Chapter 15

Diachronic typology and the reconstruction of non-selective interrogative pronominals in Proto-Bantu

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In this chapter, I propose a typologically informed reconstruction of the Bantu non-selective interrogative pronominals (NSIPs). Bantu NSIPs are characterised by a bewildering degree of formal variation, which makes their reconstruction particularly difficult. Therefore, I begin with a more general methodological discussion of the issue of variation in functional elements and the possible ways of dealing with it in reconstruction and by an overview of the diachronic typology of NSIPs. The most important results of the proposed reconstruction of Bantu NSIPs are that no human NSIP stem 'who?' can be reconstructed for Proto-Bantu (PB), while the morphological status of the non-human NSIP form 'what?' is ambiguous, and that the NSIP forms that can be reconstructed to PB were emerging out of complex interrogative constructions (viz. a clause-level cleft construction and a nominalisation construction) retained from some pre-PB stage within Southern Bantoid. Because of their complex constructional origin and the typical pathways of formal and semantic evolution, the reconstruction of interrogative pronominals bears significant relevance to the reconstruction of many other parts of Bantu morphosyntax, such as deictics (both spatial and discourse ones), the so-called augment and more generally referential status marking, nominalisation, noun classes, subject indexation, copulas, cleft constructions, relative clause constructions, constituent order, and root phonotactics (the question of vowel-initial roots and the identity of PB **j*).

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1 Introduction

In this chapter, I propose a typologically informed reconstruction of the Bantu non-selective interrogative pronominals (NSIPs), such as 'who?' and 'what?', which are used in non-selective contexts where the speaker perceives the choice as free (see Idiatov 2007 for a more detailed definition).[1] This reconstruction is intended as a major revision of the reconstructions proposed by Meeussen (1967) in *Bantu Grammatical Reconstructions* (BGR) and their minor updates in *Bantu Lexical Reconstructions 3* (BLR3) by Bastin et al. (2002), viz. **n(d)áí* 'who?' of the so-called class 1a and the interrogative stem **-í* 'what?' used with the prefix of class 7 as 'what?' and in the locative classes 16, 17 and 18 as 'where?'. For purposes of reconstruction in this chapter, I take Proto-Bantu (PB) as the latest common stage that can be reconstructed using the data of the languages traditionally classified as Narrow Bantu [narr1281].[2]

Bantu NSIPs are characterised by a bewildering degree of formal variation (§2.1), which makes their reconstruction particularly difficult. Traditionally, Bantu historical linguistics dealt with such a high degree of variation in one of three ways, viz. by reconstructing a number of more common formal "types", by reconstructing the simplest possible form or by reconstructing a kind of common denominator of most of the attested reflexes (§2.2). I believe that we can enhance the reconstruction of highly variable functional morphemes, such as NSIPs, by taking diachronic typology into account (§2.3).

The main generalisation that emerges from my research about the Bantu interrogative pronominals is that they go back to complex interrogative constructions, viz. a clause-level cleft construction in the case of the BGR form **n(d)áí* and a nominalisation construction in the case of the BGR form **-í*. These constructions are retentions from earlier, pre-PB stages. Because of their complex constructional origin and the typical pathways of formal and semantic evolution, the reconstruction of interrogative pronominals bears significant relevance to the reconstruction of many other parts of Bantu morphosyntax, such as deictics (both spatial and discourse ones), the so-called augment and more generally referential status marking, nominalisation, noun classes, subject indexation, copulas, cleft constructions, relative clause constructions, and constituent order. The chapter discusses some of these many implications for Bantu morphosyntax, but

[1] Selective interrogative pronominals (SIPs), such as 'which one?', are used in selective contexts, where the choice is perceived by the speaker as restricted to a closed set of alternatives.

[2] For Narrow Bantu languages, I provide their Guthrie codes following Maho (2009). For non-Narrow Bantu languages, I provide their Glottolog identifier code of the shape [xxxx1111, name of the language group] (cf. Hammarström et al. 2021).

often in footnotes or relegated to the Appendix so as not to disrupt the main line of argument too much.

The chapter has the following structure. I set the stage by introducing the issue of variation in functional elements and the possible ways of dealing with it in §2. In §3, I provide an overview of the diachronic typology of NSIPs in the world's languages (cf. Idiatov 2007). In §4, I go through some of the typologically trivial changes that affect NSIPs in Bantu. In §5, I highlight some of the oddities of NSIPs across Bantu and their implications for the reconstruction of NSIPs in Bantu, especially the human NSIP 'who?'. In §6, I revise the reconstructions of the Bantu NSIPs. In order to both refine the reconstructions and to determine the level to which they belong, I equally take into consideration data from the wider Bantoid continuum, occasionally complemented by data from other Benue-Congo groups. §7 provides some concluding remarks.

2 Setting the stage: The variation and the ways of dealing with it

2.1 Bewildering variation

In Bantu languages, interrogatives in general and 'who?' and 'what?' in particular are characterised by a bewildering degree of formal variation, as can for example be observed in the forms of interrogatives in the data used for the lexicostatistic study by Bastin et al. (1999), which are available on the website of the Royal Museum for Central Africa[3] and are cited in the remainder of this chapter without an explicit reference. On the one hand, we find a multitude of forms that do not seem to have anything in common, such as the forms for 'who?' in Basaa A43a *njé(é)*, Eton A71 *zá* with the construction-specific variant *zà* (Van de Velde 2008a: 176, p.c.), Ngombe C41 *ndá*, Liko D201 *wàní* (de Wit 2015), and Tswana S31 *máng*; or the forms for 'what?' in Basaa *kí(í)*, Eton *jə́* with the constructional and dialectal variant *jə̀* and the dialectal variant *yá* (Van de Velde 2008a: 176, p.c.), Fumu B77b *ima*, and Komo D23 *èkéndɔ̀*. On the other hand, we also encounter a multitude of forms that are clearly related but where this relationship is marred by irregular correspondences, such as the forms for 'who?' in A15 varieties reconstructed as **njá* by Hedinger (1987: 244), viz. Akoose *nzé(é)*, Myenge *nzə́ə́*, Mwahed *nzɛ́*, Mbo (of Ekanang) *ndɛ́*, Mwaneka *nzá*, Mkaa *njá*; or the forms for the general NSIP 'who?; what?' in a number of languages of zone C that I discuss in

[3] Cf. https://www.africamuseum.be/en/research/discover/human_sciences/culture_society/lexicostatistic-study-bantu-languages

Idiatov (2009), such as Mboshi C25 *ndè ~ nê*, Mongo-Nkundo C61 *ná*, varieties of Tetela C70 *nâ*, and Ntomba-Inongo C35a *ńnɔ̀*. The forms of interrogative pronominals may range from very short, lacking any internal morphological structure, such as Mongo-Nkundo *é* 'what?; where?', to relatively long. Such longer forms may be nominals including a class prefix, such as Mwani G403 *kì-náni* 'what?' with the nominal prefix of class 7. They may be nominal expressions, such as Enya Kibombo D14 *kì-úmà nàání* 'what?' literally meaning 'what thing?', with the class 7 noun *kì-úmà* 'thing' modified by the interrogative *nàání* that on its own means 'who?'. They can even be clause-level constructions used as nominal expressions, such as Kagulu G12 *(i)yehoki* 'who?' and Mbula [mbul1261, Jarawan Bantu] *yá ˡn(á)* 'who is it?; who?'. As discussed in §4.1.4.2, Kagulu *(i)yehoki* 'who?' is structurally *(i-)y-e-hoki*, a nominalised predication that literally means something like 'the one that s/he is the one where?' [(NMLS-)1-be:NMLS-where?] (leaving the source locative interrogative *hoki* 'where?' unanalysed). Mbula *yá ˡná* can be construed both as a predication |^{H}-yà ná ~ Ý-yà ná| [NMLS-which? COP.PRES] meaning 'who is it?', also as a base of the cleft construction, as in (1a–1c), and as a nominal expression meaning 'who?', as in (1d–1f). It can even take the regular nominal plural marker *à*^{H}-, as *à-yáˡná*, while preserving the same structural ambiguity between the predication 'who are these?' and the nominal expression 'who? (PL)'.

(1) Mbula [mbul1261, Jarawan Bantu][4]

a. *yá* *ˡná*
H-yà ná
NMLS-which? COP.PRES
'Who is it?'

b. *ndà* *yáˡná*
[3SG]COP.EQ who?
'Who is he?' (3SG subject index has no overt marker)

c. *mà:* *yá* *ˡná?*
mà Ý-yà ná
POSS NMLS-which? COP.PRES
'Whose is it?' (lit.: 'It is the one of who?')

d. *yá* *n* *ndà* *mɓwà:mɔ́* *ˡmá:n*
H-yà ná ndà mɓwá:má mă:n
NMLS-which? COP.PRES [3SG]COP.EQ woman this
'Who is this woman?' (lit.: 'Who is it (that) she is this woman?')

[4]The Mbula data cited in this chapter come from my joint research with Mark Van de Velde.

e. *yá* *ˡná* *à-sə́n-ì*
H-yà ná àH-sə̀n-í
NMLS-which? COP.PRES 2SG-see-3SG
'Who did you see?' (lit.: 'Who is it (that) you saw him/her?')

f. *à-sə́n-ì* *yáˡná*
2SG-see-3SG who?
'You saw who?' (an echo-question)

2.2 Traditional ways of dealing with high variation in Bantu historical linguistics

Both in their bewildering degree of formal variation and in the way that this formal variation is structured, Bantu NSIPs resemble various deictic forms, such as personal indexes (substitutives and possessives)[5] and demonstratives, rather than nouns and verbs, following a common cross-linguistic pattern (cf. Diessel 2003; Idiatov 2007: 564–566). Three different approaches have been applied in Bantu historical linguistics to go about the reconstruction of forms that are characterised by a high degree of variation.

The first approach is to reduce the synchronic variation by reconstructing a smaller range of more common formal "types". Methodologically, this is a rather conservative approach that discards only irregularities that are deemed to be minor, while preserving the more radical formal variation. This approach can be illustrated with the way in which Malcolm Guthrie deals with the reconstruction of interrogative pronominals in Volume 2 of *Comparative Bantu* (Guthrie 1971), as summarised in (2). I also include the SIP 'which?' as it is a frequent source of NSIPs cross-linguistically (cf. §3.2).

(2) Guthrie's (1971: 125, 156) reconstruction of Bantu interrogative pronominals[6]

a. 'what?': (**-ní* C.S. 1354), **-yàní* C.S. 1926

b. 'who?': **náà* C.S. 1337, **nánì* C.S. 1343, **-yàní* C.S. 1925

c. 'which?': (**-ká* C.S. 1046), **-kí* C.S. 1046, **-ní* C.S. 1354, **-pí* C.S. 1498, **-tí* C.S. 1728

[5]The term *substitutives* in Bantu linguistics refers to free personal indexes (pronominals) and their stems, while *possessives* refers to free possessive personal indexes (pronominals) and their stems.

[6]The C.S. codes refer to the specific "comparative series" established by Guthrie.

This approach is often adopted in reconstructions of the Bantu lexicon, such as in BLR3 (Bastin et al. 2002), resulting in the so-called *osculance* in reconstructions (cf. Bostoen 2001; Ricquier & Bostoen 2008; Bostoen & Bastin 2016).

The second approach, largely adopted in BGR, radically reduces the observed variation by reconstructing the simplest possible form, which is usually short, and by discarding as much as possible any deviations from the presumed system-general regularities. In practice, this usually implies picking out one formal "type" to the expense of the others. Meeussen's (1967) reconstruction of Bantu interrogatives is summarised in (3).

(3) Meeussen's (1967: 103, 107) reconstructions of Bantu interrogatives

a. 'what?': "a set which looks like a fragmentary system of interrogative nouns with stem *-í* : 7 *kì-í* 'what', 16 *pà-í* (17 *kù-í*, 18 *mù-í*) 'where'"

b. "[class] 1a *n(d)áí* 'who', if it belongs here [= the set based on the stem *-í*], shows an element *n(d)á-* which is not attested otherwise (also *n(d)ání*)."

c. 'which?': pronominal prefix + *-ní*

The most drastic reduction of variation in BGR with respect to interrogative pronominals concerns 'who?', a nominal stem with an unusual form and extremely high formal variability. In this respect, note that later treatments of this interrogative, such as Doneux & Grégoire (1977: 193) and Schadeberg (2003: 163), concede that it is not reconstructable with certainty to PB. In Idiatov (2009), I argue that no interrogative pronominal meaning 'who?' can be reconstructed for PB. In choosing **nai* with a variant **ndai*, both unspecified for tone, BLR3 follows BGR, although admitting the tonal uncertainty. In BGR, 'what?' and the related locative interrogative forms for 'where?' look much less controversial. However, for a nominal stem marked by a nominal prefix, **í* 'what?' (also taken up in BLR3) has a very unusual vowel-initial shape. Furthermore, we cannot help but notice the striking difference between this elegant reconstruction and that of Guthrie (1971) in (2) with radically different forms.

The third approach does not reduce the variation but deals with it by reconstructing a kind of common denominator of most of the attested reflexes (while discarding some of the less common variants). This generally results in longer and structurally complex forms that may include morphemes whose function remains unidentified. I am not aware of any example involving interrogative pronominals, but the reconstruction of substitutives and possessives by Kamba Muzenga (2003) is a good illustration of such an approach. For example, the

scheme in Figure 1 describes the pathways of change of substitutives in Bantu, where all the structures below the reconstructed form represent the various reflexes in modern Bantu languages, with the original form faithfully preserved or either one, two or three of the four original morphemes lost. Of the four morphemes in the reconstructed form only the last two are assigned a meaning. Thus, *pp* stands for a *pronominal prefix*, a prefix from the paradigm of pronominal prefixes, while *e* is the substitutive stem for the first and second person and class 1, and *o* is the substitutive stem for all the other classes.

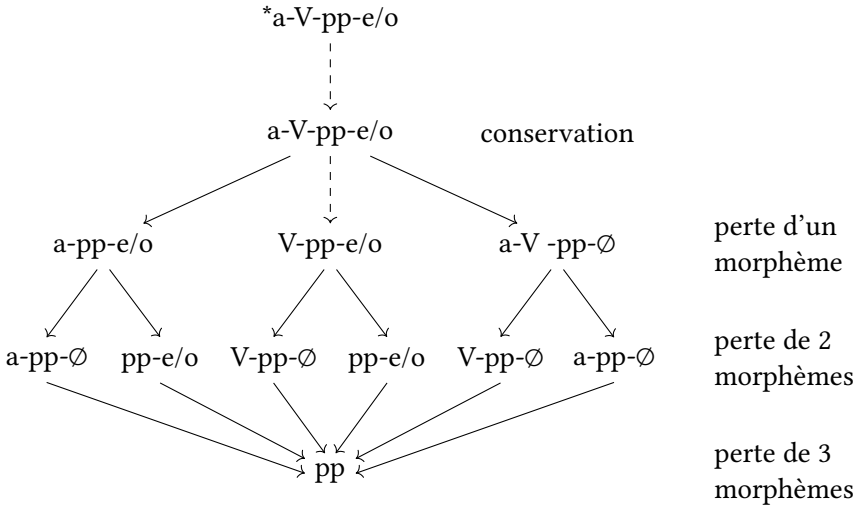

Figure 1: The pathways of change of substitutives in Bantu (Kamba Muzenga 2003: 228)

2.3 A typologically informed reconstruction

Reconstruction of functional elements, such as deictic forms and interrogative pronominals, is notoriously difficult. As we know from languages with long written traditions, the history of such functional forms tends to involve various irregular types of changes that by and large defy the rigorous application of the traditional Comparative Method. For example, it is only thanks to the older written sources that we know that Dutch *maar* 'but; just, only' and German *nur* 'just, only' are both reflexes of [not + be.OPT.PST] 'were it not (that)', viz. Old Dutch *ne ware* and Old High German *ni wāri*.

For languages without long written traditions, we can enhance the reconstruction of functional morphemes by taking diachronic typology into account. A

typologically informed reconstruction does this by trying to achieve the closest match between the observed variation in the presumed reflexes of a given element and the typological knowledge of common processes of change. By informing us about the typical pathways of formal and semantic change affecting a given type of linguistic items, diachronic typology provides us with the cues as to what historical sources may have produced the observed variation and thus feed back into the reconstruction by allowing us both to better account for the variation observed and to increase the plausibility of our reconstructions.

Since the tool of typologically informed reconstruction has so far been rarely applied to its full potential in Bantu historical linguistics, two methodological remarks are appropriate here. First, a typologically informed reconstruction provides best results in situations with many closely related languages characterised by fine-grained variation in the form of the functional element that we attempt to reconstruct. As in any reconstruction endeavour, the more languages, the better, as it is precisely the observed variation that should allow us to detect the pathways of change of the functional item in question. The more closely related the languages are, the better. At more shallow time depths, we can be more certain that the various formally and semantically similar items showing irregular sound correspondences indeed stem from a common source. In the case of closely related languages, independent innovations of formally and functionally closely matching forms from two completely different sources are much less likely. Bantu languages meet all these desiderata very well.

Second, the irregular changes that we may posit need to be both formally and semantically plausible. For example, the correspondence between [a:] in Dutch *maar* 'but; just, only' and [u:] in German *nur* 'just, only' is highly irregular. However, if we presume that in the source form the vowel [a:] was immediately preceded by a [w] and followed by an [i] in the next syllable, as in *ni wāri*, the proposed correspondence becomes much more phonetically plausible, despite remaining irregular. Similarly, the correspondence between *n* and *m* in the same two forms is highly irregular, but becomes less of an oddity if we presume that the change was not from *n* to *m* or vice versa but *nw* > *m*. The evidence for semantic plausibility can come from various sources. Minimally, the presumed semantic change should comply with regular mechanisms of semantic change, such as metonymically or metaphorically motivated shifts. For instance, a direct change from 'who?' to 'what?' or vice versa cannot be accounted for by any regular mechanism of semantic change, while a change from 'where?' to 'which one?' or a change from 'which one?' to 'who?' or 'what?' can, and in fact, is not uncommon cross-linguistically (cf. Idiatov 2007; 2009: 67–69; 2014). The presumed

semantic change may also be plausible because it would correspond to a conventionalisation of some readily available pragmatic inferences, as for instance in Italian the development from *schiàvo* 'slave' > '(I am your) slave' > 'yours' (as a farewell expression) > *ciao* 'bye'.

