

# Shanjo and Fwe as Part of Bantu Botatwe: A Diachronic Phonological Approach

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## 1. Introduction<sup>1</sup>

Shanjo and Fwe are two small Bantu languages spoken in the southern part of the Western Province of Zambia. The number of Shanjo speakers was estimated at 3,033 in 1960 (Fortune 1963).<sup>2</sup> The Shanjo live in scattered communities to the west of the Zambezi, between Sioma and Sesheke. They consider themselves as ethnically distinct from other communities in the Western Province, but their linguistic competence in Shanjo is seriously reduced in favour of the region's vehicular language Lozi. Most Shanjo speak Lozi as their first language and the Shanjo language displays considerable interference from Lozi, mainly in the lexicon. Apart from some data in Fortune (1963), no published documentation is available for Shanjo. Most Fwe speakers live in the eastern Caprivi strip in neighbouring Namibia. Their number was estimated at 7,400 in 1998 (Gordon 2005). In Zambia, there were an estimated 1,649 speakers in 1960 (Fortune 1963). Zambian Fwe speakers mainly live in the Imusho area in the south-western part of the Western Province, but there also scattered communities more to the north. Linguistic competence in Fwe seems to be less threatened in Zambia, as compared to Shanjo, possibly due to its strong ethnic identity in the Caprivi (Seidel 2005; Elderkin 1998). The only hitherto published documentation on Fwe is on the Caprivi variant (Baumbach 1997).

In Guthrie's (1971) referential classification of the Bantu languages, Shanjo was classified in the Luyana group as K36. Fwe did not figure in this classification, but Maho (2003, 2008) integrated it in his updated Guthrie-list as K402 in the Subiya-Totela group. Historically, Shanjo and Fwe are very closely related. Fortune (1963, 1970) clusters them with Subiya and Totela as Western Province representatives of the Tonga group, to which also belong several languages from the Southern and Central Provinces of Zambia: Lenje, Soli, Ila, and Tonga, including Toka and Leya. The latter languages belong to Guthrie's M60 group, also known as *Bantu Botatwe* (Torrend 1931). This designation refers to the fact that these languages, except Soli, share the distinctive root *-tatwe* for 'three'. Given that Totela, Subiya, Shanjo and Fwe have the same root, this label can actually be broadened to include them. In the Caprivi, Fwe has also been classified together with Subiya, Totela and Mbalangwe as one group of languages (Elderkin 1998). A dialectometrical analysis by Seidel (2005) has shown them to be very close, both lexically and phonologically.

As regards the internal cohesion of the Tonga group, basic vocabulary counts indicate that the group may be divided into two clusters, i.e. a western cluster, consisting of the above-mentioned Western Province languages and an eastern cluster, which can be subdivided between Lenje-Ila-Tonga on the one hand and Soli on the other hand. Approximate lexical similarity percentages based on unpublished data of Kathryn de Luna (Northwestern University, Evanston/Chicago) are presented in Table 1 below. With cognation rates around 80%, Fwe, Shanjo, Totela and Subiya constitute a close-knit and clearly discrete cluster within the Tonga group. While they rather behave as dialects to each other, at least lexically speaking, they are as languages to the rest of the group. From a wider Bantu perspective, only eastern Tonga languages have so far been considered in lexicostatistical studies. In

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<sup>2</sup> More recent estimations are not available, neither for the Shanjo nor for the Fwe. Neither group is mentioned in the last Zambian census, which was carried out in 2000.

Bastin *et al.* (1999), these M60 languages surface as East-Bantu languages, most closely related to Guthrie's more northerly M40 and M50 languages.

	Fwe	Shanjo	Totela	Subiya	Lenje	Soli	Ila	Tonga
Fwe		82	81	81	63	57	67	62
Shanjo	82		79	78	66	59	71	65
Totela	81	79		85	63	58	66	63
Subiya	81	78	85		67	54	70	66
Lenje	63	66	63	67		70	81	78
Soli	57	59	58	54	70		66	66
Ila	67	71	66	70	81	61		84
Tonga	62	65	63	66	78	66	84	

**Table 1:** Lexical similarity rates based on basic vocabulary of the Swadesh 100-list (source: Kathryn de Luna)<sup>3</sup>

Within the Western Province, leaving aside Lozi, three other language groups of historically closely related languages exist besides this western Tonga cluster, i.e. Luyana, Nkoya, and Cokwe-Lucazi (Fortune 1970). The latter group is unmistakably part of South-West Bantu, while the precise position of the former two groups within the wider Bantu tree is still a matter of debate (Bastin *et al.* 1999, Lisimba 1982, Vansina 2004). As argued elsewhere (Bostoen 2007), the high linguistic complexity of the westernmost part of Zambia is the result of the successive influx of Bantu speech communities of diverse historical origin, which have progressively integrated into a common linguistic area through contact. The fact that the percentage of basic vocabulary which some western Tonga languages share with their closest neighbours is similar to what they share with their most distant relatives of the Tonga group could be indicative of these long-standing contacts. A systematic comparison has not been done yet, but Fwe has for instance a cognation rate of 53% with neighbouring Kwamashi belonging to the Luyana group, which is very close to the 57% of shared vocabulary with Soli, its most distant Tonga relative. This approximation is less pronounced for Shanjo, which is not a direct neighbour of Kwamashi: 59% with Soli *vs.* 45% with Kwamashi.

In this paper, I focus on the historical position of Shanjo and Fwe within the *Bantu Botatwe* (BB) group by means of a comparative study of diachronic sound shifts, which both languages underwent as compared to the other BB languages. In section 2, I present the synchronic sound system of Shanjo and Fwe. In section 3, I compare the Shanjo and Fwe reflexes of Proto-Bantu sounds to those of the other BB languages. In section 4, I assess what the diachronic sound changes of Shanjo and Fwe can tell us on their historical position within the BB group. Conclusions are formulated in section 5.

## 2. Synchronic sound system of Shanjo and Fwe

Shanjo and Fwe have an identical 5 vowel system, i.e. /i e a o u/, without distinctive vowel length, but with automatic penultimate vowel lengthening in citation forms or phrase-finally. Their consonant system is also very similar, but not identical.

As can be seen in Table 2, Shanjo counts 21 phonologically distinctive simple consonants and 12 pre-nasalized consonants. /p/ and /h/ are marginal sounds, only found in Lozi loanwords, e.g. *epulu* 'ox', *ilâpa* 'fence', *ɬipûla* 'chair', *umpoho* 'bull'. /ntʃ/ has so far been observed in only one noun, i.e. *ntfinga* 'fruit of *Friesodielsia obovata*'.

<sup>3</sup> In Table 1, we did not take into account cognation rates from the languages Sala, Lundwe, Toka and Leya from Zambia and Mbalangwe from the Caprivi, which are also seen as part of the Tonga group. They will not be considered in this paper due to a lack of published data. Yeyi (R41), which Gowlett (1997) considers as most closely related to Fwe, Mbalangwe and Totela, will not be considered here either.

Fwe has a slightly more complex consonant system, counting 22 simple consonants and 14 pre-nasalized consonants. The trill /r/ can also be realized as the lateral approximant [l] without phonological distinction and without a clear contextual distribution between both realizations. The sounds /z/ and /ndz/ are in strict complementary distribution, e.g. *rużîmbo/ndzîmbo* ‘song(s)’. This is different from Shanjo and Caprivi-Fwe, where /dz/ also occurs in non-post-nasal position. In the latter variant, /dz/ only occurs post-nasally (Baumbach 1997). The sounds /p/, /d/ and /g/ can be considered marginal. The phoneme /p/ is found only in loanwords, both from Lozi and Luyana, e.g. *epuru* ‘ox’, *irâpa* ‘fence’, *musipîri* ‘journey’, *cipûra* ‘chair’, *cipâko* ‘necklace’, *cipâu* ‘wild animal’.<sup>4</sup> The sound /d/ has only been found in some words, e.g. *mudâra* ‘old person’, *cidukuturi* ‘hawk’, *-dâma* ‘to beat’, *dudusa* ‘dust’, *-dûnkura* ‘to thresh’. Except for the first term, which also occurs in Lozi, the origin of these words could not be identified. It is probably neither Lozi nor Luyana, since /d/ is also rather uncommon in these languages. The consonant /g/ has also been found in only some words, e.g. *mugéro* ‘fool’, *cigórogoro* ‘well’, *-gôra* ‘to be strong’, *-gûya* ‘to remove grains from maize cob’, *-gwa* ‘to fall’, *egî* ‘egg’. The source of these words could not be identified, but Lozi and Luyana are rather implausible, since /g/ is not regular there either. In this respect, Shanjo or Mbukushu are more likely candidates. As regards /ntʃ/, I observed more words having this sound than in Shanjo, but these are not frequent either, e.g. *tʃintʃere* ‘Swainson’s francolin’, *ʃimuntʃezi* ‘blesmol’, *mwântʃu* ‘sibling’, *mwântʃe* ‘child’, *ntʃêndze* ‘cricket’.

