuer. The proposal is that oblique case is expressed by a floating L tone (\textcircled{L}) which either overrides the lexical tone of the stem or associates to a toneless suffix. An interesting pattern is attested on nouns which have a plural suffix in both nominative and oblique forms. Contrary to the overriding pattern, \textcircled{L} does not surface in these forms and the suffix retains the tone of the nominative. This is analyzed in an Output-Output Correspondence analysis in OT where the nominative plural serves as a base form for the nouns in oblique case. **Data:** Nuer attests nominative, genitive and locative case where the two latter are predominantly marked the same (thus referred to as oblique). Declination is remarkably complex with multiple exponents (cf. Baerman 2012). In nouns, number and case inflection can be formed by either stem-internal modification or suffixation. New data show; (i) Nuer has H(igh), L(ow) and HL tones and the syllable is the TBU. (ii) Monosyllabic nouns surface as L-toned in oblique case (table 3, group (a) and (2)). (iii) The suffix $-ni$ is H-toned in nominative plural (cf. table 5, left column), and L in the oblique plural (cf. table 3, group (b)). The exception regards nouns which have $-ni$ in both nominative and oblique (table 5, right column). **Analysis:** The tone pattern of case inflection in Nuer is analyzed with OO Correspondence with the ranking in (8). The nominative plural of a given lexical item is the base form of an input noun. The proposed constraint is OO-ANCHOR(AFFIX TONE,R) which demands OO correspondence between the rightmost affix tone of the affiliated form and the base. Whenever the base has a suffix with an associated tone, the tone of the oblique suffix will be faithful to it. The exponent of oblique case is the floating L tone; \textcircled{L} which overrides a H- or HL-toned monosyllabic stem and vacuously overrides a L stem (pattern in table 3a). Failure of associating \textcircled{L} violates MAXFLOAT (Wolf 2007), a constraint which militates against floating tones in the input which are not associated to a TBU in the output. For H-toned stems, the overriding pattern of \textcircled{L} is preferred over an output where the lexical H tone is retained and \textcircled{L} creates a new contour tone because of the ranking of *DIFFAL $_{\sigma}$ (7). The plural suffix $-ni$ is analyzed as underlyingly toneless marking plural. When $-ni$ is added to the stem in oblique, \textcircled{L} associates to this suffix (pattern in table 3b). Failure of this association would violate both HAVE-TONE, which militates against toneless syllables in the output, and MAXFLOAT. In tableau (9), the input is a H-toned monosyllabic noun with the oblique exponent \textcircled{L} . The base is the suffixless nominative plural $d\hat{o}l$. Because there is no affix tone in the input or in the base, OO-ANCHOR(AFFIX T,R) is not violated in any of the candidates. Failure of associating \textcircled{L} as in candidate (a) violates MAXFLOAT. If \textcircled{L} associates to the H-toned stem, this creates a derived contour tone and violates *DIFFAL $_{\sigma}$ (candidate (b)). The winner is candidate (c) where \textcircled{L} has overridden the H stem. In tableau (10), the base is also suffixless and OO-ANCHOR(AFFIX T,R) is not violated. The winner is candidate (c) where \textcircled{L} has associated to the toneless $-ni$. The most interesting pattern is derived in tableau (11). The input is the H-toned stem ‘wild goose’ with the toneless plural suffix $-ni + \textcircled{L}$. Crucially, the base form here, the nominative plural, has the suffix $-ni$. The undominated constraint OO-ANCHOR(AFFIX T,R) demands that the rightmost affix tone (=the suffix) of each candidate must correspond to the H suffix tone of the base (ni). Candidates (c-d) violate this constraint as ni is L-toned or toneless. If both the H tone of the base affix and the \textcircled{L} associate to ni as in candidate (b), *DIFFAL $_{\sigma}$ is violated. Candidate (a) is therefore the winner where $-ni$ is H-toned as in the base and \textcircled{L} has failed to associate remaining floating.

(1) $\text{d}^{\text{h}}\text{ó}\text{ɔ}\text{l}$
‘boy’

(2) *Oblique case: L*
 $\text{r}^{\text{h}}\text{ú}\text{n} \text{d}^{\text{h}}\text{ò}\text{l}$
age boy.GEN.SG
‘the age of the boy’

(3) **Tone patterns in oblique case**

Group		Nominative case	Oblique case	#	Gloss	
(a)	i.	H	$\text{d}^{\text{h}}\text{ó}\text{ɔ}\text{l}$	L	$\text{d}^{\text{h}}\text{ò}\text{l}$	SG ‘boy’
	ii.	L	$\text{t}^{\text{h}}\text{ò}\text{t}$	L	$\text{t}^{\text{h}}\text{ò}\text{at}$	SG ‘summer’
	iii.	HL	$\text{d}^{\text{h}}\text{ê}\text{ɛ}\text{l}$	L	$\text{d}^{\text{h}}\text{à}\text{ɛ}\text{:l}$	PL ‘sheep’
(b)	i.	HL	$\text{n}^{\text{h}}\text{ò}\text{ɔ}\text{p}$	HL-L	$\text{n}^{\text{h}}\text{ò}\text{ɔ}\text{p-}\text{n}^{\text{h}}\text{ì}$	PL ‘messages’
	ii.	H	$\text{t}^{\text{h}}\text{ét}$	H-L	$\text{t}^{\text{h}}\text{ét-}\text{n}^{\text{h}}\text{ì}$	PL ‘hands’

