

## Double reflexes in eastern and southern Bantu

Robert Botne  
Indiana University

Double reflexes of Proto-Bantu stops have been noted throughout the north-western Bantu area, including Guthrie's zones A, B, C and parts of zone D. The impression one obtains from the literature is that this phenomenon, usually referred to in terms of an original lenis/fortis contrast, does not occur outside of the northwest region. Bachmann (1989: 27), for example, states categorically with respect to Guthrie's PB \*p that "[a]ußerhalb dieser Region mit 'fortis-lenis-Kontrast' sind die Lautentsprechungen für \*p regelmäßig und ohne Ausnahmen." ("Outside this region [i.e., the north-western area of Bantu] with 'fortis-lenis contrast', the sound correspondences for \*p are regular and exceptionless.") Gerhardt (1986: 544), on the other hand, contends that "one can work in large parts of East and South Africa without encountering problems of the sort described in this paper [i.e., of double reflexes]", seemingly implying that there are languages with double reflexes in the eastern and southern regions. However, his subsequent questions — "What is left, if we take away all languages that show double reflexes of PB phonemes? Are we left (again) with Heine's 'Osthochland-gruppe'?" — make it clear that what he is saying is that double reflexes do not occur in these regions.

While it is certainly the case that many languages in the eastern and southern regions do not (appear to) exhibit double reflexes of the PB stops, there are some that do — in fact, at least a dozen. Data from ten of these languages — five from the eastern region (one from zone F, two from zone G and two from zone J) and five from the southern region (one from zone M, one from zone P and three from zone S) — will be given to illustrate the different correspondences.

These data are significant for two reasons. First, the presumed absence of the lenis-fortis contrast outside the northwest region of the Bantu sphere has been taken as evidence for a major genetic division between the north-western languages and all other Bantu languages (van Leynseele and Stewart 1980, Gerhardt 1986, Bachmann 1989). That is, what would be a boundary between double-reflex and non-double reflex languages is treated as an

important isogloss separating the northwestern Bantu languages as a genetic unit separate from the remainder of the Bantu languages. In this paper I will show that double reflexes do, in fact, appear in languages of eastern and southern Africa, and that a distinctive isogloss separating the Bantu languages cannot be drawn based on the presence or absence of a lenis-fortis contrast.

### *Bilabial reflexes*

Double reflexes of PB consonants are most readily observed in the bilabial consonants. In this section lexical items from languages in the eastern and southern regions will be compared, beginning with the eastern languages. Table 1 below lists cognate forms of PB \*b in five eastern Bantu languages: Sukuma F21, Bondei G24, Hehe G62, Masaba J31 and Nande J42.

Reconstructed Proto-Bantu forms (marked with an asterisk) are from Guthrie (1967-1971); lack of an asterisk indicates his common Bantu reconstruction. For some cognate sets there is no reconstructed PB form. However, since the correspondence patterns match those of reconstructed forms, they are included here with a tentative reconstructed form in parentheses. Only verb roots and some adjectives are incorporated into the list to avoid some of the sound change problems associated with nominal prefixes (cf. Bachmann 1986).

Table 1 *Reflexes of a lenis \*b in eastern Bantu*

	Proto-Bantu		Sukuma F21	Bondei G24	Hehe G62	Masaba J31	Nande J42
A	*-bá-	'be'	-βj	-wa	-wa	-βa	-βya
	*-báb-	'singe'	-βaβa			[-mamula]	-βeβa
	*-bàd-	'count'	-βala	-waza	-wala	-βala	
	*-bàdí	'two'	-βili	-idi	-wili	-βili	
	*-bí;*-bííp-	'bad; be bad'	-βi; -βijpa		-ipa	-βi	-βi
	*-bíád-, (-bíb-)	'sow'	-βiβa		-vyala	-βyala	-βeβa
	*-bìd-	'come to boil'	-βila			-βisa	-βera
	*-bǐc-	'hide'	-βjsa	-fisa		-βisa	-βisa
	*-bòd-	'be rotten'	-βola	-ola	-ola	-βoole	-βola
	*-bón-	'see'	-βona	-ona	-ona	-βona	
	<i>reflex</i> <sup>1</sup>		β	Ø; w/_a; f/_i	Ø; w/_a; v/_ia <sup>2</sup>	β	β

	Proto-Bantu		Sukuma F21	Bondei G24	Hehe G62	Masaba J31	Nande J42
B	*-béng-	'hate'				-ng'oha	-baga
	*-bòm̩b-	'be soft'	-βom̩βa			-mbiha	-βoβa
	*-búm̩b-	'mould clay'	-βumba	-umba	-wumba	-humba; -βumba	-βumba
	<i>reflex</i>		β	∅	w	∅; h	β

