

Bantu Plant Names as Indicators of Linguistic Stratigraphy in the Western Province of Zambia

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1. Introduction and background

The present paper is a comparative study of Bantu plant names in a number of languages from the WP of Zambia.¹ It is based on fieldwork I undertook, with the kind assistance of the Livingstone Museum, in July-August 2005 in the neighbourhood of two minor towns in the southern part of the WP, i.e. Sioma and Shangombo. I worked with native speakers of Mbunda (K15), Kwamashi (K34), Kwamulonga (K351), Shanjo (K36), Fwe (K402), and Mbwera (L61). The field notes, which I present throughout the paper with the label “Bostoen FN 2005”, are compared to data from closely related or neighbouring languages on the one hand, and on the other hand, to what is known on plant names in terms of common Bantu reconstructions. Map 1 below shows the Bantu languages considered in this paper and their linguistic affiliation according to the current state of knowledge. Data from Khwe, a nearby non-Bantu click language from the Khoe-Kwadi family (Güldemann 2004), are also taken into account for reasons explained further on.² This comparative study aims at enhancing our understanding of the language history, which underlies the intricate sociolinguistic picture that characterizes the WP today.

The Bantu languages listed above represent only a fraction of the numerous languages to which the WP is home. Contrary to Lozi (K21), the region’s widely used *lingua franca* with an increasing number of first language speakers, most of these languages are minority languages whose use is geographically localized and functionally restricted and whose number of speakers is declining. This high linguistic diversity makes the WP one of the most interesting and complex linguistic areas of Zambia, not at least from a historical point of view. Its languages manifest among each other different degrees of linguistic relatedness and belong to separate language groups. The currently complex sociolinguistic situation seems to result from the overlapping of chronologically distinct linguistic strata (Fortune 1970, Kashoki 1978, Lisimba 1982, Turner 1952).³

The Lozi language represents one of the most recent WP strata and the name itself is also of comparatively recent origin. The language is actually that of the Kololo immigrants, who invaded the WP towards the end of the 1830’s, drove from power the ruling Luyi dynasty and took over the central kingship. Even if these foreign conquerors were evicted again in the 1860’s, their language succeeded in becoming the region’s *lingua franca*. Since the Kololo originated from an area close to modern-day Lesotho, this recently introduced language is closely related to the Sotho (S30) languages, even though local languages remodelled it in several ways, mainly phonologically and lexically (Gowlett 1989).⁴ In

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² Güldemann (2004) lumped Kwadi, a probably extinct click language of south-western Angola, with the Khoe family, also known as Central Khoisan, on the basis of numerous commonalities involving the marking of person, gender, and number.

³ Strata are understood here as the lexical layers in a group of languages, which mirror their evolution and the contacts their speakers had with bearers of other linguistic and cultural traditions (cf. Andersen 2003:3).

⁴ In accordance with the homeland of the Kololo people, their language is assumed to be basically South-Sotho (S33), currently spoken in Lesotho and South Africa. Nevertheless, the constitution of this conqueror group was

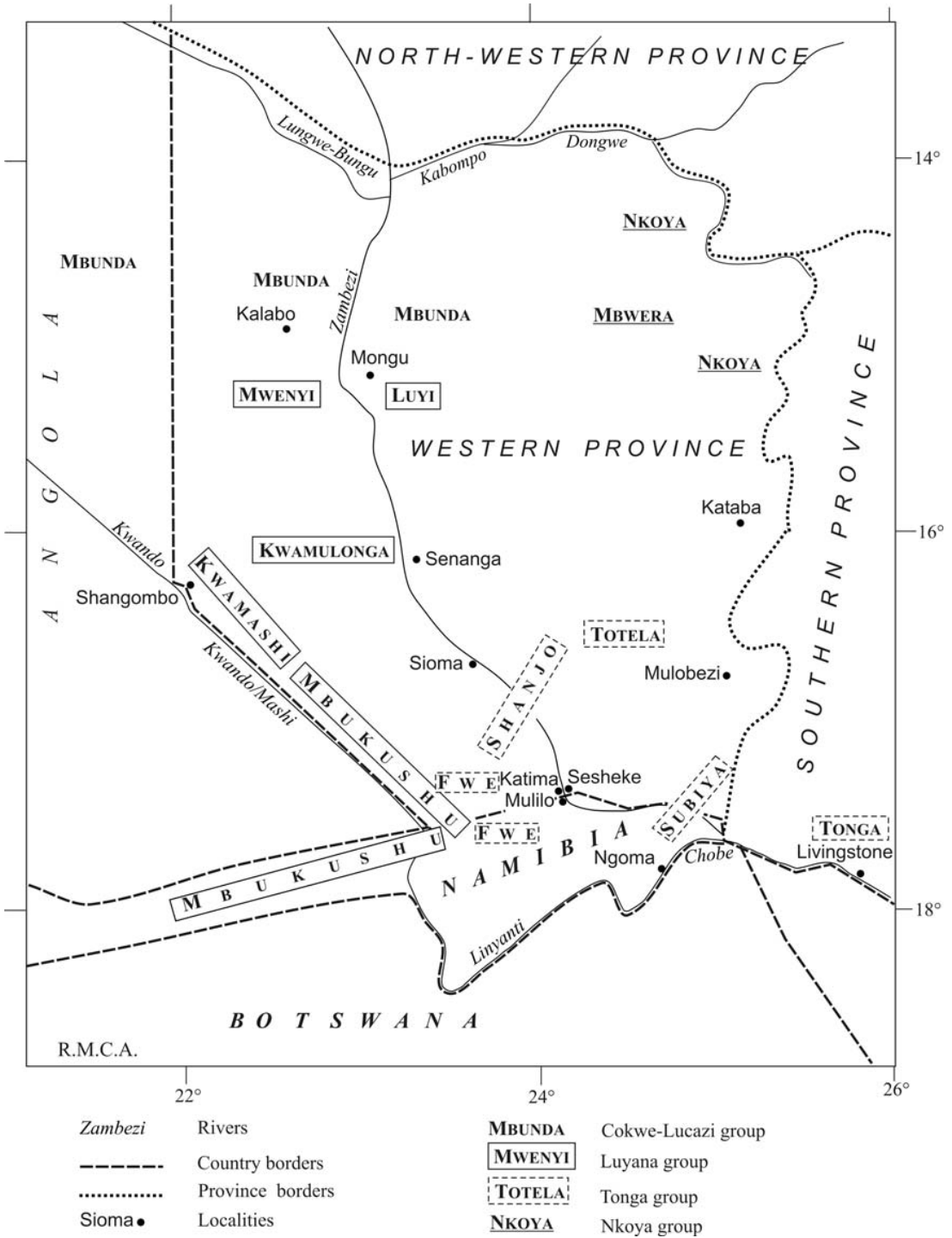
accordance with certain of these phonological changes, the name ‘Lozi’ would be a regular reshaping of the name ‘Rotse’, which the Kololo used to designate the Luyi (Gluckman 1951:1).