3 The diachronic typology of non-selective interrogative pronominals

The diachronic typology of NSIPs in this section is largely based on Idiatov (2007).[7] I begin by presenting a typology of the evolution of forms of NSIPs in §3.1.[8] I highlight the fact that the generally held assumption of the universal high stability of NSIPs is not borne out by the cross-linguistic data, as in fact they prove to be highly unstable (§3.1.1). This instability is created by an interaction between two strong diachronic tendencies that work in opposite directions, viz. a strong predilection of interrogatives for substance accretion (§3.1.2) and probably an even stronger predilection for substance reduction (§3.1.3). Like many other functional elements, NSIPs are usually difficult to reconstruct. The apparent degree of difficulty of their reconstruction depends on the exact way the accretion and reduction of substance interact (§3.1.4). In §3.2, I briefly present a semantic diachronic typology of NSIPs.

3.1 Formal evolution

3.1.1 Formal (in)stability

Traditionally, NSIPs are considered to be among the most change-proof elements in any language. They are believed to be highly resistant to both replacement through borrowing (Haspelmath & Tadmor 2009, Matras 2009: 199) and language-internal renewal (Haspelmath 1997: 176). In this respect, they are believed to be similar to personal pronominals. The two kinds of pronominals are therefore often perceived as good indicators of (long-range) genetic relationships and are regularly included in basic vocabulary lists.

However, this assumption of the universal high stability of NSIPs is not borne out by the facts. In very many language families, NSIPs, like other interrogatives, turn out to be diachronically unstable and structurally complex polymorphemic

[7] Readers interested in knowing more about the typology of interrogatives and questions in general could consult the rather comprehensive overview of recent typological studies by Hölzl (2017: 55). Köhler (2016) is a dedicated study of questions in a number of African languages.

[8] This formal typology is largely applicable to many other types of interrogatives in general.

constructions (cf. Idiatov 2007; Cysouw & Hackstein 2011; Idiatov 2011; Ratliff 2011). Thus, even in Indo-European, the alleged textbook example of the stability of interrogative pronominals, we actually cannot reconstruct full NSIPs, only their initial segment *k^w, which may or may not have had any morphological status of its own (Cysouw & Hackstein 2011).

The diachronic instability and the structural complexity of interrogatives are driven by an interaction between two strong diachronic tendencies that work in opposite directions, viz. a strong predilection of interrogatives for substance accretion and probably an even stronger predilection for substance reduction. Interrogatives share their strong predilection for substance reduction, often highly irregular and radical, with other function words due to frequency effects. The predilection for substance accretion is primarily due to two factors. The first one is the prominent information structural status of interrogatives. For instance, cross-linguistically this prominent status is manifested in the extremely recurrent use of focus constructions with interrogatives, such as French *qu'est-ce que [Marie a fait]?* 'what [did Mary do]?', which is literally a cleft construction 'what is it that [Mary did]?'. Due to frequency effects, the various elements that mark this prominent information structural status tend to become reanalysed as part of the interrogative itself. The second factor is the very strong tendency for continuity in the evolution of interrogatives: a given interrogative is almost always based on another interrogative (cf. Diessel 2003; Idiatov 2007; Cysouw & Hackstein 2011).[9] In this respect, interrogatives are similar to other deictic forms, such as personal indexes and especially demonstratives, and differ from many other functional elements, such as conjunctions, tense and aspect markers or number markers, with which such lack of continuity is commonplace.[10] A possible way to circumvent this strong continuity tendency is to use elements with cataphoric, or more precisely, suspended referential specification (on suspensive pronominals see van den Eynde & Mertens 2003: 70; Idiatov 2007: 3). In an appropriate discourse situation, this can be achieved by using constructions with demonstratives ('This one who did it [is]?…' > 'Who is the one who did it?'), nouns with

[9] See also Bostoen & Guérois (2022 [this volume]), on a somewhat similar, albeit less strong, tendency with certain verbal suffixes in Bantu.

[10] Thus, it is commonplace that a future marker develops from a form of a motion verb, such as 'go' or 'come'. It is equally trivial that a plural marker would evolve from a singular noun meaning 'group' or that a conjunction 'but', such as Dutch *maar*, would develop from a clause meaning 'were it not (that …)'. The main difference here is that with these other kinds of functional elements the source form need not already contain the semantics of the target form. Thus, a motion verb that develops into a future marker need not itself be in the future tense, and moreover, its evolution into a future marker may happen in a language that did not have the category of tense before at all.

generic semantics or comparable indefinite pronominals ('A person / Somebody did it?…' > 'Who is the one who did it?'), the word 'name' or 'call (a name)' ('The name of the one who did it [is]?…' or 'The one who did it is called (a certain name)?…' > 'Who is the one who did it?') – for some examples, see Idiatov (2007; 2014).

3.1.2 Substance accretion

Substance accretion often begins with the inclusion in the interrogative construction of free morphemes, that later become bound. The original morphological boundaries may subsequently become erased in the process of univerbation. In (4), I provide an overview of the common types of elements accreted in the diachrony of NSIPs. Often, several such elements are combined together. The same element can often also be construed with different functions at the same time, as when the same marker functions as a copula and as a focus marker or a deictic functions as a relativiser and a nominaliser, and so on.

(4) Common types of accreted material for NSIPs

a. various types of deictics: nominal, adverbial or modifying demonstratives, personal pronominals
b. focus markers
c. copulas
d. relativisers
e. nouns with generic semantics ('thing', 'person', 'place', 'name', etc.)
f. gender, number, noun class markers, classifiers
g. nominalisers (such as *one* in *which one?*, the augment in Bantu)

3.1.3 Substance reduction

Like with other functional elements, substance reduction in NSIPs due to frequency effects is often highly irregular and radical, and specific to particular word forms. The reduction may affect just one segment (syllable, morpheme, word) or several segments (syllables, morphemes, words) at one site or here and there. The only major cross-linguistic generalisation that can be made with respect to substance reduction in both functional and lexical forms is that it is more likely to affect the parts of a given form that are prosodically less prominent, such as the segments in non-stressed syllables, and the parts that contribute less to the

lexical meaning of the form as a whole. The possibility of the latter semantic conditioning is expected to weaken along with the gradual loss of transparency in the morphosyntactic structure of a NSIP and the contribution of each element to the lexical meaning of the form as a whole. Note, however, that before any accreted morphosyntactic material can undergo reduction, it must become integral part of the NSIP construction and its relation with the source construction must be weakened. Typically, such attrition would then only affect the morphosyntactic material in question within the NSIP and not in the source construction.

One particularly typical kind of substance reduction for NSIPs is what I have called *cosa*-type reduction in Idiatov (2007), based on the Italian example *che cosa* 'what thing?' > *cosa* 'what?'. This variety of endocentric compound reduction is comparable to the use of *unions* for *trade unions* in English, with the head of the compound used to stand for the compound as a whole after the modifier is deleted.

A good example of a highly irregular and radical substance reduction, involving the loss of both the original NSIP stem and the morphosyntactic material accreted earlier, is the evolution of the NSIP 'who?; what?' in the French-based Louisiana Creole, as presented in Rottet (2004) and further discussed in Idiatov (2007: 253). The Louisiana Creole NSIP 'who?; what?' has the variants *(ki) sa ki* for questions about subjects and *(ki) sa* for questions about objects which all result from the evolution of the constructions that in standard French would be rendered as *c'est qui ça qui?* [DEM.M.SG:COP.PRS.3SG who? that.N.SG REL.SUBJ] 'it is who that one who [did this]?' for questions about subjects and *c'est qui ça que?* [DEM.M.SG:COP.PRS.3SG who? that.N.SG REL.OBJ] 'it is who that one that [you saw]?' for questions about objects.[11]

3.1.4 Reconstructing interrogatives: The interplay between accretion and reduction

As with many other functional elements, the reconstruction of interrogatives is usually difficult, but may seem relatively easy depending on the exact way the accretion and reduction of substance interact. Three types of such interaction are possible. In the first type, accretion and reduction occur at the same side of

[11]Dictionaries of French prescribe the spelling *ça* of the distal neuter pronominal demonstrative 'that one' for the element used to mark insistence with interrogatives, as in *qui ça?* 'who? (tell me!)', *où ça?* 'where? (tell me!)', *comment ça?* 'how? (tell me!)' (e.g. Rey-Debove 1996; cf. also https://www.cnrtl.fr/etymologie/ça). However, the Louisiana Creole *sa* could also reflect the homonymous proximal adverbial demonstrative *çà* 'here'. Both options are plausible semantically and typologically.

an interrogative, as schematically illustrated in (5). Each original morpheme is represented by a succession of three identical letters, such as *aaa* and *bbb*, and as the morpheme becomes reduced the number of letters also reduces, viz. *aaa* → *aa* → *a*. The segments belonging to the original interrogative ***aaa*** are highlighted in bold.

(5) Accretion and reduction occur at the same side of an interrogative
aaa → **aaa** bbb → **aa**bb → **a**bb ccc → **a**bcc

An evolution as in (5) may remain detectable for a long period of time and create an illusion that its reconstruction is easy. In reality, we can only reconstruct a small part of the original interrogative. According to Cysouw & Hackstein (2011), this is the situation with the Proto-Indo-European NSIPs where we can only reconstruct the initial segment $*k^{w}$ of the original interrogative stem.

In a second scenario, accretion and reduction of substance occur at the opposite sides of an interrogative, as schematically illustrated in (6), where the substance is accreted on the right and reduced on the left end of the original interrogative ***aaa***.

(6) Accretion and reduction occur at the opposite sides of an interrogative
aaa → **aaa** bbb → **aa**bbb → **a**bb ccc → bcc

Evolving as in (6), the original interrogative may very quickly vanish without traces, which makes reconstruction really difficult. Only daughter languages with enough fine-grained variation involving reflexes of the original interrogative may allow us to reconstruct the latter. An example of reconstruction in such a situation is provided in Idiatov (2011) for the interrogative pronominals of Eastern Mayan languages, a very shallow linguistic group with extremely diverse forms of interrogative pronominals.

In a third and final scenario, accretion happens on the sides (left, right or both at the same time), while reduction takes place inside an interrogative, as in (7).

(7) Accretion occurs on the sides and reduction inside an interrogative
aaa → **aaa** bbb → **aa**bb → ccc **a**bb → cc**a**bb → cbb

In the scenario in (7), the original interrogative may vanish when trapped inside, which also complicates reconstruction. Like in the preceding scenario (6), this difficulty may be mitigated by the availability of many daughter languages with enough fine-grained variation in the form of reflexes of the original interrogative.

3.2 Semantic evolution

In (8), I provide an overview of the common pathways of semantic change of interrogative pronominals with particularly non-selective ones as the endpoints. Some of these pathways may lead to the emergence of a lack of differentiation between 'who?' and 'what?'. Importantly, none allows for a direct change from 'who?' to 'what?' or the other way around, which is in line with the fact that neither change can be accounted for by any regular mechanism of semantic change. Note that I do not take into consideration here any possible interaction with gender-number marking or other nominalising elements.[12]

(8) Common pathways of semantic change of interrogative pronominals
   a. 'which one?' > usually 'who?', occasionally 'who?; what?'
   b. 'who?; what?' > 'who?' or 'what?' when a new dedicated form of either NSIP emerges
   c. '(be) where?' > '(be) which one?' > 'which one?'
   d. '(be) where?' > 'which [N]?', 'what (kind of) [N]?'
   e. '(be) how?' > 'what (kind of) [N]?'
   f. '(do) how?' > '(do) what?' (questions about actions)
   g. 'what (kind of) [N]?' <> 'which/what [N]?'
   h. 'which/what [N]?' <> 'which one?'
   i. 'what (kind of) [N]?' > '(be) what?', '(be) who? (classification, rather than identification)'
   j. constructions based on a noun meaning 'name' or verbs meaning 'do; say; be', 'name', 'call' > 'who?', 'what?', 'who?; what?'

[12] For example, when there is no interaction with gender marking, a selective interrogative pronominal 'which one?' tends to develop into a non-selective 'who?', not 'what?'. In a sex-based gender system, the outcome depends on the semantics of the gender categories. Thus, 'which one?' marked for masculine gender often evolves in 'who?', while the same stem marked for neuter gender normally evolves into 'what?'. Similarly, a NSIP specified for gender may become specialised as 'who?', 'what?' or both, depending on the organisation of the gender system. In a combination of an interrogative modifier 'which [N]?' or 'what [N]?' with a classifier, a deictic element such as a demonstrative pronominal or an article, a generic nominal, such as 'person', 'thing', 'one', the latter element not only nominalises the interrogative modifier but also contributes its own semantics which affects the possible pathways of semantic change.

4 Bantu NSIPs: Typological commonalities

In this section, I go through the formal (accretion in §4.1 and reduction in §4.2) and semantic (§4.3) changes affecting Bantu NSIPs and related interrogatives that are cross-linguistically common.

4.1 Formal evolution: Accretion

4.1.1 Overview

All the typologically common types of elements accreted in the diachrony of NSIPs cited in (4) in §3.1.2 are also attested in Bantu. In this section, I particularly focus on some of the regularities of accretion that have not enjoyed much attention in the literature so far. I do not elaborate much on the well-known accretion of class markers, such as the locative class markers with 'where?' subsequently inherited in any derived 'which (one)?' and 'who?' interrogatives (but see some examples in §4.1.5) and the class 7 marker with 'what?', as in Basaa A43a *kí(í)* 'what?' and Enya Kibombo D14 *kìíkìí* 'what?' (next to *kì-úmà nàání* 'what?', lit. 'what thing?').

Questions in Bantu, especially those about subjects, are often constructed as clefts, as in 'it is who that did P?' for 'who did P?', e.g. (9) for Makhuwa P31, or pseudo-clefts, as in 'the one that did P is who?' for 'who did P?', e.g. (10) for Mongo C61, with the notional predicate being topicalised and construed as a relative clause and the interrogative being focalised and construed as a nominal predicate.

(9) Makhuwa P31 (van der Wal 2009: 171, 172)

a. *ti paní o-tthik-ale errańca?*
COP 1.who? 1-throw-PFV.REL 10.oranges
'Who has thrown oranges?' (lit. 'It is who that has thrown oranges?')

b. **paní o-n-aápéya nramá?*
1.who? 1-PRS.CNJ-cook 3.rice
'Who cooks the rice?'

(10) Mongo C61 (Hulstaert 1965: 144)
ŏ-kelaki ná?
1.REL-did NSIP
'Who has done it?' (lit. 'The one who has done (is) who?')

For this reason, the accretion of substance in interrogatives often proceeds within (pseudo-)cleft structures.[13] Related to this is the tendency to source accreted substance from various deictic forms and other forms that themselves are typically sourced from deictics, such as focus markers, copulas and relativisers. However, the exact (original) morphosyntactic function of the accreted deictic material is often difficult to establish with certainty (§4.1.2). An interesting detail is that accreted deictics in Bantu (and more broadly in Benue-Congo) appear to be preferentially sourced from deictics that are not distal, but rather intermediate or used discourse-referentially or intersubjectively (§4.1.3). Among the recurrent formal types, which I note with capital letters,[14] we find N(D)I, I-, -TE, -O and -E (§4.1.4). Since SIPs and NSIPs, especially 'who?', in Bantu often develop from locative interrogatives, some of the accreted substance is inherited from such locative interrogatives, with the two most common types being PA- and (N)KA- (§4.1.5). Another common Bantu NSIP source is the Interrogative Modifier construction, combining a generic noun, such as 'thing', 'person', 'place', with an interrogative modifier, as in 'what thing?' for 'what?' or 'which place?' for 'where?' (§4.1.6). Such interrogatives may later undergo a *cosa*-type reduction. Finally, a few languages of zones D and J provide an example of the use of reduplication for accretion of interrogatives, which is cross-linguistically rather uncommon, but semantically transparent (§4.1.7).

4.1.2 Morphosyntactic function of the accreted deictic material

The exact (original) morphosyntactic function of the accreted deictic material is often difficult to establish with certainty. For example, in Liko D201, NSIPs are typically (and for questions about subjects, obligatorily) clause-initial and in that position they are "always followed by a demonstrative [of] type I" that agrees in class with the NSIP (de Wit 2015: 434: 434), as with *ì-kí y-ɔ́* [7-what? 7-DEM$_{\text{I}}$] and *wàní n-ɔ̌* [1a.who? 1-DEM$_{\text{I}}$] illustrated in (11).

[13] The use of pseudo-cleft structures may result in interrogative constructions where interrogatives are sentence-final, which typologically is particularly unusual (cf. Dryer 2013). This situation appears to be restricted to zone C (cf. Bokamba 1976; Idiatov 2009: 63–65). Due to frequency effects, such (pseudo-)cleft structures tend to become reduced to various extents (cf. §5.3).

[14] A formal type represented in capital letters is a schematic representation of a range of similar forms that recurrently appear as parts of interrogative pronominals, without necessarily being synchronically analysable as separate morphemes, and that are likely to (partially or fully) go back to the same morphosyntactic material diachronically.

(11) Liko D201 (de Wit 2015: 258)
wàní nɔ̌ á-ly-á ndì nyàmá ní-nɔ̌?
1a.who? 1.DEM$_{I}$ 3SG.PST:1.OBJ-eat-FV.PST PST.REM 1a.animal COP-1.DEM$_{I}$
'Who ate this animal?'

The question in (11) looks like a cleft construction with the subordinate clause introduced by a demonstrative used as a relativiser. However, the regular relativiser in Liko has the structure [*ní* COP + CL- DEM$_{I}$], as in *ní-nɔ̌* for class 1 and *ní-yɔ́* for class 7, which is identical to the modifying use of the demonstrative of type I, also illustrated in (11), with the only difference that the copula is optional in the modifying demonstrative and obligatory in the relativiser. As explicitly noted by de Wit (2015: 434) the copula is not allowed in clause-initial NSIPs which precludes the synchronic analysis of the demonstrative in the NSIP construction as a relativiser. It also does not make sense to analyse it as a modifier of the NSIP. Morphosyntactically, this demonstrative is best analysed as a pronominal in apposition with the NSIP, with which it also agrees in class. This obligatory use of the demonstrative of type I with clause-initial NSIPs resembles the information-structural use of *ça* 'that one', typically a discourse-referential deictic, as a kind of insistence marker in French interrogatives, such as *qui ça?* 'who? (tell me!)', *où ça?* 'where? (tell me!)', *comment ça?* 'how? (tell me!)', mentioned regarding NSIPs in Louisiana Creole in §3.1.3 above.

