

DOUBLE REFLEXES IN BANTU A.70 LANGUAGES

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Résumé

Nous présentons dans cet article de nouvelles données concernant les doubles réflexes consonantiques dans les langues bantu du groupe A.70. Ces données nous amènent à subdiviser ces réflexes en deux séries opposées par un trait [\pm Fortis].

*L'examen des réflexes lexicaux, dans lesquels ni *C₁ ni *C₂ ne sont soumises à une neutralisation de ce trait, montre que la vaste majorité de ces réflexes lexicaux présente une harmonie entre les deux consonnes en ce qui concerne ce trait.*

Ce phénomène a déjà été observé en tunen A.44, une langue de la même zone, qui présente de plus, en synchronie, une harmonie vocalique de hauteur croisée. Une telle harmonie est basée sur l'existence du trait [RLA]. Ce dernier fait, ainsi que d'autres données provenant du basaa A.43a, et des dialectes du dyola (langue ouest-atlantique) suggèrent fortement que le trait [Fortis] ait été une coarticulation localisée dans la cavité pharyngale. Les préfixes nominaux, et particulièrement ceux comportant une consonne nasale, semblent également avoir joué un rôle important dans cette évolution phonétique complexe.

The northwestern Bantu languages present a range of divergences from the currently reconstructed proto-language. Attention has been drawn in this respect to double reflexes of oral obstruents in languages of this region, and especially from zone A (Cameroun, Gabon, Equatorial Guinea). Guthrie (1967-71) was the first to formulate this phenomenon explicitly and attributed it to the supposed length of neighbouring *vowels. But this opinion was hardly supported on phonetic grounds, nor was his reconstruction of vowel length in the lexical items concerned always very convincing.

To our knowledge, the only studies which have seriously investigated the question from a comparative point of view deal with Tunen A.44. In this language, a synchronic Cross-Height Vowel Harmony (based on the [ATR] feature) and a

word-internal harmony of Proto-Bantu (P.B.) consonantal reflexes have been demonstrated to be extant (van Leynseele, 1977; Stewart and van Leynseele, 1979; van Leynseele and Stewart, 1980). In Basaa A.43a, Janssens (1984) suggested the existence of double consonantal reflexes, without drawing any conclusions from it.

This paper aims at presenting new data from the A.70 group (Ewondo A.72, Bulu A.74, Fang A.75) concerning this problem, whose solution could modify the internal classification of the Bantu languages as well as the phonemic inventory and therefore the lexical reconstructions of the proto-language.

These data consist of the reconstruction of the part of Proto-A.70 lexicon which is to be traced back to Guthrie's Common Bantu lexical reconstructions. This reconstruction has been based on an exhaustive list (about 400 items) of A.70 reflexes found in Fang (Galley, 1964), Bulu (Bates, 1926), and Ewondo (Tsala, 1958).

I. Split of reflexes of P.B. consonants in A.70.

In A.70 languages, as in Tunen, we find several reflexes for a number of reconstructed oral obstruents (and this can also be suspected for certain nasal *C). In certain cases, this can be attributed to the vocalic environment, although not, contrary to Guthrie's statements and as already pointed out about Tunen, to its putative length.

In fact, we have to consider evolutions of *C₁ in three different contexts : after a vowel, after a syllabic nasal and after a non-syllabic nasal. But even with those distinctions there remain divergent evolutions of the same *C. This leads us to split reflexes into two categories, according to a [± Fortis] feature. This split itself is operated according to the classical conception of "weakening" and "strengthening" of articulations in historical phonology. Thus, we obtain two series of reflexes, as is shown in table 1.

The first thing to notice is that the feature is neutralized in the case of two [+Voiced] consonants, namely *b and *g (and *p₂ in A.72a Ewondo and A.74

Bulu). Neutralization operates in favour of the [+Fortis] variant after syllabic segments, and of the [-Fortis] one otherwise.

Neutralization also occurs for every *C₁ after a non-syllabic nasal. The neutral variant is [+Fortis] in the case of [-Voiced] *C₁ as well as for the [+Voiced] one which is not submitted to general neutralization, i.e. *d₁.

It must be noted that this bidirectional neutralization could raise a doubt about the theory according to which Proto-Bantu would have inherited only [Lenis] consonants from the preceding stage (Stewart, quoted in van Leynseele, 1977).