The lenis reflexes are quite consistent and regular, with [β] in the north-eastern languages — Nande, Masaba and Sukuma— and ∅ or w in the central eastern languages — Bondei and Hehe. However, it is not clear what environment conditions these latter two reflexes in the CE languages. [w] seems to appear primarily before [a], occasionally before [i] or [o]. Unlike the other northeastern languages, Masaba exhibits a split, as evidenced by the examples in part B that lack the expected initial [β]. The fact that all of the data have a -VNC- sequence suggests that this environment was associated with the loss of the initial consonant. This finding runs counter to Bachmann's claim (1989) that fortis reflexes are induced by particular environments, one of which was \_VNC- (the other environments include occurrence before double or long vowels, before close vowels or after close \*j). Deletion before \_VNC- also occurred with the PB fortis stop, as can be observed in Table 2. Nevertheless, we still find a difference in other environments, for which no conditioning factors can be established, which support different consonantal sources.

Table 2 *Reflexes of a fortis \*b in eastern Bantu*

	Proto-Bantu		Sukuma F21	Bondei G24	Hehe G62	Masaba J31	Nande J42
A	*-bànd-/bàt-	'flat'	-baapaala		-βalali		
	*-bát-	'ascend'		-pala			-hetuka
	*-búd-	'break'	-puula				-hula
	-bùduk-	'fly'	-pùluka	-puluka		-pululukha	
	-bùm-; -púm-/pám-	'hit & kill'	-pama		-βumira	-pa	-homa
	-bútuk-	'run, rush'		-pwelapwela	-βundula		
	<i>reflex</i>	p; b/_Ç	p	p	β	p	h

	Proto-Bantu		Sukuma F21	Bondei G24	Hehe G62	Masaba J31	Nande J42
B	-bád-ik-	'marry 2nd wife'	-palika		-βanya	-alikha	-halikanya
	*-bág-	'tie up'				-onga	-hanga
	*-báŋg-	'open up; blossom'				-anzulukha	-hungulya
	<i>reflex</i>		p		β	Ø	h

As in the case with the reflexes of a lenis \*b, the reflexes of a fortis \*b are consistent and regular. Most of the languages have experienced a strengthening of the \*b to [p]; however, Hehe has weakened to [β], while Nande has weakened to [h]. Note that the roots for 'hit and kill' and 'marry a second wife' were, originally, most likely \*-pum- and \*-padik-, respectively. However, all the languages here have reflexes that fit with \*b correspondences and not \*p, suggesting a very early shift to [b] in this word. Guthrie, in fact, notes for both of these that the reflex in Sukuma does not fit his regular correspondences. For this reason I have placed it in the \*b set of correspondences.

In Masaba, once again, a phonemic split appears to have occurred, and again one of the reflexes is Ø. One of the criteria conditioning the Ø reflex, as in the lenis series, was the -VNC- environment, although one example does not have this cluster. A second factor affecting the change may have been high tone, as all of these examples are reconstructed with this tone. A similar phenomenon can be observed in Nen A44, in which, I argue, high tone has played a role in phonemic split in the bilabials (Botne, in preparation). For example, in reflexes of lenis \*b, presence of a high tone precluded weakening of the \*b to [f], as illustrated by the examples in (1) to (3).

- 1) a. \*-b̀id- "boil up" > -f̀èn "boil (liquids)"  
     b. \*-b́id- "become cooked" > -b̀èn "boil (solids)"
- 2) a. \*-b̀òd- "become rotten" > -f̀òn  
     b. \*-b́ón- "see" > -b́ón
- 3) a. \*-b́ind- "obstruct" > -f̀èndèn "confine"  
     b. \*-b́éŋg- "hate" > -b́ány

In contrast, initial fortis \*b did not weaken, even if the root tone was low, as exemplified in (4).

- 4) a. \*-bà(n)d- "split" > -bàndè  
 b. \*-bát- "go up" > -bál

In eastern Bantu, then, we find clear evidence of double reflexes. These contrasting reflexes are illustrated in Table 3, highlighting the difference between lenis and fortis.

