

DESEGMENTALIZATION AND TONE IN TUBU: 'DEFINITE' MARKING IN THE DAZA DIALECT OF TASKER

Ekkehard Wolff and Soumana Hassana Alidou
Universities of Hamburg and Niamey, University of Niamey

The construction of singular and plural nouns plus the DEF marker in Tasker presents a complex surface structure. Desegmentalization and tone rules are presented to account for the complexity.

Dans la langue tasker la combinaison d'un nom au singulier ou au pluriel plus le marqueur DEF produit des formes assez complexes à la surface. On présente ici des règles de déségmentalisation et de ton pour rendre compte de cette complexité.

O. INTRODUCTION

In the morphophonology of the Dazaga¹ noun, the marking of the category 'definite' (DEF) turns out to be the most complex and intriguing issue². This article is restricted to a discussion³ of phenomena and rules which pertain to the simplest DEF constructions, i.e. the noun in the singular (SG) plus DEF marker, and the noun in the plural (PL) plus DEF marker.

1. THE DATA

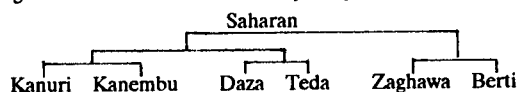
Based on a corpus of 175 nouns including loan words, we take the following list of nominal forms to be representative. In the table, the data is organised according to structural properties of the underlying representations of the lexical noun stem. Note the fair amount of homophone forms.

Phonol Class	SG		PL		Glosses
	-DEF	+DEF	-DEF	+DEF	

1. Monosyllabic nouns: /CV/ (complete list)

a	mú	mú	má	má	'mensonge'
b	ké	kéá	ká	ká	'main'
c	tí	tíú	tá	tá	'genoux'
d	bí	bú	bíá, bé	bíá	'paysage'
e	cí	cíú	cíá, cé	cíá	'bouche'
f	mí	míú	míá	míá	'fils'
g	cá	cá	cá	cá	'nez'

¹ Daza-ga is one of the two languages (Teda, Daza) which are commonly but misleadingly, referred to as 'Tubu'. Daza belongs to the Saharan language family (Greenberg, 1963). In Heine, Schadeberg and Wolff (1981) we find the following subclassification of Saharan by N.Cyffer:



² cf. Lukas (1953:51-54) who describes the phenomenon in an interdialectal perspective. He fails, however, to give a systematic treatment of the various morphophonological rules which apply. Ch. and M. Le Coeur (1956) have practically nothing to say on the issue.

³ This paper was presented at the 18th West Africa Languages Congress at the University of Niamey, Niger, 21-25 March, 1988. Research on Daza was carried out in the course of Soumana Hassana Alidou's preparation of her mémoire de maîtrise, under the supervision of Ekkehard Wolff, at the University of Niamey in 1987,88.

2. Nouns ending in double vowel: /XCVV/ (complete list)

a	bàá	bàá	bàá	bàá	'tante pat.'
b	níí	nímà	níá	níá	'village'
	díí, dí	dímà	díá	díá	'oncle mat.'
	íí, sí	jímà	jíá	jíá	'oreille'
	tíí, tí	tímà	tíá	tíá	'dent'
	áíí, áííí	áíímà	áííá	áííá	'marque sur les animaux'
	dézíí, dézííí	dézímà	dézíá	dézíá	'grd.-père'
c	súù	súù	súà	súà	'estomac'
	wú, wúú	wúú, wú	wúá	wúá	'vol'
	gú, gúú	gú	gúá	gúá	'gorge'
	árú, àrúú	àrú	àrúá	àrúá	'aveugle'

3. Polysyllabic nouns ending in a single vowel: /XCV/

a	gwáyí	gwáyù	gwáyà	gwáyà	'blouse'
	lífí	lífú	lífá	lífá	'orphelin'
	kùléfù	kùléfù	kùléfà	kùléfà	'peau'
	ààsó	ààsú	ààsá	ààsá	'serpent'
b	èwé	èwá	àwá	àwá	'doigt'
c	kááfà	kááfà	kááfà	kááfà	'barbe'
d	yìgé	yìgá	yìgá	yìgá	'puits'

