

Cultivated crops and Bantu migrations in Central and Eastern Africa : a linguistic approach

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Names of cultivated crops as they are attested today in Bantu languages can be expected to provide clues to the spreading of these crops, either as they were carried by farmers newly opening up lands heretofore only exploited by hunters-gatherers, or as they were passed on from one cultivating group to the next. Of course, numerous and diverse interactions between societies can be expected to have taken place since the initial diffusion of crops, making vocabulary correspondences rather less telling than might be hoped for. Nevertheless, it is in principle possible by careful application of the comparative method to throw some light on the said processes.

We will examine in turn the major crop categories, with the special note that names of pulses and beans (*Leguminosae*) are very poorly attested in most of the domain and the most extreme confusion reigns as to their exact identification (this is less true of East Africa, at least in part).

I. Cereals (*Graminae*)

It is widely accepted that the three main grain crops cultivated by Bantu speakers were not part of their original agricultural tradition, but were first acquired in the Great Lakes region, from speakers of some branch of the Nilo-Saharan language family. Ehret in particular has made a number of proposals as to the donor languages, and although it is hard to pass judgment on the correctness of the reconstructions of individual items, the general picture seems reasonably convincing. Nevertheless, much remains to be done as to the precise paths of diffusion. Some items are much more generally attested than others, as will appear below.

The most widespread root is *-bèdédé, with the meaning "bulrush millet" (*Pennisetum*) from the Great Lakes area throughout most of the eastern half of Africa to Venda in the south. It means "sorghum" in a number of languages in Southern and South-central Africa. A noteworthy point is that its reflexes are regular throughout the whole area (with either meaning) apart from a few languages around Luba and Lunda, and perhaps in Makua. Due to this great spread and regularity, it might be assumed to belong to an early phase of the ancestor language.

No such homogeneity obtains for the other terms : for sorghum, *-pémbá is well attested in East Africa, alongside *-tama nearer to the coast (perhaps two

different varieties - *caudatum* and *kafir* - although this doesn't appear very likely). Central Kenya has *-pia, whereas *-pida and *-caka are found in Central and Southern Africa and *-cangu to the south-west. A noteworthy feature is that the regional root for "sorghum" has very often been applied to "maize" (probably due to the general similarity of the plants), sometimes with, sometimes without skewing of the reflexes (cf. Appendix 1). Classic examples from East Africa are Dawida (E 74a) which has mwembà "sorghum" and bembá "maize", and Shambaa (G 23) with uhemba "sorghum" and mampé'mbá "maize", where, in each case the first word is a regular, the second an irregular, reflex of *-pémhá

For finger millet (*Eleusine*), the situation is the same : three forms emerge in the Eastern part of the sub-continent. *-gĩmbĩ is restricted to the northernmost part of East Africa east of the eastern Rift Valley. *-dó is found around the Lakes. The most interesting form is however *-dègĩ found in Southern and Central Tanzania to northern Malawi : this reconstructed form is reminiscent of raji, raji found in Indian languages, but the direction of the loan is doubtful.

II Root crops (*Dioscoreaceae*, *Araceae*, etc.)

It seems certain that the earliest cultivation practiced by speakers of Bantu languages involved the planting of some species of yams (*Dioscorea spp.*, probably *rotundata/cayenensis*, and *bulbifera*). Later they acquired other species (mostly *D. alata*) from the Malaysian complex.. The great antiquity of yam cultivation among Bantu speakers is also confirmed by the existence of a root * -kúá found in both north-western and eastern Bantu; evidence for the attribution of this reconstructed root to specifically *D. cayenensis* and/or *D. bulbifera*, which is what one would expect in view of the above, is hard to come by, but there is no evidence either that it might refer to the Asian species, with the one exception of Dawida, where it seems to mean *D. alata* (but yam cultivation among the Dawida is nowadays residual and the identification might well be mistaken). Otherwise, yam names are very local and the crop itself plays only a restricted role -if at all- in most of the southern half of the domain.

Evidence for cocoyams is also mostly restricted to the forest and highland zones, with the interesting remark that a reconstructed stem *-gàbò or *-gàbà from the A zone in Cameroun seems to regularly correspond to the word for "cassava" in certain languages of southern Tanzania and Malawi (cf. Appendix 2). If the correspondance is correct, then the stem itself must be old and presumably have referred to some sort of tuber, although both cassava and probably cocoyam are out of the question. Another puzzling resemblance is Duala d̄indé "cocoyam tuber" and Chaga-Dawida *-t̄ind̄i "cocoyam plant" (?)