Table 3 *Double reflexes of \*b in some eastern Bantu languages*

Proto-Bantu	Sukuma F21	Bondei G24	Hehe G62	Masaba J31	Nande J42
lenis *b	β	Ø/w	Ø/w	β and Ø	β
fortis *b	p	p	β	p and Ø	h

The data illustrate quite clearly that these eastern languages retain traces of originally distinct b's, differentiated above as lenis and fortis. In moving further south, we find that the southern languages exhibit the same kinds of contrasts in the reflexes of \*b as noted for the eastern languages. Illustrative examples are presented in Tables 4 and 5.

Table 4 *Reflexes of a lenis \*b in southern Bantu*

Proto-Bantu		Ila M63	Ngulu P33	Karanga S14	Venda S21	Tsonga S53
*-bá-	'be'	-ba	[-wa]	-βa	-βa	-βa
*-báb-	'singe'	-babula	-avula	-βαβira		-βαβela
*-bàd-	'count'	-bala	-alaka	-βerenga	-βala	
*-bád-	'shine'		-ara	-βalira		[-phatima]
*-bádi	'two'	-bili	-eli	-βiri	-βili	-βirhi
*-béng-	'hate'		-ina	-βenga	-βenga	-βenga
*-bíip-/bíb-	'be bad'	-bia	-veha		-βi	[-biha]
*-bíð-	'call out'				-βidza	-βita
*-bíð-	'come to a boil'	-bila	-viluwa	-βira	-βila	-βilaβila
*-bòd-	'be rotten'	-bola	-utca	-βora		-βoβorha; [-bola]
*-bón-	'see'	-bona	-ona	-βona	-βona	-βona
<i>reflex</i>		b	Ø; v/_i	β	β	β

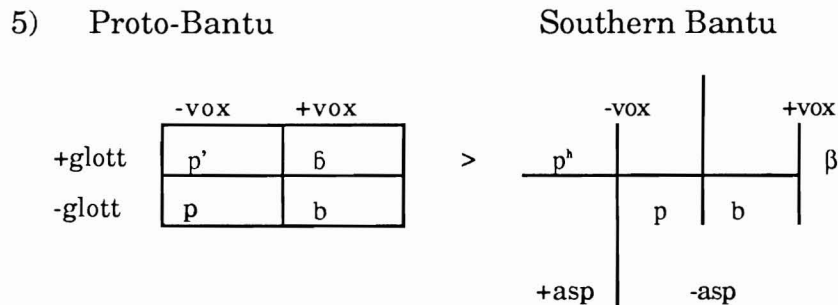
Table 5 *Reflexes of a fortis \*b in southern Bantu*

Proto-Bantu		Ila M63	Ngulu P33	Karanga S14	Venda S21	Tsonga S53
*-báb-	'be sour'	[-papa]	-wawa	[-βaβa]	[-βaβa]	-bava
-bád-ik	'marry'	-adika				
*-bádok-	'burst open'	-yalula		-balika	-balea	-baleka
*-bánd-; -bát-	'be flat'		-watca		-banda	-phateka
(-beb-)	'carry on back'				-beba	-bebula
*-bèdik-	'carry on back'		-veliha	-bereka		
(-bed-)	'bear fruit'	-ezha	-wera	-bereka		
-bùduk-	'fly'	-uluka		-bururuka		-phuruka
<i>reflex</i>		∅	w; v/_i?	b	b	b/ph

As with the eastern languages, there is a general distinction between the two sets of reflexes of \*b and \*b. The apparent reflex of a lenis \*b occurring in -βaβa "sour" in both Karanga and Venda suggests that some weakening of the fortis reflexes has occurred in these languages. In the case of -papa "sour" in Ila, however, we find a reflex suggesting an original lenis \*p, rather than the expected fortis \*b. This same discrepancy arises in the case of -bac- "separate", as well. In fact, in Karanga we find both -banzura and -pasura. Guthrie (1971) reconstructs \*-pac-, which does seem to be the appropriate etymon for certain reflexes in Karanga, Venda and Tsonga (see Table 9 *Reflexes of a lenis \*p*), though not for those listed above for Ngulu and Karanga. In perusing Guthrie's common Bantu forms, we also find a small number of reconstructions which alternate between initial \*b and \*p, for example, \*-pjc-/ -bjc- "hide" and \*-pand-/band- "split". This unexpected alternation — lenis \*p with fortis \*b — seems to suggest, at least for southern Bantu, a period in which the phonological status of these sounds was shifting.