The Luyi kingdom that the Kololo found at their arrival was the outcome of a long centralization process involving the progressive incorporation of Bantu speech communities (Mainga 1973), up to 25 distinct ones (Turner 1952). These can be subdivided in three separate groups: Tonga, Nkoya, and Luyana (Fortune 1970). The WP Tonga group consists of Guthrie’s K40 and part of his K30. These languages are spoken in the southern part of the province. The above-cited Shanjo (K36) and Fwe (K402) belong to them. As the group’s name suggests, these southern WP languages are considered as historically related to the M60 languages of the Southern Province, even though Guthrie (1971) did not group them together. The Nkoya (L60) languages are spoken in the northeastern part of the province and comprise besides Nkoya (L62) the above-cited Mbwera (L61). The Luyana languages are quantity-wise the most important group and mainly situated in the centre and the western part of the province. All WP languages of Guthrie’s K30 group, such as Kwamulonga (K351) (see above), are seen as part of this cluster, except for Shanjo (K36). As regards Kwamashi (K34) and Mbukushu (K333), doubt exists on their historical membership to Luyana (Fortune 1963:4). If they actually belong to this group, they definitely form a distinct subgroup within it, held together by an exceptionally high degree of phonological innovations (Lisimba 1982:202). Besides these three Bantu language groups, whose presence in the WP is anterior to the arrival of the Lozi language, a fourth cluster of Bantu languages is relatively scattered over the WP. It concerns the Cokwe-Lucazi (K10) group, whose main distribution is in neighbouring eastern Angola and in the North-Western province of Zambia. Mbunda (K15) speakers are known to have moved into the WP since about 1800 (Fortune 1970, Mainga 1973). Nonetheless, most other languages of this group, such as Cokwe (K11), Lucazi (K13) and Luvale (K14), were only introduced into the WP in the late 19th and throughout the 20th century by Angolan migrants. From a wider historical perspective, the clustering of the four distinct groups of WP minority languages is highly interesting, because a major linguistic frontier seems to run right through them. This area happens to be a zone of interference between two main Bantu subgroups, i.e. South-West-Bantu and East-Bantu. However, according to the present state of knowledge, the dividing line between both branches is rather fuzzy. The Tonga and Cokwe-Lucazi clusters, respectively belonging to East-Bantu and South-West-Bantu, probably constitute the two extremes of this highly diverse linguistic continuum. Debate exists, however, on the wider genealogical affiliation of the languages of the Nkoya and Luyana groups (Bastin et al. 1999, Lisimba 1982, Vansina 2004).

Besides the two broad patterns of linguistic evolution just dealt with, a third axis of linguistic interference seems to have shaped WP language history. Not only was there Lozi domination of the numerous WP minority languages and interference between languages of East-Bantu and South-West-Bantu origin, but Bantu languages also appear to have been in contact with non-Bantu click languages. Speakers of Khwe, a Khoe language nowadays mainly spoken in the western Caprivi, have been reported near Sesheke until recently (Fortune 1970). Non-Bantu click languages in Zambia are moreover believed to have occurred more northerly in the past. Contact between Bantu and non-Bantu click languages in the WP has not been previously documented, but the fact that WP Bantu languages, such as Fwe (K402) and Mbukushu (K333), have click sounds indicates such contact, maybe even the assimilation of non-Bantu click language speakers into Bantu speech communities through intermarriage and language shift.⁵

composite and Lozi also manifests, for instance, the accretion of a limited number of Tswana grammatical elements as well as vocabulary from English and Afrikaans (Gowlett 1989).

⁵ ‘Non-Bantu click languages’ is used here instead of the more common label ‘Khoisan’, because this is increasingly considered as non-genealogical (see for instance Güldemann 2004).



Map 1. Approximate location and assumed affiliation of the languages dealt with in this paper (based on information found in Fortune 1970, Kashoki 1978, Maniacky 1997, Turner 1952). This map is not an exhaustive representation of the WP's linguistic diversity.

In §2, I present comparative lexical data for four of the WP’s major food crops, i.e. millet, sorghum, maize, and cassava, and for two foraged food plants, i.e. *Parinari curatellifolia* + *Parinari capensis*. In §3, I assess the historical implications of this preliminary comparative study in terms of historical stratification along the axes discussed in §1. I formulate conclusions in §4.

2. Comparative WP Food Plant Vocabulary

2.1. Millets (*Pennisetum glaucum* + *Eleusine coracana*)

In the WP, pearl millet (*Pennisetum glaucum*) and finger millet (*Eleusine coracana*) are cultivated. Both are African in origin and belong to the earliest cultivated sub-Saharan cereals (Neumann 2003, Purseglove 1972). These are grains that have remained in common use in southern Africa, mainly to produce flour for porridge or as malt for beer brewing (van Wyk & Gericke 2000). During fieldwork, informants often had problems differentiating between the two species. Several languages seem to have the same term for both, which should not necessarily be surprising given the partially complementary distribution of these millet types. Finger millet thrives better in the plateau soils, and is not so much a crop of the WP’s Kalahari sands as pearl millet (M. Bingham pers. comm.).

