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Bantu Lexical Reconstruction

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Abstract and Keywords

Lexical reconstruction has been an important enterprise in Bantu historical linguistics since the earliest days of the discipline. In this chapter a historical overview is provided of the principal scholarly contributions to that field of study. It is also explained how the Comparative Method has been and can be applied to reconstruct ancestral Bantu vocabulary via the intermediate step of phonological reconstruction and how the study of sound change needs to be completed with diachronic semantics in order to correctly reconstruct both the form and the meaning of etymons. Finally, some issues complicating this type of historical linguistic research, such as “osculance” due to prehistoric language contact, are addressed, as well as the relationship between reconstruction and classification.

Keywords: Bantu, reconstruction, phonological, lexical, African Linguistics, historical linguistics, sound change, diachronic semantics, Comparative Method, osculance

This chapter is about Bantu lexical reconstruction(s). In the singular, this term refers to a long-lasting sub-discipline within Bantu historical linguistics. In the plural, it is the name of an online database partly reflecting the output of more than one century of research done within that field, also known as BLR3 (Bastin et al. 2002). In Section 1, we first give a historical overview of the major contributions to the field, an overview that is slightly more detailed than the “historiographic sketch” in Schadeberg (2002). We then briefly discuss three methodological issues involved in the reconstruction of the ancestral Bantu lexicon. Section 2 is about reconstructing proto-forms, Section 3 about recovering etymological meaning, and Section 4 about the often-encountered problem of “osculance.” In Section 5, we conclude and consider some possible lines of future research in Bantu lexical reconstruction.

1 A history of Bantu lexical reconstruction

1.1 Early 20th century German school

While the German missionary Wilhelm Bleek is the father of Bantu as a language family (Bleek 1862), the German philologist Carl Meinhof is the originator of *Ur-Bantu*, that is, his “*hypothetical reconstruction of the prototype of Bantu speech*” (Meinhof and van Warmelo 1932: 22). Even if around the turn of the 20th century the origin of the Bantu family was not yet understood, Meinhof strived to reconstruct its most recent common ancestor. Inspired by 19th-century developments in comparative Indo-European philology, Meinhof’s undertaking focused first and foremost on phonology. Although he recognized the relevance of semantics, he especially endeavoured to discover the laws governing sound change in different Bantu languages. In order to do so, he compared cognate roots and established regular sound correspondences. The reconstruction of the sounds and words of *Ur-Bantu*, currently known as Proto-Bantu (PB), almost inevitably followed. Meinhof’s increasing number of Bantu lexical reconstructions was always listed as an appendix to the successive versions of his work on comparative Bantu phonology (Meinhof 1899, 1910; Meinhof and van Warmelo 1932).

In the wake of Meinhof, several fellow countrymen—both students and colleagues—dedicated themselves to the study of sound change in Bantu languages as well as to the intimately associated pursuit of Bantu lexical reconstruction. Scholars started to rely on Meinhof’s *Ur-Bantu* reconstructions to examine the (diachronic) phonology of individual Bantu languages, as Struck (1911) did, for instance, for the Tanzanian language Fipa. Such descriptions led in their turn to new compilations of Bantu *Wortstämme* (Bourquin 1923, 1953; Dempwolff 1916-1917; Hoffman 1952; Meinhof 1904). According to Schadeberg (2003: 153), “Meinhof, together with students and colleagues, reconstructed 5-700 Bantu lexical items.” Especially if one takes into account the PB reconstructions added by Bourquin (1923), this seems an underestimation of the German reconstruction program. The total number of reconstructions from Bourquin (1923), Meinhof and van Warmelo (1932), Hoffman (1952), and Bourquin (1953) included in BLR3 (Bastin et al. 2002) amounts to 1,759 items. This comes close to the numbers of PB reconstructions which Schadeberg (2002: 184) counted for Meinhof 1899 (270), Meinhof 1910 (470), and Bourquin 1923 (1,450).

1.2 Early 20th century reconstruction in France: Lilius Homburger

Parallel with the Germans, the French philologist Lilius Homburger, a student of, among others, Antoine Meillet, undertook historical-comparative research on the sounds of Bantu languages (Homburger 1914) and, more specifically, of those spoken in the South-West (Homburger 1925). Although he was familiar with the work of Meinhof and others, he worked independently from them. Some 350 of his general and 180 of his South-West-Bantu lexical reconstructions were incorporated into BLR3 (Bastin et al. 2002).

1.3 Mid-20th century tonal reconstruction in the USA: Joseph Greenberg

Greenberg (1948) did not add many new Bantu lexical reconstructions, but he still marked an important step for the field by adding tone to existing reconstructions (Schadeberg 2003: 153). Building on a limited number of pioneering comparative tone studies, he reconstructed a two-level PB tonal system that is still accepted today.

1.4 Mid-20th century Comparative Bantu in the UK: Malcolm Guthrie

From the mid-20th century, the center of gravity shifted to the United Kingdom and Belgium, where Malcolm Guthrie (School of Oriental and African Studies in London—SOAS) and Achille Emiel Meeussen (Royal Museum for Central Africa in Tervuren—RMCA) took—independently of each other—the lead in both Bantu lexical and grammatical reconstruction (Schadeberg 2003: 153).

Guthrie synthesized thirty years' work in his monumental four-volume *Comparative Bantu* (Guthrie 1967, 1970a, 1970b, 1971). The “keystone” of this magnum opus, as Dalby (1975: 484) points out, is Guthrie's “Common Bantu” (CB), a compilation of about 2,300 “Comparative Series” (C.S.), all consisting of a list of items from modern Bantu languages linked by a common meaning and regular sound correspondences. Alongside the shared meaning, each C.S. is symbolically represented by a “starred form” composed of “characters similar to those used in the spelling of one of the actual items” and preceded by a prefixed asterisk *, the conventional mark adopted to signal an artificial construct (Guthrie 1967: 19). It is important to realize that these starred forms only pertain to the present and cannot be considered as true reconstructions.