An important difference between Shanjo and Fwe is the presence of a dental click in the latter language. This click is usually voiceless, but can be heard (partly) voiced without phonological distinction. Preceded by a nasal accompaniment, it is phonologically distinct. This click is not as marginal as the above-mentioned sounds, but it is certainly not frequent either, e.g. *-n|úmenta* ‘to kiss’, *ru|oma* ‘papyrus’, *in|in|a* ‘fruit of the wild date palm’, *-láburura* ‘to smash’, *run|an|a* ‘type of reed’, *-lá|pura* ‘to stretch out’, *mun|api* ‘type of frog’.<sup>5</sup> These are certainly loanwords, most probably of Khwe origin, although some of these click words also occur in certain other Bantu languages from the region with a click, such as Mbukushu, Yeyi and Kwangali.<sup>6</sup> Hence, it still needs to be shown whether these Bantu languages independently borrowed from one or more non-Bantu click languages or whether the diffusion of certain Bantu click words is the result of direct contact between Bantu speech communities.

The tone systems of Shanjo and Fwe have not been studied in detail yet, but they seem to be quite similar at first sight. The basic tones in both languages are high and low, but high can be realized falling on the penultimate syllable of words in isolation or in phrase-final position. More details and examples follow in subsection 3.11.

<sup>4</sup> The first three words are definitely Lozi loanwords, since they are also attested in N-Sotho, the source language of Lozi. The latter two words are definitely Luyana loanwords, since they are only attested in Luyana and not in Lozi. The word for chair could have been borrowed via Lozi, but is probably of Luyana origin, since the word is not attested in N-Sotho.

<sup>5</sup> As can be observed from the latter two click words, contact with non-Bantu click languages may be another source of the /p/ sound in Fwe.

<sup>6</sup> Cf. ‘to kiss’: Mbukushu: *-ngcúmitá* (Wynne 1979:302), *-n|umita* (Legère 1998:213), Kwangali: *-n|umita* (Legère 1998:213), Yeyi: *kù.l|námisá* ‘säugen’, *kù.l|pítá* ‘küssen’ (Sommer & Vossen 1992:31), Khwe *n|óm* ‘suck, vt’, *n|óm* ‘suck (breast), vt’ (Kilian-Hatz 2003:358), Proto-East-Khoo *\*|numa* ‘kiss’ (Legère 1998:205)

	bilabial	labio-dental	dental	alveolar	post-alveolar	palatal	velar	glottal
plosive	(p)			t			k g	
nasal	m			n		ɲ	ŋ	
fricative	β	f v		s z	ʃ			(h)
affricate						tʃ dʒ		
lat. approximant				l				
approximant	w					y		
prenasal. plosive	mp mb			nt nd			ŋk ŋg	
prenasal. fricative		mf mv		ns nz		ɲʃ		
prenasal. affricate						(ntʃ) ndʒ		

**Table 2:** Shanjo consonant system

	bilabial	labio-dental	dental	alveolar	post-alveolar	palatal	velar	glottal
plosive	(p)			t (d)			k (g)	
nasal	m			n		ɲ	ŋ	
trill				r(l)				
fricative	β	f v		s z	ʃ ʒ			h
affricate						tʃ		
approximant	w					y		
click			ǀ					
prenasal. plosive	mp mb			nt nd			ŋk ŋg	
prenasal. fricative		mf mv		ns nz		ɲʃ		
prenasal. affricate						ntʃ ndʒ		
prenasal. click			ǀ					

**Table 3:** Fwe consonant system

### 3. Shanjo and Fwe in the light of *Bantu Botatwe* diachronic phonology

In this section, I give an overview of the most important diachronic sound changes which Shanjo and Fwe underwent and compare these with those observed in six other *Bantu Botatwe* languages: Totela, Subiya, Lenje, Soli, Ila, and Tonga. For Shanjo and the Zambian variant of Fwe, I rely on the data I gathered during a fieldwork trip in the Western Province in August 2007.

For the other languages, I make use of published sources. I only refer to the Caprivi variant of Fwe, if there are pertinent differences with the Zambian variant. As regards Totela and Subiya, I mainly refer to the Caprivi variants. The Zambian variant of Subiya is only taken into account in so far as it displays differences with the Caprivi variant. The same holds for the Zambian variant of Totela. For Tonga, I mainly rely on Carter (1962), because it is the only work which has tonal notation and also clearly identifies the variant on which he worked, i.e. Plateau Tonga. When a particular Tonga word could be

found in this source, I have relied on Collins (1962). In the comparative series presented below, I adopt the original spelling for the published data and use a non-standardized spelling which is as close as possible to the actual pronunciation for my own Shanjo and Fwe fieldnotes. Table 4 presents the languages considered in the comparative study below with their Guthrie/Maho code, their abbreviation, and their source. The comparison of diachronic sound changes is done through Bantu lexical reconstructions as found in Bastin and Schadeberg (2003).

Language	Code	Abbreviation	Source
Shanjo	K36	Sh	Bostoën fieldnotes
Fwe (Zambia)	K402	Fw	Bostoën fieldnotes
Fwe (Caprivi)	K402	C-Fw	Baumbach (1997)
Totela (Caprivi)	K41	Tot	Baumbach (1997)
Totela (Zambia)	K41	Z-Tot	Crane fieldnotes
Subiya (Caprivi)	K42	Su	Baumbach (1997)
Subiya (Zambia)	K42	Z-Su	Jacottet (1896)
Lenje	M61	Le	Kagaya (1987), Madan (1908a)
Soli	M62	So	Van Eeden (1936a+b)
Ila	M63	Il	Smith (1907)
(Plateau) Tonga	M64	To	Carter (1962), Collins (1962)
<i>Bantu Botatwe</i>		BB	

**Table 4:** Overview of languages considered in the comparative study below

### 3.1. Vowel system

The five vowel system without distinctive vowel length of Shanjo and Fwe is found in all BB languages, and also in all other languages of the Western Province.

### 3.2. Regular reflexes of the voiced plosives \*b, \*d, \*g, \*j

3.2.1 \*b is commonly realized [β] in Fwe and Shanjo, just like in the rest of BB, where it is most commonly noted as /b/, but as /v/ in Soli, as can be seen in the examples in (1).

- (1) \**-bón-* ‘to see’ > *-βóna* (Fw, Sh), *-bona* (Tot, Su, Il), *-vóna* (So), *kú-bona* (Le), *ikú-bona* (To)  
 \**-bidì* ‘body’ > *mu-βiri* (Fw), *mu-βili* (Sh), *mu-bíli* (Tot), *mu-bili* (Su), *mu-bili* (Le), *mu-vili* (So), *mu-bidi* (Il), *imu-bili* (To)

3.2.2 \*d is commonly realized as a liquid. Shanjo shares [l] with most other BB languages. Fwe most often has [r], but as mentioned above [l] is also frequently heard. A similar non-conditioned variability is observed in Subiya and Soli. In Ila, /d/ stands for the alveolar flap [ɾ], which is an allophone of /l/ in front of /i/ (Doke 1928:40). A similar allophony has been reported in the Zambian Subiya variant (Jacottet 1896:2). In Soli, /li/ can be heard as [ri] (Van Eeden 1936a:255).

- (2) \**-dòbí* ‘brain’ > *βu-rúβi* (Fw), *βu-lúβi* (Sh), *bu-lúbi* (To), *bu-luví* (Su)  
 \**-dími* ‘tongue’ > *ru-rími* (Fw), *lu-lími* (Sh), *lu-límí* (Tot), *lu-limí* (Su), *lu-dimi* (Z-Su, Il), *lu-lemi* (So), (cf. *mú-laka* (Le), *imú-laka* (To) < \**-dáká* ‘tongue’)  
 \**-jìdà* ‘path’ > *in-dzira* (Fw), *in-dzila* (Sh), *in-zira* (Su), *n-zila* (Tot, Il), *ka-shila* (Le), *(i)n-šila* (So), *in-zila* (To)

\*-dèdù ‘beard’ > *mi-rezu* (Fw), *mi-lezu* (Sh), *mu-lézu* (Tot), *mi-lefu* (So), *mu-levu* (Il), *mu-lezu* (To), (post-nasally: *in-dezú* (Su), *n-desu* (Le))

3.2.3 \*g is maintained in Shanjo. In Fwe, just like in all other BB languages, either it disappeared entirely or it is realized as a homorganic glide between two vowels.

(3)\*-gàmb- ‘to say’ > *-amba* (Fw), *-gamba* (Sh), *-wamba* (Tot, Su) *kw-amba* (Le), *-amba* (So, Il), *ikw-amba* (To)

\*-gòd- ‘to buy’ > *-ura* (Fw), *-gula* (Sh), *-ula* (Su, Tot, So, Il), *ku-ula* (Le), *iku-ula* (To)

3.2.4 There is quite some variation in the realization of \*j. Firstly, this is due to the ambiguous status of the reconstructed sound itself. For those words, where the BB and other Bantu languages systematically have a zero reflex, as in (4), the necessity to reconstruct \*j or any other consonant can be questioned.