4.1.3 Endophoric deictics and distance distinctions in exophoric deictics

Accreted deictics in Bantu (and more broadly in Benue-Congo) appear to be preferentially not distal, or at least not the most distal within the deixis system of a given language. In systems with more than two distance distinctions, it is often the intermediate distance deictic or the deictic pointing to a location closer to the interlocutor that is recruited for NSIPs. For example, compare Bira D32 *èké* 'what?' and Komo D23 *èkéndɔ̀* 'what?', where the Komo form has accreted the intermediate distance demonstrative *ndɔ̀* (Constance Kutsch Lojenga, p.c.). In Basaa, the SIP 'which one?' may be constructed with the near-addressee demonstrative pronominal (instead of the regular noun class marker), as in *hîì-mbɛ́ɛ́* [19.this_one_closer_to_you-which] 'which one? (class 19)' (Bôt 1986: 68). The accreted deictic often also has some endophoric or discourse-referential uses, and more broadly intersubjective uses in coordinating the attention of the speaker and addressee to objects and places (cf. Evans et al. 2018: 123–134 on the relevance of the intersubjective use in the typology of demonstrative systems). The Liko demonstrative of type I accreted with the clause-initial NSIPs as mentioned

in §4.1.2 can be used as an example here. It is different from both the proximal and distal demonstrative, although used as a building block for the latter. In origin, it seems to be an intermediate distance deictic or deictic pointing to an object closer to the interlocutor. Importantly, demonstratives of type I are "often used for text-internal reference or for the activation of a participant in a text", or when "it is not relevant to indicate whether the referent is present or not [at the] site of the speech act" but just to draw the attention of the interlocutor to it (de Wit 2015: 256–257).

A similar formal link between (non-selective) interrogatives, on the one hand, and non-distal, discourse-referential and intersubjective demonstratives, on the other hand, is found in the wider Bantoid domain (see for some examples the Appendix A). In fact, this link may just reflect a general cross-linguistic tendency.[15]

4.1.4 Some recurrent formal types of accreted deictic material

Across Bantu, there are a number of recurrent formal types that appear as accreted material on non-selective interrogatives and that are likely to have a deictic origin, such as N(D)I (§4.1.4.1), I- (§4.1.4.2), -TE, -O and -E (§4.1.4.3). However, in practice, it is often difficult to decide which of the possible deictic sources was involved in each particular case and whether it was accreted as a deictic form or as one of the forms typically derived from deictics, such as copulas, relativisers and focus markers.

4.1.4.1 Type N(D)I

Type N(D)I is attested throughout Bantu and probably inspired Guthrie's (1971) reconstructions of 'which?' and 'what?' cited in (2) and Meeussen's (1967) reconstruction of 'which?' cited in (3). See Idiatov (2009: 70) on forms such as Duala A24 *we(ni)* 'where?' or Punu B43 *ave(ni)* 'where?', where I draw attention to the fact that the demonstrative stem *ni* is well-attested across Bantu.[16] Also recall the Liko copula *ní*, suspiciously similar to the second syllable of *wàní* 'who?'

[15] For instance, in Russian the NSIPs often combine with the neuter proximal demonstrative *èto*. Also recall the Louisiana Creole *sa* (§3.1.3) which reflects either the French neuter demonstrative *ça* or the homonymous proximal adverbial demonstrative *çà* 'here'. Etymologically, the former French neuter demonstrative *ça* is a distal demonstrative, but synchronically it is non-specified for distance and is rather used discourse-referentially as anaphor or intersubjectively to attract attention to something.

[16] It is particularly widespread in zone C (Claire Grégoire, p.c.). We find similar forms as far as Jarawan Bantu, such as the Mbula anaphoric determiner *nì ~ ì*.

and *yánì* 'where?'.[17] Across Bantu, similar accreted material is found on the NSIPs for 'who?' and 'what?' (see Appendix B) and on substitutives (cf. Kamba Muzenga 2003). Besides the demonstrative stem *ni* mentioned above, the two major sources of type N(D)I are reflexes of other deictic(s) and (identificational, presentative, ascriptive) copulas (aka nominal predicative markers). In the interrogatives with N(D)I accreted on the left side, most likely N(D)I- functioned as a copula (cf. the evidence provided by Givón 1974), reflecting the copulas **ní* ~ **nî* and/or **ndí* ~ **ndî*.[18] On the right side of the interrogatives, the range of possible source functions of -N(D)I is more diverse. The more common sources in this case are likely to be a pronominal or demonstrative used for information-structural purposes or as a relativiser (cf. §4.1.2), although a copula function is also possible if the presentative copula construction in a given language used to be [N COP] 'N it is' rather than [COP N] 'it is N'. Besides the demonstrative stem *ni*, two other promising etymons are the (possessive) pronominal stem of class 1 **ndi* ~ **ndɪ* (cf. Kamba Muzenga 2003: 48) and BGR's pronominal and verbal prefix of class 5 **dí*. In this respect, note that the latter prefix may need to be reconstructed with a nasal-consonant cluster as **ndí*, given that class 5 prefixes may have the shape *nV-* in languages as diverse as Orungu B11b, Nen A44 and Kenyang [keny1279, Mamfe].

4.1.4.2 Type I-

Type I- is relatively well attested throughout Bantu. It is mostly found with 'who?' interrogatives. The form is typically *í-*, as in Tsogo B31 *índa*, Pinji B304 *indɛ*, Kagulu G12 CL-*(i)hoki* 'which (one)?' and *(i)yehoki* 'who?' (in addition to a presumed Swahili G42d loan *nani* 'who?') both derived from *hoki* 'where?', Nande JD42 *(í)ndi*, Hunde JD51 *ĭnde* (class 1) / *bănde* ~ *bĕnde* (class 2), Rwanda JD61 'who?' *(i)ndé*, or just a H tone on the initial nasal *ń-* as in Ntomba-Inongo C35a *ńnɔ̀* 'who?; what?' and Salampasu L51 *ńny* 'who?'.

[17] Tonally, *yánì* 'where?' (*yá* 'towards, in the direction of' + *ànî*) matches perfectly with *kékì* 'why?' which combines the preposition *ká* and *ì-kí* 'what?'. The interrogative stem *ànî* itself must originate in a locative interrogative 'where?', similar to Kagulu CL-*ani* 'where?' (Petzell 2008: 89–92, 177), with -N(D)I accreted on the right like in the Duala and Punu forms mentioned above. The Liko NSIP 'who?' also provides an example of a regular semantic evolution of 'where?' to a SIP and subsequently a NSIP. Compare also Ndaka D301 *ànî* 'who?' and *ìmánì* 'what?', where **ìmá* reflects BLR3 **jómà* 'thing' (cf. §4.1.6) and *ànî* 'who?' is from earlier 'which (one)?'. It is most likely that such ANI interrogatives result from some earlier substance reduction on the left. Thus, in Idiatov (2009), I suggest that the left-sided material minimally included the locative marker of class 16 **pa*. One other well-attested option is the type (N)KA- that I discuss in §4.1.5, which is sourced from **ka* 'be at (X's place)' (cf. also Appendix F).

[18] See also Appendix C on the possible copula stacking in the forms with the initial *nd-* cluster.

The brackets around the type I- accreted material highlight the fact that it is often subsequently reduced. It is best preserved in two environments. First, it may merge with a class prefix by changing the vowel quality of the latter, as in Kagulu *(i)yehoki* (class 1) and Hunde *běnde* (class 2). Second, the vowel of type I- runs less risk of being elided and its H tone of being delinked and deleted in utterance-initial position, which may lead to a divergent evolution of the interrogative form in different positions. For example, in Rwanda 'who?' is usually *ndé*, however some speakers also have the form *indé* but only in the beginning of an utterance (Jacob 1984–87, via Bastin et al. 1999). A somewhat different example is provided by Mongo, where interrogatives are never sentence-initial. In questions about subjects (and optionally in those about objects), they are sentence-final (Idiatov 2009: 63–65). Interestingly, in the Nkundo variety of Mongo, the reference dialect of Hulstaert (1957), the sentence-initial polar question marker *ńà* is very similar to the non-selective interrogative pronominal *ná* 'who?; what?'. As I suggest in Idiatov (2009: 71), the polar question marker and the interrogative pronominal likely result from a divergent evolution of the same interrogative in different constructions (compare A70 'who?' interrogatives discussed in §5.3.2). The HL tone must reflect the older tone pattern of this interrogative in Mongo, where the initial H tone is a type I- accretion. In this respect, compare Doko C301 *ndâ* 'who?' and *-ndá* 'which/what N?'. Interestingly, in a number of other Mongo varieties, the sentence-initial polar question marker has the form *ýà*, which is similar to the dialectal variant CL-*yá* of the interrogative modifier 'what/which [N]?'. The two forms differ in exactly the same way as *ńà* and *ná* in Mongo-Nkundo, as well as *ndâ* and *-ndá* in Doko. With respect to *ýà* and CL-*yá*, note also the human interrogative pronominals of Bwamba C10 *yá* 'who?', Libobi C412 *ya* 'who?', Chokwe K11 *i-ya ~ a-ya* 'who?', Mbunda K15 *íyà* 'who?' (cf. §5.2.4).

As can be observed above, type I- often accretes on forms already containing other accreted material, especially that of type N(D)I-. While N(D)I- accreted on the left side most likely functioned as a copula, Type I- is more likely to derive from a nominaliser, such as the element often referred to as 'augment' in Bantu linguistics (cf. de Blois 1970, and Van de Velde 2017 on the augment in A70 languages). This nominaliser augment origin is most clear in forms such as CL-*(i)hoki* 'which (one)?' and *(i)yehoki* 'who?' in Kagulu, where *i-* is synchronically the augment ('initial vowel') of classes 1, 4, 5, 7, 8, and 9 (Petzell 2008: 49), while it is absent from the source locative interrogative *hoki* 'where?'. In fact, in *(i)yehoki* 'who?', the nominaliser augment is present twice, viz. the optional initial *i* and merged with the vowel *a* of the class 1 subject prefix as *e*. It should be mentioned that type I- also bears strong formal resemblance to the variants $^{*}\acute{\imath}$ ~ $^{*}\acute{\imath}$ and $^{*\mathrm{H}}$ (a floating high tone) of the so-called nominal predicative marker

'it is [N]', whose other variants are **ní ~ *ní* and **ndí ~ *ndí* (cf. Givón 1974; Grégoire 1975: 125; Coupez 1977).[19] However, the data from languages such as Kagulu make a copula origin of type I- less plausible. In Idiatov (2009: 71–72), I also hypothesised that type I- could go back to the pronominal or subject prefix of class 9 **(j)ɪ-*, (locative) class 24 **ɪ-* or class 7 **kɪ-*. Here, I propose a different source, the pre-PB determiner **yé*, discussed in §6.1.5.3, which better matches tonally and semantically and has more coherent cognates beyond Narrow Bantu.

The rising LH tone pattern in forms such as Hunde *ĭnde* suggests that besides the type I- accreted material represented by the H tone, such interrogatives also contain some additional accreted material on their left edge whose trace is the initial L tone. It is again the Kagulu data that provides clear indications on the origin of this L-toned element as the class 1 subject marker and ultimately a form of the verb 'be' (a locative copula) fused with the class 1 agreement prefix. Thus, in Kagulu *(i)yehoki* 'who?' the class 1 prefix is the "non-past and non-perfective subject marker" *ya-* (and not the pronominal prefix *yu-*) (cf. Petzell 2008: 90, 101), which further accounts for the addition of yet another nominaliser augment, viz. the optional initial *i*. As illustrated in (12) with the class 10 agreement, *ya-* derives from an inflected form of the locative copula *-a* fused with the class 1 agreement prefix.[20] That is, the interrogative *(i)yehoki* 'who?' is structurally a nominalised predication, as overtly marked by the augment, literally meaning something like 'the one that s/he is the one where?' *(i-)y-e-hoki* [(NMLS)-1-be:NMLS-where].

(12) Kagulu G12 (Petzell 2008: 178)
sa *hoki*
si-a hoki
10-be where?
'Where are they (class 10)?'

As discussed in §5.3.2, the earlier presence of the H tone of the augment, as a nominaliser or a construct form marker, can also account for the generalisation of the H tone forms *zá* 'who?' and *jə́* 'what?' in Eton A71, and similar H-toned forms in other A70 varieties, as well as in A15 and A40 languages.

[19] Although the copula type N(D)I, viz. **ní ~ *ní* and **ndí ~ *ndí*, and the copula type I, **í ~ *í* and **H*, traditionally seem to be considered allomorphs, I believe that historically they are not related (see Appendix C).

[20] In fact, subject prefixes originating in the inflected forms of the copula *-a* appear to be rather common in Eastern Bantu. See Appendix D for various examples from zones D, E, G, N and P.

4.1.4.3 Types -TE, -O, and -E

Another relatively recurrent type of accreted material of deictic origin is -TE, which seems to be absent from Eastern and South-Western Bantu and functionally restricted to 'what?' interrogatives, as in Nen A44 *yǎtɛ̀* 'what?', *yǎtɛ̀* N 'what kind of N?', Maande A46 *àátɛ́* 'what?', Shake B251 *índɛ̀ ~ íntɛ̀* 'what?', Boa C44 *tě* 'what?'. The type -TE may have been sourced from an anaphoric demonstrative, such as Eton CL-*tə̀* (Van de Velde 2008a: 146–148), Ewondo A72a CL-*tə̌* (Abessolo Nnomo & Etogo Mbezele 1982: 185) and Aghem [aghe1239, West Ring Grassfields] CL-^{L}*té*^{H} CL-*ɔ́* 'the one in question, the one you and I know about or have been talking about' (Hyman 1979: 40).

It is possible that the same type occurs in forms such as Nkucu Wela C73 *nàtó* 'what?' (one of the forms) and Kele Yawembe C55 *-tò* 'what?'. Their final *o* may be due to the further accretion of the common Bantu '*o* of reference' (Dammann 1977), i.e. BGR's substitutive stem **-o*, to which I refer as type -O.[21] Other possible examples of the type -O accretion include 'who?; what?' in zone C, such as Ntomba-Inongo C35a *ńnɔ* and Bolia C35b *ńɔ* (cf. Idiatov 2009: 72).

Finally, type -E is manifested in final vowels of mostly 'what?' and sometimes 'who?' interrogatives in zones A, B and C, such as in Duala A24 *njé* (vs. *njá* 'who?'), Noho A32a *njáe* (vs. *njani* 'who?'), Basaa A43a *njé(ɛ́)* 'who?' (but see §5.2.2 on its use as a stem for 'what?'), Tsogo B31 *índe* (vs. *índa* 'who?'), Koyo Ehamba C24 *nde* (vs. *nda* 'who?'), Balobo C314 *ndé* (vs. *ndá* 'who?'), Motembo C371 *nde* (vs. *nda* 'who?'), and Bwamba C10 *yé* 'what?' (vs. *yá* 'who?'). Recall the forms for 'who?' in A15 cited in §2.1, such as Akoose *nzɛ́(ɛ́)* and Mwahed *nzɛ́* (vs. Mwaneka *nzá*, Mkaa *njá*). Also compare C30 varieties Gyando (Ngiri) *ye* 'what?' and Doko *yó* 'what?', where type -E seems to alternate with type -O. Type -E may originate in BGR's substitutive stem **-e*, another deictic stem, or be a reduction of type -TE.

4.1.5 Accreted material inherited from locative interrogatives

In Bantu, following a common cross-linguistic path of change, locative interrogatives often develop into SIPs and subsequently into NSIPs, especially 'who?'. For this reason, accreted substance is often inherited from such locative interrogatives. The most common and transparent type here is PA-, which is sourced from the class 16 marker **pa-*, in forms such as Makhuwa Nampula P31 *páni* 'who?' and Kagulu CL-*(i)hoki* 'which (one)?' and *yehoki* 'who?' (see Appendix B).

[21] Alternatively, the forms with the back rounded vowel may reflect **ntɔ̀* 'some (entity), any' (BLR 4807), which has reflexes meaning 'thing'. In this respect, see §4.1.6.

Doneux (1971: 134–135) reports that in languages of zone J locative interrogatives meaning 'where?' are often accreted with *nka-* and *-na*.[22] While there are no such clear examples of NSIPs involving *-na*,[23] both NSIPs and SIPs that are likely to contain (N)KA- are more widespread.[24] Some particularly clear examples are found in zones C and L: Babanda C44 *kàní* 'who?', Boa Buta C44 *kàné* 'who?', Luba-Kasai L31a *ŋanyì* 'who?' and *ci-ŋanyi* 'what?' (class 7). Another possible example is Lower Pokomo E71B *ga ~ gá* 'who?', also used as an interrogative modifier of 'thing' in the construction for 'what?' (see §4.1.6).[25]

The use as 'where?' as in zone J is clearly the source of the NSIPs and SIPs with reflexes of (N)KA-. To begin with, this is suggested by the typical paths of semantic change of interrogatives from 'where?' to 'which one?' and further to 'who?' and 'what?' rather than the other way around (see §3.2). Furthermore, if we assume a locative source, we can propose a coherent etymology for (N)KA-, plausible both semantically and formally. Thus, (N)KA- was transparently sourced from **ka* 'be at (X's place)'.[26]

4.1.6 NSIPs instantiating the Interrogative Modifier construction

It is common cross-linguistically for NSIPs to be construed as nominal expressions based on generic nouns, such as 'thing', 'person', 'place', and an interrogative modifier, as in 'what thing?' for 'what?' or 'which place?' for 'where?'. With other nouns the same interrogative modifier may have primarily selective semantics ('which [N]?'), a variety of non-selective semantics ('what [N]?', 'what kind of [N]?'), or be largely indifferent to this distinction (such as French *quel [N]?*).[27]

[22]Doneux (1971) does not discuss any possible sources. I argue that *-na* most likely goes back to the intermediate deictic stem **ná* (see Appendix E) and *nka-* to a form of **ka* 'be at (X's place)' (see Appendix F).