Adopting a two-stage method, Guthrie (1962b) was first concerned with the “construction of Common Bantu” (stage one), which had to provide the basis for the “reconstruction of

Proto-Bantu" (stage two). By this intermediate step Guthrie intended to provide a verifiable basis for making valid inferences about Bantu prehistory. This was necessary to exclude "feed-back," that is, "the introduction of some of the results of an investigation into the conduct of the investigation itself" (Guthrie 1962b: 1). In Guthrie's view, Meinhof made himself guilty of feed-back by "referring to his hypothetical Ur-Bantu as though it was a real ancestor language, and then basing some of his methods on this assumption" and his reconstruction work also missed "real regularity in the sound-shifts implied in the material which was quoted" (Guthrie 1962b: 2). The CB C.S. and starred forms that Guthrie constructed through stage one therefore had to be absolutely "free from exceptions" and "determined without reference to any feature located in prehistory" (Guthrie 1962b: 5).

Once constructed, CB could serve a basis to reconstruct PB: "since the items in any series are held together by regular correspondences, they can be regarded as 'cognates' or in other words as descendants or 'reflexes' of an item in some source language somewhere. It would, however, not be proper at this point to assume that the source item of every comparative series belonged to a single ancestor language to be called 'Proto-Bantu' since no evidence of this has yet been produced" (Guthrie 1962b: 4, 15-16).

To produce such evidence, the step from CB to PB thus involved detailed analysis of sound change, morphological change including analogical reanalysis, semantic change, and "topology". The latter referred to the geographical distribution of each series in terms of the fifteen zones of his referential Bantu classification (Bryan 1959, in which Guthrie's classification is referred to as MG3; Guthrie 1971). Guthrie (1962b: 17) identified three main patterns of geographical dispersion, that is, (1) general, which covers the whole or the greater part of the Bantu area (c. 27%); (2) western, which extends either completely or mainly over zones A, B, C, H, K, L, R (c. 19.5%); and (3) eastern, which extends either completely or mainly over zones D, E, F, G, M, N, P, S (c. 40.5%). Less than 14% of the series had a geographical spread that did not fit well in one of these patterns. Upon this observation, Guthrie (1962b: 17-18) proposed a Proto-Bantu X, "some common parent of all the Bantu languages" which separated into two dialects, that is, Proto-Bantu A (in the west) and Proto-Bantu B (in the east).¹

The reconstructions that ultimately made it to PB-X (also represented as starred forms but differentiated from CB by the use of upper-case characters) are much fewer than the number of CB series, which were based on one shared meaning and absolute formal regularity. Schadeberg (2002: 184; 2003: 153) rightfully remarks that although Guthrie's CB contains many sets of items representing a single PB reconstruction and Guthrie emphasized that his C.S. are not reconstructions, scholars tend to erroneously regard them as such. This needlessly complicates comparative research both within Bantu and beyond, for instance in the realm of Niger-Congo studies.

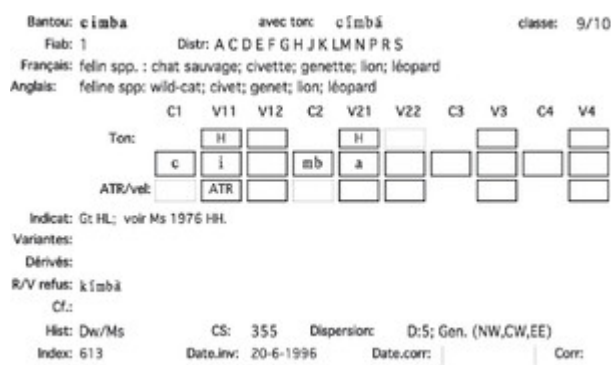
1.5 Mid-20th century Bantu lexical reconstruction in Belgium: Achilles Meeussen

Meeussen completed in 1969 a handwritten manuscript entitled *Bantu lexical reconstructions*, which he shared with whoever had interest (Schadeberg 2003: 153). It was a preliminary result of the comparative Bantu studies that he and his team had been carrying out from the 1950s onwards in the RMCA. In his foreword to the 1980 reprint, André Coupez informs the reader that “Meeussen intended it only as a provisional worktool” and that he “had contemplated a revised and updated version [...] which would have included the information accrued since 1969,” a revision which he could never complete due to his untimely death in 1978.² His manuscript included numerous reconstructions from precursors, such as Meinhof, Bourquin, Dempwolff, Struck, Homburger, and Greenberg, which he sometimes refuted and often corrected (Schadeberg 2003: 153) and to which he added several new reconstructions that were put in brackets. One common revision was the replacement of *g by *j, in accordance with Coupez (1954). No material was taken from Guthrie’s *Comparative Bantu*, which was then still in the process of publication. Because the reconstruction of the stem-initial consonant tends to be more problematic than that of other segments, Meeussen ordered his lexical reconstructions in a particular way, that is, first under seven divisions according to the first stem vowel, then in each division under fifteen sections according to the consonant following the first vowel, and finally in each section according to the stem-initial consonant (Meeussen 1980: 6). The hundreds of drawers containing the synchronic comparative evidence underlying the lexical reconstructions, which have been conserved up to the present in the Lolemi room of the RMCA’s Linguistics Section, are organized according to the same principle.

Meeussen was much less explicit on reconstruction method than his forerunner Meinhof or his contemporary Guthrie. A glimpse of his methodology is provided, though, in a 1973 article, where he criticizes Guthrie’s *Comparative Bantu* method (cf. supra) by means of eleven test cases involving phonology and morphology. In a final section where the findings from those test cases are systematized as remarks on method (Meeussen 1973: 16ff), he recognizes the importance of avoiding feed-back (cf. supra), but deems that “the successivity itself [of two distinct stages in comparative work] can be dispensed with if constant care is taken that circularity does not creep in.” He moreover demonstrates that this exclusive reliance on successivity combined with a too rigorous insistence on absolute regularity sometimes results in faulty findings, among other things due to a lack of preliminary analysis or because no use is made of a concept of indirect or complex correspondence going beyond a succession of two phonemes. Finally, he is quite reluctant about the “hypothetico-deductive method,” which should lead to the

reconstruction of PB, especially because the present-day Bantu languages actually constitute a dialect domain, which is only scantily documented and whose prehistory stretches far back in time and is badly known. He judges that the comparative method can only yield reliable proto-forms where it can be shown that languages evolved in long-standing isolation and thus have not constantly been influencing each other through contact, as often has been the case within Bantu, as suggested by the numerous “osculant” reconstructions (cf. *infra*). Hence, “all considerations about PB-A and PB-B must remain extremely vague and general, whereas PB-X is purely speculative since it refers to an utterly unattainable stage. Pending the construction of an acceptable genealogical tree for Bantu, we can have reconstructions for one period of Bantu only (the ‘threshold’)” (Meeussen 1973: 17–18). In that regard, it is good to know that even today “no satisfactory complete subclassification has been achieved” (Schadeberg 2003: 155). Awaiting such a well-established internal classification, Meeussen sees the reliance on more distantly related languages, especially Benue-Congo languages, as a powerful means to ascertain the value of a PB reconstruction.