(a) Mbunda (K15)	máshǎngù	‘pearl millet’	(Bostoen FN 2005)
Lozi (K21)	mangu	‘millet’	(Jalla 1937)
Luyi (K31)	maangu	‘millet’	(Givón 1970:9)
Mbukushu (K333)	mahangu	‘pearl millet’	(Legère & Munganda 2004:144)
Kwamashi (K34)	mǎhǎngù	‘pearl millet’	(Bostoen FN 2005)
Kwamulonga (K351)	mǎhǎngù	‘pearl millet’	(Bostoen FN 2005)
Mwenyi (K352)	(a)máungú	‘millet’	(Yukawa 1987a:27)
Mbwera (L61)	dǐhǎngù	‘pearl millet’	(Bostoen FN 2005)
Nkoya (L62)	mahǎngu	‘finger millet’	(Yukawa 1987b:29)
(b) Shanjo (K36)	mǎbéré	‘millet’	(Bostoen FN 2005)
Fwe (K402)	mǎbélé	‘millet’	(Bostoen FN 2005)
(c) Lozi (K21)	mǎúzǎ	‘pearl millet’	(Bostoen FN 2005, Jalla 1937)

Table 1. Comparative list of WP millet vocabulary

Millet is the cereal that is lexically the least diversified cross-linguistically. As table 1 shows, only three distinct roots are attested. The WP languages apart from Lozi split up in two clearly distinct groups, i.e. Shanjo and Fwe that share a term of undeniable East-Bantu origin on the one hand, and on the other hand the rest with a term displaying an obvious West-Bantu distribution. Lozi, as the most recent stratum, has a term (1c) reminiscent of the Pedi/N-Sotho (S32) term *leotšá* (De Schryver & Joffe 2003), but different from the S-Sotho (S33) term *nyalothi* (van Wyk & Gericke 2000:12). As regards the other Lozi term in Table 1, Jalla (1937) clearly indicates that it is a Luyana loan word.

The comparative series (CS)(1a) are reflexes of $^{\circ}\text{-cǎngú}$,⁶ which has a typical West-Bantu distribution, i.e. zones B, C, H, K, L, M, and R (see also the WP ‘millet’ isogloss map in Lisimba [1982:388]). It also occurs in Khwe and Khoekhoegowab (Khoe-Kwadi): *mǎhǎngù* ‘millet’ (Kilian-Hatz 2003:310), and *sǎh-ú.-i* ‘millet’ (Haacke & Eiseb 2002:596).⁷ In the Bantu languages having this noun stem, it most commonly refers to ‘pearl millet’. Only in zones C and H, it may mean ‘maize’ (Ehret 1984, Philippon & Bahuchet 1994-95).

⁶ The vowel system used here for Bantu reconstructions is i u e a o ʊ u. The sign * precedes Proto-Bantu reconstructions, $^{\circ}$ uncertain and/or regional reconstructions.

⁷ The circumflex bridging between vowels indicates nasalization in Khoekhoegowab (Haacke & Eiseb 2002:iv).

The CS (1b) are regular reflexes of $^{\circ}\text{-b}\acute{\text{e}}\text{d}\acute{\text{e}}$, also attested in Kaonde (L41) *jìbèlè* (Lisimba 1982:388), and in other Tonga languages, e.g. Ila (M63) *mabele* ‘eleusine or red millet, finger millet’ (Fowler 2000:841); Tonga (M64) *mabele* ‘millet, kind with short stem, red’ (Torrend 1967:363). As opposed to $^{\circ}\text{-c}\acute{\text{a}}\text{n}\text{g}\acute{\text{v}}$, this root is typically East-Bantu, i.e. zones E, F, G, J, L, M, N, and S (Bastin et al. 2003, Guthrie 1967-71), which suggests that it belonged to an early phase of the East-Bantu ancestor language. Apart from a number of languages, where it means ‘sorghum’ (cf. infra), it commonly means ‘pearl millet’ (Ehret 1974; Philippson & Bahuchet 1994-95).

2.2. Sorghum (*Sorghum bicolor*)

Sorghum is an indigenous staple food and beer resource that has been cultivated and domesticated in sub-Saharan Africa for at least 3000 years (Neumann 2003, van Wyk & Gericke 2000). The WP languages manifest less lexical homogeneity as regards their sorghum terms. As table 2 illustrates, at least five different noun stems can be distinguished. Neither does this vocabulary manifest the same clear-cut polarity between East-Bantu and West-Bantu. Two terms appear to be of local origin, i.e. (2c) and (2e).⁸ The most recent WP stratum, Lozi, shows a distinct southern Bantu root again in its term for sorghum, which has spread to only one other WP language, Mwenyi. Shanjo, together with Nkoya this time, has once more a term with a (predominantly) East-Bantu distribution. Mbunda, on the contrary, goes west with a term having a clear West-Bantu spreading.