[23]However, see §4.1.6 on a number of 'what?' interrogatives ending in *-(i)na*, where a different etymology is more likely.

[24]This also applies to 'where?' interrogatives, such as Northern Sotho S32 *kae* (Poulos & Louwrens 1994) and Mongo C61 *nkó* (Nkundo), *ńkó*, *ńkò*, *nká* and *nké* (other varieties) (Hulstaert 1957; 2007: 290).

[25]As highlighted in footnote 17, (N)KA- plausibly also formed the initial part of some *ani*-like forms for 'where?', 'which (one)?', 'who?' and 'what?' in Eastern Bantu (with the locative class 16 **pa* being another plausible candidate).

[26]See Appendix F for a discussion of the etymology of the accreted element (N)KA-.

[27]Descriptions of individual Bantu languages often remain vague with respect to the semantics of the interrogative modifier and rely exclusively on the translational equivalent. Thus, descriptions in French often use the translation *quel*, which is indifferent to the distinction between selective and non-selective semantics, while descriptions in English often use *which*, which is selective by default, but may also be used non-selectively. I suspect that in many cases we indeed deal with real semantic ambiguity, as may be confirmed by (contextualised) sentential examples when they are provided.

NSIPs instantiating the Interrogative Modifier construction are attested throughout Bantu. However, they remain relatively infrequent. To some extent, this is likely to be due to the presence of a rich noun class system in which noun class markers can function similarly to nouns with generic semantics. In Bantu, such NSIPs mostly mean 'what?' and somewhat less frequently 'where?'. I was able to identify two to three nominal stems on which such interrogatives are based.

The first stem is **ntʊ̀* 'some (entity), any' (BLR 4807) which has reflexes meaning 'thing' in class 7, 'place, somewhere' in the locative classes 16, 17 and 18, and 'person, somebody' in class 1 (cf. Grégoire 1975: 137–138). Despite this range of possible meanings, I found it only as a part of 'what?', such as in Kwange D102 *kì-ntù nàání* 'what?' and Lower Pokomo E71B *kinthu ga ~ ki-ntú-gá* 'what?' (see also §4.1.4 on some less clear examples in the east of zone C).[28]

The second well-attested nominal stem is **jʊ́mà* 'thing; bead; iron' (BLR 3619), whose reflexes can mean 'thing', 'place' or 'person' depending on the noun class, and convey a number of more specific meanings, such as 'bead', 'iron', 'belongings' (cf. Grégoire 1975: 139–142). This stem is found in 'what?', 'where?' and 'who?' interrogatives. Thus, we find Babole Bakolu C101A *zumba nza*, Enya Kibombo D14 *kì-úmà nàání* 'what?', Enya Manda D14 *kì-úmà nàání* 'what?', Ndaka D301 *ìmánì* 'what?', Lunda L52 *yumanyi* 'what?'.[29] Other such 'what' constructions have undergone the *cosa*-type reduction (see §3.1.3), as in Bodo D308 *èmá*, Kukuya B77a *kì-má*, Fumu B77b *ima*, Teke Laali B73b *ímá ~ kii-ma*. 'Where?' interrogatives involving **jʊ́mà* occur in Fang A75 *vom ave*, Lundu A11 *oe oma*, and Kele C55 *ánima*, where *vom*, *oma* and *áma* respectively mean 'place' (Grégoire 1975). Finally, in B10 and Eastern and South-Western Bantu languages, we also find 'who?' interrogatives involving **jʊ́mà*. In B10, they are transparently based on class 1 reflexes of **jʊ́mà* meaning 'person', as in Mpongwe B11a (Raponda-Walker 1934) *o-ma* 'person', *mandɛ* 'who?' next to *oma ande* 'what person?; who?', *ande* 'what?; what (kind of) [N]?', and Orungu B11b (Ambouroue 2007) *ò-má* 'person', *mɛ́ndɛ̀* (after a low tone: *mɛ̀ndɛ̀*), *ò-má ándè* 'what person?; who?', *ándè* 'what?;

[28]Both *nàání* in Kwange *kì-ntù nàání* 'what?' and *ga ~ gá* in Lower Pokomo *kinthu ga ~ ki-ntú-gá* 'what?' mean 'who?' on their own. These two uses illustrate the typical evolution from the SIP 'which (one)?' (person or thing) to the NSIP 'who?' (cf. §4.3, §5.2.4, §4.1.5).

[29]Note that just like in the Kwange and Lower Pokomo forms above, the interrogative elements in Babole Bakolu, Enya and Ndaka 'what?' also mean 'who?' when used nominally on their own, viz. Babole Bakolu *nza* 'who?', Enya Kibombo *nàání* 'who?', Enya Manda *ní-nàání* 'who?', Ndaka *àní* 'who?', and illustrate the same type of evolution.

what (kind of) [N]?'.[30] According to BLR3, reflexes of **jʊ́mà* meaning 'person' are restricted to zones A and B. In contrast, the comparable Eastern and South-Western Bantu 'who?' forms, such as Tswana S31 *máng*,[31] must be derived from an earlier selective 'which one?' indifferent to the distinction between persons and things, and ultimately from a locative 'where?', based on reflexes of **jʊ́mà* meaning 'place', not 'person' or 'thing'. This is suggested by the possibility to use such 'who?' interrogatives in questions about non-personal proper names, such as toponyms or names of species of flora and fauna, and as interrogative modifiers 'what kind of, what [N]?' equally indifferent to the distinction between persons and things (cf. Idiatov 2009: 66–67, 69). Such uses cannot be accounted for if we take the original meaning of these interrogatives to be 'who?'.[32]

Finally, a number of 'what?' interrogatives in zones C, D and J may instantiate the Interrogative Modifier construction involving **(j)íná* 'thing' attested in zones B, D and R (cf. Meeussen 1967: 103; Grégoire 1975: 142), which subsequently underwent the *cosa*-type reduction. Such 'what?' interrogatives are Beo C45A and Ngelema C45 *etina*, Komo D23 *sínà*, Bukusu JE31c *sîinà*, Kisa JE32D *sina ~ shina*, Isukha JE412 *shiina*, Samia JE34 *sina*. Alternatively, the *(i)na* part may also represent a reduction of the same SIP that resulted in the 'who?; what?' NSIP in some languages of zone C, such as Mongo C61 *ná* (see Idiatov 2009), and the (modifying) interrogative stems that can have both a selective and non-selective reading, such as Doko C301 *-ndá* 'which/what N?'.

4.1.7 Reduplication

Doneux (1971: 134–135) reports that in a number of languages of zone J locative interrogatives 'where?' have been accreted through reduplication. I found only a few examples of accretion through reduplication with interrogative pronominals in zones D and J, such as Enya Kibombo D14 *kìíkìí* 'what?' (next to *kì-úmà nàání* 'what?', lit. 'what thing?') and Ziba JE22D *-kɪ(kɪ)* 'what?'. Reduplication for accretion of interrogatives is somewhat unusual typologically, but it is easy to account

[30] Interestingly, at least Mpongwe must have had another reflex of **jʊ́mà* in class 5 that meant 'thing'. This is suggested by the fact that Mpongwe also has a placeholder word of class 5 *mandɛ ~ mamandɛ ~ mandɛ-mandɛ* 'whatchamacallit' that is used exclusively to refer to things or places whose name escapes one's mind at the moment of speaking (Raponda-Walker 1934).

[31] Other such 'who?' forms including Bhele D31 *màní*, Luguru G35 *mani*, Pende L11 *maɲì*, Tswana S31 *máng*, Southern Sotho S33 *màngʼ*, Nkuna S53D and Luleke S53A *maní*, Tswa S51, Tsonga S53 and Ronga S54 *máni*, Konde S54 *má(ni)* are examples of *cosa*-type reduction.

[32] Following the same line of reasoning, we can equally exclude the possibility that the initial *m-* in these 'who?' interrogatives results from a reduction of the class 1 prefix *mʊ-* > *mw-* > *m-*.

for by information-structural uses of reduplication for meanings such as 'really X', 'exactly X', 'X and nothing else' (where X is the reduplicated element).[33]

4.2 Formal evolution: Reduction

As is common cross-linguistically, reduction of substance with interrogatives in Bantu is largely irregular. Recall the forms for 'who?' in the A15 varieties cited in §2.1, which illustrate this point well. The *cosa*-type reduction (cf. §3.1.3) is also attested in Bantu (see §4.1.6 for some examples). Regarding the interaction between reduction and accretion of substance in interrogatives presented in §3.1.4, my impression is that overall the evolution of NSIPs in Bantu is best represented by the scenario schematised in (7) above, with accretion on the sides and reduction inside, although with a certain preference for accretion on the right. The right side of interrogatives appears to be generally more stable in non-North-Western Bantu, especially in Eastern Bantu, which matches more general morphological and phonological patterns in that North-Western Bantu languages often have maximality constraints on stems. These are generally absent elsewhere, while in Eastern Bantu we sometimes observe the opposite situation with minimality constraints on stems.

4.3 Semantic evolution

The two most common semantic pathways of change at the origin of interrogative pronominals in Bantu are: (i) '(be) where?' > '(be) which one?', 'which [N]?', 'what (kind of) [N]?' > 'which one?' resulting in SIPs; and (ii) 'which one?' > 'who?' resulting in human NSIPs. Both are also very common cross-linguistically (cf. §3.2).

The change 'which one?' > 'who?' is for example reported for the languages of zone J by Doneux (1971). The same evolution must have taken place in those numerous cases where 'who?' corresponds to an interrogative modifier 'which/what [N]?' indifferent to the distinction between persons and things. Some examples are provided in §4.1.6. Compare also Libobi C412 *ya* 'who?', Chokwe K11 *i-ya* ~

[33] Cross-linguistically, reduplication of interrogatives seems to be more typical for echo-questions. Thus, in Russian we can have an echo-question with the reduplication of *čego*, the genitive form of *čto* 'what?', that expresses a nuance of disbelief *Čego-čego on skazal?* 'What did he say exactly? (Have I really heard what you say he said?)', while a more neutral echo-question would either use the non-reduplicated genitive form or the non-reduplicated accusative form *čto* 'what?'. The latter accusative form is also the normal form in regular, non-echo-questions about objects.

a-ya 'who?', Mbunda K15 *íyà* 'who?' and the dialectal variant CL-*yá* of the interrogative modifier 'what/which [N]?' in Mongo. The change from '(be) where?' to 'which one?' or 'which/what [N]?' can be illustrated with Akoose A15C *héé* 'where?' and CL-*héé* 'which (one)?', Mongo C61 *nkó* 'where?' and CL-*lé nkó* [CL-COP where?] 'which (one)?' (lit. 'the one that is where?'), Kagulu G12 *hoki* 'where?' and CL-*(i)hoki* 'which (one)?' (see also Doneux & Grégoire 1977: 191–192).

Since these two common pathways of change share the selective interrogative step, the output of (i) can obviously be the input for (ii), resulting in an evolution from 'where?' to 'who?'. A particularly transparent example is provided by Kagulu (Petzell 2008: 89–92, 177), where we have both *hoki* 'where?' and CL-*(i)hoki* 'which (one)?', *yehoki* 'who? (class 1)', *wehoki* 'who? (class 2)'. A more common situation is where the original locative origin of 'who?' has been masked by subsequent changes, but can be traced back thanks to both language-internal and comparative evidence, as illustrated in §4.1.5 and §4.1.6. Thus, besides formal evidence, such as the frozen locative class 16 prefix in Makhuwa Ile P31 *pání* 'who?' and Giryama E72a *hani* 'who?', the reconstruction of the locative or selective origin of 'who?' is facilitated by the fact that often the same interrogative concurrently evolves into an interrogative modifier 'which/what [N]?' indifferent to the distinction between persons and things, or into the stem of the non-human interrogative 'what?', two uses that cannot be accounted for if we take the original meaning to be 'who?'.

5 Bantu NSIPs: Typological oddities

5.1 Overview

The oddities of a system, such as unnatural or lexical conditioning for allomorphs in morphology or unusual combinations of meanings for semantics, are most telling for the purposes of internal reconstruction. In this section, I highlight two of the major types of peculiarities of NSIPs across Bantu and the implications for their reconstruction, especially 'who?'. The first type (§5.2) pertains to the surprising patterns of colexification of 'who?' and various interrogatives that are either non-human, such as 'what?', or indifferent to the difference between humans and things, such as 'which/what [N]?', which imply that such 'who?' constructions originate in selective and locative interrogatives. The second type (§5.3) pertains to the tendency to construe interrogative pronominals, especially those questioning subjects, as nominal predicates, because they have their source in clause-level constructions of the cleft type. Given the natural correlation be-

tween subjects and agentivity, in the long run the effect of this tendency is most noticeable with the human interrogative 'who?'.

5.2 Colexification of human and non-human interrogatives

5.2.1 Lack of differentiation between 'who?' and 'what?' in zone C

As I discuss in detail in Idiatov (2009), a number of languages in zone C have NSIPs used as both 'who?' and 'what?', such as Mboshi C25 *ndè ~ nê*, Mongo-Nkundo C61 *ná*, varieties of Tetela C70 *nâ*, Ntomba-Inongo C35a *ńnɔ̀* and Bolia C35b *ńɔ̀*. At least in Mongo-Nkundo, there is also a rare dedicated non-human NSIP, viz. *é* 'what?'.[34] We can multiply such examples if we take into consideration cases where one and the same form means 'who?' in one language, but 'what?' in another. For example, we have Ligendza C414 *ndá* 'who?' and Buja C37 *ndá* 'what?'. All these 'who?; what?' interrogatives are supposed to be reflexes of the BGR form **n(d)áí* 'who?'.

5.2.2 'who?' as the stem for 'what?'

In a number of languages, we find 'who?' interrogatives corresponding to the BGR form **n(d)áí* 'who?' used as the stem for 'what?' in combination with the class 7 prefix, e.g. Mwani G403 *náni* 'who?' and *ki-náni* 'what?', Luba-Kasai L31a *ŋanyì* 'who?' and *ci-ŋanyì* 'what?' (Kabuta 2006), Nyasa N31D *yani* 'who?' vs. *ci-yani* 'what?'. A slightly more complex example is found in Basaa A43a, where we have *njɛ́(ɛ́)* 'who?' vs. *kí(í)* 'what?', but also *kí.njɛ́(ɛ́)* 'what?', additionally used as a modifier 'what kind of [N]?' (Moreton & Bôt Bá Njock 1975: 372, 468; Bôt 1986: 66) (see also §5.2.4 and §5.3 below). The complication here is that synchronically the class 7 prefix in Basaa is not *ki-*, but zero or *y-* as a noun prefix and *í-* or y^H- as an agreement marker. Finally, see §4.1.4.3 above on the type -E accretion in zones A, B and C that very often appears to derive 'what?' interrogatives from 'who?' interrogatives corresponding to the BGR form **n(d)áí* 'who?'.

[34] Remarkably, *é* in Mongo-Nkundo can also mean 'where?' with motion verbs as an equivalent of the regular locative interrogative *nkó*. Such a colexification pattern is very unusual and probably due to the accidental merger of two interrogatives based on the same interrogative stem 'what?': one marked by class 7 **kɪ-*, as typical for 'what?' interrogatives, and the other one by locative class 17 **kʊ-*. The class 7 prefix in Mongo is zero with vowel-initial nominal stems and *e-* elsewhere. There is no more class 17 in Mongo, but its reflex would be expected to be *o-* or zero with the same distribution as class 7 (Grégoire 1975: 126–128).

5.2.3 'who?' as '(be) what?' about a name of a person or thing

In a number of languages, 'who?' is used as '(be) what?' in questions about both personal proper names and non-personal proper names, such as toponyms or names of species of flora and fauna. As I illustrated in Idiatov (2009: 69), this use is found with 'who?' in Ligendza *ndá*, which is supposed to be a reflex of the BGR form **n(d)áí* 'who?', and Tswana *máng*, the univerbation of an interrogative construction literally meaning 'which/what place?' (cf. §4.1.6 above).

5.2.4 'who?' as the interrogative modifier 'which/what [N]?'

In a number of languages, the same form is used for 'who?' and for the interrogative modifier 'which/what [N]?' with human and non-human nouns. For example, recall the 'what?' interrogatives instantiating the Interrogative Modifier construction with the noun 'thing' discussed in §4.1.6.[35] I do not know whether 'who?' in these languages can also be used in the Interrogative Modifier construction with nouns other than 'thing'. Synchronically more productive uses can be illustrated with Tswana *máng* 'who?' and [N] *máng* 'what kind of, what [N]?' (Idiatov 2009: 66–67), Basaa *njɛ́(ɛ́)* 'who?' vs. *njɛ́(ɛ́)* [N] 'which/what [N]?' (Hyman 2003),[36] and Akoose *nzɛ́* 'who?' vs. *nzɛ́* [N]\H-*ɛ́* 'what/which [N]?'[37] (Hedinger 2008).[38] In some cases, the difference may be only tonal, as in Doko C301 *ndâ* 'who?' and *-ndá* 'which/what [N]?'. Given that the comparative evidence clearly suggests that this particular interrogative, presumably a reflex of the BGR **n(d)áí* 'who?', used to have a more complex structure, the tonal difference may be due to a divergent evolution of the earlier complex tonal pattern in pronominal and modifying uses respectively. See also §5.3.2 below on the modifying use of 'who?' in A15, A40 and A70 languages, which simultaneously demonstrates the divergent tonal evolution and the gradual simplification of a biclausal cleft construction into a monoclausal construction. However, in some cases the tonal differences may also be due to additional nominalising morphology in the interrogative pronominal 'who?', as in Mbula [mbul1261, Jarawan Bantu] *yà* [N] 'which/what [N]?' vs. *yá ˈná* |$^{\text{H}}$-yà ná ~ V́-yà ná| [NMLS-which? COP.PRES] 'who is it?; who?' (cf. §2.1), where the H tone is likely to come from a nominaliser that otherwise appears to be restricted to deictics.