(4)\*-(j)átò ‘canoe’ > *βw-áto* (Fw, Sh), *bw-ato* (Tot, Su, So, Il), *bw-ato* (Le), *ibw-áto* (To)

\*-(j)édì ‘moon’ > *mw-ézi* (Fw, Sh), *mw-ezi* (Z-Tot, Su), *mw-énshi* (Le), *mw-ěši* (So), *mw-ezhi* (Il), *imw-ézi* (To)

\*-(j)inò ‘tooth’ > *r-ino* (Fw), *l-ino* (Sh), *l-ino* (Tot), *l-ino* (Su), *lí-ino* (Le), *li-ino* (So, Il), *il-inyo* (To)

In those cases, where a reconstructed \*j does correspond to a consonant in the current-day languages, Fwe attests systematically /ʒ/, while Shanjo manifests variation between /dʒ/ and /z/. Compared to Fwe, the other BB languages also display variation, most often between a fricative and a zero reflex. For only very few lexical items, e.g. \*-jòbà ‘sun’, all BB languages consistently have a fricative, generally /z/, but /s/ in Lenje and Soli. For most lexical items, certain languages attest a fricative, while others have a zero reflex. The precise languages attesting zero (or glide) may differ, however, from one lexical item to the other. The western languages are more conservative than the eastern BB languages in the sense that they have more often retained a fricative consonant where the others have a zero reflex.

(5)\*-jòbà ‘sun’ > *e-zùβa* (Fw), *i-zùβa* (Sh), *i-zuba* (Tot, Su, Il), *lí-suba* (Le), *li-suyá* (So), *í-zuba* (To)

\*-jóm- ‘to be dry’ > *-zùma* (Fw), *-dʒùma* (Sh), *-yuma* (Tot, So), *-zuma* (Su, Il), *kú-yuma* (Le), *ikú-yuma* (To)

\*-jèni ‘bird’ > *ci-zuni* (Fw), *ci-dʒuni* (Sh), *ci-zúni* (Tot), *ci-zuni* (Su), *mu-zune* (Il), *ci-yuni* (Le), *imu-yuni* (To)

\*-jòjà ‘feather’ > *k-òza* (Fw), *w-òdza* (Sh), *b-oza* (Su, Il), *b-oya* (Le), *ib-óya* (To)

\*-jimb- ‘to sing’ > *-zimba* (Fw), *-imba* (Sh), *-zimba* (Tot, Su), *kw-imba* (Le), *-imba* (So, Il), *ikw-imba* (To)

### 3.3. Regular reflexes of the voiceless plosives \*p, \*t, \*k, \*c

3.3.1 \*p undergoes lenition in the western BB languages. It has a zero reflex in Shanjo. In Fwe, it corresponds either to zero, as in (6), or to /h/, as in (7), without clear conditioning. In Caprivi Fwe, Totela and Subiya, \*p is systematically realized as /h/. In the eastern BB languages, variation is observed between the direct and the zero reflex. Soli is most conservative, always attesting /p/. Tonga and Ila seem to have most often a zero reflex. Lenje appears to take an intermediate position.

(6)\*-kìpà ‘bone’ > *ci-fúa* (Fw, Sh), *ci-fúha* (C-Fw, Su), *ci-fúhá* (Tot), *ci-fuwa* (Le, Il), *tji-fupa* (So), *icí-fuwa* (To)

\*-pá- ‘to give’ > *-a* (Fw, Sh), *-ha* (C-Fw, Su), *kú-pa* (Le), *-pa* (So, Il), *ikú-pa* (To)

- \*-dòpà ‘blood’ > *ma-roa* (Fw), *ma-loa* (Sh), *ma-roha* (C-Fw), *bu-lowa* (Le, Il), *mi-lopa* (So), *ibu-lowa* (To)
- \*-piá ‘new’ > *-yá* (Fw, Sh), *-hya* (Tot, Su), *-pya* (Le, So, Il), *-pyá* (To)
- \*-pí- ‘to burn’ > *-yá* (Fw, Sh), *-hisa* (C-Fw, Tot, Su), *kú-pya* (Le), *-pya* (So, Il), *ikú-pya* (To)
- (7) \*-dàpò ‘paddle’ > *ci-raho* (Fw, C-Fw), *ci-laho* (Tot, Su)
- \*-pàpú ‘lung’ > *e-háfu* (Fw, C-Fw), *i-hafu* (Su), *li-pálápáfu* (Le), *li-swafu* (Sh)<sup>7</sup>
- \*-jápà ‘armpit’ > *kw-âha* (Fw), *kw-aha* (C-Fw, Tot, Su), *kw-apa* (Le), *in-kwa* (Il), *ín-kwá* (To)<sup>8</sup>

3.3.2 \*t corresponds systematically to /t/ in all BB languages, also in Fwe and Shanjo.

- (8) \*-tòì ‘ear’ > *kú-twi* (Fw, Sh), *ku-twi* (Tot, Su, Il), *kú-twi* (Le), *ikú-twi* (To)
- \*-túm- ‘to send’ > *-túma* (Fw, Sh), *-túmá* (Tot), *-tumá* (Su), *kú-tuma* (Le), *-tuma* (So, Il), *ikú-tuma* (To)

3.3.3 \*k corresponds systematically to /k/ in all BB languages, also in Fwe and Shanjo.

- (9) \*-kóat- ‘to seize’ > *-kwâta* (Fw, Sh), *-kwata* (Tot, Su, Il), *kú-kwata* (Le), *ikú-kwata* (To)
- \*-kókò ‘chicken’ > *η-kúku* (Fw, Sh), *iη-kuku* (Tot, Su, Il, To), *ká-kuku* (Le), *(i)ñ-khuku* (So) (consider only the intervocal reflex of \*k)

3.3.4 \*c corresponds to /ʃ/ in Fwe and Shanjo, while its reflex is /s/ in all other BB languages, except in front of \*t where certain languages also attest /ʃ/

- (10) \*-cánà ‘back’ > *mu-ŷána* (Fw, Sh), *mu-sána* (Tot, Su), *mu-sána* (Le), *mu-sana* (So, Il, To)
- \*-cóm- ‘to bite’ > *-ŷúma* (Fw, Sh), *-suma* (Tot), *-súma* (Su) (Le, So, Il, To: *-luma*)
- \*-cí ‘ground’ > *há-n-fi* (Fw), *á-n-fi* (Sh), *ha-n-si* (Su), *in-shi* (Il), *ín-shii* (Le), *tji-ši* (So), *ín-si* (To)

### 3.4. Regular reflexes of \*m, \*n, \*ɲ (ny)

In all other BB languages, simple nasals have been maintained without major sound changes.

- (11) \*-túm- ‘to send’ > *-túma* (Fw, Sh), *-túmá* (Tot), *-tumá* (Su), *kú-tuma* (Le), *-tuma* (So, Il), *ikú-tuma* (To)
- \*-nòè ‘finger’ > *mu-nwe* (Fw, Sh, Tot, Su, Le, So, Il), *imu-nwe* (To)
- \*-nyàmà ‘meat’ > *nyama* (Fw, Sh, Tot, Le, So, Il), *inyamá* (Su), *inyama* (To)

Only the root \*-nyó- ‘to drink’ has divergent reflexes among the BB languages. While /ɲ/ is maintained in the western cluster and in Tonga, the rest of the BB languages have /n/.

- (12) \*-nyó- ‘to drink’ > *-nywa* (Fw, Sh, Tot, Su, To), *-nwa* (Le, So, Il)

<sup>7</sup> The Shanjo word for ‘lung’ is a loanword from Lozi.

<sup>8</sup> In the Ila and Tonga words for ‘armpit’, the former NP<sub>15</sub> has been reanalyzed as part of the noun stem.

### 3.5. Regular reflexes of the NC clusters \*mb, \*nd, \*ng, \*mp, \*nt, \*nk

In Fwe and Shanjo, these NC clusters have all been maintained. This is equally the case in all other BB languages, except in Soli, where the pre-nasalized voiceless consonants undergo aspiration. In Lenje, the nasal NP<sub>9/10</sub> optionally vanishes in front of the voiceless stops.

- (13) \**-bimb-* ‘to swell’ > *-zimba* (Fw, Sh), *-zimba* (Tot, Su), *kú-shimba* (Le), *-šimba* (So), *-zhimba* (Il), *íkú-zimba* (To)  
 \**-gènd-* ‘to walk’ > *-yenda* (Fw), *-dzenda* (Sh), *-yénda* (Tot), *-yénda* (Su), *-enda* (Le, So, Il, To)<sup>9</sup>  
 \**-dòngó* ‘pot/clay’ > *ka-róngo* (Fw, Sh), *i-longo* (Su), *bú-lóngo* (Le), *bu-longo* (Il), *ibú-lóngo* (To)  
 \**-péné/pòngó* ‘goat’ > *m-pène* (Fw, Sh), *im-pene* (Tot, Su), *m-póngo* (Le), *(i)m-phongo* (So), *im-póngo* (Il), *ím-póngo* (To)  
 \**-ntò* ‘person’ > *muntu* (Fw, Sh, Tot, Su, Le, Il, To), *munthu* (So)  
 \**-kókò* ‘chicken’ > *η-kúku* (Fw, Sh), *iη-kuku* (Tot, Su, Il, To), *n-kuku* (Le), *(i)ñ-khuku* (So)

### 3.6. Regular reflexes of the NC clusters \*nj and \*nc

In contrast to the NC clusters in section 3.5, the nasal does not exert the same conservative influence on the following consonant. In most BB languages, the reflexes of \*j and \*c are identical inter-vocalically and post-nasally. In Fwe, however, /dʒ/ is the post-nasal allophone of /z/ and equally the diachronic reflex of \*nj, just like in Shanjo.