(a) Lozi (K21)	<i>mabele</i>	‘red sorghum’	(O’Sullivan 1993:274)
Mwenyi (K352)	(a) <i>mábélé</i>	‘sorghum’	(Yukawa 1987a:27)
(b) Shanjo (K36)	<i>máyílà</i>	‘sorghum’	(Bostoën FN 2005)
Nkoya (L62)	<i>jìyíla</i>	‘sorghum’	(Yukawa 1987b:29)
(c) Kwamashi (K34)	<i>mávù</i>	‘sorghum’	(Bostoën FN 2005)
Kwamulonga (K351)	<i>mávù</i>	‘sorghum’	(Bostoën FN 2005)
(d) Mbunda (K15)	<i>máshà</i>	‘sorghum’	(Bostoën FN 2005)
(e) Mbukushu (K333)	<i>tumbì</i>	‘red and white sorghum’	(Legère & Munganda 2004:143)
Mbwera (L61)	<i>túmbì</i>	‘sorghum’	(Bostoën FN 2005)
Khwe (Khoe-Kwadi)	<i>túmbì</i>	‘sorghum’	(Kilian-Hatz 2003:351)

Table 2. Comparative list of WP sorghum vocabulary

The Lozi sorghum term is a reflex of $^{\circ}\text{-b}\acute{\text{e}}\text{d}\acute{\text{e}}$ (cf. supra), generally found only in a few southern Bantu languages in which the noun’s most common meaning shifted from ‘millet’ to ‘sorghum’.⁹

The CS (2b) also includes other Tonga languages, e.g. Lenje (M61)/Ila (M63)/Tonga (M64) *mayíla* ‘sorghum’ (Torrend 1967:522). This CS appears to be East-Bantu (Bastin et al. 2003, Bourquin 1923, Meinhof & Van Warmelo 1932). More similar forms have been noted in zones F, M, N and S.¹⁰ Cross-linguistically, this term most often refers to sorghum, but it might also designate others cereals such as maize and millet (Bahuchet & Philippson 1998:14).

⁸ The CS (2c) is not cognate to *mapu* ‘white sorghum’ (Givón 1970:10) in Luyi, a reflex of $^{\circ}\text{-p}\text{v}$, which Ehret (1998:49, 301) considers as a Central-Sudanic loanword in proto-East-Bantu. Luyi /p/ corresponds regularly to /p/ in these languages. /v/ is usually the result of the spirantization of a voiced plosive before a closed back vowel *u (see note 4).

⁹ The same sorghum term was noted in Mwenyi. Yukawa’s informants seem to have been under heavy Lozi influence. As regards plant names, in several cases where all Luyana languages have a name distinct from Lozi, Mwenyi has one identical to Lozi. Yeyi (R41) also has *libere* ~ *liyere* for sorghum (F. Seidel pers. comm.).

¹⁰ Nyamwezi (F22) *mapíla* ‘Hirse, millet’ (Bourquin 1923:134), Nyakyusa (M31) *imbíla* ‘millet, sorghum’ (Felberg 1996:188), Nyanja/Chewa (N31a/b) *mapíra* ‘sorghum’ (Paas 2004:253), Pedi (S32) *máfela* ‘maize, mealies’ (De Schryver & Joffe 2003)

The Mbunda term (2d) is part of a larger West-Bantu CS, i.e. zones B, H, K, L, and R.¹¹ As the phonological reconstruction, °-cā̃ can be proposed provisionally. The low tone makes it likely that it is not related to °-cā̃ng̃. The most recurrent meanings cross-linguistically are ‘sorghum’ and ‘maize’. Only in a very few languages does the °-cā̃ reflex refer to millet, e.g. Nkhumbi (R14) *omāsa* ‘millet (kaffir corn)’ (Westphal 1961:53).

2.3. Maize (*Zea mays*)

Contrary to the above-treated cereals, the exploitation history of maize in Africa is relatively recent. The introduction of this food plant of American origin does not predate the early 16th century contacts with European traders and explorers, mainly Portuguese sailors along the Atlantic coasts (Bahuchet & Philippson 1998, Pasch 1983, Purselove 1972; van Wyk & Gericke 2000). Table 3 shows the WP maize vocabulary, which is quite uniform for the WP. Lozi (3a), as the most recent stratum, has the only unmistakably dissimilar term, which corresponds to what exists in S-Sotho. All the other WP languages belong in all likelihood to the same CS. The deviant first vowel and skewed tone pattern of the forms in (3b’) probably reflect lexical borrowing that accompanied the relatively recent diffusion of maize. Contrary to its millet and sorghum vocabulary, Shanjo shares its name for maize with most of the other WP languages, and not with Tonga or the rest of East-Bantu.¹²

(a) Lozi (K21)	mbonyi	‘maize’	(O’Sullivan 1993:175)
(b) Mbunda (K15)	múndèlè	‘maize’	(Bostoen FN 2005)
Mbukushu (K333)	mundere	‘maize’	(Legère & Munganda 2004:143)
(b’) Luyi (K31)	mundale	‘maize’	(Jacottet 1901:224)
Kwamashi (K34)	múndárè	‘maize’	(Bostoen FN 2005)
Kwamulonga (K351)	ndá lè	‘maize’	(Bostoen FN 2005)
Mwenyi (K352)	(o)múndá l é	‘maize plant’	(Yukawa 1987a:27)
Shanjo (K36)	múndá l é	‘maize’	(Bostoen FN 2005)
Subiya (K42)	mundale	‘maize’	(Johnston 1919-22:323)
Mbwera (L61)	múndárè	‘maize’	(Bostoen FN 2005)

Table 3. Comparative list of WP maize vocabulary

The Lozi name for maize is southern Bantu in origin and cognate to *poone* in S-Sotho (van Wyk & Gericke 2000:16), and probably to *umbona* in Xhosa (S41) too (Fischer et al. 2004:363), but there are no analogies with Pedi/N-Sotho: *lefele*, *mmidi*, and *lehea* (De Schryver & Joffe 2003; van Wyk & Gericke 2000:16).