1.6 Bantu Lexical Reconstruction 2 and 3 databases



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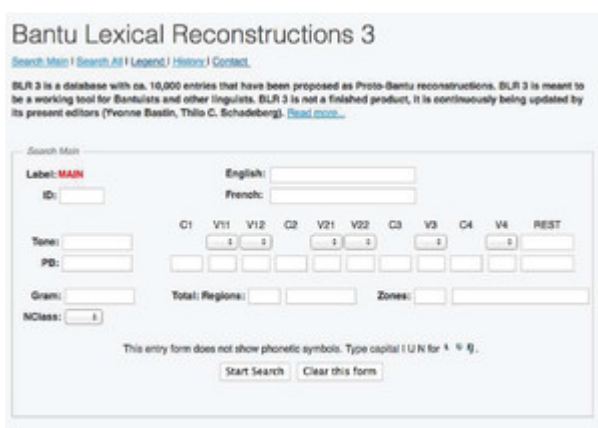
Figure 1 Proto-Bantu reconstruction *-címbá as represented in BLR2 (Coupez et al. 1998)

For the remainder of the 20th century, reconstruction work went on at the RMCA’s Linguistics Section in Tervuren. This eventually resulted in the production of the electronic *Reconstructions lexicales bantoues 2 / Bantu lexical reconstructions 2* database using FilemakerPro software, which became publicly available on June 9, 1998 (Coupez et al. 1998). As its name leads one to suspect, it was meant to be the follow-up of Meeussen’s original 1969 manuscript. BLR2 was conceived as a working tool that had to be progressively completed and revised, taking into account corrections and suggestions by users. It contains 9,821 items, including all of Guthrie’s C.S. as well as reconstructions by earlier scholars. Figure 1 depicts the BLR2 entry for *-címbá, the proto-form of

Kiswahili *simba* “lion” that became globally shared knowledge thanks to the Walt Disney Studios.

As Figure 1 shows, each BLR2 entry has a unique code (“Index”) and uses the same template of pre-established fields, such as the reconstructed form without (“Bantou”) and with tone (“avec ton”) (a distinction made to facilitate searches without tone marking); the noun class of reconstructed noun stems (“classe”); the French translation equivalent(s) (“Français”); the English translation equivalent(s) (“Anglais”); a history of the reconstruction with reference to earlier scholars (“Hist”) (in Figure 1 Dw/Ms refers to the earlier mentioned work of Dempwolff and Meeussen, respectively); a C.S. number for items originating in Guthrie’s CB (“CS”); the date of creation (“Date.inv”); and the date of last revision (“Date.corr”). Some fields require further explanation. A central grid presents the segmental and supra-segmental composition of each reconstructed form, whereby each single consonant, vowel, and tone is contained in a separate field allowing for searches on parts of the form, possibly in combination with fields containing other types of information. “Indicat” may contain some notes on the history or status of reconstruction, especially if it is problematic in one way or another. “Distr” refers to the attested geographic distribution of a reconstruction’s present-day reflexes with regard to the zones of Guthrie’s referential classification of the Bantu languages (Guthrie 1971). In this case, attestations of **-címhá* have been found in the whole Bantu domain, except for zone B. A similar field is “Dispersion,” where the geographic distribution is represented in terms of wider regions within the Bantu domain—NW (North West), CW (Central West), and EE (East)—in order to judge whether a reconstruction is general (i.e., PB) or rather regional, especially with reference to C.S. included in Guthrie’s Comparative Bantu and the geographical subdivisions that he used there. “Variantes” refers to reconstructions that are unmistakably related, but cannot be reduced to a single proto-form on the basis of regular sound correspondences, a common Bantu reconstruction problem known as “osculance.” “Dérivés” contains reconstructions that are either derived from (“<”) or form the base of (“>”) other reconstructions, for instance, **-bíád-* “bear (child), give birth to” (BLR 226) < **-bíádá* “cross-cousin” (BLR 227) > **-nabíádá* “mother-in-law” (BLR 3681) (see also Marck et al. 2010; Marck and Bostoen 2010). “R/V refus” incorporates previously proposed reconstructions or variants that are currently considered as no longer valid, such as **-tímhá* “wild-cat; feline” (BLR 2923) as proposed by Bourquin (1923). A final and most important field is “Fiab,” which combines somehow information from the aforementioned fields into a judgement on the reliability of the reconstruction by means of a code: “0” stands for a previously proposed proto-form rejected by the editors (731 items), “1” for a well-established reconstruction having a Bantu-wide distribution and thus going back to PB (290 items), “1a” for a derived form whose root is a well-established PB reconstruction (514 items), “1(a)” for a derived form which can itself be reconstructed to PB (20 items), “2/2a” for a cluster of variable

reconstructions which cover together the whole Bantu domain and have each a large distribution (17 items), “3” for a well-established regional proto-form (593 items), “3a” for a derived form whose root is a well-established regional proto-form (519 items), “4” for a problematic reconstruction (1243 items), and “5” for reconstructions corresponding to a comparative series whose attestations are few and/or spatially restricted (5397 items). This judgment of reliability clearly indicates that not all material in BLR has an equal status and only some reconstructions can be attributed to PB or a posterior proto-language.



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Figure 2 BLR3 search interface (Bastin et al. 2002)

The *Bantu Lexical Reconstructions 3* database is the online successor of BLR2, available since 2002 and last updated on November 6, 2005 (Bastin et al. 2002). BLR3 mainly differs from BLR2 in terms of data representation. As Figure 2 shows, the BLR3 search interface is strongly inspired by that of its predecessor, but certain changes were done to enhance the online user-friendliness. Content-wise BLR2 and BLR3 are identical, some details notwithstanding. Unlike what the introductory note suggests, BLR3 does not contain ca. 10,000 PB reconstructions, but 10,000 form-meaning associations of variable time depth and reliability (cf. Schadeberg 2003: 160–63 for a list of some of them). To go by the BLR2 codes “1” and “1(a),” only 310 out of a total of 9,821 reconstructions actually has a solid PB status, that is, only ca. 3,2%. Based on a preliminary assessment, about 110 reconstructions coded as “1a” should actually be coded as “1(a),” which would result in ca. 440 PB reconstructions, that is, ca. 4,5%. Ca. 11% of reconstructions can be linked to one of the major regional proto-languages, such as Proto-East-Bantu. The reliability codes constitute one crucial piece of information that was not incorporated in BLR3. It might give the wrong impression that all reconstructions have the same status.