- (14) \**-jàdà* ‘hunger’ > *n-dzara* (Fw), *n-dzala* (Sh), *in-zala* (Tot, Su, Il, To), *n-sala* (Le), *(i)n-sala* (So)  
 \**-jìdà* ‘path’ > *n-dzira* (Fw), *n-dzila* (Sh), *in-zila* (Tot, Su, To), *n-shila* (Le), *in-šila* (So), *in-zhila* (Il)  
 \**-jincò* ‘eye’ > *r-ínfo* (Fw), *l-ínfo* (Sh), *l-inso* (Tot, Su), *il-ísyo* (To), *di-nso* (Il), *li-iso* (Le, So)

### 3.7. Bantu Spirantization (BS)

3.7.1 The outcome of BS in front of the high front vowel \*i, is quite uniform across BB. Only one place of articulation has been retained (alveolar or palatal). Fwe and Shanjo have /z/ and /s/ as reflexes of the reconstructed voiced and voiceless plosives. The same outcome is observed in the other western BB languages and in Tonga. Lenje, Soli and Ila manifest palatal fricatives. In Soli and Lenje, an additional devoicing of the voiced spirantized reflexes took place in favour of /ʃ/. In Soli, certain NC clusters may be reduced to simple fricatives preceded by a nasalized vowel.

- (15) \**-biì* ‘excreta’ > *tú-zi* (Fw, Sh), *ma-tu-zi* (Su), *ma-shi* (Le), *ma-ši* (So), *ma-zhi* (Il), *ma-zi* (To)  
 \**-bimb-* ‘to swell’ > *-zimba* (Fw, Sh), *-zimba* (Su, Tot, To), *-shimba* (Le), *-šimba* (So), *-zhimba* (Il)  
 \**-dibà* ‘lake’ > *e-zíβa* (Fw), *i-zíβa* (Sh, To), *í-zíβa* (Tot), *i-zíβá* (Su), *li-shiba* (Le), *i-zhiba* (Il)  
 \**-ngì* ‘village’ > *mu-nzi* (Fw, Sh, Su), *mu-zi* (Su, Tot), *mu-shi* (Le), *mų-ši* (So), *mų-*

<sup>9</sup> It can be doubted whether the Shanjo verb is a regular reflex of \**-gènd-*. It rather seems to correspond to the osculant reconstruction \**-jènd-* (cf. Bastin and Schadeberg 2003).

		<i>zhi</i> (Il), <i>imu-nzi</i> (To)
*-gì ‘fly’	>	<i>ru-n-zi</i> (Fw), <i>in-zi</i> (Sh, Su, Tot), <i>i-zhi</i> (Il), <i>ši-ka-ši</i> (So)
*-pígò ‘kidney’	>	<i>in-sîo</i> (Fw), <i>in-siyo</i> (Su, Tot), <i>i-pio</i> (Sh) <sup>10</sup>
*-pìip- ‘to be black’	>	<i>-sia</i> (Fw, Sh), <i>-siha</i> (C-Fw, Su), <i>ku-shiya</i> (Le), <i>-šipa</i> (So), <i>-shiya</i> (Il), <i>iku-siya</i> (To)
*-tikò ‘night’	>	<i>ma-sîku</i> (Fw), <i>βu-sîku</i> (Sh), <i>ma-sîku</i> (Tot, Su), <i>má-shiku</i> (Le), <i>ma-šiku</i> (So), <i>ma-shiku</i> (Il), <i>ibú-siku</i> (To)
*-tíg- ‘to leave’	>	<i>-sîa</i> (Fw), <i>-sîga</i> (Sh), <i>-siya</i> (Tot, Su), <i>kú-shiya</i> (Le), <i>-šiya</i> (So), <i>-shia</i> (Il), <i>ikú-siya</i> (To)
*-jìkì ‘smoke’	>	<i>bú-si</i> (Fw, Sh), <i>bu-si</i> (Tot, Su, To), <i>bw-ishi</i> (Le), <i>ɣw-iši</i> (So), <i>bu-shi</i> (Il), <i>ibú-si</i> (To)
*-kíngó ‘neck’	>	<i>n-sîngo</i> (Fw, Sh), <i>(i)n-síngó</i> (Tot, Su), <i>in-shingo</i> (Il), <i>n-shíngo</i> (Le), <i>ín-singo</i> (To)

3.7.2 The outcome of BS in front of \*u is a bit more diverse among BB languages. In contrast to what happens in front of \*i, the reduction in the number of places of articulation is only partial in the western cluster and in Tonga, while it is (almost) complete in the rest of the eastern cluster. In Fwe and Shanjo, just like in Totela, Subiya and Tonga, the bilabial and velar plosives have become labiodental fricatives, i.e. /v/ and /f/, while the alveolar consonants remain distinctive, i.e. /z/ and /s/. In Ila, Soli and Lenje, the three places of articulation have merged to the labiodental fricative – although Lenje and Soli attest some /su/ reflexes – with an additional loss of voice distinction in Soli and Lenje

(16) *-búdà ‘rain’	>	<i>m-vûra</i> (Fw), <i>m-vûla</i> (Sh), <i>im-vula</i> (Tot, Su, Il), <i>m-fúula</i> (Le), <i>(i)m-fúla</i> (So), <i>im-vula</i> (To)
*-bú ‘soil’	>	<i>é-vu</i> (Fw), <i>i-vu</i> (Sh), <i>i-vu</i> (Tot, Su, Il), <i>ímá-vu</i> (To)
*-dúú ‘knee’	>	<i>é-zwi</i> (Fw), <i>i-zwi</i> (Sh), <i>i-zwi</i> (Tot, Su), <i>i-vwi</i> (Il), <i>i-zwi</i> (To)
*-dèdù ‘beard’	>	<i>mì-rezu</i> (Fw), <i>mi-lezu</i> (Sh), <i>mu-lézu</i> (Tot), <i>in-dezú</i> (Su), <i>n-desu</i> (Le), <i>mì-lefu</i> (So), <i>mu-levu</i> (Il), <i>ima-lezu</i> (To)
*-jògù ‘elephant’	>	<i>n-jovu</i> (Fw), <i>un-jovu</i> (Sh), <i>n-zóvu</i> (Tot), <i>un-zovú</i> (Su), <i>mu-zovu</i> (Il), <i>in-zovu</i> (Le, To), <i>(n)-sofu</i> (Le), <i>(i)n-djofu</i> (So)
*-cèpú ‘eland’	>	<i>n-féfu</i> (Fw), <i>un-séfu</i> (Sh), <i>un-sefu</i> (Su), <i>mu-sefu</i> (Il, To), <i>n-sefu</i> (Le)
*-ùú ‘flour’	>	<i>βu-su</i> (Fw, Sh), <i>bu-sú</i> (Tot, Su), <i>bu-fu</i> (Il), <i>bu-su</i> (Le), <i>ibu-su</i> (To)
*-kúpà ‘bone’	>	<i>ci-fúa</i> (Fw, Sh), <i>ci-fúha</i> (Ca-Fw, Su), <i>ci-fúhá</i> (Tot), <i>ci-fuwa</i> (Le), <i>ci-fua</i> (Il, To), <i>ci-fupa</i> (So)
*-kútà ‘oil, fat’	>	<i>ma-fúta</i> (Fw, Sh), <i>má-futa</i> (Le), <i>ma-futa</i> (Tot, Su, So, Il), <i>ímá-futa</i> (To)

### 3.8. Velar Palatalization

In Fwe and Shanjo, \*k corresponds to /tʃ/ in front of the non-closed front vowels \*i and \*e. This sound change is common to all BB languages. In contrast to the neighbouring Luyana languages, for instance, \*t is not subject to palatalization.

(17) *-kú (NP <sub>7</sub> )	>	<i>tʃi-</i>
*-kídà ‘tail’	>	<i>mu-tʃíra</i> (Fw), <i>mu-tʃíla</i> (Sh), <i>mu-cíla</i> (Tot), <i>mu-cílá</i> (Su), <i>mú-cíla</i> (Le), <i>mu-cíla</i> (So, Il), <i>ímú-cíla</i> (To)
*-kèkè ‘baby’	>	<i>mu-tʃetʃe</i> (Fw, Sh), <i>mu-cece</i> (Tot, Su, Il), <i>ka-cece</i> (Le)
*-jókì ‘honey’	>	<i>β-útʃi</i> (Fw, Sh), <i>b-uci</i> (Tot, Su, Il), <i>bú-uci</i> (Le), <i>ib-úci</i> (To)

There is one common BB exception to this sound change, i.e. \*-còkì ‘hair’. In none of the BB languages is the palatal affricate attested. In contrast to \*-jókì ‘honey’, \*-jókì ‘bee’ also escapes

<sup>10</sup> The Shanjo word for ‘kidney’ is a loanword from Lozi, not subject to BS.

palatalization, at least in those languages where it occurs, except in Lenje, where both a palatalized and non-palatalized variant have been reported.