4. Nouns which in surface realisation end in a consonant (= sonorant /l,r,n,m/): /XS(V))/ > XS

a	àgər	àgərú	àgərá	àgərá	'âne'
	dégəl	dégəlù	dégəlà	dégəlà	'singe'
	míjín	míjínú	míjíná	míjíná	'rêve'
b (complete list)	dólùm	dólùmú	dólà	dólùmá	'taquin'
	gódùm	gódùmú	gódà	gódùná	'marteau'
c	dògúm	dògúmà	dògá	dògá	'vache sans corne'
	tógóm	tógómà	tógá	tógá	'sein'

5. Two nouns with allomorph -í of the DEF marker

òzúmì	òzúmì	òzúmà	òzúmà	'gêneur'
dí	díí	dó	dóà	'chamelle'

2. DEF MARKER AND SINGULAR NOUNS

Regarding the identification of the DEF marker and its allomorphs in the singular, we note the following allomorphic variation (restricting ourselves to the segmental shape, for the time being):

allomorph	phonological noun class
ma	2b
ã	1b,3b,3d
ũ	1a,1c,1d,1e,1f,2c,3a,4a
ĩ	5
a	1g,2a,3c,4c
u	4a,4b

Looking only at surface structure manifestations, we may even wish to add non-segmental allomorphs, such as

$\underline{\quad} ?$		2c, 3a
$\emptyset ?$		1g, 2a, 3c

2.1 DESEGMENTALISATION OF DEF MARKER

Disregarding vowel quality for a moment, it looks as if the wealth of allomorphs can be organised as forming part of a 'desegmentalisation cline', from the most complete shape **ma** to nasalised vowel to simple nasalisation or even denasalisation, if not to phonological $\emptyset$.

The choice of allomorph of the DEF marker is governed by the nature and quality of the final segment of the preceding noun stem. The following rules pertaining to segmental structure alone have been found to apply:

1. DEF-suffix vowel assimilation rule

$$\left[\begin{array}{c} \text{V]def} \\ + \text{syll} \\ - \text{nas} \end{array} \right] \text{ ----> } \left[\begin{array}{c} \text{u} \\ + \text{syll} \\ - \text{nas} \\ - \text{low} \\ + \text{high} \\ + \text{rd} \\ \text{i} \\ + \text{syll} \\ - \text{nas} \\ - \text{low} \\ + \text{high} \\ - \text{rd} \end{array} \right] / \left[\begin{array}{c} \text{X} \\ \\ \\ / \text{I/} \end{array} \right] \text{ ----}$$

condition: X $\neq$ a, ɛ, e; m; #YCVi#

2. Desegmentalisation rule

$$\left[\begin{array}{c} \text{m} \\ + \text{seg} \\ + \text{cons} \\ + \text{nas} \\ + \text{ant} \\ \dots \end{array} \right] \left[\begin{array}{c} \text{V]def} \text{ ----> } [-\text{seg}] \\ + \text{syll} \\ - \text{nas} \\ \dots \end{array} \right] \left[\begin{array}{c} \hat{\text{V}} \\ + \text{syll} \\ + \text{nas} \\ \dots \\ \text{V} \\ + \text{syll} \\ - \text{nas} \\ \dots \end{array} \right] / \left[\begin{array}{c} \text{X} \\ \\ \text{a]n sg} \\ \left[\begin{array}{c} + \text{syll} \\ - \text{nas} \\ + \text{low} \\ \dots \end{array} \right] \end{array} \right] \text{ ----}$$

condition: X $\neq$ #YCVi#

SD:	X	V]n	suff[(m) V
	1	2	3
SC:	1	- 3	

condition: does not apply to #Ci|n

(a) $\tilde{V} \rightarrow V / \text{---m}$

$\begin{bmatrix} +\text{syll} \\ +\text{nas} \\ \dots \end{bmatrix}$	$\begin{bmatrix} +\text{syll} \\ -\text{nas} \\ \dots \end{bmatrix}$	$\begin{bmatrix} +\text{cons} \\ +\text{nas} \\ +\text{ant} \\ \dots \end{bmatrix}$
--	--	---