[35] See also footnotes 27 and 28 above.

[36] See also §5.2.2 above and §5.3.2 below.

[37] In this construction, \H marks that the tone of the noun is replaced with H, which may be considered as an instance of H tone plateauing between the H of the interrogative and that of final *-ɛ́*.

[38] See also §5.3.2 below.

We can multiply similar examples if we take into consideration cases where one and the same form is used as 'who?' in one language, but as 'which/what [N]?' in another. Thus, compare the Mongo C61 dialectal variant CL-*yá* 'what/which [N]?' with Bwamba C10 *yá* 'who?', Libobi C412 *ya* 'who?', Chokwe K11 *i-ya* ~ *a-ya* 'who?', and Mbunda K15 *íyà* 'who?'.

5.3 Interrogative pronominals as nominal predicates

In Bantu, questions (especially those about subjects) are often constructed as clefts, as in 'it is who that did P?' for 'who did P?', or pseudo-clefts, as in 'the one that P is who?' for 'who did P?', with the notional predicate being topicalised and construed as a relative clause and the interrogative being focalised and construed as a nominal predicate (cf. §4.1.1). Due to frequency effects, such (pseudo-)cleft structures tend to become reduced to various extents with univerbation, formal erosion and simplification of a biclausal construction into a monoclausal one as a result (compare the case of Louisiana Creole interrogative pronominals presented in §3.1.3). Given the natural correlation between subjects and agentivity, in the long run the effect of this tendency is most noticeable with the human interrogative 'who?'. Traces of the former cleft structure may be found both in the form of the interrogative itself (§5.3.1) and of the constituent question construction (§5.3.2).

5.3.1 Cleft traces in the form of the interrogative itself

As discussed in §4.1.2–4.1.4, since the accretion of substance in interrogatives often proceeds within cleft structures, the accreted substance is often sourced from various deictic forms and other forms that themselves are typically sourced from deictics and used as building blocks of cleft constructions, such as copulas, focus markers and relativisers. Various traces of such morphemes may remain discernible.

For example, across Bantu many NSIPs begin with a nasal-consonant cluster, such as *nd-*, *nz-*, *nj-*. Such NC clusters are particularly common in 'who?' interrogatives as reflected in the BGR reconstruction **n(d)áí* 'who?', but are also found in 'what?' interrogatives, since the interrogative construction reconstructed in BGR as **n(d)áí* was originally not a dedicated human interrogative (see §6.1). As discussed in Idiatov (2009: 71), the unusual shape and sound correspondences, such as *d*/*z* before *a*, most likely reflect the copulas **ní* ~ **ní* and **ndí* ~ **ndí* (see §4.1.4.1 on type N(D)I). Such clause-level constructions may later be overtly nominalised. Thus, as discussed in §4.1.4.2, the type I- accreted material more frequently found

with 'who?' interrogatives is likely to originate in a nominaliser, especially the augment, e.g. Kagulu *(i)yehoki* 'who?' < *(i-)y-e-hoki* [(NMLS-)1-be:NMLS-where?], a nominalised predication literally meaning something like 'the one that s/he is the one where?'. Because such a nominaliser tends to be reduced for phonological reasons, like the prosodic weakness of a V-shaped prefix, the interrogative may end up looking like a nominalisation by conversion, i.e. a word category change that is not marked by any explicit morphology, like the verb *drink* > the noun *drink*. At the same time, there are cases where clause-level interrogative constructions were effectively nominalised by conversion, as in Mbula *yá^{i} ná* 'who is it?; who?' |^{H}-yà ná ~ V́-yà ná| [NMLS-which? COP.PRES] (cf. §2.1).[39]

The copula origin of many interrogative pronominals, especially the forms of 'who?', is indirectly further supported by another peculiarity of their morphosyntax. Such 'who?' interrogatives regularly lack any overt (human) class 1 marker, the reason for which they are typically set apart together with other prefix-less human nominals as a subclass of the human class 1, the so-called class 1a (cf. Van de Velde 2006). In this respect, they differ radically from 'what?' interrogatives, which are often overtly marked for noun class, typically class 7. This lack of overt class marking is expected if these 'who?' interrogatives come from a cleft construction with a copula. It is common for copulas to be invariable and not to be agreement targets (cf. Gibson et al. 2019 specifically on Bantu).

5.3.2 Cleft traces in the form of the constituent question construction

Often, the last (supra)segmental trace (besides word order) that remains of the former interrogative cleft construction is the use of the relative prefix on the verb or the dedicated relative verb form in constituent questions. For instance, in Orungu B11b interrogatives are normally utterance-initial and require a relative prefix on the verb suggesting an earlier cleft structure, possibly with additional prosodic traces in the case of 'who?' (cf. Ambouroue 2007: 141–142, 166–167). Similarly, in Ewondo A72a, the relative verb form marked by a postposed floating ^{H} tone is used with (sentence-initial) interrogatives, as well as focus pronominals and a number of (historically complex) clause-linkers, such as *ànɔ́* 'like', *àmú* and *àsú* 'because' (Abessolo Nnomo & Etogo Mbezele 1982: 75–76, 166). This last suprasegmental trace of the interrogative cleft construction may be partly lost in the closely related language Eton A71, which has a similar relative verb form. However, only a "limited number of verb forms have a special form in relative clauses", viz. the present affirmative form of *nɔ̀* 'be', the present tense form

[39] The nominaliser in the Mbula form nominalises the interrogative modifier *yà* [N] 'which/what [N]?', not the predication.

in southern dialects, the resultative verb form, and the future auxiliary (Van de Velde 2017: 54–55). This relative form is used with sentence-initial interrogatives when such a dedicated form is available, as in (13) with the copula *nə̀*, except in the future tense where the speakers consulted use the non-relative form of the future auxiliary, as in (14) (Mark Van de Velde, p.c.).

(13) Eton A71 (Mark Van de Velde, p.c.)
zá *ˡnə́* *ˡvá-lá*
zá à-nə̀-H Lvá-lá
who? 1-COP-REL ADV.DEM-NADR
'Who is it?' (for example, asking a person approaching in the dark about their identity) (lit.: '(It is) who that s/he is there near you?')

(14) Eton A71 (Mark Van de Velde, p.c.)
z *éèyì* *sɔ́*
zá èèyì L-sɔ́
who? FUT.AUX INF-come
'Who will come?'

Except in those limited cases mentioned above where the relative verb form is used, Eton interrogatives can be used in situ (15a) or sentence-initially (15b) without any further morphosyntactic changes.

(15) Eton A71 (adapted from Van de Velde 2008a: 329)

a. *ùyɛ́n* *zá* *á* *mákíd?*
ù-H-jɛ́n-H zá á mákíd
2SG-PST-see-NF who? LOC market
'Whom did you see at the market?'

b. *zá* *ù-H-jɛ́n-H* *á* *mákíd*
who? 2SG-PST-see-NF LOC market
'Whom did you see at the market?'

Comparison of Eton with Ewondo illustrates another important point. In a Bantu language, fronting of interrogatives should normally reflect an older cleft construction even in the absence of any other morphosyntactic traces, such as relative clause morphology. In fact, this finding is supported by a more general observation. Given that Bantu languages, especially in the north-west, are characterised by a rigid constituent order that is typical for languages of Northern Sub-Saharan Africa in general, it is expected that an interrogative can be used

sentence-initially only as a result of a more profound reorganisation of the morphosyntax of the utterance, as in a cleft construction. These findings also suggest that what is synchronically described in terms of fronting of an interrogative out of its in-situ position, historically represents a change in the opposite direction. An erstwhile clause-level constituent interrogative construction used sentence-initially as part of a larger cleft construction was first deranked into a nominal expression that can no longer be used in an independent declarative clause. A full predication gets stripped of its predicative properties and starts being used as a nominal expression. As a consequence, it can be used in situ in constructions restricted to nominal expressions, such as the postverbal (non-subject) argument construction.[40] In this respect, recall also the Mbula NSIP *yá↓ná* 'who is it?; who?' presented in §2.1.

A particularly interesting example of cleft reduction is the colexification of 'which/what [N]?; what kind of [N]?' and 'who?' in A15, A40 and A70 languages. It not only showcases a gradual simplification of a biclausal into a monoclausal construction, but also demonstrates the possibility of a divergent tonal evolution depending on the construction in which an interrogative is used (see also §4.1.4.2 on Mongo). Ewondo, for example, has besides *zá* 'who?' also a rare interrogative modifier *zǎ* [N](-V̀) 'what kind of [N]?', where a low-toned copy vowel is added to monosyllabic nouns and the verb takes the relative form (Abessolo Nnomo & Etogo Mbezele 1982: 75–76, 166). The low-toned copy vowel is likely to have its origin in a proximal deictic stem used here as a relativiser or copula.[41] Eton has, besides *zá* 'who?' with a restricted constructional variant *zà*, also a rare exclamatory *zá* [N] 'what (kind of) [N]!', both followed by a non-relative verb form (Van de Velde 2008a: 178, p.c.). The tonal difference between *zá* 'who?' and *zǎ* 'what kind of [N]?' in Ewondo has been levelled in Eton in favour of the tone of the interrogative pronominal, which is much more frequent than the modifier. The LH tone pattern of the modifier is likely to be closer to the original tone pattern. In this respect, recall the constructional variant *zà* 'who?' in Eton and compare the 'who?' interrogatives in some other A70 varieties, such as Ntumu A75A *zà* and Meke A75C *nzá*. In fact, a comparable tonal and segmental variation within A70

[40] Obviously, this historical scenario does not preclude the possibility that once the in-situ use of an erstwhile sentence-initial clause-level interrogative, such as 'it is who [that P]?', has become established, the alternation between the in-situ and the sentence-initial position may have been later generalised to other interrogatives which did not originate in a sentence-initial cleft-type interrogative.

[41] Compare the low tone in the Ewondo relic proximal adverbial demonstrative forms of class 16 *vâ* and class 18 *mû* (Grégoire 1975: 118) and the Basaa near-addressee demonstrative stem, viz. just a low tone (Hyman 2003) or a copy vowel with a low tone (Bôt 1986).

is also found with 'what?'. Thus, in Eton, we have *jə́* with the constructional and dialectal variant *jə̀* and the dialectal variant *yá* (Van de Velde 2008a: 176), while we have *dzé* in Ewondo, *ndzè* in Ntumu and *zè* in Meke. The generalisation of the H tone forms *zá* 'who?' and *jə́* 'what?' in Eton and similar cases elsewhere may be accounted for by the earlier presence of the H tone of the augment, as a nominaliser and/or a construct form marker, which would represent a case of the I- type accretion (see §4.1.4.2). In this respect, note that (at least some) speakers of Eton use the L-toned forms *zà* 'who?' and *jə̀* 'what?' as a nominal predicate introduced by the copula *nə̀*, as in (16) and (17) respectively, which can be compared to (13–15) above for 'who?'. This is exactly the context where there may be less need for these interrogatives to be overtly marked as nominals by a nominaliser augment, and where they definitely cannot be marked by the augment as the construct form marker (cf. Van de Velde 2019: 249).

(16) Eton A71 (Mark Van de Velde, p.c.)
à-nə̀ zà
1-COP who
'Who is s/he?'

(17) Eton A71 (Mark Van de Velde, p.c.)
ɛ́-nə̂ jə̀
5-COP what
'What is it?'

In Basaa, the evolution observable in the A70 languages seems to be even more advanced than in Eton, in that *njɛ́(ɛ́)* 'who?' and the interrogative modifier *njɛ́(ɛ́)* [N] are identical in form and neither requires the use of a relative clause (Hyman 2003; Van de Velde 2017: 64). In Akoose A15C, the situation is intermediate between Eton and Basaa in that *nzɛ́* 'who?' and *nzɛ́* [N]\H-*ɛ́* 'what/which [N]?' are identical in form and neither requires the use of a relative clause (Hedinger 2008). However, in a question, the verb used with the interrogative pronominal or the phrase with the interrogative modifier takes the relative form when the question is not about a subject, a property they share with the cleft construction described by Hedinger (2008) as a "topicalisation" construction. Another feature that the interrogative modifier construction *nzɛ́* [N]\H-*ɛ́* 'what/which [N]?' shares with both relative clauses and topicalisation (clefts) is the final element *-ɛ́*. It is reminiscent of the 'reduced' forms of the relativiser [N]-*ɛ́ˈɛ́* (the full form is [N] CL-*ɛ̀*) and the 'topicalisation' marker 'it is the [N] that…' [N]=*ɛ̀ɛ́* (the full form is [N] CL-*ə̀*). Like in A70 languages, final *-ɛ́* is likely to have been sourced from a non-distal deictic stem used here as a relativiser or a copula.

6 A revision of the reconstruction of the PB NSIPs

In this section, I propose a revision of previous NSIP reconstructions which is informed by the diachronic typology of NSIPs presented in §3 and applied to Bantu in §4 and §5. I equally take into consideration data from outside of Narrow Bantu in order to refine the reconstructions and to determine the level to which they belong. In §6.1, I revise the PB reconstruction for 'who?' as **n(d)áí* 'who?'. For ease of reference, I refer to the interrogatives that would formerly be considered as reflexes of PB **n(d)áí* 'who?' as NDAI type interrogatives. In §6.2, I propose a critical reassessment of the PB reconstruction for 'what?' as the interrogative stem **í*.

6.1 The human NSIP 'who?' and the NDAI type interrogatives

6.1.1 Overview

As I argued in Idiatov (2009) and further elaborate here, no simplex 'who?' interrogative can be reconstructed for PB. The only form proposed so far, viz. **n(d)áí* 'who?', results from univerbation and nominalisation, either by conversion or by means of an overt nominaliser, such as the augment, of a clause-level interrogative cleft construction. The latter was most likely based on an erstwhile SIP meaning 'which one?' indifferent to the distinction between persons and things. The primary development was from a cleft content question construction 'it is which one [that P]?' > 'it is who [that P]?' > 'who [(that) P]?' (sentence-initial NSIP with some traces of the former cleft, cf. §5.3.2) > 'who?' (NSIP usable in situ in non-sentence-initial positions, cf. §5.3.2).[42] Furthermore, thanks to the original indifference to the distinction between persons and things, we also find interesting patterns of colexification of 'who?' and 'what?' or 'which/what [N]?' (cf. §5.2).

In Idiatov (2009), I proposed that the NDAI type interrogatives go back to the structure *[AG9(or AG7)-COP CL16-'what?'] '(it) is where?', viz. something like PB **í-ndí pà-í*. I now believe that this reconstruction should be revised, except for the copula part. As discussed in Appendix C, the initial *nd-* cluster of the copula may reflect a stacking of two copulas, **ní* and **dì ~ *lì*. As I show in §6.1.2, the NDAI type interrogative construction predates PB, but is probably limited to Southern Bantoid. We should therefore also consider data from outside of Narrow Bantu. The complexity of the tonal patterns and tonal correspondences of the NDAI

[42] I do not reconstruct a pseudo-cleft, such as 'The one that P is who?', since the preference for construing content questions as pseudo-clefts appears to be largely restricted to zone C.

type suggests that we should reconstruct three to four tones, probably *LHL(H) (§6.1.3). I propose to reconstruct the pre-copula part of the NDAI construction as the 3SG personal index **à* used as a dummy subject of the copula (§6.1.4) and the post-copula part as a nominalisation of the interrogative modifier **yà* ~ **là* 'which/what [N]?' (§6.1.5).

6.1.2 The NDAI type interrogative cleft construction in Southern Bantoid

The clause-level interrogative cleft construction that resulted in NDAI type interrogatives can be safely reconstructed well beyond Narrow Bantu, but probably limited to Southern Bantoid. Related forms are well-attested in Narrow Grassfields. For example, for the Mbam-Nkam Grassfields group, Elias et al. (1984) reconstruct two 'who?' stems, viz. **-gú*, with a wide distribution,[43] and **^{H}ndà*, as in Limbum [limb1268, Mbam-Nkam Grassfields] *ndāā* (Fransen 1995). The latter stem is limited to Nkambe [nkam1238, Mbam-Nkam Grassfields], a small group of languages in the very north of the Mbam-Nkam domain. We also find similar forms in Ring Grassfields, such as Babungo [veng1238, South Ring Grassfields] *ndə̀* ~ *ndə́* (Schaub 1985), Babanki [baba1266, Centre Ring Grassfields] *ǹdɔ̂* (Paulin 1995), Mmen [mmen1238, Centre Ring Grassfields] *ə̄ndɛ̄* 'who?' (Paulin 1995), Weh [wehh1238, West Ring Grassfields] *ndɛ́ɛ̄* (from *HLH)[44] 'who?' (Paulin 1995), Isu [isum1240, West Ring Grassfields] *ndiə̌* 'who?' (Paulin 1995). Examples of related interrogatives in other Bantoid groups are Mundabli [mund1328, Southern Bantoid] *ndɛ̀* 'who?' (Voll 2017) and Esimbi [esim1238, Tivoid] *əndə* 'who?' (Coleman et al. 2004).

Given its complex constructional origin, the NDAI type may have been conventionalised independently in a number of Bantoid groups. Similarly, its initial univerbation and formal reduction (or its complete loss) may also have occurred at a relatively late stage, long after the diversification of Southern Bantoid. However, it must have emerged when Bantoid languages were still very closely related. We can therefore reconstruct one construction with the same slots and the same or very similar elements filling these slots for all the relevant Southern Bantoid groups.

[43] Most likely, the stem **-gú* 'who?' is yet another example of the typical evolution of 'which one?' to 'who?', presumably augmented with a class 1 prefix. Thus, compare Babanki [baba1266, Centre Ring Grassfields] CL-*kɔ̀*^{H} 'which [N]?' or nominalised as 'which one?' (cf. Hyman 1980: 241), which in principle could also come from earlier **^{H}kɔ̀*^{H} and where the two floating ^{H} tones could reflect the same nominalising morphology as that discussed in §6.1.5 below.

[44] Davison (2009: 11) explains that in the Weh orthography "the phonetic mid-level mark […] should probably be thought of as a lowered high tone".