MAIN	1300	<i>gǎ dǐ</i> LH (N (9/10))	oil-palm; nut of oil-palm palmier à huile; noix de palmier à huile
Total Distribution: Regions: 5: NW SW Ce NE SE; Zones: 14: B C D E F H J K L M N P R S			
MAIN	1300	<i>gǎ dǐ</i> LH	N (9/10) oil-palm; nut of oil-palm C H J K L M
DER	1299	<i>gǎ dǐ</i> LH	N (4), (8) blood F M N P S
DER	1302	<i>gǎ dǐ</i> LH	N 6 oil B H K L R
INC	1301	<i>gǎ dǐ</i> LH	N (9/10), (11/10) nut of oil-palm
VAR	3159	<i>jǎ dǐ</i> LH	N 3, (5) blood D E P
VAR	3160	<i>jǎ dǐ</i> LH	N 6 oil B C H R
VAR	3217	<i>jǎ dǐ</i> LH	N 6 oil K L
VAR	8261	<i>gǎ dǐ</i> LH	N 6 oil L

DER	1299	<i>gǎ dǐ</i> LH (N (4), (8))	Source: 1300 <i>gǎ dǐ</i> LH
English: blood			
French: sang			
Distribution: Regions 3: Ce NE SE; Zones 5: F M N P S			
Remarks: Gr. LL			
History: Mh. Q1 766			

VAR	3160	<i>jǎ dǐ</i> LH (N 6)	Source: 1300 <i>gǎ dǐ</i> LH
English: oil			
French: huile			
Distribution: Regions 2: NW SW; Zones 4: B C H R			
Remarks: C1 y chez O1. Voir/for reflexes de g (cf. ng ... d. 9 "palmier à huile"). Reflexes antiques sous gǎdǐ.			
History: Gr 1856			

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Figure 3 BLR3 main reconstruction **-gǎdǐ* “oil-palm; nut of oil-palm” (BLR 1300) with a derived reconstruction **-gǎdǐ* “blood” (BLR 1299) and a variant reconstruction **-jǎdǐ* “oil” (BLR 3160)

The BLR2 reliability codes are replaced in BLR3 by color marks distinguishing among “main reconstructions” (yellow); “derived reconstructions” (green); “variant reconstructions” (purple); “compound reconstructions” including more than one root (blue); “inclusive reconstructions,” which were previously proposed, but are identical with one of the above types and thus already included in them (gray); and “refused reconstructions” (red). Figure 3 shows the main reconstruction **-gǎdǐ* “oil-palm; nut of oil-palm” (BLR 1300) with one of its derived reconstructions as well as one of its variant reconstructions. As demonstrated in Bostoen (2005a), **-gǎdǐ* can be reconstructed for PB, not so much as a tree name, but rather as a noun metonymically referring to both the palm nut and the oleaginous liquid it produces. **-gǎdǐ* “blood” (BLR 1299) is a metaphorically motivated semantic derivation, which specifically occurs in East-Bantu languages and probably results from a shared innovation originating in their most recent common ancestor. The variant **-jǎdǐ* “oil” (BLR 3160) has been reconstructed to account for those present-day reflexes whose stem-initial consonant does not regularly correspond to **g*, but that ultimately stem from the same proto-form as those reflexes that are in regular phonological correspondence with **-gǎdǐ*. As can be seen in Figure 3, color radio buttons allow skipping to (yellow) and from (green and others) the main reconstruction.

2 Phonological reconstruction

Lexical reconstruction—and linguistic reconstruction more generally—relies on the Comparative Method. Excellent and extensive introductions to this approach can be found in several handbooks with examples from languages spoken in Africa (Dimmendaal

2011) and elsewhere (Antilla 1972; Campbell 1998; Crowley and Bowern 2010; Hock 1991; Hock and Joseph 2009). We focus here on the major steps in the application of the Comparative Method with the aim of reconstructing the phonological shape of Bantu etymons.

To start with the phonological reconstruction of ancestral Bantu words, one first assembles as many potential cognates as possible between related Bantu languages. Cognates are morphemes that have the same etymological origin. They can primarily be linked with each other through regular sound correspondences and, secondarily, through relatable meanings. In Bantu, such lexical items often have—though not always—identical or similar forms and meanings, which facilitates cognacy judgements. Table 1 lists three comparative series of cognate words, which were originally presented in Meinhof and van Warmelo (1932: 215–219) with regard to the reconstruction of *Ur-Bantu* roots. Today, Meinhof's selection of primary languages would no longer be considered sufficiently representative to reconstruct PB. Except for Kikongo, his set only included East-Bantu languages. North-West-Bantu, one of the primary branches in the genealogical Bantu tree, was missing from his core sample, although he did consider data from Duala (A24) where possible.

Table 1 Comparative series of cognates from Meinhof and van Warmelo (1932: 215–219)

Northern Sotho (S32)	<i>-fa</i> 'give'	<i>-fala</i> 'scratch, scrape'	<i>-fola</i> 'get cool, recover'
Kiswahili (G42d)	<i>-pa</i> 'give'	<i>-paa</i> 'scratch or scrape off', <i>-palula</i> 'scratch'	<i>-poa</i> 'get cool, healthy', <i>-poza</i> (caus.) 'cool, cure'
Simakonde (P23)	<i>-pha</i> 'give'	<i>-phala</i> 'scrape, scratch'	<i>-phosya</i> 'cure'
Isizulu (S42)	<i>-pha</i> 'give'	<i>-phala</i> 'scrape off'	<i>-phola</i> 'get cool'
Kikongo (H16b)	<i>-va</i> 'give'	<i>-vala</i> 'scrape'	<i>-vola</i> 'be cool'
Ur-Bantu	* <i>-pa</i> 'give'	* <i>-pala</i> 'scratch, scrape'	* <i>-pola</i> 'be or become cool'
PB (BLR3)	* <i>-pá-</i> 'give'	* <i>-pád-</i> 'scratch, scrape'	* <i>-pód-</i> 'be cold, cool down; be quiet'

From numerous series as those presented in Table 1, one attempts to establish regular sound correspondences between the languages under study. If one considers the initial consonant of the stems presented in Table 1, one observes that the same sound is recurrent in each of the languages, a sound phonetically close to those observed stem-initially in the other languages. It is therefore possible to determine the following regular correspondence: Northern Sotho *f* = Kiswahili *p* = Simakonde *ph* = Isizulu *ph* = Kikongo *v*. Another regular sound correspondence identifiable from Table 1 is the systematic recurrence of the central vowel *a* both at the beginning and the end of the stem. Finally, the last two series allow determination of a third regular sound correspondence, that is, Northern Sotho *l* = Kiswahili *ø* = Simakonde *l* = Isizulu *l* = Kikongo *l*. In Kiswahili, the lateral approximant observed in the four other languages has disappeared between two vowels.