A plausible scenario able to account for this variation can be found in the kinds of shifts that must have occurred. In Botne (in preparation) I have argued for glottalic and non-glottalic bilabials as the primary division, rather than lenis and fortis, which are secondary characteristics derived from the different nature of voiced and voiceless glottalic stops. Thus, glottalic (ejective) \*p' is fortis compared to non-glottalic \*p, but glottalic (implosive) \*b

is lenis compared to non-glottalic \*b. For most eastern and southern languages the reflex of glottalic (lenis) \*b is [β]. If, indeed, there existed a four-way contrast in PB bilabial occlusives, a shift of \*b to β (and glottalic \*p' to [pʰ]) would have left three stops: pʰ, p, b. This view of the overall phonological shift can be pictured as in (5) below.



The loss of the glottalic feature and shift of \*b to [β] would leave a continuum of stops differentiated on the basis of voicing and aspiration. This situation would be conducive to some irregular shifting of sounds, especially between the non-aspirated [p] and [b], the original non-glottalic sounds (lenis and fortis, respectively). This kind of irregular variation may account for the seemingly aberrant behavior in the correspondences above.

The alternation between [b] and [pʰ] observed under fortis \*b in Tsonga does not reflect the same alternation between reflexes of a lenis \*p and a fortis \*b, but rather an inexplicable (at this time) split in reflexes of fortis \*b.

The different reflexes of Guthrie's \*b for the southern languages are listed in Table 6, where the contrasts, apparently unconditioned, must reflect originally different source elements.

Table 6 *Double reflexes of \*b in southern Bantu*

Proto-Bantu	Ila M63	Ngulu P33	Karanga S14	Venda S21	Tsonga S53
lenis *b	b	Ø/v	β	β	β
fortis *b	Ø	w	b	b	b/ph

*Reflexes of voiceless bilabials*

The voiceless bilabials, like the voiced, can be grouped into two distinct sets of reflexes. However, in some languages there is clear evidence of a phonemic split having occurred, although it is not clear exactly what the conditioning factors of the split were. As with the case of Nen (A44) mentioned above, tone may have played a role in conditioning the splits in \*p in some of the eastern and southern languages. The data in these languages, however, are inconclusive. The three parts of Table 7 list correspondence sets in eastern Bantu languages that appear to have derived from the same PB lenis stop \*'p.

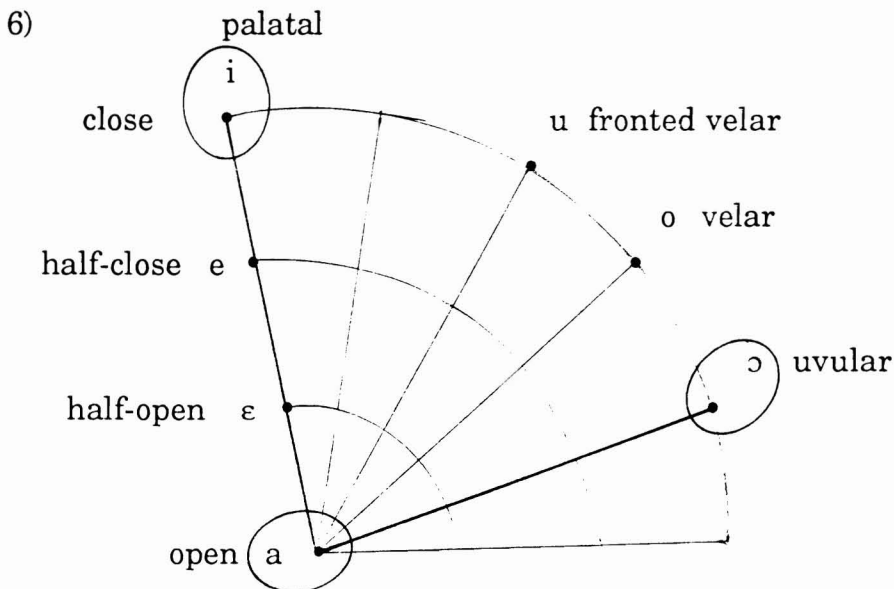
Table 7 *Reflexes of a lenis \* 'p in eastern Bantu*