P.B.	Ctxt.	*C ₁		*C ₂	
		Fortis	Lenis	Fortis	Lenis
*b >	V-	*b	*b	*p	*p
	N-	*b	*b	*∅	*∅
	N-	*v	*v	-	-
*p >	V-	*f	*v	*p	(*∅)
	N-	*f	*b	-	-
	N-	*f	*f	-	-
*d >	V-	*d/l	*y	*l	*y > *∅
	N-	*l	*n	*∅	*∅
	N-	*d	*d	-	-
*t >	V-	*t	*l	*t	*l
	N-	-	-	-	-
	N-	*t	*t	-	-
*g >	V-	*k	*k	*k	(∅)
	N-	*k	*k	*∅	*∅
	N-	*g	*g	-	-
*k >	V-	*k	*w/y	*k	*∅
	N-	*k	*g	-	-
	N-	*k	*k	-	-

table 1. Double reflexes of Proto-Bantu consonants in Proto-A.70.

II. Harmony in lexical reflexes.

We have then to examine reflexes in which neither *C₁ nor *C₂ are submitted to a neutralization of this feature. In the great majority of cases (42 vs 14), both consonants harmonize as regards this [±Fortis] feature (see table 2).

N.B. : P.B. reconstructions are from Guthrie (1967-71).

The 7 *V system is transcribed as *i *e *ε *a *ɔ *o *u.

T, C, V : Tone, Consonant or Vowel not regularly reflected.

F : harmonizing in Fang (preserving 2 reflexes of *p₂).

table 2. C₁ - C₂ [Fortis] harmony in lexical reflexes of Proto-Bantu in Proto-A.70.

[Fortis] - [Lenis]			[Lenis] - [Fortis]		
P.B.	A.70	Gloss	P.B.	A.70	Gloss
*-dēdō	* n-nē 3/4	boundary	*-dōg-	* -yōk	curse
*-kōōd-	* -kōōē	cough	*-dōk-	*mā-yōk 6	rain
			*-dōdō	* a-yōl 5	bitterness
			*-kādī	* ŋ-gāl 1/	wife
				bō-yāl 2	wives
			*-kōdī	* vi-ōl 19	hawk sp.
			*-pādē	* e-vāl 7/8	polygamy
			*-pēd-	* -vōlō	finish
			*-pōdō-	* -fōē	thresh corn
			*-pūdū	* a-vōl 5/6	foam
			*-tīg-	* -līk	leave
			*-tīgad-	* -līgī	remain
			*-tōg-	* -lōk	bale out water

2a. Non-harmonizing reflexes.

[Lenis] - [Lenis]			[Fortis] - [Fortis]		
P.B.	A.70	Gloss	P.B.	A.70	Gloss
*-dāād-	* -yāē	sleep	*-dīg-	* -dīk	become burnt
*-dāp-	* -yōō F	become long	*-dītū	* a-dīt 5	heavy
*-dēd-	*mi-ō 3/4	birth	*-dōk-	* e-lōk 7/8	rain T
*-dēdē	* e-yē 7/8	cloth	*-dūt-	* -dūtū	pull
*-dēd-	* -yī	cry	*-kād-	* -kāt	cease C ₂
*-dōk-	* -yō	vomit	*-kōkōdā	* e-kūtā 7/8	elbow
*-kōtī	* d-ōl 7/8	neck T	(*-kōtī	* kōt 9	neck)
*-kōd-	* -wōē, yōē	grow up	*-kōdōgō	* ŋ-kōk 3/4	sugar-cane
*-kūtā	*mā-wōl 6	oil	*-kūtū	* ŋ-kūt 3/4	bag T
*-pēdim	* -vōs	flash C ₂	*-pākō	* a-fāk 5/6	tree-hollow T
*-pēpō	* a-vō 5 F	cold	*-pāpā	* a-fāp 5/6	wing
*-pīp-	* -vyō F	suck	*-pēēped-	* -fōp	fan
*-pōd-	* -vōē	become cold	*-pēēpē	* m-fōp 3/4	wind
*-pūk-	* -vū	become mature	*-pōt-	* a-vōl 5/6	run
*-tādē	* e-lāē 7/8	iron > arrowhead	*-pūkō	* m-fōk 3/4	bag V
*-tāp-	* -lōō F	draw water	*-tāātē	* tātō 1a/2	father
*-tātō	* -lāl	three	*-tāātēk-	* -tātē	begin
*-tōōkē	* o-dzōē 11/5	banana	*-tēdam-	* -tōlō	stand
*-tūd-	* -lūī	forge	*-tēk-	* -tōk	become soft
*-tūkō	* a-lō 5/6	night	*-tīīd-	* -tītān C ₂	run away>pursue
			*-tōdōg-	* -tōk	boil up
			*-tūūdī	* e-tōl 7/8	shoulder
			*-tūūtū	* e-tūt 7/8	bump

2b. Harmonizing reflexes.