On the basis of such regular sound correspondences, one subsequently proceeds to the reconstruction of proto-sounds, taking into account certain guidelines, such as frequency, directionality, and economy (Campbell 1998: 114-22). Without proof of the contrary, the sound that is best distributed among subgroups of a language family is in principle the best candidate for reconstruction. This is often also the most frequent sound among the present-day languages considered, but not necessarily. In Table 1, the vowel *a* systematically corresponds to *a* in all languages. Hence, no other sound than **a* could be reconstructed. Similarly, if all languages except Kiswahili regularly attest *l*, this is also the most likely proto-sound. The reconstruction of **l* is further corroborated here by the principles of directionality and economy. In the world's languages, it is more common for a consonant to disappear in-between two vowels than to be inserted. Hence, the direction **l* > \emptyset is more likely than ** \emptyset* > *l*. Taking ** \emptyset* as the point of departure would also be rather uneconomic, because one would have to imply that *l* was independently inserted in Northern Sotho, Simakonde, Isizulu, and Kikongo. It is more economic to assume that **l* disappeared once in Kiswahili. Moreover, internal synchronic variation within Kiswahili bears evidence of the former regular presence of this intervocalic lateral consonant.³ However, the guiding principles also conflict sometimes. As regards the stem-initial consonant, the dataset considered would lead to reconstruct **ph* on the basis of the majority rule. The directionality principle, on the other hand, would favour the reconstruction of **p*. In Isizulu and Simakonde, *ph* stands for [*p^h*], that is, an aspirated voiceless bilabial plosive. The aspiration of *p* to *p^h* is more natural in the world's languages than the other way around, just like the lenition of *p* to *f* (Northern Sotho) or *v* (Kikongo) is more common than the reverse strengthening or fortification process. Moreover, if one enlarges the dataset, as Guthrie (1967: 70) did, one quickly notes that *p* is actually much more commonly attested in the Bantu domain than *ph*. The apparent conflict between the frequency and directionality principles is thus simply an artefact of the limited dataset. In the absence of a firmly established subgrouping model for Bantu, geographic distribution maps are often relied on to distinguish between shared innovations and shared intentions. The more scattered a feature is all over the Bantu territory, the more likely it is to be interpreted as archaic. The rough knowledge that we have of Bantu genealogical groups obviously helps to build better-informed hypotheses. The relative time depth of a feature depends more on its distribution over different subgroups than on the actual number of languages in which it figures.

A more careful examination of the phonological variation observable between present-day languages also led Guthrie (1962b: 13) and Meeussen (1967: 83) to reconstruct **d* rather **l*, even if they know that *l* is the most common reflex and both state that one might just as well use the symbol **l* instead of **d*. However, the directionality argument favors **d* as proto-phoneme, since **d* > *l* is a lot more common as a sound change than **l* > *d* in the

world's languages. Moreover, many current-day Bantu languages manifest an allophonic variation between *d* and *l*, which led Guthrie and Meeussen to reconstruct **d*. As shown in (1), the East-Kikongo variety Kintandu (H16g) manifests the morpho-phonological rules $l \rightarrow d / N _$ and $l \rightarrow d / _ i$ (Daeleman 1966: 54, 57).

(1)	$l \rightarrow d / N _$				
	<i>lulúungu</i>	'grain of pepper'	vs.	<i>ndúungu</i>	'pepper'
	<i>kulóla</i>	'to punish'	vs.	<i>ndóla</i>	'punishment'
	$l \rightarrow d / _ i$				
	<i>kusala</i>	'to work'	vs.	<i>kusadíla</i>	'to work for, with'
				<i>kisádi</i>	'worker'

Morpheme-internally and as illustrated in (2), diachronic sound change resulted in the same variation, that is, **d* was preserved in post-nasal position and preceding a PB mid-closed front vowel, while it weakened to *l* elsewhere when not followed by a PB closed vowel (Daeleman 1983).

(2)	$*d > d / N _$				
	<i>*-gènd-</i>	'walk; travel; go; go away'	>	<i>-yend-</i>	'go'
	<i>*-jòndò</i>	'hammer; anvil; axe; iron'	>	<i>nzuundu</i>	'hammer; anvil'
	$*d > d / _ *i$				
	<i>*-dìd-</i>	'weep; shout; wail'	>	<i>-dil-</i>	'weep'
	<i>*-dími</i>	'tongue; language; flame'	>	<i>lu-dími</i>	'tongue'
	$*d > l / V _ *V_{[-closed]}$				
	<i>*-dáad-</i>	'lie down; sleep; spend night'	>	<i>-láál-</i>	'lie down'
	<i>*-dàdò</i>	'bridge'	>	<i>lalu</i>	'bridge'

Such choices based on phonological variation in present-day Bantu languages explain the differences in sound systems reconstructed for PB by successive scholars. Compare the different PB simple consonant systems, as presented in Table 2.