	Proto-		Sukuma	Bondei	Hehe	Masaba	Nande
A	*-pá-	'give'			-pera	-ha	-ha
	*-pád-	'scrape'	-pala	-fiala	-pala	-hala	-hala
	*-pàk-	'rub'		-fiaka	-paka	-hakha	-hakahaka
	*-pí-	'be burnt'	-pja/-hja	-fiya	-pya	-sya	-hya
	-pim-	'measure'	-pjjma	-fiima			
	*-pód-	'cool down'	-pola			-hosa	-holokya
	-pòkid-	'take, receive'	-pokeela	-fiokela		[-fukila]	
	-pònd-	'pound'	-ponda	-fionda			
	<i>reflex</i>		p	fi	p	h; s/_ia	h
B	-pép-	'winnow'	-heheela				-hehya
	-pèt-	'fold, bend'	-heta	-fieta			
	*-pìnd-	'fold, bend'	-hinda	-fiinda	-bibinda		
	*-pìndud-	'turn over'	-hindula	-fiitula			
	*-pód-	'get well'	-hola	-fio(n)a		-hona	
	*-pùd-	'strip off (leaves, etc.)'	-hulula	-fiulula		-hulula	-hulula
	(-puum-)	'howl'	-hyyuma		-buma		
	*-pùùp-	'blow'	-hyyemba				-bouha
	<i>reflex</i>		h	fi	b	h	h



	Proto-Bantu		Sukuma F21	Bondei G24	Hehe G62	Masaba J31	Nande J42
C	-pét-	'winnow'	-beeta	-fieta	-beta; -peta	-bisa	-hehetya
	*-pít-	'pass, go ahead'	-βita	-fiitila	-bita	-βira	-hita
	*-pót-	'twist'	-βota	-fiotola	-bota	-βorola	
	<i>reflex</i>		β; b/_V:t	fi	b	β	h

In Sukuma, Hehe and Masaba PB lenis \*p has split, in Sukuma apparently in three ways. The data (sets B and C) suggest an original weakening of the lenis \*p in these languages to a voiced segment ([b] or [β]) with subsequent weakening to [h] of some items (set B) in Sukuma and Masaba. There is no obvious conditioning environment for this differential effect in weakening. Note, however, that in Sukuma those lenis \*p's that did not weaken (set A) are followed by one of three vowels: i [i], o [ɔ], a [a]. In the weakened cases the vowel is i [e], e [ɛ], u [o], or ɥ [u] (although there are two apparent exceptions with o [ɔ]). While these sets do not constitute traditional natural classes, it is of interest to note that the [i], [ɔ] and [a] represent extremes in vowel position in height and backness as captured in Catford's (1977:185) polar coordinate vowel diagram, slightly modified in (6).



Thus,  $\text{ɥ}$  [u] in Sukuma, for example, behaves not as high vowel comparable to [i], as one might expect, but as a 'mid' vowel along the backness continuum. Thus, we find weakening of \*p, as in *-hɥɥyemb-* "blow" < \*-pɥɥp- "blow". The extreme vowels,  $\text{ɨ}$ ,  $\text{ɔ}$ ,  $\text{a}$  [i, ɔ, a], then, seem to have played a role in precluding weakening of lenis \*p in Sukuma and Hehe.

The voiced bilabial reflex further weakened to [h] in Sukuma and Masaba, but remained [b] in Hehe. High tone seems to have played a role in precluding weakening to [h], but apparently only when the final root consonant was [t] (see section C of Table 7 above).

Reflexes of a fortis \*p are listed in Table 8. Although there are three correspondence sets listed, the data do not always fall into such neat divisions. Nevertheless, comparison of these reflexes with those in Table 5 above clearly reflect a different pattern of behavior for these reflexes from the behavior noted for lenis \*p in Table 5.

Table 8 *Reflexes of a fortis \*p in eastern Bantu*

	Proto-Bantu	Sukuma F21	Bondei G24	Hehe G62	Masaba J31	Nande J42
A	*-pàc- 'separate'		-fiakia		-asaaka; -pasula	
	*-pàd- 'split'	-pandula		-badula	-ara	-parapara -pambalima;
	*-pápat- 'grope'	-baaβaasya	-fiafiaa		-aβaaβa	-bambalima -pepya;
	*-pèèp- 'blow'				-hula	-beβya
	*-pǎǎgid- 'sweep'	-pǎǎgula	-fiǎǎgia		-eya	-βirya
	-pód- 'become quiet'				[-hola]	-posa
	<i>reflex</i>	p; b/-VÇ	fi	b	Ø	p ~ b

	Proto-Bantu		Sukuma F21	Bondei G24	Hehe G62	Masaba J31	Nande J42
B	*-pàngud-	'separate'		-pagula			-βag(ul)a
	*-páp-	'flap wings'	-babama	-papata		[-papala]	-papalya
	*-pát-	'hold, catch'	-bada	-pata	-bata		
	(-peed-)	'belch'	-biizuka		-behula	βeezakala	
	*-píp-	'suck'	-bjpa				
	(-pokud-)	'be blind'	-bokyla		-bofula	-βofu	
	(-pūt-)	'pull out, pluck'		-pucha		-fura	
	*-(y)ipik-	'cook'	-bjjsya			-βisa	
	<i>reflex</i>		b	p	b	β; f/ɥ	p/β