Further, the great majority of reflexes of non-harmonizing lexical reflexes (12 vs 2, see table 2a) belongs to the /C₁ [Lenis] - C₂ [Fortis]/ set. All the roots but one reflected in this set have a voiced *C₂. This could be regarded as an extension

of the already observed tendency to neutralization of the [Fortis] feature among [+Voiced] *C.

Thus, consonant harmony strongly appears to have been present in Proto-A.70. Unfortunately, there are few items common to both A.70 and Tunen (van Leynseele and Stewart, 1980) lists of harmonizing reflexes. Hence, it is hard to draw any conclusion concerning the possible agreement of reflexes according to the [±Fortis] dichotomy through both subgroups.

It must be noted, however, that non-direct agreement of items would not by itself disprove the presence of the feature at a preceding stage, which, we could suppose, was common to both A.44 and A.70. Of course, some regular correspondences are needed to ascertain its existence, but not necessarily unconditioned ones. This direction does not seem to have been systematically investigated.

In fact, consonant harmony is simply established. There is as yet nothing which requires it in the posited [Fortis] feature, contrary to the [ATR] one. This latter feature has been demonstrated to be synchronically extant in Tunen (van Leynseele, 1977; Stewart and van Leynseele, 1979) - though it is absent from A.70. It could be, had it been present at the A.40 - A.70 common stage, that it influenced the evolution of the consonants, possibly in developing harmony.

III. Correlation between [ATR] and [Fortis] features.

[Fortis] is a covert feature, i.e. we don't know exactly what its phonetical properties are. But we suspect that it could be, from an articulatory point of view, a coarticulation in the region of the back oral cavity.

First, because the languages in question often developed (?) implosives from the consonants concerned, in which an expansion of the pharyngeal cavity is a well-described element.

Secondly, we know that in the Afro-Asiatic family, many languages have two sets of consonants, the distinction between which involves expansion - retraction of the back oral cavity. This causes at a phonetic level vowels to be realized in two

sets, very similar to the phonological ones involved by the [ATR] feature. Moreover, there is only one emphatic consonant per word, but emphasis usually spreads on its environment, roughly over the whole word itself. It seems possible that phonetically emphasized vowels became phonological, thus developing [ATR] and cross-height vowel harmony.

A further argument to this effect can be added from Dyola, a West Atlantic language from Senegal and a distant relative of Bantu. In Dyola¹, there are two words for "milk", the maternal one and the animal one.

Dialects :	fogny, her, huluf, kasa, kasa-esulalu	bandial	dyiwat
"maternal milk"	mi-il	mt-ɪl	mi-il
"animal milk"	mt-ɪl	mt-ɪ	mi-is

table 3. [ATR] vs [Fortis] cognates in Dyola dialects.

Both words are cognates, from a common root, which is in turn a cognate of the P.B. reconstruction for "milk" and "udder, breast", namely *-bɛɛdɛ. They differ by only one feature, being members of the same nominal class as well. In five dialects of Dyola, this feature is [ATR]. In two others, the contrast is borne by the consonant.

As a phonological feature does not normally convey by itself any semantic load, e.g. * [αATR] <==> [αHuman], it is unlikely that there were two roots. In fact, it is more plausible that the feature, reflected by either [ATR] or [Fortis] in Dyola dialects, had been borne by the prefixes. These can obviously bear a range of semantic specifications, and especially the [Human] feature involved here.

This seems to show conclusively that phonetic change can lead from [ATR] to [Fortis] contrast (or vice versa, though less probably here). A phonetic study on the

¹ All my thanks to Jocelyne Dieng (Université Lumière Lyon-II, LAPHOLIA-C.R.L.S.), to whom I am indebted for data about Dyola dialects.

possible differentiation of consonants in [ATR] languages could be helpful in this discussion.