(5) **Oblique: Faithfulness to nominative PL**

(4) a. $\text{n}^{\text{h}}\text{ì}$: [PL]
b. $\text{n}^{\text{h}}\text{í}$: [PL, NOMINATIVE]
c. L^{h} : [OBLIQUE CASE]

PL Nom		Obl PL		Gloss
L-H	$\text{k}^{\text{h}}\text{à}\text{ɛ}\text{-}\text{í}$	L-H	$\text{k}^{\text{h}}\text{à}\text{ɛ}\text{-}\text{í}$	‘line’
L-H	$\text{t}^{\text{h}}\text{ò}\text{k-}\text{n}^{\text{h}}\text{í}$	L-H	$\text{t}^{\text{h}}\text{ò}\text{k-}\text{n}^{\text{h}}\text{ì}$	‘coconut fruit’
L-H	$\text{d}^{\text{h}}\text{è}\text{c-}\text{n}^{\text{h}}\text{í}$	L-H	$\text{d}^{\text{h}}\text{è}\text{c-}\text{n}^{\text{h}}\text{ì}$	‘soldier’
H-H	$\text{t}^{\text{h}}\text{ú}\text{ɔ}\text{-}\text{n}^{\text{h}}\text{í}$	H-H	$\text{t}^{\text{h}}\text{ú}\text{ɔ}\text{-}\text{n}^{\text{h}}\text{ì}$	‘wild goose’

OT analysis

(6) Nominative plural is the base form in Nuer

(7) *DiffAL_σ Assign a violation mark for tones associated to the same σ through different association line types (±epenthetic) (Zimmermann 2015)

(8) OO-ANCHOR (AFFIXTONE,R) ≫ HAVE-T ≫ *DIFFAL_σ ≫ MAXFLOAT ≫ MAX-T_{stem}

(9) Oblique SG of ‘boy’. Input: $\text{d}^{\text{h}}\text{ó}\text{ɔ}\text{l} + \text{L}^{\text{h}}$. Base form = NOM PL: $\text{d}^{\text{h}}\text{ò}\text{ɔ}\text{l}$

base: $[\text{d}^{\text{h}}\text{ò}\text{ɔ}\text{l}]$ input: $/\text{d}^{\text{h}}\text{ó}\text{ɔ}\text{l} \text{L}^{\text{h}}/$	OO-ANCHOR(AFT,R)	HAVE-T	*DIFFAL _σ	MAXFL	MAXT _{St}
a. $\text{d}^{\text{h}}\text{ó}\text{l}$				*!	
b. $\text{d}^{\text{h}}\text{ò}\text{l}$			*!		*
c. $\text{d}^{\text{h}}\text{ò}\text{ɔ}\text{l}$					*

(10) Oblique PL of ‘hands’. Input: $\text{t}^{\text{h}}\text{ét} + \text{n}^{\text{h}}\text{ì} + \text{L}^{\text{h}}$. Base form = NOM PL: $\text{t}^{\text{h}}\text{ét}$

Base: $[\text{t}^{\text{h}}\text{ét}]$ input: $/\text{t}^{\text{h}}\text{ét} + \text{n}^{\text{h}}\text{ì} \text{L}^{\text{h}}/$	OO-ANCHOR(AFT,R)	HAVE-T	*DIFFAL _σ	MAXFL	MAXT _{St}
a. $\text{t}^{\text{h}}\text{ét-}\text{n}^{\text{h}}\text{ì}$		*!		*	
b. $\text{t}^{\text{h}}\text{ê}\text{-}\text{n}^{\text{h}}\text{ì}$		*!	*		*
c. $\text{t}^{\text{h}}\text{ét-}\text{n}^{\text{h}}\text{ì}$					

(11) Oblique PL of ‘wild geese’. Input: $\text{t}^{\text{h}}\text{ú}\text{ɔ}\text{t} + \text{n}^{\text{h}}\text{ì} + \text{L}^{\text{h}}$. Base form = NOM PL: $\text{t}^{\text{h}}\text{ú}\text{ɔ}\text{-}\text{n}^{\text{h}}\text{í}$

Base: $[\text{t}^{\text{h}}\text{ú}\text{ɔ}\text{-}\text{n}^{\text{h}}\text{í}]$ input: $/\text{t}^{\text{h}}\text{ú}\text{ɔ}\text{-}\text{n}^{\text{h}}\text{ì} \text{L}^{\text{h}}/$	OO-ANCHOR(AFT,R)	HAVE-T	*DIFFAL _σ	MAXFL	MAXT _{St}
a. $\text{t}^{\text{h}}\text{ú}\text{ɔ}\text{-}\text{n}^{\text{h}}\text{í}$				*	
b. $\text{t}^{\text{h}}\text{ú}\text{ɔ}\text{-}\text{n}^{\text{h}}\text{ì}$			*!		
c. $\text{t}^{\text{h}}\text{ú}\text{ɔ}\text{-}\text{n}^{\text{h}}\text{ì}$		*!			
d. $\text{t}^{\text{h}}\text{ú}\text{ɔ}\text{-}\text{n}^{\text{h}}\text{í}$		*!	*	*	

References *Baerman, M. (2012). Paradigmatic chaos in Nuer. *Language* 88 (3), 467-494. *Zimmermann, E. (2015). Allomorphy between tone and segments. In *Proceedings of NELS 45, GLSA Publications, Amherst*. *Wolf, M. (2007). For an autosegmental theory of mutation. In L. Bateman, M. O’Keefe, E. Reilly, and A. Werle (Eds.), *University of Massachusetts Occasional Papers in Linguistics 32: Papers in Optimality Theory III*, Amherst: GLSA, 19, pp. 315-404. University of Massachusetts.