- (18) \**còkí* ‘hair’ > *ru-fúki* (Fw), *n-fúki* (Sh), *lu-súkí* (Tot), *lu-sukí* (Su), *in-suki* (Il, To)  
 \**jókí* ‘bee’ > *lu-zuki* (Tot), *in-zuki* (Il), *lú-suki* (*suci*) (Le), *ín-zuki* (To)

### 3.9. Meinhof’s rule

Meinhof’s rule is a sound change that affects nasal compounds which are the result of the contact between a nasal prefix and a stem-initial voiced plosive. The shift involves the reduction of such a compound to a nasal when it is followed either by another nasal compound or by a simple nasal in the second syllable (Meeussen 1962). Bantu languages differ in the way the rule is applied. The variant \*NCVNVCV > NVNVCV is shared by all BB languages, as can be seen in (19). The example in (20) shows that the variant \*NCVNVV > NVNVV is not attested.

- (19) \**dèngó* ‘porcupine’ > *núngu/βa-núngu* (Fw, Sh), *shí-cí-núngu* (Le), *mu-nungwe* (Il),  
*nungu* (To)  
 \**gàngà* ‘doctor’ > *ηanga/βa-ηanga* (Fw, Sh), *i-n’anga* (Su), *mu-ng’anga* (Le, Il),  
*mu-ñanga* (So), *imu-nhanga* (To)<sup>11</sup>  
 \**gòmbè* ‘cattle’ > *i-ηombe* (Fw, Sh), *i-n’ombe* (Tot), *i-n’ómbe* (Su), *ng’ombe* (Le), *ñombe*  
 (So), *i-ng’ombe* (Il), *i-nhombe* (To)  
 \**gòmb-* ‘to beat drum’ > *ka-ηombya/tu-ηombya* ‘xylophone’ (Fw)
- (20) \**gòma* ‘drum’ > *eη-goma* (Fw), *n-goma* (Tot, Le), *in-goma* (Su, Il, To)

However, certain lexical items in Fwe, which are not common to all BB languages, also escape the \*NCVNVV > NCVNVV variant of Meinhof’s rule, as shown in (21).

- (21) *ruóngora/ngóngora* ‘backbone(s)’, cf. Kwamashi: *mwongora*  
*mbande/mambande* ‘eagle(s)’, cf. Kwamashi: *mbanse*  
*mbundu/zimbundu* ‘dew(s)’

They could be of more recent origin, possibly due to contact with Luyana, where this sound shift does not apply regularly, as can be seen in the examples from Kwamashi (K34) (Bostoen field notes 2007) and Mwenyi (K352) (Yukawa 1987a) in (22).

- (22) \**gàngà* ‘doctor’ > *η-ganga* (Kw), (*o*)*n-gáηgá* (Mw)  
 \**gòmbè* ‘cattle’ > *η-gombe* (Kw), (*e*)*n-gómbé* (Mw)

### 3.10. Noun class phonology

A detailed discussion of the Shanjo and Fwe noun class system is beyond the scope of this paper. I only discuss the phonological shape of those noun class prefixes for which variability is observed among the BB languages. As can be seen in Table 5, such differences exist for only some noun classes: class 5, class 8 and the locative class 16.

As regards class 5, Meeussen (1967) reconstructed \**i-* as noun prefix and \**di-* as augment or pre-prefix. However, numerous Bantu languages display an allomorphy between the V- and CV-form at the

<sup>11</sup> Carter (1962) notes velar nasals in Tonga as /nh/ when not in combination with /g/ or /k/. Van Eeden (1936a) notes them as /ñ/ in Soli, while Baumbach (1997) notes them as /n’/ in Subiya. The Totela reflex *siyanga* does not respond to the conditions for the application of Meinhof’s rule.

level of the noun prefix, i.e. the reflex of *\*i-* before consonant-initial stems and the reflex of *\*dɪ-* before vowel-initial stems (Kamba Muzenga 1988). Such is the case in most BB languages, except in Lenje and Soli, which have leveled the allomorphy to *li-* in all contexts. In Fwe, class 5 consonant-initial stems are often heard without noun prefix.

The class 8 noun prefix *\*bi-* was reconstructed with a high front vowel (Meeussen 1967). Logically, most BB languages manifest the regular spirantized reflex of *\*b*, except Shanjo and Soli, where the non-spirantized reflex of *\*b* is observed. A similar variant is reported in Ila (Smith 1907:23). In Lenje, Kagaya (1987:8) mentions a *fi-* variant in the Lusaka dialect of Ila instead of the regular spirantized reflex *shi-*. This attributed to the influence of other languages, e.g. Bemba where *fi-* is the regular reflex of *\*bi-*.

The shape of the BB locative class 16 prefixes reflect the regular evolution of *\*p* (see section 3.3.1 above). Only Soli has a direct reflex of *\*pa-*, while single vowel prefixes are found in Shanjo, Lenja, Ila and Tonga. Fwe (both the Zambian and Caprivi variant), Totela and Subiya have the intermediate form *ha-*.

	CB	Fw	Sh	Tot	Su	Le	So	Il	To
NP <sub>5</sub> /__C	*(dɪ-)i-	(e-)	i-	i-	i-	li-	li-	i-	i-
NP <sub>5</sub> /__V		ri-	li-	li-	li-	li-	li-	li-	li-
NP <sub>8</sub>	*bi-	zi-	βi-	zi-	zi-	shi-(fi-)	vi-	shi- (bi-)	zi-
NP <sub>16</sub>	*pa-	ha-	a-	ha-	ha-	a-	pa-	a-	a-
AUG <sub>1/1a/3/11/13/14/15</sub>		o-	u-	u-	u-	∅	∅	∅	i-
AUG <sub>4/5/7/8/9/10</sub>		e-	i-	i-	i-	∅ (i- cl.9/10)	∅ (i- cl.9/10)	∅ (i- cl.9/10)	i-
AUG <sub>2/6/12</sub>		a-	a-	a-	a-	∅	∅	∅	i-

**Table 5:** Some noun class prefixes and augments displaying phonological variability among BB languages

The vocalic augment or pre-prefix can still be observed in all BB languages, but in variable degrees. Leaving aside the precise use of these augments, which would need a separate study, it is possible to distinguish three types of languages. Firstly, there are those languages which have maintained a three-way distinction with vocalic augments being in harmony with the vowel of the noun prefix that follows (except for classes 9-10). This type is only found among the western BB languages. Shanjo, Totela and Subiya have *i-a-u*, while the Fwe high vowel augments underwent a lowering resulting in *e-a-o*. A second type is found in Tonga, where the three-way distinction was given up for *i-* in front of all noun class prefixes. Finally, the rest of the eastern BB languages have lost all vocalic augments, except in classes 9-10, where *i-* can still be observed as in the other BB languages.

CV-augments have been proposed for Proto-Bantu with a proto-form similar to the pronominal prefix (De Blois 1970; Meeussen 1967). Traces of such archaic CV-augments can be detected in several BB languages. They have been reported behind the predicative nasal in Subiya, Ila and Tonga (De Blois 1970). The examples in (23) show that they emerge in the same context for certain noun classes in Fwe. In front of the class 10 *zi-* augment, the predicative nasal has a zero representation.

- (23) cl.5: *ndivumó lyá tubasiye* ‘it is the belly of Tubasiye’ vs. *evumo* ‘belly’  
 cl.9: *ndzĩnginá enéne* ‘it is a big louse’ vs. *enĩnginá enéne* ‘a big louse’  
 cl.10: *ezí zĩnombé zangũ* ‘these are my cows’ vs. *enombé zangũ* ‘my cows’

### 3.11. Diachronic tone shifts

The scarcity of tonal data complicates the historical study of tone in the BB languages. The tone systems of only certain eastern BB languages have been studied and this to a variable extent. The best-studied language in this respect is unmistakably Tonga (Carter 1962, 1971; Meeussen 1963; Philippson 1992; Van Spaandonk 1967), but exploratory studies have also been done on Lenje (Kagaya 1987) and

Ila (Yukawa 1987b: only verbs). For the western BB languages, on the contrary, no tone studies have been undertaken yet and even reliable tonal data are missing. The only study noting tone is Baumbach (1997), but the notation is inconsistent. As regards Shanjo and Fwe, I have not yet undertaken a detailed study of their tone system, but a first analysis of my lexical data allows identifying the basic tone patterns for nouns and verbs in isolation. The tone systems of both languages happen to be rather analogous, at least for these basic tone patterns. Among disyllabic noun stems in citation form, only three distinctive tone schemes can be observed: LL, HL and FL. If there is a noun prefix, it never bears a high tone. From a diachronic perspective, each of these tone patterns regularly corresponds to one or two of the four reconstructed disyllabic tone patterns. As can be seen in (24), LL is the regular reflex of \*LL, HL of \*LH and FL may correspond to either \*HL or \*HH. In other words, \*HL and \*HH have merged in Shanjo and Fwe.

				Shanjo	Fwe	
(24)	*LL	*-jèni	‘bird’	>	<i>ci-dzuni</i>	<i>ci-zuni</i>
		*-nyàmà	‘meat’	>	<i>nyama</i>	<i>nyama</i>
	*LH	*-dòngó	‘pot’	>	<i>ka-ròngo</i>	<i>ka-ròngo</i>
		*-còki	‘hair’	>	<i>n-fúki</i>	<i>ru-fúki</i>
	*HL	*-kútà	‘oil, fat’	>	<i>ma-fûta</i>	<i>ma-fûta</i>
		*-jóbà	‘sun’	>	<i>i-zûba</i>	<i>e-zûba</i>
	*HH	*-kíngó	‘neck’	>	<i>n-sîngo</i>	<i>n-sîngo</i>
		*-téndé	‘foot’	>	<i>i-tênde</i>	<i>e-tênde</i>

Monosyllabic noun stems are always low in Shanjo and Fwe, but they are preceded either by a high or a low tone noun prefix. Historically speaking, those with a high tone prefix always correspond to noun stems reconstructed with a (initial) high tone, as is shown in (25).