(b) $\tilde{V} \rightarrow V / \text{m---}$

$\begin{bmatrix} +\text{syll} \\ +\text{nas} \\ \alpha \text{ low} \\ -\alpha \text{ high} \\ -\alpha \text{ rd} \end{bmatrix}$	$\begin{bmatrix} +\text{syll} \\ -\text{nas} \\ \alpha \text{ low} \\ -\alpha \text{ high} \\ -\alpha \text{ rd} \end{bmatrix}$	$\begin{bmatrix} +\text{cons} \\ +\text{nas} \\ +\text{ant} \\ \dots \end{bmatrix}$
---	---	---

$$\begin{array}{ccc}
 \mathbf{V} & \text{---} \rightarrow & \hat{\mathbf{V}} & / & \#X \longrightarrow \hat{\mathbf{V}}\# \\
 \left[\begin{array}{c} + \text{syll} \\ - \text{nas} \\ \alpha \text{ low} \\ \beta \text{ high} \\ \gamma \text{ rd} \end{array} \right] & & \left[\begin{array}{c} + \text{syll} \\ + \text{nas} \\ \alpha \text{ low} \\ \beta \text{ high} \\ \gamma \text{ rd} \end{array} \right] & & \left[\begin{array}{c} + \text{syll} \\ + \text{nas} \\ \alpha \text{ low} \\ \beta \text{ high} \\ \gamma \text{ rd} \end{array} \right] \\
 | & & | & & | \\
 [\text{H}] & & [\text{H}] & & [\text{H}]
 \end{array}$$

SD: X V1 V2 # SC: 1 - 2 - 4

| |

[H] [H]

1 2 3 4

condition: V1 = V2

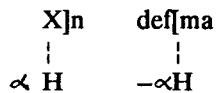
Rather than dwelling on the details of these segmental rules, let us move on to the discussion of the tonal properties of the DEF marker. Again, we observe distributionally conditioned variant realisations. The suffix either has the same tone as the immediately preceding syllable before the deletion of a syllabic element, or it has opposite pitch, ie we find instances of both 'tone copy' and 'tonal polarity'.

In cases where the DEF marker replaces a final vowel other than *i/ĩ* preceded by *i/ĩ*, it takes the tone of the vowel it replaces. In the cases of nouns ending in *i/ĩ* preceded by *i/ĩ*, and with nouns ending in a consonant in underlying representation, the suffix shows polar tone eg. with 2b and 4c nouns such as:

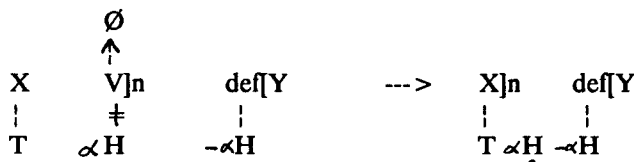
Pre-suffix Vowel Replacement:	/níí + ma/ *ní-ma	'village'
Desegmentalisation	/tógó + ma/ *tógóm-ā	'sein'
Denasalisation:	*tógóm-a	

The tonal polarity phenomenon will then account for the desired surface realisations: ní-mà, tógómà.

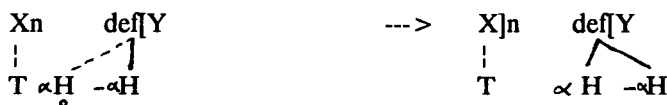
Rather than assuming that the DEF marker is toneless, we suggest that it be analysed as always carrying 'polar tone':



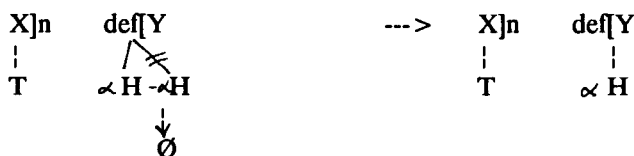
A Tone Deletion Rule will then account for the 'copy' phenomena observed in all other cases. In a first step, the final tone of the noun becomes floating because of the deletion of the final vowel due to Pre-Suffix Vowel Replacement:



The floating H tone docks to the right, ie. the DEF marker, thereby creating a syllable with two opposite tones:



Then Tone Deletion applies:



Cf. the 3a noun

DEF-Suffix Vowel Assimilation:

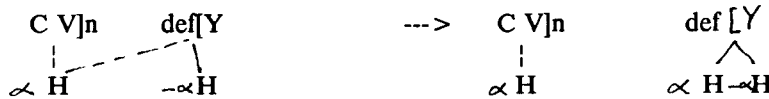
Desegmentalisation:

Pre-Suffix Vowel Replacement:

Tone Deletion:

/líí + ma/	'orphan'
*líí-mù	
*líí-ù	
*líí'-ù > *lííū	
lííú	

Monosyllabic nouns, however, as far as they do not replace their lexical final vowel by the suffix vowel (1b,c,e,f above)), appear to take exception to the polarity phenomenon: with them, the final syllable receives its tone through a Tone Spreading Rule which precedes the application of Tone Deletion:



Thus, Tone Spreading creates the input for Tone Deletion cf. 1b and 1c nouns:

	/kɛ + ma/	'main'
Desegmentalisation:	*kɛ-à	
Tone Spreading:	*kɛ-ā	
Tone Deletion:	kɛ́á	
	/tí + ma/	'genoux'
DEF-Suffix Vowel Assimilation:	*tí-mù	
Desegmentalisation:	*tí-ù	
Tone Spreading:	*tí-ū	
Tone Deletion:	tíú	

Note that the output of Tone Spreading, prior to the application of Tone Deletion, is documented in the following example (1e):

	/cí + ma/	'bouche'
DEF-Suffix Vowel Assimilation:	*cí-mù	
Desegmentalisation:	*cí-ù	
Tone Spreading:	cíū	

The identification of two quite common tone rules ie. Tone Deletion and Tone Spreading, explains the seemingly erratic tonal behaviour of the DEF marker in Dazaga. Rather than having to describe its tonal realisations as 'polar' in some cases, and 'copy tone' in others, we may safely conclude that the DEF marker's tonal property is simply 'polarity'.

3. DEF MARKER AND PLURAL NOUNS

In closing and for the sake of completeness, we wish to indicate that our corpus contains 15 nouns which display tone changes from SG to PL. However, since these tonal changes are independent of DEF marking, they are not dealt with in this presentation. For all other nouns in the plural marked by a suffix -a (which replaces any preceding vowel), tone remains constant. The tone of the plural suffix itself, however, remains unidentifiable, because in all cases the suffix ends up with the tone of the preceding syllable, ie. that of the vowel which it replaces.

When further marked for DEF, plural nouns undergo Pre-Suffix Vowel Replacement yet another time, ie. the vowel of the partly desegmentalised DEF suffix replaces the vowel of the plural suffix and also takes on the tone of the preceding syllable, thereby losing its original polar tone by our Tone Deletion Rule. Let us illustrate PL + DEF formation with two examples (3a,4c):

	/lífi + a + ma/	'orphelin'
Pre-Suffix Vowel Replacement:	*líf'ama > *lífámà	
Desegmentalisation:	*lífáà	
Pre-Suffix Vowel Replacement:	*líf'ā > *lífā	
Tone Deletion:	lífá	

With nouns ending in /m/ in underlying representation, the Desegmentalisation Rule is applied twice:

	/tógóm + a + ma/	'sein'
Desegmentalisation:	*tógóm-a-ā	
Pre-Suffix Vowel Replacement:	*tógóm-Ø-ā > *tógómà	
Denasalisation:	*tógómà	
Desegmentalisation:	*tógóà	
Pre-Suffix Vowel Replacement:	*tóg'ā > *tógā	
Tone Deletion:	tógā	

The reason for applying the Desegmentalisation Rule twice could be seen in the attempt to disambiguate the output tógómà in which the sg:pl contrast is neutralised cf.

	sg	/tógóm + ma/	pl	/tógóm + a + ma
Desegmentalisation (1)		*tógóm-ā/		*tógóm-a-ā
Pre-Suffix Vowel Replacement (1):		*tógóm-ā		
Denasalisation:		*tógómà =		*tógómà
Desegmentalisation (2):				*tógóà
Pre-Suffix Vowel Replacement (2):		*tóg'ā		
Tone Deletion:				*tógā

REFERENCES

- Greenberg, J.H. 1963. The languages of Africa. Part II of the International Journal of American Linguistics 29.1.
- Heine, B., Th.C. Schadeberg, and E. Wolff (eds). 1981. Die Sprachen Afrikas. Hamberg.
- Le Coeur, Ch. and M. 1956. Grammaire et textes teda-daza. Mémoires de l'IFAN 46. Dakar.
- Lukas, J. 1953. Die Sprache der Tubu in der zentralen Sahara. Berlin.
- Soumana Hassana Alidou. 1988. Sur la morphophonologie du nom en tubu. Mémoire de maîtrise, University of Niamey. (unpublished)

Received February 27, 1989.