The CS (3b) extends to certain West-Bantu languages, such as Mbamba (H21b), Bolo (H23), Songo (H24) (Johnston 1919:371), or Lucazi (K13) (Pearson 1973:162). It is also attested in nearby Khwe (Khoe-Kwadi), i.e. *ndèrè* (Kilian-Hatz 2003:306), which indicates that they came in contact with this new food crop through their Bantu-speaking neighbours. These terms are derived from °-ndédé ‘white man’, so far identified in zones B, C, H, K, L, and R (Bastin et al. 2003). Given that the crop’s introduction is linked to early European presence along the Atlantic coast, this etymology should not be surprising. Its distribution might be indicative of a maize diffusion route. Elsewhere in West-Bantu, other ‘white man’ roots are used to designate the maize plant, e.g. Punu (B43) *duβútu* (Blanchon 1994). Noun phrases, like *masa leindele* ‘(litt.) sorghum of the white man’ in Bolo

¹¹ Orungu (B11b) *isá* ‘maize’ (O. Ambouroué pers. comm.), Kimbundu (H21) *masa* ‘sorgo; milhete; milho miúdo’ (da Silva Maia 1994:587), Kwezo (L13) *māsa* ‘maïs’ (Forges 1978:162), Nyaneka (R13) *omaha* ‘*Sorghum caffrorum*’ (Gossweiler 1953:522)

¹² Ila and Tonga share the root -*popwe* ‘maize’ (Torrend 1967:349)

(H23), may have undergone ellipsis. In some Kimbundu languages, such as Ngola (H21a), *masa* tout court came to mean ‘maize’, while in Mbamba (H21b) and Songo (H24), the noun phrase was reduced to the second noun.

Pasch (1983:207) considers CS (3b) and (3b’) as one (see also the WP ‘maize’ isogloss map in Lisimba [1982:381]), even though the first vowel and the tone pattern are different. In Kwamashi, for instance, the underlying scheme of *mũndárè* does not reflect *HH, but *LH, e.g. **-pðkǎ* ‘insect’ > *thìpúkǎ*, **-cðkǐ* ‘hair’ > *dìhúkǐ*. Therefore, it can be questioned whether these two CS are historically related, despite their manifest lexical similarity and geographical contiguity. Of course, the tonal irregularities and the vowel shift might suggest that CS (3c) is a skewed loanword derivation of CS (3b).

Finally, $^{\circ}$ -*pɔngv* is a root for maize in several nearby South-West-Bantu languages of the H20, K10, K30, R10, and R20 (Pasch 1983:208), but absent from the WP. If the isogloss distribution patterns are indicative of maize diffusion routes and if $^{\circ}$ -*ndade* is really related to $^{\circ}$ -*ndédé*, this might mean that the cereal reached the WP from northern Angola, rather than from southern Angola.

2.4. Cassava (*Manihot esculenta*)

The Portuguese introduced cassava from America on different places along the Atlantic coast after 1600 AD (Vansina 1997). There exists sweet and bitter cassava, but the generic noun does not always distinguish between both types. As table 4 illustrates, Mbukushu is the only WP language to do so. Outside the WP, Lucazi (K13) has the same two terms as Mbukushu (Pearson 1973:49). Among the other WP languages, the two nouns co-existing in Mbukushu have a complementary distribution.

(a) Mbunda (K15)	<i>mwǎnzǎ</i>	‘cassava’	(Bostoen FN 2005, Diarra 1992:20)
Lozi (K21)	<i>mwǎnja</i>	‘cassava, manioc’	(Jalla 1937)
Kwamulonga (K351)	<i>mwǎnjǎ</i>	‘cassava’	(Bostoen FN 2005)
Shanjo (K36)	<i>mwǎnjǎ</i>	‘cassava’	(Bostoen FN 2005)
Mbukushu (K333)	<i>mwǎndja</i>	‘sweet cassava’	(Legère & Munganda 2004:142)
Mwenyi (K352)	(o) <i>mwǎnja</i>	‘cassava’	(Yukawa 1987a:28)
(b) Mbwera (L61)	<i>dídhekǎ</i>	‘cassava’	(Bostoen FN 2005)
Kwamashi (K34)	<i>mùdhékǎ</i>	‘cassava’	(Bostoen FN 2005)
Mbukushu (K333)	<i>mudhika</i>	‘bitter cassava’	(Legère & Munganda 2004:142)
(c) Nkoya (L62)	<i>jikamba</i>	‘cassava’	(Yukawa 1987b:29)
Mbunda (K15)	<i>lupa lwa</i> <i>mukamba</i>	‘cassava (not yet soaked)’	(Pearson 1973:49)

Table 4. Comparative list of WP cassava vocabulary

CS (4a) is a typical WP isogloss and seems to go back to a root like $^{\circ}$ -*anja*. It is not only attested in most of the Luyana languages (see also the WP ‘cassava’ isogloss map in Lisimba [1982:301]), but also in Shanjo and Lozi, which have clearly distinct terms for other food plants. The Tonga attestation *mwǎnja* (Torrend 1967:93) is as a WP influence on the westernmost part of the Southern Province.

The most common cassava term in the M60 languages is *-kamba* (Torrend 1967:352), which is not entirely absent from the WP (4c), but bound to its very northern part. These marginal WP attestations belong to a larger isogloss linking languages from Zambia’s Southern (M60) and North-Western Province (K10, L40, L50) with languages from north-eastern Angola (K10, L50) and the Upper-Kasai region in the DRC (L10). Etymologically, this noun stem is most likely derived from $^{\circ}$ -*kambǎ* ‘yam’, which occurs in the B10, B30, B40, B50, B60 languages (Gabon, Congo, DRC), and in Umbundu (R11) (Angola). Given the complementary distribution of the meanings ‘yam’ and ‘cassava’, the name originally designating yam must have been applied to cassava when the latter was

introduced (Maniacky 2005:170). The distribution of $^{\circ}\text{-k}\hat{\text{a}}\text{mb}\hat{\text{a}}$ ‘cassava’ is probably suggestive of a diffusion route having its origin in the wider Kongo area. The terms attested in Pende (L11) and Holu (L12), for instance, have a tone pattern that does not correspond regularly to the reconstructed *-LL. The fact that this isogloss affects the WP only marginally seems to imply that the origin of cassava in the WP lies elsewhere.