The reflexes of fortis \*p in eastern Bantu present a picture similar to that observed in the lenis; there are splits in most of the languages. Thus, for example, while Hehe consistently manifests [b], Sukuma exhibits both [p] and [b], Bondei [p] and [fi], and Masaba [β] and Ø. In Sukuma, it appears that fortis \*p became [b] when it preceded a voiceless consonant (Dahl's Law?), clearly evident in part B, though lenis \*p did not. However, in Bondei and Masaba, which have patterns of variation identical to those of Sukuma, the environment preceding a voiceless consonant does not appear to have been the relevant factor (compare data in parts A and B). What seems clear from the observed correspondences in Tables 7 and 8 is that they, indeed, fall into two groups:

		<u>Suk</u>	<u>Bon</u>	<u>Hehe</u>	<u>Mas</u>	<u>Nan</u>
I	A	p	fi	p	h	h
	B	h	fi	b	h	h
	C	b	fi	b	β	h
II	A	p	fi	b	Ø	p
	B	b	p	b	β	p

The first set (I) evolved from an original lenis \*p, the second (II) from an original fortis \*p. Thus, Bachmann's claim that sound correspondences for Guthrie's \*p are regular and exceptionless outside of the northwestern Bantu

zone — meaning that there are conditioned reflexes of only one PB \*p — is not accurate. There are clear traces of an original dichotomy in eastern Bantu, summarized in Table 9.

Table 9 *Double reflexes of \*p in eastern Bantu*

Proto-Bantu	Sukuma F21	Bondei GG24	Hehe G62	Masaba J31	Nande J42
lenis *'p	p/h/b	fi	p/b	h/β	h
fortis *p	p/b	fi/p	b	Ø/β	p

Traces of two distinct PB \*p's can also be found in southern Bantu. Tables 10 and 11 provide sound correspondences for five southern languages, which provide evidence of double reflexes in the this region.

Table 10 *Reflexes of a lenis \* 'p in southern Bantu*

Proto-Bantu		Ila M63	Ngulu P33	Karanga S14	Venda S21	Tsonga S53
*-pá-	'give'	-pa	-vaha	-pa	-φa	-ha
*-pàc-	'separate'			-pazura	-φanza	-handzula
*-pád-	'scrape'	-pala	-vala	-panira	-φala	-hala
*-pákik-	'hang up'	-pangika			-φahea	-hanyeka
*-pé-	'be burnt'	-pia	-viha	-pisa		-hisa
*-péd-	'peter out'		-veliha	-pera	-φela	-hela
-pép-/pét-	'winnow'	-pepa	-vera	-pepeta	-φeφera; [-pea]	[-peperha]
-pèt-	'fold, bend'	-eta		-peta	[-peta]	-herheka
*-pít-	'pass'	-ita	-vira	-pinda	-φira	
*-pód-	'cool down'		-voliha	-pora	-φola	-hola
-pód-/pón-	'be well'	-pona		-pora		-horisa
*-pùd-	'strip off leaves'	-pulula		-purura	-bvula	
<i>reflex</i>		p; Ø/-Vt	v	p	φ; bv/-u	h

Table 11 *Reflexes of a fortis \*p in southern Bantu*

Proto-Bantu		Ila M63	Ngulu P33	Karanga S14	Venda S21	Tsonga S53
*-pànd-	'split'	-anda	-phala		[- $\phi$ andula]	-panda
*-pám-, -pum-	'hit and kill'	-uma	-homa	-bamura	-pamudza	-pyemula
*-pàp-	'flap wings'		[-vava]	-babamira	[-babamela]	-papama
*-pápat-	'grobe'	-ampasha	[-apareya]	-bamadzira		
*-pát-	'hold'		-phara	-bata	-pata	
-pìm-	'measure'		-phima		-pima	-pima
(-pokud-)	'be blind'	-ofwala		[-pofumara]	-pofula	
-pòn-	'escape'		-hona		-ponya	-pona
-pùng-	'blow'	-unga				[-hunga]
*-yì-pik-	'cook'	-ika	-phuka	-bika	[-bika]	
*-yì-pud-	'take pot off fire'	-yula	-hulusha	-bura		-phula
<i>reflex</i>		Ø	ph; h/_V [+rd]	b	p	p; ph/_

These data clearly illustrate a contrast in reflexes of PB \*p in southern Bantu languages. Irregularities in correpondences can be accounted for in two ways. First, some of the forms would appear to be borrowings, and not true cognates. For example, *-bika* "cook" in Venda, where we would expect *-pika*, and *-peperha* "winnow" in Tsonga, probably came from neighboring Karanga (or another neighboring language with the same form as that in Karanga). However, the irregular *- $\phi$ andula* "split" in Venda, and *-ita* "pass" and *-eta* "fold" in Ila, are probably not attributable to borrowing, but to weakening of the fortis reflex.