A query by Murdock that the sweet potato may have been present in pre-Portuguese Africa doesn't seem to be taken seriously by botanists, although the crop was found in New Guinea by the first European explorers. On the other hand, names for it do not seem to follow the pattern established for undoubted Portuguese introductions such as maize (see above) and groundnut (see below) where names of well-established indigenous cultigens were carried over to the

introduced plants. Although the Portuguese word *batata* is frequent in southern and south-central Africa, a stem *-dolo (with irregular tonal correspondances) is found throughout eastern and central Africa right to the rain forest and in a few cases into it. Is this a case of an introduced word coming along with the plant ? or was it the name of a previous crop (say *Coleus/Plectranthus*) ?

In all these cases it must be emphasized that the evidence, both botanical and linguistic, is of very poor quality. Tones in particular are mostly lacking, although they are often of diacritic importance.

III. Pulse crops :

The original Bantu roster of cultivated crops included most probably two pulses, namely cowpea (*Vigna unguiculata*) and Bambara groundnut (*Voandzeia/Vigna subterranea*). The evidence for the former is the stem *-kúndè found throughout Bantu-speaking Africa (minus the far south) where it apparently always refers to the cowpea. A stem *-jùgú refers in some places to the Bambara groundnut, but it has very widely taken on the meaning "groundnut" (*Arachis hypogaea*); in the north-eastern highlands where Bambara groundnuts aren't found, the same stem refers to pigeon-pea (*Cajanus*) of possible Asiatic origin. Here again Dawida has a doublet : t fùyù "pigeon-pea" (regular reflex), ndzùgù "groundnut" (irregular, hence probably borrowed). An amusing footnote to the above discussion is that the source of the French name for Bambara groundnut "voandzou" from which the scientific generic name *Voandzeia* was taken, is the Malagasy word voanjo "groundnut" (lit. plant-njo) where the second element is obviously a reflex of the Bantu stem *-jùgú (probably borrowed through Comorian ?). *Voandzeia* itself, of course, is called in Malagasy voanjo bory "round groundnut"...

Many other pulses are to be found in Bantu-speaking areas, of either Asian or American origin. Linguistic and botanical data are too confused for a systematic treatment.

IV. Bananas

The crop which has attracted most attention from historians is perhaps the banana. Plantains predominate in the forest, with many cultivars, AA and AAA types predominate in East Africa; elsewhere bananas are of minor importance. Guthrie reconstructed three stems for the Western area : *-kò, *-kòòndè and *-kòòndò, asserting that the second one is the original form, the others being variant (this is quite surprising in view of the otherwise over-meticulous nature of Guthrie's reconstructions). It must be pointed out at the outset that the reconstructed forms do not correspond (as pointed out by De Langhe et al.) : most of the north-western languages point to *-gòndò as being the stem in the forest area (the long vowel in Guthrie's reconstructed *-kòòndò is only an artefact of his refusal to accept *g as the initial consonant). A goodly number of them have *-gondì with a close final -i. Most languages having *-kò likewise suggest *-gò just as easily or sometimes exclusively. On the other hand, the savanna languages do have *-kòndè for the most part (none has unequivocally *-gòndè).

The consonant evidence would thus seem to support De Langhe's claim that *-kòndè was borrowed by savanna languages from languages to the north (which also fits well with the fact that bananas aren't an important crop in those dryer latitudes). On the other hand, it must be said that the vowel harmony (*e > o after o) is normally operative in forest languages. So that the following evolution could be envisaged : original form (of whatever origin...) *-gòndè or perhaps even *-gòndì; then PB *g > k in forest languages giving -kòndè which is borrowed and passed on by savanna languages; then vowel harmony applies in many forest languages yielding -kòndò. (It has been noticed that a word kíkonde exists in Swahili where it designates an AAB Mysore cultivar. In view of the overall Bantu distribution of the stem and of its reference in Swahili to a recently imported cultivar, I think it best not to consider this as a retention from a probably non-existent Proto-Bantu root. In fact, there is a Swahili word konde meaning "small seed or pip" which might be the origin of the name in this case - this variety being said to show traces of the seeds).