				Shanjo	Fwe	
(25)	*L(L)	*-tù	‘flour’	>	<i>βu-su</i>	<i>βu-su</i>
		*-ntò	‘person’	>	<i>mu-ntu</i>	<i>mu-ntu</i>
		*-nèè	‘finger’	>	<i>mu-nwe</i>	<i>mu-nwe</i>
	*H(H)	*-bú	‘soil’	>	<i>i-vu</i>	<i>é-vu</i>
		*-cí	‘ground’	>	<i>án-fi</i>	<i>há-n-fi</i>
		*-cúí	‘fish’	>	<i>ín-swi</i>	<i>én-swi</i>
	*HL	*-jòí	‘voice’	>	<i>é-dzwi</i>	<i>é-zwi</i>
		*-bóà	‘dog’	>	<i>úm-bwa</i>	<i>óm-bwa</i>

The tone patterns of verbs in citation form largely correspond to those of nouns. Disyllabic verb stems are either LL or FL, both preceded by a low noun prefix of class 15. Monosyllabic verb stems are always low, but can be preceded by either a high or a low prefix, just like monosyllabic noun stems. From a diachronic point of view, as can be seen in (26), these verbal tone patterns are parallel with the nominal tone patterns, if one takes into account that the final vowel of the verb stem is historically low. In this regard, for instance, \*-C̀̀C- for a verb corresponds to \*LL for a noun, and \*-C̀̀C- to \*HL.

					Shanjo	Fwe
(26)	*-Cv̂C-	*-gàmb-	‘to say’	>	<i>ku-gamba</i>	<i>kw-amba</i>
		*-gòd-	‘to buy’	>	<i>ku-gula</i>	<i>ku-ura</i>
	*-Cv̂C-	*-tóm-	‘to send’	>	<i>ku-túma</i>	<i>ku-túma</i>
		*-bímb-	‘to swell’	>	<i>ku-zímba</i>	<i>ku-zímba</i>
	*-Cv̂-	*-dù-	‘to come out’	>	<i>ku-zwa</i>	<i>ku-zwa</i>
		*-gò-	‘to fall’	>	<i>ku-gwa</i>	<i>ku-gwa</i>
	*-Cv̂-	*-pá-	‘to give’	>	<i>kú-wa</i>	<i>kú-wa</i>
		*-kú-	‘to die’	>	<i>kú-fwa</i>	<i>kú-fwa</i>

The shifts from the etymological (= reconstructed) tone schemes to those synchronically observed in Shanjo and Fwe seem to be explainable through cross-linguistically regular tone rules. The merger of \*HH and \*HL patterns in disyllabic stems is probably at the beginning of the evolution chain (27a). This reduction is common in eastern Bantu, where \*HH stems often turn into HL via Meeussen’s Rule or the ‘obligatory contour principle’ disfavouring two successive H’s (Kisseberth & Odden 2003; Meeussen 1976; Philippson 1999). As discussed above, both languages manifest automatic penultimate vowel lengthening (27b), another common eastern Bantu phenomenon (Hyman 2003). Such lengthening is often found in association with the leftward shift of a pre-pausal or word-final H to the penult (27c) (Kisseberth & Odden 2003). On the other hand, there is a strong tendency in Bantu to avoid the resulting rising contour in this position and to realize it as a level H (27d) (*ibid.*).

		Proto-Bantu	*LL	*LH	*HL	*HH
(27)	a.	Meeussen’s rule	-	-	-	-Cv̂Cv̂
	b.	penult lengthening	-Cv̂v̂Cv̂	-Cv̂v̂Cv̂	-Cv̂v̂Cv̂	-Cv̂v̂Cv̂
	c.	leftward shift of word-final H	-	-Cv̂v̂Cv̂	-	-
	d.	rise resolution	-	-Cv̂v̂Cv̂	-	-
		Shanjo/Fwe	<b>LL</b>	<b>HL</b>	<b>FL</b>	<b>FL</b>

The tone shifts undergone by Tonga, and most probably other eastern BB languages, such as Lenje and Ila, were obviously different, at least partially. Tonga is known as a classical case of a ‘tone anticipation’ language through the dissociation of the original high tone (Goldsmith 1984; Philippson 1992; Van Spaandonk 1967). For the citation forms of nouns and verbs, this implies that a high tone can be observed on the prefix, not only with certain monosyllabic, but also with certain disyllabic stems. As can be observed in (28), the diachronic tone shifts which monosyllabic noun and verb stems underwent in Tonga and Lenje are identical to what we observed in Shanjo and Fwe.

					Lenje	Tonga
(28)	*L(L)	*-tù	‘flour’	>	<i>bu-su</i>	<i>ibu-su</i>
		*-ntò	‘person’	>	<i>mu-ntu</i>	<i>imu-ntu</i>
		*-nòè	‘finger’	>	<i>mu-nwe</i>	<i>imu-nwe</i>
	*H(H)	*-bú	‘soil’	>		<i>ímá-vu</i>
		*-cí	‘ground’	>	<i>ín-shi</i>	<i>ín-si</i>
		*-cósá	‘termite’	>	<i>mú-swa</i>	<i>ín-swa</i>
		*-cúí	‘fish’	>	<i>ín-swi</i>	<i>ín-swi</i>

*HL	*-jòì	‘voice’	>	<i>lí-swi</i>	<i>í-jwi</i>
	*-bòà	‘dog’	>	<i>ím-bwa</i>	<i>ímú-bwa</i>
*-Cṽ-	*-dù-	‘to come out’	>	<i>ku-swa</i>	<i>iku-zwa</i>
	*-gò-	‘to fall’	>	<i>ku-wa</i>	<i>iku-wa</i>
*-Cṽ-	*-pá-	‘to give’	>	<i>kú-pa</i>	<i>ikú-pa</i>
	*-kú-	‘to die’	>	<i>kú-fwa</i>	<i>ikú-fwa</i>

There are important differences with Shanjo and Fwe as regards the tone patterns of disyllabic noun and verb stems in citation form. As the examples in (29) show, the reflexes of \*LL/\*-CṽC- are identical and the schemes \*HL/\*-CṽC- and \*HH have also merged. Nevertheless, the common reflex of \*HL/\*-CṽC- and \*HH as well as that of \*LH is at variance with Shanjo and Fwe and all manifest a high tone on the prefix.

				Lenje	Tonga	
(29)	*LL	*-jòni	‘bird’	>	<i>ci-yuni</i>	<i>imu-yuni</i>
		*-nyàmà	‘meat’	>	<i>nyama</i>	<i>i-nyama</i>
	*LH	*-dòngó	‘clay’	>	<i>bú-lóngo</i>	<i>ibú-lóngo</i>
		*-pòngó	‘goat’	>	<i>m-póngo</i>	<i>ím-póngo</i>
	*HL	*-kútà	‘oil, fat’	>	<i>má-futa</i>	<i>ímá-futa</i>
		*-jóbà	‘sun’	>	<i>lí-suba</i>	<i>í-zuba</i>
	*HH	*-dóótó	‘dream’	>	<i>cí-loto</i>	<i>ící-loto</i>
		*-dáká	‘tongue’	>	<i>mú-laka</i>	<i>ímú-laka</i>
	*-CṽC-	*-gàmb-	‘to say’	>	<i>kw-amba</i>	<i>ikw-amba</i>
		*-gòd-	‘to buy’	>	<i>ku-ula</i>	<i>iku-ula</i>
	*-CṽC-	*-tóm-	‘to send’	>	<i>kú-tuma</i>	<i>ikú-tuma</i>
		*-bímb-	‘to swell’	>	<i>kú-shimba</i>	<i>ikú-zimba</i>

In sum, the eastern BB languages share with Shanjo and Fwe the merger of the \*HL and \*HH disyllabic noun stem patterns, the tonal reflexes of monosyllabic verb and noun stems and those of the entirely low verb and noun stems. They differ significantly, however, with respect to disyllabic tone patterns, including a high tone. The high tone anticipation resulting in high prefixes is not observed in Shanjo and Fwe. Whether this high tone anticipation is an innovation distinguishing the eastern BB languages from the western crucially depends on the tonal behaviour of other western BB languages like Totela and Subiya. Even if the tonal notation of Baumbach (1997) is not entirely consistent, it could be indicative that none of the disyllabic noun or verb stems in his work is preceded by a high tone prefix.