Table 2 Simple consonant systems reconstructed for PB								
*k	*ɣ	(*ŋ)	*y	*p	*t	*k	*c	*y
*t	*l	*n	*w	*b	*d	*g	*j	
*p	*v	*m		*m	*n	*ŋ	*ny	
*k	*ɣ							
*t	*l							
(Meinhof and van Warmelo 1932: 33)				(Guthrie 1967: 52)				
*m	*n	*ɲ						
*b	*d	*j	*g					
*p	*t	*c	*k					
(Meeussen 1967: 83)								

Only **p*, **t*, **c*, **k*, **j*, **m*, **n* occur in all three systems in Table 2. Meinhof and van Warmelo (1932: 30–32) consider **k/*t* and **y/*l* as “secondary palatalized forms” of, respectively, **k/*t* and **y/*l* and mostly correspond to palatal **c* and **j* in the systems of Guthrie (1967) and Meeussen (1967, 1969). Apart from **l* instead of **d* (cf. supra), Meinhof and van Warmelo (1932: 31) also primarily reconstruct voiced fricatives instead of plosives, but acknowledge that these manifest “a certain tendency to become plosive.” The reconstruction of **b* and **g*, as Guthrie (1967) and Meeussen (1967) did, is more credible, not only because these plosives are more widespread among present-day Bantu subgroups, but also because the lenitions **b > β* and **g > γ* are much more common in the world’s languages than the reverse fortifications. Meeussen (1967: 83) conflated Guthrie’s distinction between **y* and **j* into **j*, a choice to which is also adhered in BLR3 (Bastin et al. 2002). This is problematic. Certain stems, such as **-jàdà* “hunger” and **-jòndò* “hammer, anvil,” always or often have a stem-initial consonant in present-day

languages and should indeed be reconstructed with *j. Other stems, such as *-(j)ánà “child” and *-(j)ákà “year, season,” are always vowel-initial and should be reconstructed with *y if one wishes to respect the common Bantu CVCV noun stem template or otherwise without stem-initial consonant. Finally, the PB reconstruction of the nasals *ɲ and *ŋ is an issue of debate (Schadeberg 2003: 147).

Once a sound system is reconstructed for the proto-language, the next step consists of returning to the original set of lexical data in order to reconstruct a proto-stem/root for each comparative series. Obviously, each lexical reconstruction can only exist of sounds reconstructed for the proto-languages. This explains why, in Table 1, the proto-forms reconstructed for *Ur-Bantu* by Meinhof and van Warmelo (1932) are not exactly the same as those reconstructed for PB by Meeussen (1969).

Taking into account that sounds change through time, proto-forms may also differ according to the time depth of the reconstructed proto-language. The first three languages in Table 3 are close relatives of Kiswahili. They belong to the so-called Sabaki group. Based on the comparative series partially presented in Table 3 and the lack of variation observed regarding the initial stem consonant, Nurse and Hinnebusch (1993: 611–612) logically reconstructed Proto-Sabaki verb forms that all begin with *v. However, as soon as one considers external evidence from more distantly related languages, as did Lingombe (Rood 1958) and Logooli (Guthrie 1970a: 72), one notes that the stem-initial consonants were originally different, which is well reflected in the corresponding PB reconstructions beginning with *b, *d and *g, respectively. This merger of place of articulations in front of closed PB vowels is a common corollary of spirantization (Bostoen 2008; Labroussi 2000; Schadeberg 1995). The latest shared ancestor of Giryama, Kimvita, and Shingazidja underwent this common Bantu sound shift, but the ancestor they share with Lingombe and Logooli did not.

Table 3 Comparative series of cognates shared between the Sabaki languages Giryama, Kimvita, Shingazidja and their distant relatives Lingombe and Logooli.

Giryama (E72a)	-vuna 'harvest'	-vwala 'wear'	-vunda 'be rotten, stink'
Kimvita (G42b)	-vuna 'harvest'	-vaa 'wear'	-vunda 'be rotten, stink'
Shingazidja (G44a)	-vuna 'harvest'	-vaa 'wear'	-vunda 'be rotten, stink'
Lingombe (C41)	/	-lwáa 'wear'	/
Logooli (E41)	-βuna 'harvest'	/	-gunda 'become rotten'
Proto-Sabaki	*-vun- 'harvest'	*-vwal- 'wear'	*-vund- 'be rotten, stink'
PB (BLR3)	*-bún- 'harvest'	*-dúad- 'wear'	*-gùnd- 'be rotten'

The case presented in the previous paragraph illustrates that distinct proto-sound systems and proto-vocabularies need to be reconstructed for every node in the genealogical Bantu tree. Nevertheless, pending such a unanimously accepted classification, BLR3 forms are for pragmatic reasons all reconstructed on the basis of the PB sound system, even if their time depth is much more shallow and a different phonological shape would be closer to historic reality. In certain cases, this approach results in rather problematic reconstructions. BLR3 contains, for instance, the reconstructions **-bug-* “recite one’s own praises” (BLR 5235) and **-bunan-* “be responsible for” (BLR 3774) based on present-day attestations limited to Great Lakes Bantu (zone J). All these reflexes—written down on sheets to be found in the Tervuren reconstruction drawers (cf. supra)—have a fricative as stem-initial consonant, that is, Kinyarwanda (J61) *-vug-* “recite one’s own praises,” Kihavu (J52) *-vúg-* “brag about one’s exploits,” Kiga (J13) *-vunaan-/junaan-* “reproach, rebuke,” Runyankore (J14) *-junaan-* “be responsible for,” and Luganda (J15) *kù-vunaana* “reproach, be responsible for.” It is assumed that this initial fricative is the outcome of Bantu Spirantization and that the following vowel therefore corresponds to a PB closed vowel, but there is no external evidence, as in Table 3, to substantiate such a hypothesis.

3 Semantic reconstruction

Diachronic semantics and semantic reconstruction have received considerably less attention than sound change and phonological reconstruction within Bantu historical linguistics. For a detailed discussion on the reconstruction of lexical meaning in Bantu, including a historical overview, see Fleisch (2008). Unlike what is sometimes assumed, meaning does not change in a haphazard way (Traugott and Dasher 2002; Wilkins 1996). However, in contrast to sound change, semantic change is not unidirectional and linear, but tends to be pluridirectional and cyclic. If three closely related languages manifest the regular sound correspondence $h = p = \phi$, it is most natural to seriate this as $p > \phi > h$ (lenition). Once p has regularly shifted to ϕ and then to h , it is unlikely to shift back to p along the reverse path. If the same three languages share a cognate form with slightly different meanings, for example, “oil palm,” “palm oil,” “palm nut,” and “blood,” it is more painstaking—though not impossible—to determine which was the original meaning and in which direction it evolved. The human mind is more complex than the human articulatory system. A cognitive mechanism such as metonymy may push lexical meaning in either way: from the part to the whole (palm oil > palm nut > oil palm), from the whole to the part (oil palm > palm nut > palm oil), or from a part to the whole and to an even smaller part (oil palm < palm nut > palm oil). Through a color-based metaphorical association, “palm oil” could shift to “blood,” for example, for reasons of taboo, but an inverse shift is also not unconceivable (see Bastin 1997; Bostoen 2005a for a specific Bantu case study involving those meanings).