The CS (3b), which extends to certain K10 and R20 languages, e.g. Ngangela (K12b) *muδīīka* (Maniacky 2003:8), and Ndonga (R22) *omudhika* (Tirronen 1986:19), may also coincide with a diffusion route that stretches from the Atlantic to the WP. The etymological origin of this CS could be $^{\circ}\text{-d}\hat{\text{i}}\text{ɪk-}$ ‘to bury, to plant’ (Bastin et al. 2003). In Ngangela, *muδīīka* also has a long vowel and its tone pattern corresponds historically to the L tone of $^{\circ}\text{-d}\hat{\text{i}}\text{ɪk-}$ (Maniacky 2003). The Ndonga reflex designates both yam and cassava. Like $^{\circ}\text{-k}\hat{\text{a}}\text{mb}\hat{\text{a}}$, this term may have undergone a semantic shift when cassava was introduced. If this isogloss also reflects a diffusion route, its orientation seems to confirm the hypothesis that the first Portuguese traders who reached the WP did not use the Upper-Zambezi route starting in Luanda, to which the $^{\circ}\text{-k}\hat{\text{a}}\text{mb}\hat{\text{a}}$ isogloss possibly corresponds, but came from the Bihe plateau, where amongst others Ngangela is spoken. From there, they travelled south-east to the Kwando/Mashi river, which they followed until the Chobe (Flint 1970:73-4).

In sum, the WP possesses a quite distinctive cassava term, i.e. $^{\circ}\text{-an}\hat{\text{j}}\text{a}$, whose geographical distribution barely exceeds its borders and whose etymology and historical origin are not established so far. This typical WP isogloss overlaps with two larger isoglosses, which possibly reflect cassava diffusion routes, one starting in the northern Angola, the other in southern Angola.

2.5. *Mobola + dwarf mobola plum trees (Parinari curatellifolia + Parinari capensis)*

These food plants are not cultivated, but are two closely related trees whose fruits are gathered. Their fruits are tasteful when ripe and are used to make beer. The two large nuts inside the endocarp are also eaten or used as an ingredient of other dishes (van Wyk & Gericke 2000:52). The names of both trees have only been collected in a limited number of WP languages, but their isoglosses display striking correspondences with those of other plants whose exploitation in Bantu-speaking Africa is old.

(a) Lozi (K21)	mubul a	‘ <i>P. curatellifolia</i> ’	(O’Sullivan 1993:352)
Shanjo (K36)	ímbul à	‘ <i>P. curatellifolia</i> ’	(Bostoen FN 2005)
Lozi (K21)	mubul a bul a	‘ <i>P. capensis</i> ’	(Mingochi 1998)
Shanjo (K36)	kábúl à búl à	‘ <i>P. capensis</i> ’	(Bostoen FN 2005)
(b) Mbukushu (K333)	ghu t ha	‘ <i>P. curatellifolia</i> ’	(Legère & Munganda 2004:144)
Kwamashi (K34)	mù t há	‘ <i>P. curatellifolia</i> ’	(Bostoen FN 2005)
(c) Mbukushu (K333)	sh a sh i	‘ <i>P. capensis</i> ’	(Legère & Munganda 2004:144)
Kwamashi (K34)	sh á sh ì	‘ <i>P. capensis</i> ’	(Bostoen FN 2005)
Mbwera (L61)	sh a sh i	‘ <i>P. curatellifolia/capensis</i> ’	(Bostoen FN 2005)

Table 5. Comparative list of WP plum tree vocabulary

The first noun is the one often adopted in English to refer to the *Parinari curatellifolia*, i.e. $^{\circ}\text{-b}\hat{\text{v}}\text{d}\hat{\text{a}}$. The reduplicated stem, whether preceded by the nominal prefix of class 12 or not, is a diminutive designating the dwarf mobola plum tree. The CS (5a) goes far beyond the WP. It occurs not only in neighbouring Tonga, but in several East-Bantu languages: zones F, G, N, M, P, and S.¹³ This tree name seems to be reconstructible to Proto-East-Bantu, or at least to an early post-Proto-East-Bantu stage, implying that the exploitation of this food plant by Bantu speech communities is old.

¹³ Ila (M63) *mubula* ‘*P. curatellifolia*’ (Fowler 2000:184), Tongwe (F11) *mubula* (Nishida & Uehara 1981), Swahili (G42) *mbura* (Heine & Legère 1995:352), Nyanja (N31b) *mbula* (Storrs 1995:275), Yao (P21) *muula* (Ngunga 2001), Venda (S21) *muvhúla* (Van Warmelo 1989:253), Tswana (S31) *mmo la* (Cole 1995:319).

CS (5b) is linked to the *Parinari curatellifolia* specifically. It is also part of an isogloss that largely exceeds the WP, but in the South-West-Bantu domain: zones H, K, L and R.¹⁴ For now, °-câ can be reconstructed, the structural low tone being based on data from Ngangela (Maniacky 2003) and Kwamashi (Bostoen FN 2005, e.g. *-dâ ‘belly’ > mùrâ; *-mâ ‘potter’s clay’ > ômâ).

CS (5c) is linked to the *Parinari capensis* specifically, except in Mbwera. It is also attested elsewhere in South-West-Bantu.¹⁵

In sum, the isoglosses of the three recurrent WP *Parinari* terms are reminiscent of what was observed for the millet vocabulary and to lesser extent for the sorghum terms, most interestingly also two food plants whose exploitation in Bantu-speaking Africa is old. Their distribution pattern clearly runs along an east-west division line. Shanjo and Lozi respectively join the Tonga and Sotho languages, and furthermore the rest of East-Bantu. Kwamashi and Mbukushu, on the contrary, join the South-West-Bantu languages.

3. Food plant vocabulary as indicators of linguistic strata

In this section, I assess the historical implications of the overview presented in §2 in terms of the historical stratigraphy of the WP.