The other stem, *-tòòkè extends from the Great Lakes area all the way to the Zambezi, which would not contradict its introduction from the Coast, as has been often remarked before, but it would not contradict the Sabeian lane either. The stem does not exhibit any irregularities of correspondences.

It has been widely hypothesised by some authors (including De Langhe et al. at this conference) that cultivation of *Ensete* varieties might well have been a prerequisite to the adoption of banana cultivation in Eastern Africa at least. This is possible, but it should be noted that linguistic data do not allow us to make firm pronouncements on this. In particular the existence of a stem *-gomba whose original meaning would be "ensete" is to be taken with utter caution. The facts are as follows :

- in Eastern Africa, the word mgomba means "banana tree" in Swahili; mgombamwitu, literally "bush banana-tree" refers to *Ensete*. The word mgomba occurs under this or a similar form in several languages of Central Tanzania, where bananas are not generally an important crop, like Gogo, Sukuma, Nilamba etc. In some of these languages it is demonstrably a loan, like in Sukuma ḡḡḡmba, where the falling tone on the first syllable indicates a recent loan, most probably from Swahili; I think it likely that we're dealing with Swahili loans in all these languages.

The claim that the same word is found in North-western Bantu languages is apparently due to a mistaken translation : it is correct that some plantain varieties are called ḡḡḡmbá in Cameroun and Gabon; but the word means "porcupine" (*Atherurus*) and is obviously used for descriptive reasons (as other varieties are called "elephant foot"). No relationship should be postulated with the Swahili word mgomba.

On the other hand a number of languages in Eastern and Southern Africa exhibit this stem in very skewed forms with meanings related to bananas or ensete(cf. Appendix 3). The Ethiopian origin of this stem might very tentatively be postulated, since there is a Amharic word (apparently not very widespread) koba "ensete". To explain such a variety of shapes, the best explanation is that we

are faced with a loan borrowed separately several times. But to be borrowed by groups as far apart as Kikuyu and Zulu, would imply a respectable antiquity for the process, presumably when the ancestors of most of today's Eastern Bantu would have been still clustered in or around the Lakes area - especially so if the name is of Ethiopian origin, as might seem likely in view of the distribution of ensete cultivation. In which case, the diversity of shape is difficult to explain in comparison with the homogeneity of, say, *-bèdê "bulrush millet, sorghum" (cf. above).

Another final mystery to be mentioned about banana terminology relates to the shapes found in the north-easternmost area (cf. Appendix 4). The reconstructed stems with the meaning "banana" would be *-d̥ɪ̄ɣú for Asu, Kami and Sabaki, *-d̥ɪ̄ɣú for Chaga-Taita (where the change /ɪ̄ > ɣ/ is widespread), so the correspondances seem regular and the loan would appear an ancient one. On the other hand, the Central Kenyan points to *-d̥ɪ̄gu, which would also seem to fit, were it not for the fact that the only two languages for which tones are attested give contradictory results : Kikuyu indicates *-d̥ɪ̄gù, with two low tones, whereas the tone profile of the Kamba word is otherwise characteristic of loans (in order to correspond tonally with Kikuyu, one would expect *èìð). To complicate matters further, the name for ensete in Gweno and Asu ɪ̄r̄ìgò, which also looks similar, is completely irregular segmentally. The paradox here is again that the word referring to the plant assumed to be the one more anciently known (*Ensete*) is more irregular than the supposedly more recent acquisition (Note that words for the ensete plant in Kikuyu and Kamba is entirely unrelated).

One would thus like to sound a note of caution about the necessity of taking tones in consideration when examining possible cognates. The situation is still much more complicated than might be thought by non-linguists.

Appendix 1

"Maize" and "sorghum"