#### 4. The historical position of Shanjo and Fwe within *Bantu Botatwe*

After having presented in section 3 the major diachronic sound shifts to which Shanjo and Fwe were subject as compared to the other BB languages, I assess in this section what the diachronic sound changes which Shanjo and Fwe underwent can tell us of their historical position within the BB group. To do so, I start from the assumption that the BB languages considered in this paper stem from a common ancestor, which they do not share with the other Bantu languages. As I show in subsection 4.2,

there is one phonological innovation which allows to define the BB languages as a discrete subgroup within wider Bantu. I rely on two comparative anchor points to assess the historical significance of the sound shifts which Shanjo and Fwe underwent, i.e. the sound system reconstructed for Proto-Bantu (PB) and the one which can be reconstructed for this tentative proto-BB language. PB has been reconstructed with 7 distinctive vowels and a relatively simple consonant system consisting of a series of voiced stops and their prenasalized equivalents, a series of voiceless stops and their prenasalized equivalents, and a series of nasals (Meeussen 1967; Schadeberg 2003). Compared to this, Proto-BB had simplified its vowel system by reducing it from 7 to 5 vowels, but acquired a more complex consonant system like the one proposed in Table 6.

	bilabial	labiodental	alveolar	postalveolar	palatal	velar
plosive	*p		*t			*k *g
nasal	*m		*n		*ɲ	*ŋ
fricative	*β	*f *v	*s *z	*ʃ		
affricate					*dʒ	
lateral approximant			*l(/r)			
approximant (glide)	*w				*y	
prenasalized plosive	*mp *mb		*nt *nd			*ŋk *ŋg
prenasalized fricative		*mf *mv	*ns *nz		*ɲf	
prenasalized affricate					*ndʒ	

**Table 6:** A tentative reconstruction of the proto-Bantu *Botatwe* consonant system

#### 4.1. PB retentions in Shanjo and Fwe

The sound systems of Shanjo and Fwe are in many respects identical to the one reconstructed for PB. Several consonants reconstructed for PB have been retained in both languages. An overview is given in (30). These regular reflexes are found in all contexts except in those which induce common sound shifts, such as spirantization, palatalization and Meinhof's rule.

- (30) a. ✓ \*k > k      ✓ \*t > t      ✓ \*m > m      ✓ \*n > n      ✓ \*ɲ > ɲ  
           ✓ \*mb > mb    ✓ \*nd > nd    ✓ \*ng > ng
- b. ✓ \*mp > mp    ✓ \*nt > nt    ✓ \*nk > nk    ✓ \*nj > nj [ndʒ]
- c. ✓ \*g > g      ✓ \*j > j [dʒ]      (only in Shanjo)

The retentions in (30a) are shared by all BB languages and therefore not relevant for internal BB classification, neither for telling apart Shanjo and Fwe from other Western Province language groups, such as Luyana, Nkoya and Cokwe-Lucazi, where these same PB sounds have been preserved.

The former three retentions in (30b) are also shared by all BB languages, except by Soli, where the voiceless consonant became aspirated. This innovation is significant for the position of the latter language within the BB group, but not for that of Shanjo and Fwe. The retention of \*nj [ndʒ], however, is unique to Shanjo and Fwe within BB. In all other BB languages, the nasal did not exert the same conservative influence on \*j.

The PB retentions in (30c) are exclusive to Shanjo, even though /dʒ/ alternates with /z/ as reflex of \*j without clear conditioning. In all other BB languages, \*g has a zero reflex, while \*j has either a fricative or a zero reflex.

In sum, the conservation of these PB sounds into Shanjo and Fwe is not significant with regard to the position of both languages within the BB group, not only because it concerns retentions, but also because nearly all are shared with the other BB languages. The few which are not shared simply show that both languages, and especially Shanjo, are in some respects phonologically more conservative than the rest of the BB group.

#### 4.2. *Shanjo and Fwe innovations shared with the other BB languages*

Apart from these numerous retentions, the sound systems of Shanjo and Fwe also display several innovations of the system reconstructed for PB. In this subsection, I only consider those innovations which are shared with all other BB languages. An overview is given in (31).

- (31) ✓ \*d > l/r                      ✓ \*c > ʃ                      ✓ \*b > β
- ✓ 7 to 5 vowel merger
  - ✓ \*k-palatalization
  - ✓ Meinhof's rule
  - ✓ \*HH/\*HL-merger
  - ✓ Bantu Spirantization:
    - total levelling of places of articulation before \*i (\*bi, \*di, \*gi > \*zi; \*pi, \*ti, \*ki > \*si)
    - partial levelling of places of articulation before \*u (\*bu, \*gu > \*vu ; \*pu, \*ku > \*fu ↔ \*du > \*zu ; \*tu > \*su)

The sound shifts presented in (31) explain to a large extent the differences observed between the sound system reconstructed for PB (Meeussen 1967) and the one that has been tentatively proposed for proto-BB in Table 6. As I discuss in subsection 4.3, the outcome of some of these changes, as it is attested in Shanjo and Fwe, e.g. /ʃ/ as the regular reflex of \*c, constitutes the input for further changes in certain other BB languages. Nevertheless, it can be safely assumed that the changes in (31) took place before the latest common ancestor of the BB languages fell apart. Hence, they cannot be significant with respect to the internal classification of the BB group.

What is more, most sound shifts in (31) are also insignificant for the external classification of the BB languages in the sense that they are either very common in Bantu, such as the 7 to 5 vowel merger (Schadeberg 1994-1995), or at least found in those language groups which are closest to the BB languages from a lexicostatistical point of view, i.e. Guthrie's M40 and M50 languages. These languages have exactly the same reflexes of \*d, \*b and palatalized \*k and also manifest traces of Meinhof's rule (Doke 1933, 1938; Madan 1906, 1908b; Meeussen 1962; White Fathers 1954). As mentioned above, the merger of \*HH and \*HL tone patterns in disyllabic stems is common in eastern Bantu (Meeussen 1976; Philippson 1999). The regular M40-M50 reflex of \*c is /s/, but this could well be the ultimate outcome of the process \*c > ʃ > s, whose first step is attested in Shanjo and Fwe. Since these innovations of the PB sound system are not only attested among the BB languages, but also in closely related M40 and M50 languages, they cannot be used to define BB as a discrete subgroup within wider Bantu.

The only sound change possibly distinctive in this respect is Bantu Spirantization (BS). Even though BS as such is a widespread Bantu sound change, its precise outcome among the BB languages is distinct from what can be observed among the M40 and M50 languages. As I have shown in subsection 3.7, BS involves a levelling of places of articulation. This levelling is complete in front of \*i in all BB languages. In front of \*u, however, this merger of places of articulation is only complete in Lenje, Soli and Ila, while it is partial in the other BB languages. Hence, the complete levelling of places of articulation before \*i is an innovation shared by all BB languages, which can be attributed to their latest common ancestor. On the contrary, the same evolution before \*u is a later evolution shared by the easternmost BB languages only. The reflexes of \*bu/\*gu were still distinct from the reflex of \*du and

those of \*pu/\*ku from that of \*tu in the latest common BB ancestor. A similar reduction of places of articulation in combination with BS is observed in the M40 and M50 languages, but the precise outcome is different from BB. An overview of BS reflexes in Bemba (M42), Biisa (M51), Lala (M52), and Lamba (M54) is presented in Table 7 (Doke 1933, 1938; Madan 1906, 1908b; White Fathers 1954).

	*bu	*du	*gu	*pu	*tu	*ku	*bi	*di	*gi	*pi	*ti	*ki
Bemba	fu	fu	fu	fu	fu	fu	fi	fi	fi	fi	fi	fi
Biisa	vu	vu	vu	fu	fu	fu	vi	zi	zi	fi	si	si
Lala	fu	fu	fu	fu	fu	fu	fi	fi	fi	fi	fi	fi
Lamba	fu	fu	fu	fu	fu	fu	fi	fi	fi	fi	fi	fi

**Table 7:** An overview of BS reflexes in the M40-M50 languages

Leaving apart the spirant devoicing which is observed in most languages in Table 7, the overview shows that the reduction of places of articulation in these languages must have happened differently from BB. A complete fusion is observed in front of \*u, but only a partial merger in front of \*i. This is exactly the opposite from what we observed in BB. Hence, if the M40-M50 languages and the BB languages are indeed more closely related to each other than to the rest of Bantu, as lexicostatistical classifications suggest (Bastin *et al.* 1999), this would imply that their latest common ancestor had not entirely levelled out distinctions in place of articulation between BS reflexes, neither in front of \*i nor in front of \*u. The reflexes of following sequences would still have been contrastive: \*bu/\*gu ↔ \*du, \*pu/\*ku ↔ \*tu, \*di/\*gi ↔ \*bi, and \*ti/\*ki ↔ \*pi. If such is the case, the levelling of places of articulation in front of \*i would then be an innovation defining the BB languages as a discrete subgroup. As regards the levelling in front of \*u, it needs to be examined more closely whether this happened independently in the M40-M50 languages and in the easternmost BB languages (Lenje, Soli, Ila) or whether it is the result of lateral influence through contact. The same is true for the spirant-devoicing which is observed both in most M40-M50 languages and in Lenje and Soli.

The levelling of places of articulation in front of \*i is the only one of the Shanjo and Fwe innovations in (31) that can be used to define the BB languages as a subgroup distinct from closely related East-Bantu languages. More of these innovations prove, however, that Shanjo and Fwe have a different history from most other languages of the Western Province. I cannot go into details here, but traces of the \*NCVNCV > NVNCV variant of Meinhof's rule, for instance, are absent from both the Luyana and Cokwe-Lucazi languages (Lisimba 1982; Meeussen 1962). Velar palatalization did occur in Luyana and Cokwe-Lucazi, but its chronology and outcome (/si/) is different from the BB languages in Luyana (Lisimba 1982). In Cokwe-Lucazi, dental palatalization (\*t) also took place (see for instance Van den Eynde 1960). BS took place in all Western Province languages except Lozi, but its evolution in the Luyana, Cokwe-Lucazi and Nkoya languages is clearly distinct from BB (Janson 2007).