The evidence from these eastern and southern languages, then, supports reconstruction of two voiceless bilabial proto-consonants, labeled here as lenis and fortis, and demonstrates that this distinction did, in fact, appear in these languages. Tables 12 summarizes the different reflexes noted in this section.

Table 12 *Reflexes of PB bilabials in eastern and southern Bantu*

		*p	*p	*b	*b
Sukuma	F21	p/h/β	p/b	β	p
Bondei	G24	fi	fi/p	Ø/w	p
Hehe	G62	p/b	b	Ø/w	β
Masaba	J31	h/β	Ø/β	β & Ø	p & Ø
Nande	J42	h	p/β	β	h
Ila	M63	p	Ø	b	Ø
Ngulu	P33	Ø/v	w/v	v	ph
Karanga	S14	p	b	β	b
Venda	S21	ϕ	p	β	b
Tsonga	S53	h	p	β	b/ph

*Velar Reflexes*

Double reflexes of Proto-Bantu stop consonants are not limited to the bilabials. They occur also in the velar and alveolar stops. However, the number of languages in which double reflexes other than bilabials are extant appear to be few in number. Only one of the eastern Bantu languages and three of the southern languages exhibit double velar reflexes, and these only with the voiceless \*k. Tables 13 and 14 provide examples of lenis and fortis reflexes of \*k in these four languages.

Table 13 *Reflexes of a lenis \*k*

Proto-Bantu		<u>Eastern</u>		<u>Southern</u>	
		Masaba J31	Karanga S14	Venda S21	Tsonga S53
*kù-	cl. 15	khu-	ku-	[ku-]	ku-
*-kám-	'milk'	-khama	-kama	-hama	-kama
*-káán-	'deny'	{-kaana}		-hama	-kaneta
-kádǐng-	'fry'	-khalana	-kanga	-hadzinga	-katinga
*-kócud-	'cough'	-kholola	-kosora	-hotola	[-khohola]
-kók-	'pull'	-khwesa	-kakata	-hoha	-koka
*-kúd-	'grow up'	-khula	-kura	-hula	-kola
*-kúdu	'big'		-kuru	-hulu	-kulu
<i>reflex</i>		kh	k	h	k

Table 14 *Reflexes of a fortis \*k*  
Eastern

Proto-Bantu		<u>Eastern</u>		<u>Southern</u>	
		Masaba J31	Karanga S14	Venda S21	Tsonga S53
*-kéd-	'filter, strain'	-keta			
-kékit/ -kúkut-	'gnaw'		-gegeda	-kukuna	[-kungunuta]
-kòdum-	'growl, rumble'	-kuula	-guduma		
-kók-	'pull'	-koka		-kokodza	[-koka]
*-kòmb-	'lick food'	-komba			
*-kótam-	'bent w/age'	-kotakota	[-kotama]	-kotama	-khorama
*-kùd-	'scrape off'	-kulula	[-kokora]	-kokota	-khwayiwa
*-kùmbuk-	'remember'			[-humbula]	-khumbula
*-kúmbat-	'hold in arms'		-gumbata	-kuβatedza	-khoma
(-kad-i-)	'put on the fire'		-gadza	[-gadza]	
(-kuat-)	'scratch'		-gwarakwata	-kweta	
*-(yì)-kad-	'live, dwell'		-gara		
*-(yì)-kut-	'satisfy w/food'	-kura	-guta	-fura	-khorwisa
<i>reflex</i>		k	g	k	kh

The lenis/fortis differences are readily discernible in these languages. Table 15 provides a comparative summary of the two reflexes of \*k for each of the languages.

Table 15 *Reflexes of \*'k and \*k — summary*

Proto-Bantu *k's	Masaba J31	Karanga S14	Venda S21	Tsonga S53
lenis *'k	kh	k	h	k
fortis *k	k	g	k	kh

*Alveolar reflexes*

Only one of the languages investigated — Venda — exhibits double reflexes of the alveolar stop \*t; none of the languages manifested double reflexes of \*d. Nevertheless, the reflexes of \*t in Venda are suggestive of original differences in the Proto consonants. Fortis \*t appears to have remained unchanged, while lenis \*t weakened to [r].