This lesser degree of predictability in semantic change is one of the reasons why Bantu historical linguists have been late in developing methods for reconstructing lexical meaning. According to Schadeberg (2002: 183), this lack of insight into semantic change has even caused a serious inflation of reconstructions. The founding fathers of Bantu lexical reconstruction were very conscious of this problem. Guthrie, for example, took the “same assignable meaning” as a connector to build his C.S.: “The characteristics of the data are such that though each item consists essentially of a shape and a meaning, the correspondences from language to language display regular differences only in respect to their shapes. It proves to be impracticable to make any use of such a feature as ‘correspondence of meaning’. In fact the only way in which Common Bantu can be constructed involves applying the condition that every item in a comparative series shall be capable of expressing one given particular meaning, which then is used as the ‘connecting meaning’ of the series” (Guthrie 1962b: 9–10). As a consequence, he constructed, for instance, both CB **-dòmò* “lip” (C.S. 651) and **-dòmò* “mouth” (C.S. 652). Both unmistakably originate in a polysemic PB proto-form, which is represented as such in BLR3, that is, **-dòmò* “lip, mouth, beak” (BLR 1110). Guthrie’s C.S. 651 is still included

in BLR3, however, as an “inclusive” reconstruction (cf. *supra*), thus contributing to the inflation to which Schadeberg alluded. Thanks to diachronic semantic research, such as presented in Schadeberg (2002), several of Guthrie’s monosemic C.S. have been united under one polysemic proto-form in BLR3. Several others still co-exist, for example, **-bómb-* “put away; store; hide” (BLR 331, C.S. 198) and **-bómb-* “mould pottery; heap up; close (mouth, hand)” (BLR 333, C.S. 199), which go back to one proto-form whose original meaning was “to work clay” (Bostoen 2005b, 2009). Moreover, while the forms are really reconstructed in BLR3, the meanings are not. The French and English translation fields reflect the present-day cross-linguistic polysemy of an etymon rather than its reconstructed meaning.

Grégoire (1976) delivered a pioneering contribution to semantic reconstruction with her detailed case study of the highly polysemic noun stem **-bánjá* (BLR 97; C.S. 55–58), for which she reconstructed the etymological meaning “land prepared for building, uncovered or cleared land.” Through its use in different noun classes, an important morphological strategy for semantic change in Bantu (Bastin 1985), the noun stem developed several new meanings, such as “site of the house” (cl. 11/10) and “(main) village” (cl. 9/10), from which then again still other meanings were derived, such as “courtyard,” “chief’s court,” “assembly,” “trial, judgment,” “fault,” “family,” and “clan” (cl. 11/10) and “town” and “cemetery or village of the dead” (cl. 9/10). An alternation to classes 5/6 or 7/8 further yielded “debt” and “object placed in pawn or on deposit.” A similar detailed diachronic semantic approach to related reconstructions, such as **-búgà* “open space; threshing-floor; village, path” (BLR 316) (Grégoire 1975: 268–70) or **-gàndá* “house; village; chief’s enclosure” (BLR 1324) (Fleisch 2008: 91–93; Schoenbrun 1997: 35–36, 80–81), would not only allow putting the cross-linguistic polysemy of these roots in a historical perspective, but also getting a better insight into how ancestral Bantu speakers conceived the spatial organization of their environment.

The comparative study of cultural vocabularies to reconstruct the history of early Bantu speech communities has been one of the first triggers for an intensified interest in semantic reconstruction, since it is the meaning that refers to the extra-linguistic world (e.g. Dalby 1976; de Maret and Nsuka-Nkutsi 1977; Ehret 1967; Vansina 1974). This Words-and-Things approach, also known as linguistic palaeontology, has reinforced the importance of diachronic semantics as an integral part of Bantu lexical reconstruction. Historians initially took the lead in this field. Although they usually have not devoted themselves to lexical reconstruction in the strict sense of the term, the appendices of their monographs often comprise a mass of comparative lexical data—either previously published or newly collected through fieldwork—that constitute a valuable input for further lexical reconstruction. David Schoenbrun’s 1997 monograph *The historical reconstruction of Great Lakes Bantu* merits special mention in this regard, because it is

specifically dedicated to the historical-comparative analysis and reconstruction of the lexical data underlying his PhD dissertation (Schoenbrun 1990), eventually published as a historical essay (Schoenbrun 1998). Similar lists of cultural Bantu vocabulary can be found, among others, in the work of de Luna (2008), Klieman (2003), Stephens (2007), and Vansina (1990, 2004). In the meantime, linguists have also dedicated themselves to research within that field (Bostoen 2005b, 2005a, 2006–2007, 2014; Bulkens 1999; Koni Muluwa 2014; Mouguiama-Daouda 1995; Philippson and Bahuchet 1994–1995; Ricquier and Bostoen 2010, 2011; Ricquier 2013). Along with other recent reconstruction research (Cheucle 2014; Donzo Bunza Yugia 2015; Mouguiama-Daouda 2005; Ricquier and Bostoen 2008; Teil-Dautrey 2004), their work allows refinement of several existing lexical reconstructions, both formally and semantically, and the addition of previously non-existent reconstructions, both at PB and a more regional level.

4 Osculance

Guthrie (1962b, 1967) used the term “osculance” to refer to the state of affairs in which a presumption of common origin arises between two or more C.S., either because they have the same meaning but slightly different forms, or identical forms but different meanings. Accurate diachronic semantic research usually allows “unmasking” osculant series of the latter kind. A better understanding of complex sound correspondences also sometimes solves osculance of the former type (Bostoen 2001; Ricquier and Bostoen 2008). However, BLR3 is teeming with phonologically osculant reconstructions that cannot be reduced to a single proto-form because they are at odds with regular sound changes in the languages concerned. One of them is **-bìgá* “pot” (BLR 197, C.S. 120) and **-bì(j)á* “pot” (BLR 222, C.S. 134). Phonologically regular reflexes of **-bìgá* are found throughout the Bantu domain, which led to its reconstruction in PB as a generic term for an earthenware pot (Bostoen 2005b: 213). The sound shift **g > ø* is regular in many Bantu languages. However, in several others, such as the three East-Bantu languages in Table 4, this is not the case.

Table 4 Comparative series illustrating the evolution of **g* in three East-Bantu languages.