6.1.3 Revising the tonal reconstruction of the NDAI type interrogative construction

A complex constructional origin of the NDAI type interrogatives is also indirectly corroborated by the complexity of their tonal patterns and possible tonal correspondences. It is no coincidence that BLR3 adopts BGR's reconstruction but removes its tonal specification, viz. **nai* ~ **ndai*, admitting the tonal uncertainty of the reconstruction. Within Narrow Bantu, NDAI type interrogatives usually have one to two tones and all possible tone patterns are attested, viz. L, H, LH, and HL. This suggests *LHL or *HLH, unless we can demonstrate that all cases of HL are due to the H tone of a later type I- accretion (cf. §4.1.4.2), in which case *LH would suffice but *LHL would also be acceptable. However, outside of Narrow Bantu, we also find NDAI type interrogatives with three tones, such as LHL (as in Babanki *ǹdə̂*) and HLH, as in Weh *ndɛ́ɛ̄*,[45] and probably other Grassfields forms with surface M tones. This suggests *LHLH, or less likely *HLHL.[46] In any event, we should reconstruct three to four tones for the NDAI type. Presuming the tone-bearing unit was a syllable, the construction must have had at least three to four syllables. Furthermore, the attested segmental forms suggest that in this reconstruction one tone, most likely L, should precede the ND-cluster and two or more should follow it. Given that the morphemes involved in the NDAI type interrogative construction are most likely to have been short functional morphemes, such as a copula, a subject index, a deictic stem, an interrogative stem, a focus marker, and the like, we are dealing with at least three to four distinct morphemes.

6.1.4 The pre-copula part: the 3SG personal index **à* as a dummy subject

The initial **í-* in my earlier reconstruction (Idiatov 2009) is a later type I- accreted form (cf. §4.1.4.2). As discussed above, the element preceding the copula most likely had a L tone. From a comparative Bantoid and wider Benue-Congo (and Niger-Congo) perspective, the best candidate is the 3SG personal index **à* used as a dummy subject. Compare the floating L tone dummy subject before the copula in the cleft construction in Mundabli [$^{\text{L}}$ dummy subject + *dɨ* 'be' + X + P] 'It is X that P' (Voll 2017: 139). This is a well-attested Niger-Congo root, with a rather stable L tone.

The pre-PB 3SG personal index **à* is the same morpheme as the BGR class 1 subject marker **á*, as I believe the H tone of this marker in BGR is due to an

[45] See previous footnote 44.

[46] *HLHL is less likely because outside Narrow Bantu the tone preceding the ND cluster is hardly ever H.

overreliance on Eastern Bantu data and is a later innovation. In Bantu, the agreement of class 1 is known to be one of the possible options in constructions with enforced agreement, such as 'It is X that P' or 'There is X that P' (cf. Van de Velde 2006: 202–203), as illustrated in (18) from Mongo and (19) from Orungu.

(18) Mongo C61 (Hulstaert 1966: 331, 618)
a. *a-le ndé nsé*
1-COP.PRS really 9.fish
'It's really a fish.'
b. *a-le ngá [áótosangelaka josó]*
1-COP.PRS like
'It's as if [he had already said this to us before].'

(19) Orungu B11b (Van de Velde & Ambouroue 2011: 124)
èpóswá sìɗyàβí
à-í-póswá sìɗyàβí
1-IPFV-fall.PRS 10b.leaf
'There are leaves falling.' (lit.: 'It falls leaves.')

From a typological perspective, the use of the agreement pattern strongly associated with human nouns (viz. of class 1) as the enforced agreement pattern in Bantu is a perplexing choice (cf. Corbett 1991: 208, as discussed by Van de Velde 2006: 202–203). However, this synchronic oddity can be straightforwardly accounted for as a trace of the original indifference of the 3SG personal index **à* to the human semantics typically associated with the nouns of class 1 in modern Bantu languages.

6.1.5 The post-copula part: a nominalised interrogative modifier

In Idiatov (2009), I proposed that the post-copula part of the NDAI type interrogatives should be reconstructed as **pà-í* 'where?' [CL16-'what?']. This reconstruction is semantically plausible and matches the Bantu data relatively well formally, but as discussed in §6.1.5.1 below, it also has a number of problematic aspects. From a Bantu-internal perspective, none of the issues is crucial but taken all together and given that the NDAI type interrogative construction predates PB, I believe a different reconstruction provides a better account of the data. In particular, I propose to reconstruct the post-copula part as a nominalisation of the interrogative modifier **yà* ~ **là* 'which/what [N]?' that functioned as the SIP 'which one?'. This interrogative modifier is comparable to *yà* [N] 'which/what

[N]?' in Mbula and the dialectal variant [N] CL-*yá* 'what/which [N]?' in Mongo C61.[47] A possibility that an earlier form of this interrogative may have been **là* is suggested by the existence of such interrogatives as Noone [noon1243, Beboid] CL-*lá* 'which [N]?; which one?', *lá* 'what?' (Hyman 1981: 25, 119).[48] For ease of reference, in the rest of the chapter I use only the form **yà*.

Nominalisation of modifiers is typically achieved in Bantoid by means of noun class affixes or deictics (cf. on the nominaliser augment §4.1.4.2). While in Narrow Bantu such markers are typically prefixes, in Bantoid we also find suffixes and combinations of prefixes and suffixes. Therefore, the post-copula part of the NDAI type interrogative construction may have had one of the following structures, *[NMLS-which?], *[which?-NMLS] or *[NMLS-which?-NMLS]. To make a choice between these options and to identify the nominaliser(s) involved, I present in §6.1.5.2 some interesting data on the different ways of nominalising the interrogative modifier *yà* in Mbula. In §6.1.5.3, adducing data from Bantoid and wider Benue-Congo, I reconstruct the pre-PB determiner **yé* that gave origin (among other things) to the markers used to nominalise the interrogative modifier in the post-copula part of the NDAI type interrogative construction. Finally, in §6.1.5.4 I propose to reconstruct two variants of the pre-PB (Southern Bantoid) NDAI construction **à ndé yé-yà* (~ *yé-là*) [3SG COP NMLS_1-which?] 'it is which one?' and **à ndé yé-yà-yé* (~ *yé-là-yé*) [3SG COP NMLS_1-which?-NMLS_2] 'it is which one exactly?'.

6.1.5.1 Issues with reconstructing the post-copula part as **pà-í* 'where?' [CL16-what?]

Locative interrogatives of the PAI type appear to be largely restricted to (Mbam-Nkam) Grassfields and Narrow Bantu and are likely to be more recent.[49] Additionally, reflexes of **p* of the presumed **pà-í* part are often irregular, even though this could be due to the irregularity of the reduction following the construction's

[47] See also §4.1.4.2, §4.1.4.3 and §5.2.4 for some examples of 'who?' and 'what?' as possible reflexes of this interrogative stem in constructions other than the NDAI type.

[48] Within the Noone tonology, the H tone of this interrogative may also come from an earlier $*^{H}l\grave{a}^{H}$ (cf. Hyman 1981: 10–11), where the two floating ^{H} tones could reflect the same nominalising morphology as that discussed later in this section. The NSIP *lá* 'what?' looks like a noun of class 5, while its plural form *mù-lă* is class 12 in Noone, which corresponds to the Mbam Bantu plural class *mʊ-*, also identified in the literature as class 18 or 6 (cf. Boyd 2015: 19).

[49] We may find locative interrogatives containing cognates of the PB locative class 16 **pa* beyond these groups. However, they reflect different interrogative constructions and different interrogative stems, such as the Tikar [tika1246, Northern Bantoid] interrogative *fɛn* 'where?' (cf. Appendix A).

univerbation. There are also considerably less traces of the labial articulation reflecting *_p_ in NDAI type interrogatives across Bantu than may have been expected. Many instances of labialisation or round vowels in NDAI type interrogatives may also be accounted for by the -O type accretion (cf. §4.1.4.3, Idiatov 2009: 72). Yet some other instances may be due to the accretion of the class 1 subject *_ʊ̀-_, as probably in Liko D201 *wàní* 'who?' (de Wit 2015) (cf. §4.1.4.2 concerning Kagulu; also see Appendix D). Another important issue concerns the problematic status of the interrogative stem *_í_, especially for any level beyond Narrow Bantu (cf. §6.2).

6.1.5.2 Different ways of nominalising the interrogative modifier *yà* in Mbula

In Mbula [mbul1261, Jarawan Bantu], the interrogative modifier *yà* [N] 'which/what [N]?' can be nominalised in two ways, viz. like classifying modifiers or like identifying modifiers resulting in the (human) NSIP *yá ˡná* and the SIP *mə̀-yè: ná* respectively.

The interrogative modifier *yà* is nominalised as the (human) NSIP *yá ˡná* 'who is it?; who?', structurally |^{H}-yà ná ~ V́-yà ná| [NMLS-which? COP.PRES], by means of a prefixed floating H ~ an underspecified vowel with a H tone (cf. §2.1 on the accretion of the copula *ná*). This nominaliser, which appears to be restricted to demonstratives in certain contexts, looks like a former class prefix or an element similar to the nominaliser augment (§4.1.4.2). This nominalisation construction can be compared to the productive construction [*mə̀-* + X] used with other types of stems; *mə̀-* is a nominal derivational prefix that can roughly be glossed as 'the one with'. The construction [*mə̀-* + X] functions as a noun, where X can be a noun itself, as in *mə̀-là* 'village head' (*là* 'village') and *mə̀-ntà* 'hunter, archer' (*ntà* 'bow' itself a frozen nominalisation of the verb *tà(:)* 'shoot with a bow'), a verb, as in *mə̀-ɓà* 'builder (of buildings); potter' (*ɓà(w)* 'build; mould, make (a pot)'), or an adjective, as in *mə̀-gùlà* 'elder sibling' ([N] *gùlà* 'big [N]', *gùló* 'it/s/he is big').

The interrogative modifier *yà* [N] 'which/what [N]?' is nominalised as the SIP *mə̀-yè: ná* |mə̀-yà-yí ná| 'which one is it?; which one?' by the construction [*mə̀-* + X + *-yí*], where *-yí* is sourced from the 3SG non-subject person index used as a nominaliser (*ná* is the copula like in *yá ˡná* 'who is it?; who?').[50] The construction [*mə̀-* + X + *-yí*] is primarily used to create adnominal modifiers that can also be used independently as nouns without any additional marking. Although synchronically, [*mə̀-* + X + *-yí*] may often be the only way to use a given element X as adnominal modifier, the original use of this construction must have

[50] Like the 3SG non-subject person index, the nominaliser *-yí* has an allomorph *-i* which fuses with the preceding *a* into *e*.

been to form localising (anchoring, identifying) modifiers in terms of Rijkhoff (2008). Thus, compare *ɲɗʒàr gùlà* 'road' (lit.: 'big path'), where *gùlà* 'big' is a classifying (or perhaps just qualifying) modifier, and *ɲɗʒàr mə̀-gùlé* 'big path, the path that is big (as opposed to paths with other properties)', where *mə̀-gùlé* is an identifying modifier 'the one that is big'. Given that *-yí* in [*mə̀-* + X + *-yí*] is sourced from the 3SG non-subject person index, the construction is likely to have originally been in appositional relation with the preceding noun, i.e. *ɲɗʒàr mə̀-gùlé* literally meant something like 'path, the big one'.

Thus, we have an interesting parallel between the nominalisation of a classifying modifier (as in *mə̀-gùlà* 'elder sibling') and the nominalisation used to derive a NSIP from an interrogative modifier (|^{H}-yà ~ V́-yà| in *yá ˈná* 'who is it?; who?'), on the one hand, and the nominalisation of an identifying modifier (as in *mə̀-gùlé* 'the one that is big') and the nominalisation used to derive a SIP from an interrogative modifier (|mə̀-yà-yí| in *mə̀-yè: ná* 'which one is it?; which one?'), on the other hand.

6.1.5.3 The pre-PB determiner **yé* as the nominaliser of the interrogative modifier

I argue that the nominaliser prefix |^{H}- ~ V́-| of the interrogative modifier *yà* in *yá ˈná* 'who is it?; who?' in Mbula is sourced from the same referential element as the nominaliser augment of type I- in Bantu, such as the construct form markers *í-* and *é-* in A70 (Van de Velde 2017) and the type I- accretion in interrogatives (cf. §4.1.4.2), and the Mbula 3SG non-subject person index and identifying nominaliser *-yí*. The referential element in question is the pre-PB determiner **yé* (where *e* is the front vowel of a second degree of aperture), corresponding to PB **yí*. This pre-PB determiner had two major functions.[51] First, within the noun class system, **yé* was a determiner of class 5, as reflected in the PB class 5 nominal prefix **ì-*.[52] Second, outside of the noun class system, **yé* was a selective 'this/that very (one from a range of possible referents, from a set, a mass, etc.)' or restrictive determiner 'this/that very (one and not another one)' that did not

[51] The two functions result from a divergent evolution of a single noun, most likely meaning 'seed, grain, kernel'. Its reconstruction goes beyond the scope of the present chapter.

[52] One way to account for the L tone of this class prefix in PB is analogical levelling, as all other nominal prefixes are reconstructed with L tone (in this respect, see an interesting discussion on the tones of PB class prefixes in Hyman 2005: 338–340). Another possibility is the merger with some **à* morpheme, such as the 3SG personal index **à* (see below on the L tone in person indexes sourced from **yé*). In this respect, note for example that in zone A the nominal prefix of class 5 is sometimes *à-* as in Ewondo A72a or *è-* as in Eton A71. The same variants *à-* and *è-*, as well as one case of *ì-*, are found in A15 varieties (Hedinger 1987: 94–96).

agree in noun class with the noun whose reference it determined. It restricted the reference of a given referential element to one particular referent to the exclusion of any other possible referents, or in the case of collective and mass referents, to the exclusion of the rest of the group or a mass. In this sense, it can also be referred to as strongly or exclusively identifying.

Various traces of this double, agreeing and non-agreeing, usage of the determiner **yé* can be found across Bantoid and beyond.[53] The selective or restrictive usage is reflected in the recurrent use of class 5 in Bantu for singulative or partitive derivation, as in Eton A71 *mà-ndím* 'water' (class 6) > *è-ndím* 'drop of water' (class 5) > *mə̀-ndím* 'drops of water' (class 6), *mə̀-kálá* 'doughnut batter' (class 6) > *è-kálá* 'doughnut' (class 5) > *mə̀-kálá* 'doughnuts' (class 6), *mə̀-njáŋ* 'xylophone' (class 6) > *è-njáŋ* 'bar, wooden piece of a xylophone' (class 5) > *mə̀-njáŋ* 'xylophone bars' (class 6) (Van de Velde 2008a: 97–98). Another interesting reflex of this selective or restrictive usage is the Liko D201 type III demonstrative stem *-í* indicating the "exclusiveness of the referent" (de Wit 2015: 260). Beyond Narrow Bantu, particularly telling evidence is provided by Babungo [veng1238, South Ring Grassfields] (Schaub 1985), where the pairing class 5 *yí-* / class 6 *má-* "includes only objects and body parts which occur in groups or pairs (the singular referring to one of the pair or group)" (Schaub 1985: 177). Furthermore, the anaphoric demonstrative modifier of class 5 *yɔ̄* can be used with a few nouns that are not in class 5 in the locative construction to focus on "certain one out of a group" (Schaub 1985: 70). Finally, Babungo has an identical prefix *yí-* that can be added to an 'emphatic' demonstrative modifier of any class and "again has 'selective' function ('that one, not the other one')", as in *bú yí-njîi* 'that dog (not the other one)' (Schaub 1985: 205), and which appears on the restrictive anaphoric locative adverbial demonstrative *yí-fí* 'there (the particular place mentioned, not any other place)' (Schaub 1985: 98).

Another class of elements that is likely to have been sourced from the restrictive or selective usage of the determiner **yé* is represented by person indexes, such as the Mbula 3SG non-subject person index *-yí*, Kenyang [keny1279, Mamfe] class 1 (3SG human) person index *yí ~ yǐ* (Ittmann 1935–36; Voorhoeve 1980; Mbuagbaw 2000), and probably the 'preprefixal' morpheme reconstructed for the PB substitutives and possessives by Kamba Muzenga (2003) as **i-* in 1PL and 2PL and as **i- ~ *ɪ-* in class 1. Meeussen (1967) reconstructs this preprefix only in substitutives as **ì-* in 1SG and as **í-* in 1PL and 2PL.[54] The person indexes in

[53] Beyond Bantoid, a particularly interesting set of forms sourced from the determiner **yé* can be found in Bena-Yungur [bena1260, Buto]. See Appendix G for more details.

[54] The use of a restrictive or selective element on person indexes, which are inherently identifying anyway, may have an intensifying origin, something like 'I myself' > 'I'.

question may be restricted to logophoric use, such as Babungo *yì* SG.LOG (Schaub 1985) and Nizaa [suga1248, Mambiloid] *yí* SG.LOG (Kjelsvik 2002: 18). The L tone that occasionally shows up on the person indexes reflecting the determiner **yé* is likely to come from a fusion with another morpheme, such as the 3SG personal index **à* (cf. §6.1.4 and Appendix G on Bena-Yungur 3SG.ANIM free pronominal).

In Bantu, we find yet another morpheme that in all probability is part of the same cluster of reflexes of the determiner **yé* as person indexes. The morpheme in question is the reflexive prefix ('infix' in the traditional Bantu terminology). The reflexive prefix is reconstructed in BGR as **í-*. However, as suggested by the data on Bantu reflexives discussed in Polak (1983), most likely BGR's reconstruction represents just one member of the paradigm of reflexive markers, presumably agreeing in noun class with the subject. Reflexive use is similar to logophoric in that both uses mark co-reference between two arguments. Cross-linguistically, it is not uncommon that in languages lacking dedicated logophoric person indexes, reflexive person indexes are used in logophoric contexts or that in languages with dedicated logophoric person indexes, the latter can be used in reflexive contexts or at least show strong formal similarity with the reflexive person indexes.

Diachronically, it is clear that the human reference and personal pronominal uses of the reflexes of **yé* cited above have evolved out of their selective/restrictive reference uses. In this respect, note that the evolution from selective/restrictive reference to human reference is very similar to the evolution from a selective interrogative pronominal 'which one?' to a human non-selective interrogative pronominal 'who?', which is typologically common. Both evolutions reflect the typical tendency for the feature [+human] to correlate with various features restricting the reference, such as [+unique], [+specific], [+definite], [+identification], as reflected in the various versions of the so-called Animacy (or Referential) Hierarchy (cf. Croft 2002: 130, among others, see also various chapters in Cristofaro & Zúñiga 2018).