3.1. Lozi vs. the pre-existing WP minority languages

The food plant terminology examined above essentially confirms what is known about the genesis of Lozi. The language inherited from the Sotho languages the names of food plants, which the Kololo people already knew from their homeland. In this respect, the Lozi cereal names, for instance, are clearly distinct from what exists in the other WP languages, except for the Luyana loanword *mangu* ‘millet’ that co-exists with the original term *mauza*. Such is the case for wild food plants, like the mobola plum tree, which occurs in large parts of tropical and subtropical southern Africa. Just like °-bêdê whose Lozi’s reflex refers to ‘sorghum’, °-bvda ‘*Parinari curatellifolia*’ is a noun stem that dates back to an early stage of East-Bantu development. The Kololo people must also have known maize before their arrival in the WP, since Lozi shares its name with S-Sotho. This may be little surprising, given that their migration only took place in the 19th century, while the introduction of maize may have happened two centuries earlier. Nonetheless, Lozi’s term for cassava is part of a typical WP isogloss, even though its introduction in Africa is more or less contemporary to that of maize and the tuber is currently known in the Sotho-speaking areas. Either it was not introduced or its use was not generalized yet in the Kololo homeland before their departure.

Even if the presence of Sotho food plant vocabulary in Lozi confirms what is known about the genesis of Lozi, not all Lozi terminology corresponds to what currently exists in S-Sotho. For some plants, such as millet, Lozi rather follows Pedi/N-Sotho than S-Sotho. This suggests that the Kololo may have originated from an area close to modern-day Lesotho, but that the constitution of this conqueror group was quite composite. They must have incorporated people from different regions along their migration path through South Africa and Botswana (Flint 2003:402).

3.2. East-Bantu vs. West-Bantu among the WP minority languages

The Bantu minority languages, which were already present in the WP when Lozi made its introduction there, are generally subdivided in three distinct groups, i.e. Luyana, Tonga, and Nkoya. Food plant vocabulary happens to manifest distribution patterns vis-à-vis these subdivisions that change according to the age of the plants concerned. The isoglosses linked to indigenous African food plants tend to behave differently compared to those linked to plants of foreign origin whose introduction is due to early European interference.

¹⁴ Kimbundu (H21) *noxá* (Gossweiler 1953:257), Ngangela (K12b) *muca* (Maniacky 2003:43), Kwangali (K33) *usa/mausa* (Legère pers. comm.), Lunda (L52) *mucha* (Storrs 1995:275), Nyaneka (R13) *omutya* (Gossweiler 1953:257), Kwanyama (R21) *emunha-notcha* (Gossweiler 1953:257)

¹⁵ Kwangali (K33) *sinsansi* (Legère pers. comm.), Nyaneka (R13) *ovintyahi* (Gossweiler 1953:256)

The names for indigenous food plants uncover the old demarcation lines that separate these language groups. These are often part of much larger isoglosses, displaying an unmistakably East-Bantu or (South-)West-Bantu distribution. This is true for the terms referring to millet and the *Parinari* plum trees, and to a lesser extent for sorghum vocabulary too. This vocabulary mainly opposes Shanjo (and Fwe, as far as data are available) of the Tonga group to the Luyana languages. While the names for millet and *Parinari sp.* in the former languages are part of wider East-Bantu isoglosses, they belong to wider (South-)West-Bantu isoglosses in the latter. This indicates that the ancestors of these minority speech communities exploited the plants in question long before they settled in this area. In this respect, the fact that the sorghum vocabulary among the WP languages is more diversified might suggest that the ancestors of the main WP language groups did not exploit this cereal yet before they established themselves in this area, even if the plant itself has a long history of cultivation in Africa. Only the $^{\circ}\text{-}p\iota da$ reflex in Shanjo and the $^{\circ}\text{-}c\grave{a}$ reflex in Mbunda (not a member of the Luyana group) are part of respectively wider East-Bantu and (South-)West-Bantu isoglosses. The rest of the WP sorghum vocabulary seems to have a fairly local distribution. However, this WP interaction between wider East-Bantu and (South-)West-Bantu distribution patterns is indicative of language history too. It suggests that the Tonga and Luyana languages are offshoots of two distinct early Bantu sub-groups, i.e. East-Bantu and (South-)West-Bantu respectively. Unlike Bastin et al. (1999) and Vansina (2004:275-6), this corroborates Lisimba (1982:138), who claimed strong affinities between Luyana and certain Angolan South-West-Bantu languages. To the latter also belong the more recently arrived WP languages of the Cokwe-Lucazi group, such as Mbunda, whose ‘millet’ and ‘sorghum’ names are unmistakably (South-)West-Bantu in origin. This is generally accepted and confirmed by the data presented in my paper. As regards the position of the Nkoya group (L60) along the east-west division line, the plant names considered are more unequivocal. Both Nkoya and Mbwera have a reflex of the (South-)West-Bantu root $^{\circ}\text{-}c\acute{a}ng\bar{\sigma}$ for millet, while Nkoya joins Shanjo as part of the wider East-Bantu $^{\circ}\text{-}p\iota da$ isogloss for sorghum.