Table 16 *Reflexes of a lenis \*t*

Proto-Bantu *t		Venda S21	Proto-Bantu *t		Venda S21
*-tátu	'three'	-raru	*-tákɿn-	'chew'	-tafuná
-tándatú	'six'	-randaru	-támb-	'play, dance'	-tamba
*-túm-	'send'	-ruma	*-tétem-	'shake'	-tetemela
<i>reflex</i>		r	<i>reflex</i>		t

*Conclusion*

The data presented here indicate that eastern and southern Bantu languages, like the northwestern languages, also exhibit double reflexes of Proto-Bantu \*b and \*p, and in several languages in \*k and \*t as well. Of significance here is that fortis reflexes, contrary to the hypothesis put forth by Bachmann (1989), do not appear only in his postulated fortis-inducing environments, before -VNC-, before close vowel, or before long or double vowel. In a language such as Nande J42, for example, the fortis reflex of \*b is [h] (as in *hetuka* 'ascend' < \*-bát- and *-hula* 'break' < \*-búd-), while the lenis reflex is [β] (as in *-βola* 'become rotten' < \*-bòd-). And in reflexes of \*p, we observed *-parapara* 'split' < \*-pàd-, but *-hala* 'scrape' < \*-pád-. The difference in reflexes here cannot be attributable to any of the proposed fortis-inducing environments. Consequently, we must conclude that while certain environments may have resulted in fortis reflexes in some instances, they are not responsible for all occurrences of fortis reflexes. Hence, these eastern and southern languages exhibit double reflexes.

If there are double reflexes in these languages, then any claim that northwestern languages can be separated from the eastern and southern on the basis of double reflexes is untenable.



## NOTES

- 1 Reflexes indicate the modern sounds; the conditions given in some languages indicate historical phonological changes that have occurred.
- 2 I have taken these data from Spiss 1900, in which  $\emptyset$  and w appear as the reflexes of \*b. Guthrie 1967-71 gives the reflexes as w and v, respectively. These may simply represent dialectal differences.

## REFERENCES

- Bachmann, Armin R. 1989. "Zum 'fortis/lenis-Kontrast' in den nordwestlichen Bantusprachen". *Afrikanistische Arbeitspapiere* 19: 23-31.
- Botne, Robert. To appear. Phonemic split in Nèn: a case of tonal conditioning of glottalic Proto-Bantu consonants. *Afrika und Übersee*.
- Catford, J.C. 1977. *Fundamental Problems in Phonetics*. Bloomington: Indiana University Press.
- de Matos, Alexandre Valente. 1974. *Dicionário Português-Macua*. Lisboa: Junta de Investigações Científica do Ultramar.
- English-Tsonga, Tsonga-English Pocket Dictionary*. 1974. Kensington, S.A.: Swiss Mission.
- Gerhardt, Ludwig. 1986. "The fortis/lenis contrast in pre-Bantu? Some north-western Bantu evidence". *Zeitschrift für Phonetik, Sprachwissenschaft und Kommunikationsforschung* 39(5):540-547.
- Guthrie, Malcolm. 1967-1971. *Comparative Bantu*. Farnborough, England: Gregg Press, Ltd.
- Louw, C. S. 1915. *A Manual of the Venda Language*. Bulawayo: Philpott & Collins.
- Siertsema, Berthe. 1981. *Masaba Word List*. Tervuren: Musée Royal de l'Afrique Centrale (Archives d'Anthropologie, no. 28).
- Smith, Edwin W. 1907. *A Handbook of the Ila Language*. Oxford. (Reprinted 1964 by The Gregg Press Incorporated, Ridgewood, NJ.)
- Spiss, P. Cassian. 1900. Kihehe-Wörter-Sammlung. *Mitteilungen des Seminars für Orientalische Sprachen* III: 114-190.
- Van Leynseele, Hélène and John Stewart. 1980. "Harmonie consonantique en pré-Nèn". In L. Bouquiaux (ed.), *L'expansion bantoue*, vol. 2. Paris:SELAF. Pp.421-433.
- Wentzel, P. J. and T. W. Muloiwa. 1982. *Improved trilingual dictionary: Venda-Afrikaans-English*. Pretoria: University of South Africa.
- Woodward, H. W. 1882. *Collections for a Handbook of the Boondéi Language*. London: Society for Promoting Christian Knowledge.