6.1.5.4 [NMLS-which?] and [NMLS-which?-NMLS]

I propose that, like in Mbula, the interrogative modifier **yà* (**là*) 'which/what [N]?' could be nominalised in two different ways, viz. as **yé-yà* [NMLS-which?] and as **yé-yà-yé* [NMLS-which?-NMLS], both originally indifferent to the distinction between humans and things. It is actually likely that initially both interrogatives were selective and the distinction was rather between 'which one?' and something like 'which one exactly?'. Hence, originally there also existed two variants of the NDAI construction **à ndé yé-yà* [3SG COP NMLS_1-which?] and **à*

ndé yé-yà-yé [3SG COP NMLS$_1$-which?-NMLS$_2$] with a similar semantic distinction. Given the common pathways of semantic change of interrogative pronominals (§3.2), both constructions are most likely to ultimately evolve in non-selective 'who?', but they can also remain selective or become non-selective 'who?; what?' or 'what?'. At the same time, it is clear that this semantic evolution happened long after PB. On the formal side, as soon as the original semantic distinction between the two constructions became blurred, either of the two constructions may have outcompeted the other, probably after a long period of co-existence as free variants.

6.2 The non-human NSIP 'what?'

6.2.1 Overview

Meeussen (1967) reconstructs the interrogative stem **í* used in combination with nominal class prefixes, viz. 7 **kì-í* 'what?', 16 **pà-í* (17 **kù-í*, 18 **mù-í*) 'where?'. That Meeussen (1967) does not provide any English gloss for this stem is because he hypothesises that it may also be part of **ndá-í* 'who?'. In BLR3, Bastin et al. (2002) take the basic meaning of **í* to be non-human 'what?' in class 7, with a derived use as 'where?; which?' in class 16.

As briefly mentioned in §2.2, there are a number of seemingly minor formal issues with the reconstruction **í*. To begin with, **í* 'what?' is supposed to be a nominal stem since it is reconstructed with a nominal prefix. For a nominal stem, however, its vowel-initial shape is exceptional in PB. For all other nominal (and verbal) stems whose stem-initial consonant tends to be zero in modern Bantu languages, BGR and BLR3 consistently reconstruct a stem-initial **j*. Although I do not agree with the choice of **j*, I do agree that such stems did have an initial consonant – contra Bulkens (2009), and contra Wills (2022 [this volume]); see Appendix H for some evidence. In particular, I believe that BLR's **j* minimally confounds PB **s*, **z*, **ɟ*, **y* and **g*. In the case of BLR's **í* 'what?', I believe that the stem-initial consonant was a palatal glide **y* as it never has "strong" reflexes as a stop or a fricative. Furthermore, this stem was in all probability a heavy monosyllable with a long vowel or it was disyllabic (§6.2.3). In either case, the vowels must have had the quality *i* or *ɪ*. I discuss supporting data that come from reflexes of class 7 **kì-í* 'what?' and class 16 **pà-í* 'where?' in §6.2.2 and §6.2.3 respectively. Finally, in §6.2.4, I consider the implications of these findings for the reconstruction of the PB stem 'what?' within a wider Bantoid perspective. By comparing them with the reconstruction of the NDAI type in §6.1, I propose to reconstruct PB 'what?' as something like **yìí* or **yìí*, probably going to the

pre-PB structure *[NMLS-which?-NMLS] as reconstructed in §6.1.5.4 as part of the NDAI construction.

6.2.2 The class 7 form *kì-í 'what?'

In the case of the class 7 form *kì-í 'what?', corroborating evidence for the reconstruction of the stem-initial *y comes from languages such as Basaa A43a, which has *kí(í)* 'what?' in addition to *kí.njé(é)* (cf. §5.2.2). As pointed out in §4.1.1, in *kí(í)* the class 7 prefix has been integrated in the stem and *k-* is the stem-initial consonant, not a prefix consonant anymore. Synchronically, the class 7 prefix in Basaa is not *ki-*, but zero before a consonant or *y-* before a vowel as a nominal prefix and *í-* or y^H- respectively as an agreement marker. Although synchronically Basaa has many VV sequences in stems, they all result from the loss of an intervocalic consonant. All sequences of identical vowels and the PB sequence *ai have been reduced to a short vowel (cf. Teil-Dautrey 1991). Given that *kí(í)* is a stem and not a combination of a prefix and a stem, its allomorph *kíí* with a long vowel points to an earlier presence of an intervocalic consonant, just like the long vowel in *njéé* 'who?', a reflex of the NDAI type interrogative construction. In this respect, compare Basaa *gìjí (BLR 1386) ~ *gìjé (BLR 1385) > *y-ìì / gw-ìì* '(hatched) egg' (7/8), *lì-ʧɛ̀ɛ́ / mà-ʧɛ̀ɛ́* 'egg' (5/6) (cf. Teil-Dautrey 1991: 53, 73–74).[55]

Outside of Narrow Bantu, a very similar example is provided by Limbum [limb1268, Mbam-Nkam Grassfields] (Fransen 1995). Thus, Limbum has *kēē* 'what?' in class 7 with no prefix, which can be pluralised as *b-kēē* with the prefix resulting from a merger of the classes 2, 8 and 14 (Fransen 1995: 101), and which therefore is a stem and not a combination of a prefix and a stem. Like in Basaa, the vowel length in *kēē* 'what?' suggests the loss of an intervocalic consonant. Again like in Basaa, the length of the vowel in *kēē* 'what?' is comparable to the length of the vowel in *ndāā* 'who?', a reflex of the NDAI type interrogative construction.

6.2.3 The class 16 form *pà-í 'where?'

The class 16 form *pà-í* 'where?' contains the vowel sequence *ai*. According to Doneux & Grégoire (1977), besides *pà-í* 'where?' this vowel sequence is found in a limited number of PB stems, viz. the adjective *dàì* 'long, tall, high' (BLR 3705), the derived verb *dàì-p* 'be(come) long, tall, high' (BLR 784), the nouns *táì* 'saliva'

[55] For 'egg', compare also the relevant forms in Mbam Bantu languages, such as Baca A621 *ǹ-hɛ̀gɛ́*, Yangben A62A *nɪ-kɛ̀ɛ́* and Mbule A623 *kɪ-ʧɛ̀ɛ́* (cf. Boyd 2015: 190), that both confirm the loss of the intervocalic consonant in this stem and suggest it was *g rather than *j as in BLR, viz. *gìgí.

(BLR 6231), **jáì* 'outside' (BLR 8928), the numeral **nàì^{H}* 'four' (BLR 3683) and the interrogative **ndai* 'who?' (BLR 8161). The typical reflexes of **ai* are *-i, -e*, and *-a*, although in a limited number of languages we also find *-ai*, *-ɛi*, *-ei*, *-ayi*, *-azi*, *-aci*. Interestingly, Doneux & Grégoire (1977: 194, 196–197) observe that the reflexes of the sequence **ai* in the two interrogatives, **pà-í* 'where?' (with its derivate 'which (one)?') and **ndai* 'who?', are typically the same in languages that have reflexes of both forms. At the same time, the reflexes of **ai* in the interrogatives tend to differ from the reflexes of **ai* in the other stems.[56] The reflexes of **ai* in **pà-í* tend to match those in the other stems only in zones D, J, E, F, H, and less consistently across different stems in zones B and C. This makes Doneux & Grégoire (1977: 197) wonder why the interrogatives have evolved differently from other stems.

I believe that the answer is that in **pà-í* 'where?', the sequence **ai* should be reconstructed differently from the other, non-interrogative stems. More specifically, since the vowel *a* in the prefix **pà-* is uncontroversial, it is the stem **i* that should be reconstructed differently. In the data of Doneux & Grégoire (1977: 190, 192), the most common reflex of **ai* in **pà-í* 'where?' and its derivate 'which (one)?' is by far *i*. Interestingly, the reflex *i* is rare in the other stems.[57] This suggests that the form that resulted in *i* in **pà-í* was in some way more prominent than *i* in the other stems reconstructed with **ai*. For example, it could have had a CV or CVV shape, such as **yí(í)* or **yí(í)*, or a CVCV shape, such as **yíyí*, **yíyí* or **yíyí*. Although we could have hypothesised that the divergent behaviour of the reflexes of **pà-í* 'where?' is due to the fact that *i* there is a prosodically strong stem-initial vowel preceded by a prosodically weak vowel of the noun class prefix, this account is invalidated by the fact mentioned above that in the languages that have both a reflex of **pà-í* 'where?' and **ndai* 'who?' in Doneux & Grégoire's (1977) data, the two tend to pattern together despite the fact that **pà-* is a noun class prefix and **nda-* is not. Furthermore, this alternative hypothesis is weakened by the fact that the class 16 prefix **pà-* tends to become part of the stem in reflexes of **pà-í*, just like the class 7 prefix **kì-* tends to become part of the stem in reflexes of **kì-í* (cf. §6.2.2).

6.2.4 PB 'what?' and its pre-PB source

The observations in §6.2.2–6.2.3 suggest that PB 'what?' reconstructed in BGR as **í* should be reconstructed as **yíí* or **yíí*, or perhaps even as disyllabic as **yíyí*,

[56] Here, we could also add **pái* 'new' (BLR 3281) discussed by Baka (2005).

[57] For example, in Tswana S31 **ai* can result in *ɪ*, *e* or *ɛ*, but the most closed reflex *ɪ* is found only for **pà-í* 'where?' giving *-fí* 'which [N]?; which one?' and for **tâì* 'saliva' giving *-t^{h}í* (cf. Creissels 2005: 195–196).

**yíyí* or **yíyí*. The only matching interrogative 'what?' that I have been able to identify in Bantoid is the Kenyang form *yì*. However, it has a low tone. It is therefore possible that the PB form should rather be reconstructed with a LH tone as **yìí* or **yìí*. A possible reflex of the earlier LH tone pattern within Bantu may be provided by the Eton sentence-initial polar question marker *yì* ~ *yí* (cf. Van de Velde 2008a). In this respect, recall the case of the Mongo varieties discussed in §4.1.4.2 where the sentence-initial polar question markers *ńà* (Nkundo) and *ýà* (some other varieties) reflect the older tone pattern that was simplified in *ná* 'who?; what?' and the (dialectal) variant of 'what/which [N]?' CL-*yá*. Typologically, the evolution from 'what?' to a polar question marker is also commonplace (cf. some examples in Hölzl 2017: 73).

That **yìí* ~ **yìí* 'what?' could be used as a free nominal form suggests that it already contained some kind of nominalising morphology and that its combination with the noun class prefix of class 7 (as well as that of class 16) became conventionalised at a later stage. In this respect, compare the situation in Mundabli where the interrogative *mān* 'what?' is not marked for noun class but can take the prefix *kì-* of class 7 when "the speaker already has a referent in mind, i.e. it implies a certain degree of definiteness" (Voll 2017: 141). That is, the marked form *kì-mān* means something like 'what exactly?' or 'which one (a thing)?'.

If we now compare **yìí* ~ **yìí* 'what?' with the results of the reconstruction of the NDAI type interrogative construction in §6.1, which was indifferent to the distinction between persons and things, it becomes likely that **yìí* ~ **yìí* 'what?' also goes back to a pre-PB nominalisation of the interrogative modifier **yà* (**là*) with the structure **[NMLS-which?-NMLS]. One possibility would be that this pre-PB nominalisation had the same structure **yé-yà-yé* as the variant reconstructed in §6.1.5.4 for the NDAI type interrogative construction. Alternatively, the first nominaliser in this 'what?' interrogative could be related to the PB pronominal prefix of class 9 **jì*.

7 Conclusions

In this chapter, I proposed a typologically informed reconstruction of the Bantu NSIPs 'who?' and 'what?' that was introduced by a more general discussion of the issue of variation in functional elements and the possible ways of dealing with it in reconstruction in §2, and by an overview of the diachronic typology of NSIPs in §3. The most important findings are that no 'who?' stem can be reconstructed for PB, while the morphological status of the non-human form 'what?' is ambiguous and that the NSIPs that can be reconstructed to PB were

emerging out of complex interrogative constructions retained from some pre-PB stage within Southern Bantoid. Thus, we can reconstruct two variants of the pre-PB NDAI interrogative construction **à ndé yé-yà* (~ **à ndé yé-là*) [3SG COP NMLS$_1$-which?] 'it is which one?' and **à ndé yé-yà-yé* (~ **à ndé yé-là-yé*) [3SG COP NMLS$_1$-which?-NMLS$_2$] 'it is which one exactly?', that often gave rise to the NSIPs meaning 'who?', as reflected by the BGR reconstruction **n(d)áí*, but that also have many reflexes meaning 'what?' or both 'who?' and 'what?'. The initial *nd-* cluster of the copula part of the construction may reflect a stacking of two copulas (see Appendix C). Furthermore, I propose to reconstruct PB 'what?' as something like **yìí* or **yíí*, probably going to the same pre-PB structure **yé-yà-yé* (~ **yé-là-yé*) [NMLS$_1$-which?-NMLS$_2$].

Given that the NSIPs that can be reconstructed to PB were at this stage emerging out of complex interrogative constructions retained from some pre-PB stage within Southern Bantoid, the proposed reconstructions cannot help us much in locating PB within Southern Bantoid on the phylogenetic tree of Grollemund et al. (2015). Thus, as discussed in §6.1.2, within Southern Bantoid the pre-PB NDAI interrogative construction should be minimally reconstructed to the most recent common ancestor of Narrow Bantu, Narrow Grassfields, Ring Grassfields, Mundabli [mund1328, Southern Bantoid], and Tivoid.[58] At the same time, as discussed in §6.2.4, the pre-PB construction that resulted in the PB interrogative stem **yìí* or **yíí* 'what?' is likely to have already achieved this degree of fusion minimally on the stage of the most recent common ancestor of Narrow Bantu and Mamfe.

I discussed various formal and semantic changes affecting Bantu NSIPs, some of which are typologically rather trivial, while others are more peculiar. I particularly highlighted two such peculiarities, viz. the surprising patterns of colexification of the human interrogative 'who?' and various interrogatives that are either non-human, such as 'what?', or indifferent to the difference between humans and things, such as 'which/what [N]?' (§5.2) and the tendency to construe interrogative pronominals, especially those questioning subjects, as nominal predicates (§5.3).

The evolution of the Bantu NSIPs discussed in this chapter contains a number of seemingly minor details that however have a more general relevance beyond Bantu linguistics. For example, methodologically, 'who?' interrogatives instantiating the Interrogative Modifier construction based on the same BLR3 stem **júmà* 'thing; bead; iron' in B10 and Eastern and South-Western Bantu discussed in §4.1.6 illustrate the importance for reconstruction of paying attention to the whole range of uses of a given form and not to write them off as insignificant

[58] "Minimally" means "given my current knowledge and understanding of the data".

quirks. From the perspective of semantic typology, an interesting detail is that the deictics accreted in NSIPs in Bantu (and more broadly in Benue-Congo) (cf. §4.1.3) are preferentially not distal, but intermediate and near-addressee, and that the accreted deictics often also have some endophoric (discourse-referential) and more broadly intersubjective uses. With respect to syntax, Bantu languages provide an example of sentence-final position of interrogatives, which is typologically surprising but natural within the morphosyntax of the respective languages (cf. §4.1.1). Another aspect of the syntax of content questions where Bantu languages provide a particularly interesting theoretical contribution is the finding that the constituent order alternation that synchronically is typically described in terms of fronting of an interrogative out of its in-situ position, historically represents a change in the opposite direction (§5.3.2), which is deeply problematic for any syntactic framework generating the surface constituent order with a sentence-initial interrogative from some underlying syntactic structure where the interrogative is in a different position. The evolution of Bantu NSIPs also highlights the relevance in the morphosyntax of Benue-Congo languages of the distinction between identifying and non-identifying modification (and their respective nominalisations), as well the interesting parallel with the distinction between SIPs and NSIPs respectively (§6.1.5.2–6.1.5.4).

Last but not least, because of their complex constructional origin and the typical pathways of formal and semantic evolution, the reconstruction of interrogative pronominals bears significant relevance to the reconstruction of many other parts of Bantu morphosyntax. Some of the topics of historical Bantu morphosyntax where this chapter made a contribution include:

- The reconstruction of class 5 (§4.1.4.1, §4.1.4.2, §6.1.5.3), with respect to both its markers (BGR forms **ì-* and **dí-*) and a number of forms historically related to them (augment, copulas, person index morphology, reflexive marker, determiners), as well as its semantics (singulative, selective or restrictive reference, relation to the features [+human] and [+animate] and class 1);

- The reconstruction of the pre-PB predicate **ka* ‘be at (X’s place)’ as the source of the similarly shaped prepositions, infinitive prefixes, the so-called amplexive morphemes in the connective construction, the NKA- type accretion in locative interrogatives and interrogative pronominals, possessive nominalisers, the diminutive class 12 marker (§4.1.5, Appendix F);

- The reconstruction of the pre-PB intermediate distance demonstrative **ná* (§4.1.5, Appendix E);

- The reconstruction of subject prefixes in Eastern Bantu (§4.1.4.2, Appendix D);
- The reconstruction of pre-PB cleft construction (§6.1, §6.1.5.4);
- The reconstruction of the PB class 1 subject marker **à* as the continuation of the pre-PB 3SG personal index **à* (§6.1.4);
- Refining the reconstruction of the vowel sequence traditionally reconstructed as **ai* (§6.2.3);
- Clarifying PB root phonotactic patterns with respect to the absence of vowel-initial roots – contra Wills (2022 [this volume]) – and the identity of PB **j* (§6.2.2, Appendix H);
- Refining the reconstruction of the PB augments (pronominal prefixes) of classes 1, 9 and 10 (Appendix H).