	*- <i>bìgá</i> 'pot'	*- <i>pígò</i> 'kidney'	*- <i>bògó</i> 'buffalo'	*- <i>tégò</i> 'trap'	*- <i>pígà</i> 'cooking- stone'	
Kiswahili (G42d)	<i>kibia</i>	<i>figo</i>	<i>mbogo</i>	<i>mtego</i>	<i>figa</i>	(Sacleux 1939)
Kihehe (G64)	<i>kiwya</i>	<i>ifigo</i>	<i>mbogo</i>	<i>ulutego</i>	<i>lifiga</i>	(Velten 1899)
Luganda (J15)	<i>kìbyá</i>	<i>ènsígò</i>	<i>èmbògò</i>	<i>òmùtégò</i>	<i>èssígà</i>	(Snoxall 1967)

As four out of the five C.S. in Table 4 clearly illustrate, **g* is regularly conserved in intervocalic position. Only the first C.S. is irregular, in that **g* was deleted. Several other irregular reflexes of **-bìgá* occur in different parts of the Bantu area, necessitating an osculant reconstruction without intervocalic **g* (Bostoen 2005b: 200–209). It is difficult to imagine that PB had two nearly homophonous words referring to the same referent. We only reconstruct **-bìgá* for PB. Its osculant equivalent **-bì(j)á* rather indicates that reflexes of **-bìgá* were not only transmitted intergenerationally, that is, through time, but also a result of protracted contacts between Bantu languages over the centuries, that is, through space. It was diffused from those many Bantu languages where **g > ø* is regular to those where it is not. The existence of similar osculant pairs, such as **-bégú* “seed” (BLR 140, C.S. 85) and **-béjú* “seed” (BLR 159, C.S. 96), **-pígò* “kidney” (BLR 2568, C.S. 1549) and **-píjò* “kidney” (BLR 2587, C.S. 1563), indicates that we are dealing here with a broader problem of Bantu language convergence. More systematic research on such osculant series in BLR3 could lead to the identification of recurrent patterns of prehistoric contact.

5 Conclusions

In this chapter we have presented a review of more than a century of research in Bantu lexical reconstruction, including some methodological considerations. Although dating back to 2003—and actually to 1998, content-wise—and being meant as a working tool

rather than as a finished product, BLR3 is still the most complete database reflecting accumulated research in Bantu lexical reconstruction since the late 19th century. Further improvement could happen in several ways. First, existing lexical reconstructions should be linked with the synchronic language data on which they are based. In his 1980 foreword to the reprint of Meeussen's original Bantu lexical reconstructions (cf. *supra*), André Coupez already evoked a more detailed publication in which the reconstructed items would be given alongside the actual data from the best-documented languages. In spite of long-lasting plans to bring out a BLR4, where such a linkage would be realized, the much-needed presentation of the evidence underlying Bantu lexical reconstructions is still awaited. Second, existing reconstructions should be further fine-tuned, especially with regard to semantic reconstruction, and more thoroughly analyzed on traces of prehistoric language contact. It is generally acknowledged that convergence through lateral interaction between Bantu languages is an important factor in historical language evolution, and extensive research has been carried out on Bantu language contact (Hinnebusch 1999; Möhlig 1981; Nurse 2000; Schadeberg 2003). However, as can be deduced from the many unresolved cases of "osculance" among Bantu lexical reconstructions, the impact of contact-induced change on inherited vocabulary is still insufficiently understood. Third, the database could be completed with new reconstructions for which linguists and historians have provided lexical evidence over the last decade. Finally, an effort should be made to establish a better connection between lexical reconstructions and the internal Bantu classification. Even if the ultimate internal classification of Bantu languages does not exist yet, we do start to get better insights into the different branches of which the Bantu family tree consists. Such a basic understanding of Bantu phylogeny is needed to make better reconstructions. On the other hand, a better phylogeny also depends on reconstruction work (Weiss 2014: 142). Through the principle of shared innovations, the Comparative Method is not only used for linguistic reconstruction, but also for linguistic classification. Bantu classification research is today almost entirely driven by phylogenetic methods (cf. Bostoen et al. 2015; Currie et al. 2013; de Schryver et al. 2015; Grollemund et al. 2015, to cite only some of the most recent studies). A better integration of classical reconstruction and classification research—to start with at the level of major Bantu subgroups—would allow for alternative approaches and to test the genealogical validity of phylogenetic subgroups obtained through quantitative studies mainly based on basic vocabulary. This would not only lead to a better understanding of the mutual relationships between major subgroups—an issue on which quantitative approaches tend to conflict—but also to a better reconstruction of PB and its ancestral daughter languages and consequently to better insights into major evolutions in the lifestyle of early Bantu speech communities.

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Notes:

⁽¹⁾ A statistical treatment of the C.S. led Guthrie (1962b: 19) to observe that the highest figures of material directly derived from PB-X was to be found in a stretch right across the Bantu area from side to side, including Kongo H.16 (44), Lwena K.14 (46), Luba-Kasai L.31 (47), Luba-Katanga L.33 (50), Bemba M.42 (54), Ila M.63 (43), Rundi D.42 (44), and Swahili G.42 (44). He thereupon came to the conclusion that "Proto-Bantu was probably spoken in the savannah country to the south of the equatorial forest, roughly midway between the two oceans" (see also Guthrie 1962a). However, ever since, Guthrie's central nucleus hypothesis has been discarded. The region between southeastern Nigeria and western Cameroon is now unanimously accepted as the Bantu homeland. It is not only the zone of highest linguistic diversity within Narrow Bantu, but Bantu languages also meet there with several other subgroups of the larger Benue-Congo family; among others, their closest relatives known as Wide Bantu or Bantoid languages.

⁽²⁾ The 1980 reprint does include a typewritten index of English equivalents made by Firmin Rodegem and added for easier consultation.

⁽³⁾ It still turns up in certain morpho-phonological contexts, for instance when the root is followed by a derivational suffix as in *-palula*, a non-standard Kiswahili verb form corresponding to standard *-parua* where the lateral is replaced by a trill (Sacleux 1939: 734). In the derived transitive verb *-poza* the original liquid has shifted to a voiced alveolar fricative under the influence of the short causative suffix **-i-*, which is known to commonly trigger spirantization (Bostoen 2008; Hyman 2003). The same diachronic sound shift is observed in the Makonde verb *-phosya*, where the resulting spirant was devoiced and did not absorb the following causative suffix *-i-* that became a glide because followed by another vowel.

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