I must add briefly one fact from Basaa A.43a, a language closer to A.70 than to Tunen (Dieu and Renaud, 1983) in spite of its classification in the A.40 subgroup². It presents neither synchronical [ATR] nor harmony of its consonantal reflexes of P.B., but shows an alternation of reflexes of *b₁, according to class prefix in genders 3/4, 3/6 and 5/6 (see table 4). The roots presenting the most marked form of this alternation include precisely the one reflected in Dyola, with the meaning "udder".

Gloss	P.B.	sg.	Basaa	pl.	class
"tusk"	*-b̃āŋgā	m- āŋ		m- āŋ	3/4
"corpse"	*-b̃ĩmbā	m- ĩm		m- ĩm	3/4
"kola-nut"	*-b̃ēdō	l i- b̃ēl		m- ēl	5/6
"udder"	*-b̃ēēdē	l i- b̃ēē		m- ēē	5/6
"two"	*-b̃ādē	6- / m- / m- āā			2,4,6
		b i- / i- / t f i- b̃āā			8,10,13
"thigh"	*-b̃ēdē	6 ēl		ma- b̃ēl	3/6
"bundle"	*-b̃ōmbō	m- b̃ōm		mim- b̃ōm	3/4
"beach"	*-b̃ōŋgō	l i- b̃ōŋ		ma- b̃ōŋ	5/6
"abdomen"	*-b̃ūmō	l i- b̃ūm		ma- b̃ūm	5/6
"bamboo stalk"	*-b̃ādē	mb̃āi		mb̃āi	9/10
"cane-rat"	*-b̃ēbā	mb̃ēp		mb̃ēp	9/10
"back"	*-b̃ūcā	mb̃ús		mb̃ús	9/10

table 4. Alternating and non-alternating reflexes of *b₁ in Basaa (sample).

The pattern of the Basaa alternation strongly suggest the presence of two distinct *b's, and even the existence of an unidentified feature in some prefixes. It

² Basaa data are due to Oum Ndigi (Université Lumière Lyon-II), and have been verified whenever possible in Lemb and de Gastines (1973).

is interesting to note that the canonical form of the class 4 prefix before consonant is /m̃iN-/, in Basaa as well as in its close relatives from A.70. Obviously, this form cannot simply be traced back to the current reconstruction *m̃i-. Equally noteworthy is the fact that the alternation between /b/ and /θ/ reflexes of *b₁ occurs in genders involving classes with a bilabial nasal consonant (e.g. classes 3, 4 or 6).

Furthermore, in the case of class 3, the prefix is similar in shape to that of class 1, while this latter class is semantically clearly marked as [+Human] (here again, in Basaa as well as in A.70 languages). We may compare this situation with the one in Dyola, where prefixes with a bilabial nasal consonant before the radical for "milk" seem to have been distinguished semantically by the [Human] feature, and phonologically by the [ATR] (or [Fortis]) feature.

This correspondence may indeed seem a bit isolated, with only two language groups of fairly distant subfamilies involved. But it is somewhat reinforced by the fact that it bears on three different levels at the same time, i.e. the semantic, morphological and phonological ones, and by the morphonological structure of P.B., where the same semantic opposition between phonologically similar prefixes of classes 1 and 3 is to be found. And this complete similarity of the P.B. reconstruction of both prefixes could be seriously questioned, in the light of their respective influence on the radical consonant in Basaa.

In general, the nasal feature seems to be very closely connected with the problems of double reflexes, either while neutralizing them (e.g. in the class 9 prefix or in the *NC₂ sequence) or as class prefixes which are suspected to have been responsible for the development of these double reflexes introduce an extra nasal consonant from their P.B. form (e.g. class 4 prefix *m̃i- > m̃iN-).

A.70 as well as Tunen also present an alternation in the stem of a number of nominals, and Bafia A.53 is also reported to show it (Guarisma, 1973). In all these languages, it is also to be observed in derivations.

There remains a lot of research to be done for comparatists in zone A languages. Primary reference to currently reconstructed P.B. lexicon is necessary in order to set off relevant aspects to be studied, but is limitative in the number and

variety of items submitted to examination. No doubt, an extensive internal comparison of these languages would give significant results.

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