In sum, the synchronic sound systems of Shanjo and Fwe display several innovations of the system inherited from PB. Most of these innovations, which they share with the other BB languages, allow us to set them apart from the other Western Province languages except Totela and Subiya. The uniformization of places of articulation in front of \*i is the only innovation, however, which allows us to define BB as a discrete subgroup from more closely related M40-M50 languages.

#### 4.3. *Post-proto-BB innovations indicative of internal BB classification*

In this subsection, I consider phonological innovations which took place in certain BB languages, but not in all. These must have happened after the fragmentation of the latest common BB ancestor and are thus indicative of internal BB subgrouping. An overview of such innovations is given in (32). The sound shifts in (32a) are those in which Shanjo and/or Fwe participated, the ones in (32b) those in which Shanjo and/or Fwe did not participate.

- (32) a. ✓ \*p-lenition: \*p > h > Ø  
 ✓ \*j-lenition: dʒ > ʒ > z > s > Ø  
 ✓ spirantization of the NP<sub>8</sub> βi- (only Fwe)  
 ✓ augment vowel aperture (only Fwe)
- b. ✓ evolution of \*nj: ndʒ > nz > ns or \*ndʒ > nʒ > nʃ / \_\_i  
 ✓ evolution of \*(n)c: (n)tʃ > (n)ʃ > (n)s (except in front of \*i/\*t)  
 ✓ merger of places of articulation in front of \*u (Lenje, Soli, Ila)  
 ✓ spirant devoicing (Lenje, Soli)  
 ✓ generalization of li- as NP<sub>5</sub> (Lenje, Soli)  
 ✓ uniformization (Tonga) and loss of the vocalic augment (Lenje, Soli, Ila)  
 ✓ high tone anticipation (Lenje, Ila, Tonga)

As already could be deduced from a quick comparison between Table 2 and Table 6, the sound system of Shanjo underwent little evolution as compared to what can be reconstructed for proto-BB. The only post-BB innovation in which Shanjo really partook is the lenition of \*p. As we have seen in (5) (§3.2.4) and (30) (§4.1), the most frequent reflex of \*j is the direct reflex /dʒ/, which alternates in some cases with /z/ and Ø. It is perfectly possible, however, that the latter reflexes are the result of lateral influences, for instance from Lozi. Fwe is a bit more innovating than Shanjo. It is the only BB language to represent the initial step of the \*j-lenition cline, i.e. \*dz > ʒ, and to have lowered the aperture of vocalic augments. Fwe also has the regular spirantized reflex of NP<sub>8</sub> βi-, but the same is true for all BB languages other than Shanjo and Soli. While the first two innovations are characteristic of Fwe, the last one took place in nearly all BB languages. Hence, none of them is really significant for subgrouping. The only innovation shared by Shanjo and Fwe which could be indicative for internal BB classification is \*p-lenition. The evolution \*p > h > Ø seems to be distinctive of the western BB languages. The initial stage /h/ is consistently attested in Totela, Subiya, and the Caprivi variant of Fwe and partially in the Zambian variant of Fwe. The final stage is attested in Shanjo and also partially in the Zambian variant of Fwe. In other words, Fwe as spoken in the Western Province constitutes a transition zone between Shanjo and the rest of the western BB languages. The problem with considering \*p-lenition as a distinctive western BB innovation is that the rest of the BB languages do not consistently have the direct reflex of \*p. As I have shown in §3.3.1, Soli has always /p/, but this reflex increasingly alternates with Ø from Lenje over Ila to Tonga. The conditioning for this alternation is opaque and needs a more detailed study. For the time being, considering \*p > h > Ø as a distinctive western BB innovation is not unproblematic.

Shanjo and Fwe did not take part in any of the post-proto-BB innovations in (32b). As regards the evolution of \*nj, both languages have the direct reflex /ndʒ/, while all other BB languages have /nz/ except Lenje and Soli which have /ns/. The same is true for the evolution of PB \*(n)c. Shanjo and Fwe still have the proto-BB reflex /(n)ʃ/, while all other languages have /(n)s/ except in front of \*i/\*t. As discussed above (see §3.7.2 and §4.2), the levelling of places of articulation in front of \*i is an innovation shared by Lenje, Soli and Ila, while spirant-devoicing is a further innovation distinctive of Lenje and Soli only. The same two languages share the innovative generalization of li- as nominal prefix of class 5. Both languages also have in common, together with Ila, the loss of the vocalic augment. Tonga having uniformized the vocalic augment to /i-/ represents an intermediate phase in this respect. The western BB languages are conservative in having maintained a three-way distinction, except that Fwe is idiosyncratic in having lowered the vowel aperture. Finally, even though we do not have reliable tone data for all BB languages, there appears to be a split eastern and western BB as regards the evolution of the tone system. Lenje, Ila, and Tonga share the common innovation of H-tone anticipation. Although probably related, this change is different from the leftward shift of a word-final H, which is found in both Shanjo and Fwe.

In sum, the sound system which Shanjo and Fwe inherited from their latest common BB ancestor underwent very few internal developments. Both languages are the phonologically most conservative members of the BB group, Shanjo even more than Fwe. Most post-proto-BB sound changes symptomatic of internal BB subgrouping can be observed in the eastern members. Innovations like the uniformization of the vocalic augment preceding its total loss and the H-tone anticipation set apart Lenje, Soli, Ila and Tonga from the western BB languages. Further innovations like the complete loss of the vocalic augment and the entire levelling of places of articulation in front of \*u define Lenje, Soli, Ila as a distinct unit from Tonga. Finally, innovations like the generalization of li- as nominal prefix of class 5 and spirant-devoicing suggest that Lenje and Soli are unmistakably the most innovating eastern BB languages, which constitute a discrete subset within the Lenje-Soli-Ila cluster. This observation contrasts with the lexical similarity rates presented in Table 1, which show, among the eastern BB languages, a closer proximity between Lenje, Ila and Tonga as opposed to Soli. The diachronic phonological data rather point towards a split between Tonga and the rest and subsequent subdivision of Ila vs. Lenje-Soli.

In contrast to these eastern BB languages, no distinctive innovation really defines the western cluster as a discrete subgroup. The only possible candidate is \*p-lenition, which would set apart Totela, Subiya and Caprivi-Fwe having /h/ as reflex apart from Shanjo having Ø and place Fwe have both /h/ and Ø in a transitional position. This innovation is not entirely unproblematic, however, since zero reflexes of \*p are also attested in certain eastern BB languages. Apart from this possible defining western innovation, the western BB cluster rather manifests itself as phonologically conservative in that it did not partake in the characteristic eastern innovations. Totela and Subiya display a bit more post-proto-BB innovations than Shanjo and Fwe, such as the more advanced lenition of \*(n)j and \*(n)c, but these innovations are not distinctive, since they also occur in the eastern BB languages. Consequently, this diachronic phonological study confirms the lexicostatistically-based picture of Shanjo, Fwe, Totela and Subiya as a close-knit dialect cluster within the wider BB group. At the same time, it shows that being phonologically archaic, this western BB cluster must be an early break-away group that was sufficiently isolated from the eastern BB language to have escaped their characteristic innovations.

## 5. Conclusions

This paper aimed at defining the historical position of Shanjo and Fwe, two under-studied Bantu languages from the Western Province of Zambia, within the *Bantu Botatwe* (BB) group. This study revealed that the historical unity of these BB languages as a discrete subgroup within wider Bantu can be defined by at least one distinctive shared innovation, i.e. the complete levelling of places of articulation in front of \*i. This innovation did not take place in the language groups that are lexically most closely related to BB, i.e. the M40-M50 languages and not in the neighbouring language groups of the Western Province either.

Within the BB group, Shanjo and Fwe appear to be each other's closest relatives, both lexically and phonologically, but both languages are at the same time very close to two other Western Province BB representatives, i.e. Totela and Subiya. These four languages form a close-knit western cluster within the BB group, which are as dialects to each other, but as languages to the eastern BB languages. Historically speaking, this western cluster must be considered an early offshoot of the latest common BB ancestor that remained relatively isolated from its closest relatives more eastwards. The western BB members, and particularly Shanjo and Fwe, are characterized by a high degree of phonological archaism as compared to the eastern BB members. Most innovations symptomatic of internal BB subgrouping took place in these eastern languages. In the light of the internal diachronic phonological evolution of BB, the western cluster is to be considered rather conservative in contrast to the more innovative eastern languages, especially Lenje and Soli.

Nevertheless, this does not mean that the sound systems of Shanjo and Fwe remained entirely stable since the western cluster split away from the other BB languages. Such innovations of the sound system were not so much the result of internal developments, however, but rather due to contact with more distantly related Bantu languages from the Western Province of Zambia (and the Namibian

Caprivi strip) or with non-Bantu languages. The presence of click sounds in Fwe is the most symptomatic sign of such contact-induced phonological change. As I concluded earlier on the basis of a comparative study of Bantu plant names, the Western Province of Zambia turns out to be a meeting place of language groups which have their closest relatives outside this area, but which gradually integrated into a common linguistic area, mutually affecting each other and undergoing the same external influences.

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