	maize	sorghum
kota (B 25)	i s a ηgu	
bobangi (C 32)	l i s á ηgú	
mongo (C 61)	l i s á ηgú	
songola (D 24)	i s á ηgó	
ntaandu (H 16e)	s á a ηgu	
lwena (K 14)	ma s a ηgu	
pende (K 52)		d i s a ηgu
mbundu (R 11)		a s a ηgu
kwanyama (R 21)		o m a h a ηgu
nande (J 42)		o m ú h e m b a
rundi (J 62)		a m a s a k á
ganda (J 15)		o m u w ê : m b á
masaba (J 31)		k á m a e : m b a
gusii (E 42)		á m a e m b a
sonjo (E 46)		b o h e m b e
kikuyu (E 51)	m b e m b é	
mwimbi (E 53)	m p e m p e	
kamba (E 55)	m b e m b a	
mashami (E 62a)	m e e m b a	
keni (E 62c)	m a h e m b a	
gweno (E 65)	m a é m b á	
dawida (E 74a)	m a b e m b á	m w è m b à
pokomo (E 71)	m a p e m b a	m u h a m a
swahili (G 42d)		m t a m a
asu (G 22)	m a h é m b á	m t á m á
bondei (G 24)	m p e m b a	u h e m b a
gogo (G 11)	m a t a m a	u h e m b a
nilyamba (F 31)		o p é m b a
remi (F 32)	m u n t a m a	
pogoro (G 51)		z i s a k a , m a p e m b a
hehe (G 62)		u p e m b a
lungu (M 14)	c ì s à k à	
nyakyusa (M 31)		a m a p e m b a
taabwa (M 41)	k i s a k a	m a s a k a
bemba (M 42)		a m a s a k a

matengo (N 13)
yao (P 21)

mapemba
mapemba

Appendix 2

"Cocoyam" in Cameroun and "cassava" in Malawi

	cocoyam	cassava
kwiri (A 22)	l ì k à w ò	
duala (A 24)	d ì k à b ò	
yasa (A 33)	m à k à b ò	
basaa (A 43)	l ì k à b ò	
ewondo (A 72)	à k à b à	
ngumba (A 81)	k à p	
tumbuka (N 21)		ma y a o
nyakyusa (M 31)		ama y a b o
matengo (N 13)		l i y a o

Appendix 3

Roots for "banana" in Eastern and Southern Africa

*-gom(y)a :

nyore (J 33)	l i k o m a
logooli (E 41)	l i g o m y a
gusii (E 42)	r i g o m i a

*-kobo :

pokomo (E 71)	ŋ k o (o) ?
digo (E 73)	k ^h o o (banana-tree)
nkwele (G 32)	ŋ k ^h o o
zalamo (G 33)	ŋ k ^h o o
kami (G 36)	ŋ k ^h o o
kutu (G 37)	ŋ k ^h o o
lugulu (G 35)	ŋ k ^h o o
kagulu (G 12)	ŋ k ^h o o
sagala (G 38)	ŋ k ^h o o
sangu (G 61)	ŋ k ^h o o

gogo (G 11)	ŋ ^h owo
pogolo (G 51)	-koo
hehe (G 62)	ilikovo
kinga (G 65)	elikovo
mwera (P 22)	ŋoβo
maviha (P 25)	iŋoo
*-gombo :	
makua (P 31)	mo:po (banana-tree)
cewa (N 31)	magombo
yao (P 21)	ligóombo
matumbi (P 13)	-gobo ?
*-kombwe :	
bungu (F 35)	eŋgombwe
wanda (M 21)	eŋkombwe
tumbuka (N 21)	makobwe ?
*-kombwa	
doe (G 30)	ŋk ^h ombwa
*-kombúá :	
chopi (S 61)	-komva
*-gombúa :	
venda (S 21)	-omva
*-kobúá :	
zulu (S 42)	ulúk ^h ô:vá
*-kompúá :	
tsonga (S 53)	kompfá
not reconstructible :	
kikuyu (E 51)	ŋgóβô (ensete seeds)
meru (E 50 ?)	mokɔβɔ (ensete plant)
shona (S 10)	hová, hobó, hombó

Appendix 4

Banana names in North-eastern Tanzania and
surrounding areas

sonjo (E 46)	e l i g o, k e l i g o
kikuyu (E 51)	ì r ì y ò
embu (E 52)	e r i y o
tigania (E 53)	e r i o
kamba (E 55)	è ì ò
daiso (E 56)	r u w o
rwa (E 61)	i ɾ u u
moci (E 62b)	i ɾ u h ũ
useri (E 62c)	i ɾ u u
gweno (E 65)	i r u y ú
dawida (E 74a)	ì r ù y ù
saghala (E 74b)	i r u y u
asu (G 22)	i j i y ú (AA cultivar)
pokomo (E 71)	i z u
duruma (E 72)	i z u
digo (E 73)	i z u
ngazija (G 44a)	d z u (cultivar ?)
kami (G 36)	n z i g u (cultivar ?)