Concerning food plants of more recent introduction, such as cassava and maize, the distribution of their vocabulary blurs the old demarcation lines between subgroups. The WP ‘maize’ isogloss $^{\circ}\text{-}ndade$, for example, cuts through the early food plant isoglosses, and unites languages of the Luyana group with languages from the Nkoya and Tonga groups. The same holds for the $^{\circ}\text{-}anja$ ‘cassava’ isogloss, which even includes Lozi. While these foreign plant isoglosses bring together languages of separate origin, they dissociate these very same languages from their earlier relatives. A language like Shanjo, generally considered as belonging to the Tonga group, for instance, shares none of its terms for the above-cited foreign plants with the M60 languages of the Southern Province, contrary to what we have seen for the indigenous food plants.¹⁶ This suggests that in the period of maize and cassava introduction, the Shanjo speech community was already integrated into a regional communication network with its current northern and western neighbours. At the same time, they had loosened contacts with their relatives in the east, with whom they share the common ancestors who already consumed the plums of the *Parinari* trees and knew how to cultivate millet and sorghum. Similar scenarios hold for languages of the other main WP groups and show how constellations of linguistic frontiers and communication networks may change over time. Moreover, the isoglosses related to foreign food plants, such as maize and cassava, highlight the linguistic impact of long-distance (trade) contacts and may be suggestive of diffusion routes. Isoglosses like $^{\circ}\text{-}ndade$ ‘maize’ (if it derives from $^{\circ}\text{-}nd\acute{e}d\acute{e}$) and $^{\circ}\text{-}d\grave{i}ika$ ‘cassava’ indicate that these types of networks, reaching the WP through a long series of intermediaries, were oriented towards the Atlantic coast. In the same respect, an isogloss like $^{\circ}\text{-}k\grave{a}mb\grave{a}$ ‘cassava’, linking languages of Zambia’s Southern Province with languages from the North-Western Province, from north-eastern Angola and from DRC’s Upper-Kasai region, shows that this was even the case for more eastern areas, but that these neighbouring areas were not necessarily linked up with the same networks.

¹⁶ Except then for *mwanja* ‘cassava’ in Tonga, which co-exists with the more common M60 noun $^{\circ}\text{-}kamba$.

3.3. Bantu vs. non-Bantu click languages

The non-Bantu click language data incorporated in the present article mainly illustrate the impact of Bantu (not necessarily WP Bantu) on languages of the Khoe(-Kwadi) family. It is little surprising to note that non-Bantu speech communities, which do not grow plants themselves, borrowed from their Bantu-speaking neighbours' names for cultivated food plants, such as millet, sorghum, and maize. All these loanwords are part of isoglosses with a South-West-Bantu distribution that is either wide ($^{\circ}$ -*cángǎ* 'millet', $^{\circ}$ -*ndédé* 'maize') or local ($^{\circ}$ -*tǎmbi* 'sorghum'). However, what is less obvious, the Bantu impact on certain Khoe(-Kwadi) languages in terms of plant vocabulary seems not to be limited to domesticated plants. An indication of this is an isogloss related to the brown ivory tree (*Berchemia discolor*), whose yellow to orange ripe fruits produce a sweet taste and can be used for brewing beer or flavouring porridge (van Wyk & Gericke 2000:36). Its Khwe name *tcíndjere* (Kilian-Hatz 2003:351) corresponds to nouns noted in several nearby Bantu languages.¹⁷ The origin of this term should be Bantu, since 'the canonical root structures of southern African Khoisan languages is CVCV, CVV, or CVN, where C₂ is restricted to a small set, e.g. /r, l, n, ny, m, w (or bilabial fricative)/' (B. Sands, pers. comm.).

For the time being, very little can be said on the impact of non-Bantu click languages on WP Bantu languages. Given the available corpus and the plant names considered in this study, it is little surprising that no plant names of non-Bantu origin have been identified in the WP Bantu languages. In a study on Kavango languages, Legère (1998:213-5) presented a list of non-Bantu click words in Mbukushu and Kwangali. It contains several names of plants whose fruits or tubers are gathered, e.g. Mbukushu *dí-/ǎre* 'the sandpaper raisin' (fruit of *Grewia flavescens*). This is most probably a non-Bantu loanword (Legère 1998:202). Similar terms occur in certain Khoe(-Kwadi) languages, e.g. Khwe *pǎ-ǎgǎrǎ* (Kilian-Hatz 2003:284), Khoekhoegowab */gǎrǎ.s* (Haacke & Eiseb 2002:543). The WP languages not only have no click word for these berries, but the terms collected do not resemble the Mbukushu word either.¹⁸ The origin of these words is not established yet and difficult to verify by lack of sufficient comparative evidence.

4. Conclusions

This paper shows how plant names can serve as indicators of linguistic stratification. Cross-linguistically, food plants of distinct age and origin, i.e. indigenous vs. imported, have isoglosses displaying divergent distribution patterns. This property can be used to unravel the complex stratified language history that led to the high linguistic diversity characteristic of the WP today. This area appears to have attracted speech communities of very diverse historical origin. Not only is it situated at the fringes of the northernmost contact zone between Bantu and non-Bantu click languages of southern Africa, but it has also been a meeting point between early Bantu branches. An old linguistic frontier, i.e. the division line between East-Bantu and (South-)West-Bantu, runs right through the WP. In line with previous lexicostatistical studies, the early food plant vocabulary studied in this paper unmistakably associates the southernmost WP languages of the Tonga group with East-Bantu. Quite the opposite, the Luyana languages clearly share their early food plant vocabulary with (South-)West-Bantu. As regards the Nkoya group, also emerging as an East-Bantu offshoot in Bastin et al. (1999), the data considered do not univocally cut through East-Bantu and (South-)West-Bantu. So, when the Kololo people introduced their language in the WP, this only added a new layer to the already diversified linguistic situation. On the other hand, through the names of more recently important food plants, this same study has shown that previous to the introduction of maize and cassava about four to five centuries ago, all these distantly related language groups had already begun to integrate progressively into a common linguistic area, mutually affecting each other and undergoing the same external influences.

¹⁷ Kwamashi *mǎzǎnzǎrǎ*, Shanjo *mǎzǎnzǎlǎ* (Bostoen FN 2005), Lozi *muzǎnzǎla* (Storrs 1995:313), and Tswana (S31) *mo.tsǎntselǎ* (Cole 1995:294).

¹⁸ Kwamashi *nǎmǎlǎmǎ*, Shanjo *nǎmǎlǎmǎ*, Mbunda *ǎmpǎndǎ*, Mbwera *nǎmǎlǎmǎ* (Bostoen FN 2005), Lozi *namǎlǎmo* (Mingochi 1998).

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