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Abbreviations

[xxxx1111,…]	glottocode (https://glottolog.org), and language family
1, 2 …	noun class, unless combined with SG and PL, in which case it refers to person
ADV	adverbial
AG	agreement pattern
ANIM	animate
AUG	augment
AUX	auxiliary
CL	noun class
CNJ	conjoined
COP	copula
DEM	demonstrative
DEM_I	demonstrative of type I in Liko D201
DEM_{II}	demonstrative of type II in Liko D201
EQ	equational
EXCL	exclusive
FUT	future
FV	final vowel
HOD	hodiernal (past)
INF	infinitive
IPFV	imperfective
LOC	locative
LOG	logophoric
M	masculine
N	(i) noun; (ii) neuter
NADR	near-addressee (demonstrative)
NF	non-final form in Eton A71
NMLS	nominaliser
NSIP	non-selective interrogative pronominal
OBJ	object
OPT	optative
P	predication, predicate
PFV	perfective
PL	plural
POSS	possessive
PRES	presentative
PRS	present tense
PST	past
REL	relativiser, relative form
REM	remote (past)
SG	singular
SIP	selective interrogative pronominal
SUBJ	subject
V	(i) verb; (ii) vowel

Appendix A Some examples of a formal link between interrogatives and demonstratives in the wider Bantoid domain

A formal link between (non-selective) interrogatives, on the one hand, and non-distal, discourse-referential and intersubjective demonstratives, on the other hand, similar to the one highlighted in §4.1.3 for Bantu, is equally found in the wider Bantoid domain.

For example, in Mundabli [mund1238, Southern Bantoid] *nā* 'where?' is occasionally accreted with the postposed 'locative modifier' *f-ɔ́*, which is believed to be a proximal deictic in origin (Voll 2017: 256, 333). In Tikar [tika1246, Northern Bantoid] (Stanley 1991), the demonstrative system is fundamentally based on two stems, the proximal *-ɛ* and the distal *-i*, as in the pairs of locative adverbials *f.ɛ* or *c.ɛ̌* 'here' and *f.i* or *c.ǐ* 'there', presentative demonstratives marked for class *n-ɛ* 'this one, here it is' and *n-i* 'that one, there it is' (class 1),[59] or manner adverbials *l.ɛ* 'so, like this' and *l.i* 'so, like that'.[60] When a demonstrative can be used for discourse-referential purposes, the distal forms with *i* are used anaphorically, while the proximal forms with *ɛ* are used cataphorically (cf. Stanley 1991: 295). NSIPs all have the same proximal/cataphoric *ɛ*-vocalism, viz. *w.ɛ.n* 'who?' (class 1), *y.ɛ.n* 'what?' (class 3), *f.ɛ.n* 'where?'.[61] Furthermore, NSIPs are used in a cleft

[59]The class numbering in Tikar does not follow the Bantu system, except for the use of odd numbers for singular classes and even numbers for plural classes and the use of class 1 for the class for nouns with mostly human referents. In the Tikar spelling used in Stanley (1991), the vowels unmarked for tone have high tone in classes 1 and 6 and mid tone elsewhere.

[60]Strictly speaking, synchronically the two deictic stems can be analysed as morphemes only in the presentative demonstratives that agree in class. However, the submorphemic structure that reflects the past morphological borders is sufficiently transparent in the remaining forms and I indicate it with dots instead of hyphens. Thus, the initial *f* in the locative adverbials is recurrent in such forms in Bantoid and is a cognate of the PB locative class 16 **pa*. The initial *c* in the variant forms of the locative adverbials is suggested by Stanley (1991: 297) to come from *cì* 'place' and the adverbials from *cì s-ɛ* [3.place 3-this] and *cì s-i* [3.place 3-that].

[61]The submorphemic structure of these non-selective interrogatives is sufficiently transparent, even though the etymological source of some of the submorphemic elements may be debatable. Like with the locative adverbials above, the initial *f* in 'where?' is a trivial cognate of the PB locative class 16 **pa*. The initial *w* in 'who?' can be a class 1 prefix, which often has this shape in Bantoid, perhaps the same as the PB class 1 subject prefix **ʊ́-*. The initial *y-* in 'what?' is also in all probability a reflex of a class prefix, such as class 5 or 7. The final *n* in all these forms may have a variety of sources, a copula, a relativiser, a focus marker, a demonstrative, but most likely it is a reflex of the older Benue-Congo interrogative stem **nà* 'where?', the same stem as reflected in Mundabli [mund1238, Southern Bantoid] *nā* 'where?' mentioned above and in Bena-Yungur [bena1260, Buto] (cf. Appendix G) *nā* 'where?'.

construction where the interrogative is followed by the proximal presentative demonstrative based on the stem *-ɛ* agreeing in class with the interrogative and identical to the relativiser, viz. *wɛn n-ɛ* 'who is it that [P]?' (class 1) and *yɛn s-ɛ* 'what is it that [P]?' (class 3). Interestingly, while for regular nominals focalised by means of a cleft construction the distal form of the presentative demonstrative may also be used contributing some (unclear) additional deictic meaning (cf. Stanley 1991: 496), this option does not seem to be available for the NSIPs.

In Kenyang [keny1279, Mamfe] (Voorhoeve 1980: 280–282), the same deictic stem *né* (after a V- or N- class prefix, which is deleted) ~*én* (after a CV- class prefix whose vowel is dropped) is used to form presentative demonstratives (no distance distinctions, but necessarily visible), anaphoric demonstratives, relativisers and the selective interrogative 'which [N]?'. The latter selective interrogative has the structure [^{L} + class agreement + *né* ~ *én*], as in ^{L}*né* (class 1) and ^{L}*b-én* (class 2). The floating ^{L} tone may be the same morpheme as the nominal marker (basically, a nominaliser) *à-* and *è-* (depending on the noun class) found in independent (presentative) demonstratives and relative pronouns, as in *à-b-ên* 'these ones / those ones that (class 2)' and *è-n-ên* 'this one / the one that (class 5)'.

Ngwo [ngwo1241, Momo Grassfields] (Eyoh 2011) shows an intriguing parallelism between the stems of its NSIPs and intermediate demonstratives (close to the addressee) on the one hand and its SIPs and distal demonstratives (far from both the speaker and the addressee) on the other. Thus, in Ngwo we find *(à)wê* 'who?' (class 1) and *(à)yê* 'what?' (presumably, class 7), both bearing a resemblance to the Tikar non-selective interrogatives and Kenyang selective interrogatives cited above, vs. *w-ɛ̄* 'be there (close to the addressee)' (class 1) with the stem *-ɛ* on the one hand, and N *w-ē* 'which [N]?' (class 1) vs. *w-ē* 'be there (far from both the speaker and the addressee)' (class 1) with the stem *-e*, on the other hand.

Appendix B Type N(D)I: Further examples

Across Bantu, accreted material of type N(D)I is often found on the NSIPs 'who?' and 'what?'. For example, compare Batanga A32C *njani* 'who?' vs. *njaɛ* 'what?' with Duala A24 *njá* 'who?' vs. *njé* 'what?'; Ntomba-Bikoro C35a *nòní* 'who?' vs. Ntomba-Njale C35a *no* 'who?'; Songola Kasenga D24 *nàíndí* 'who?' vs. Enya Kibombo D14 *kì-úmà nàání* 'what?' and Enya Manda D14 *kì-úmà nàání* 'what?'. In Kagulu G12, next to the older forms CL-*ani* 'where?' and *=ki* 'what?', you also find *=ni* 'what?', *nhani* 'how?; why?', *choni* 'what?' (default), *dyoni* 'what?' (something said), *hoki* 'where?' (Petzell 2008: 89–92, 177). The latter three forms are

analysed in the source as [class marker + "reference marker" *-o* + *=ni* or *=ki* 'what?'], so that these forms may represent yet another cycle of substance accretion, this time with pronominal forms, viz. *ch-o* of class 7, *dy-o* of class 5, *h-o* of class 16, based on the substitutive stem **-o*.

Appendix C The copula I is not related to the copula N(D)I

Although traditionally the copula type I, viz. **í ~ *ɪ́* and ^{*H}, and the copula type N(D)I, viz. **ní ~ *nɪ́* and **ndí ~ *ndɪ́*, are considered allomorphs, I believe that they have different origins. The copula I has a deictic origin and most likely derives from the same deictic source as the nominaliser augment, viz. the pre-PB determiner **yé*, discussed in §6.1.5.3. The copula N(D)I may have a number of origins, which probably are all ultimately deictic as well. For the moment, I find the hypothesis proposed by Givón (1974) most appealing. Givón was focusing on data for some Eastern Bantu languages, for which the initial *nd-* cluster of the copula may reflect a stacking of two copulas, viz. the pre-PB (Niger-Congo) copula **nɪ* 'be at, be with' and the copula **lɪ* (corresponding to the form **dì* in BGR). Although not further discussed by Givón (1974) the latter copula **lɪ* is also likely to be much older than PB.

Appendix D Subject prefixes originating in the inflected forms of the locative copula in Eastern Bantu

Subject prefixes originating in the inflected forms of a copula, which typically has the form *-a*, appear to be rather common in Eastern Bantu. So far, this evolution has been attested in zones D, E, G, N and P. For example, Bernander (2017: 82) reports the use of the 1st and 2nd person copula that "consists of the subject marker and a particle *-a*" in a number of Tanzanian Eastern Bantu languages of zones G, N and P. In this respect, note that Petzell's (2008) synchronic analysis of the Kagulu G12 verb *kuwa* 'be' as *k-uw-a* [15-be-fv] with the stem *-uw* and the final vowel *-a* is mostly likely inadequate from a historical perspective. The copula stem *-a* may be lost without traces resulting in subject markers that appear to be used on their own as copulas, as Gibson et al. (2019: 219) report for Digo E73 and Swahili G42d. Much further away, we find a very similar situation in Liko D201, where the present form of the verb 'be', that exists only for persons and class 1, is *nà* '1SG.be', *wà* '2SG.be', *à* '3SG.be' and it is formally identical to the respective subject prefixes (de Wit 2015: 395). Although de Wit (2015) does not

analyse these inflected forms further, at least the 1SG and 2SG forms are clearly analysable as a subject index prefix and the stem *-à*.

Appendix E The intermediate deictic **ná* as the source of the element -NA accreted in locative interrogatives

The element *-na* reported by Doneux (1971: 134–135) to be often accreted on 'where?' interrogatives in languages of zone J is likely to originate in some kind of deictic element or an information-structural element, somewhat like in French *où ça?* 'where? (tell me!)', lit. 'where that one?' (or 'where here?') next to the neutral *où* 'where?' (cf. §4.1.2). This is suggested by its position and shape. A particularly plausible source is the deictic stem **ná* which in all likelihood originally functioned as an intermediate deictic. Thanks to its wide distribution, we can safely reconstruct it to PB as a retention from an earlier stage. For example, compare the Bangi C32 intermediate demonstrative stem *-ná* 'that [N] (visible)' (Whitehead 1899: 21; MacBeath 1940: 14), the Leke C14 distal demonstrative stem *-ná* (Vanhoudt 1987), and the demonstrative stem *-ná* in Ewondo A72a, which has the proximal meaning 'here' when used to build modifying demonstratives, as in *é-m-ɔ́ngɔ́ ɲɔ́-ná* [AUG-1-child 1.PRES-here] 'this child (here)' (Abessolo Nnomo & Etogo Mbezele 1982: 190), and the intermediate meaning 'there (intermediate)' in the relic adverbial demonstrative forms of class 16 *vá-ná* and class 18 *mú-ná* (Grégoire 1975: 118). In Liko D201, the "connecting clitic" *-ná* is "often present [after] a type II demonstrative" (i.e. a proximal demonstrative), when it modifies a noun in the construction [N + *ní* COP + CL-DEM$_{II}$] and is not "at the end of a clause" (de Wit 2015: 259). Limbum [limb1268, Mbam-Nkam Grassfields] has *ná* 'here' (Fransen 1995). Finally, Mbula [mbul1261, Jarawan Bantu] has *ná* as a (presentative) copula and a kind of focus marker, which is also an integral part of the Mbula NSIPs.

Appendix F **ka* 'be at (X's place)' as the source of the accreted element (N)KA- in interrogatives and of a number of other KA elements in Bantu

The interrogatives accreted with (N)KA- are originally locative interrogatives 'where?' which in some languages, following the usual paths of semantic change

of interrogatives, evolved to the selective interrogative 'which one?' and ultimately to the non-selective interrogatives 'who?' and 'what?'. The etymology of the element (N)KA- which matches the locative origin of these interrogatives particularly well, both semantically and formally, is **ka* 'be at (X's place)'.

In fact, there is a whole range of functional elements in Bantu (and far beyond) that can be argued to have been ultimately sourced from the locative predicate **ka* 'be at (X's place)'. For example, in Liko D201, we find *ká* the general preposition 'to, at, in, on, for', *ká-* the infinitive prefix of class 9b, *kà-* the possessive relator in the "genitival" construction (different from the "associative" construction) and (with an allomorph *kă-*) the possessive nominaliser prefix with person indexes ('the one of X' as in 'the one of me, mine') (de Wit 2015). In Mongo C61, we find *ěkà* the preposition 'at somebody's place' (Hulstaert 1957), with dialectal variants *kà ~ ká* (cf. Hulstaert 2007: 294, 296), and the *kà ~ ká* part of several of the connective stems (cf. Van de Velde 2013: 231). The Mongo forms for 'where?' are particularly relevant: *nkó* (Nkundo), *ńkó*, *ńkò*, *nká* and *nké* (some other varieties) (Hulstaert 1957; 2007: 290). In Konda C61E, the "locative possessive" construction uses the "old locative *-(n)ka*", as in the preposition *è-kà ~ é-kà ~ è-nká* 'at (somebody's place)' (Motingea Mangulu 2018: 53–54). The initial *e-* in these forms is either the old (locative) class 24 (as suggested by Motingea Mangulu 2018: 54) or the class 9 verbal prefix used for the enforced agreement with locative and temporal predicates (cf. Motingea Mangulu 2018: 44). Note that in Mongo, the rising tone of *ě-* in the preposition *ěkà* suggests that it was a relative (verbal) prefix and that *kà* has a predicative origin. In Mbula [mbul1261, Jarawan Bantu], *kà* is one of the possible possessive relators and a nominaliser 'one of, from, among X', as well as a deictic element that usually expands other demonstratives and closes some types of dependent clauses. In the latter two functions, it sometimes appears preceded by a nasal.

Reflexes of the same element **ka* throughout Bantu have also been described as the so-called amplexive morpheme in the connective construction (cf. Van de Velde 2013: 229–230). See Van de Velde (2013: 230) for an overview of various hypotheses on the origin of *ka* in the Bantu connective construction. One such hypothesis suggests that *ka* in the Bantu connective construction is a reflex of the often diminutive class 12 prefix *ka-*. As a side comment, I argue that there is indeed a relation between the two forms but that this relation is indirect and that the two elements both ultimately go back to the predicate 'be at (X's place)'. The diminutive use of *ka-* is likely to have evolved from its use as a nominaliser 'one of, from, among X', as in Liko, where it has a primarily possessive meaning 'the one of X', and Mbula, where the meaning is broader 'one of, from, among X' (e.g. *pwàrì kà à-nlé:rú ˈná* [sun one.of PL-star COP.PRES] 'The sun is a star', lit.

'The sun, it is one of, one among the stars'). A diminutive would be a natural evolution for a form with a partitive meaning 'one of, from, among X' > 'just a part of X' > 'small part of X' > 'small X'.

As already suggested by Welmers (1963) with respect to the uses of **ka* in the connective construction, in Bantu **ka* is clearly a retention from a much older stage. Its reflexes are well-attested not only throughout the Bantu domain, but well beyond it, both within Benue-Congo and in other Niger-Congo groups. Given that in Bantu reflexes of **ka* occasionally show up with (relative) verbal prefixes, as in the Mongo and Konda examples mentioned above, or in Zulu S42 (cf. Van de Velde 2013: 229), **ka* is likely to ultimately have a verbal origin, as something like 'be at (X's place)', 'be near (X's place)' or 'be in contact, relation with (X)'. Its uses as a preposition 'at (X's place)' or a connective relator are clearly later evolutions.[62] Such verbal sources of prepositions are not uncommon in Niger-Congo.

The nasal part in (N)KA- may have at least two origins. First, it may originate in a (presentative, identificational) copula (aka nominal predicative marker), which is sometimes assumed to have had a variant **n* in addition to **n(d)í ~ *n(d)í*, **í ~ *í*, and a purely tonal *H variant (cf. Grégoire 1975: 125; Coupez 1977). Second, the nasal may reflect the class 9 nominal prefix **n-* used to nominalise the locative predicate 'be at (X's place)' (or the preposition 'at (X's place)') into a relational noun 'the one at (X's place)'. In this respect, compare the class 9 noun *pă* 'place' in Liko which is "similar to **pa-*, the reconstructed Proto-Bantu noun-class prefix of class 16" (de Wit 2015: 175). Another interesting example in this respect is provided by Konda, where the preposition 'at (somebody's place)' appears to be used without the nasal when combined with a bound personal index, as in *èkăsó* 'at our place' containing the bound 1PL index *-ísó*, but with the nasal when combined with a free personal pronominal, as in *ènká ńsó* 'at our place' containing the free 1PL pronominal *ńsó* (Motingea Mangulu 2018: 53–54).

[62] Motingea Mangulu (2018: 53) hypothesises an evolution in the opposite direction suggesting that we may be dealing with a locative form that became an auxiliary ("locatif auxiliarisé"). However, such an evolution is unlikely given both the usual directionality of change known for such elements across Niger-Congo and cross-linguistically and the fact that the predicative properties of reflexes of **ka* are well-attested beyond zone C languages. Motingea Mangulu (2018: 53) cites further predicative uses of this element, such as Bangi C32 defective verb *kà* 'be(come) (with a certain quality, e.g. blindness)' used only in the present tense (Whitehead 1899: 32; MacBeath 1940: 28) or a similar verb *kà* in Yasanyama (a language from the Upper Tshuapa, presumably zone D or C), as in *línà lí-**k'**èé lí-**kà** nání* [5.name 5-COP-2SG.POSS 5-COP who?] 'What is your name?' (lit.: 'The name that is of you is who?'). It is likely that the same locative predicate **ka* 'be at (X's place)' is reflected in various copula forms in languages of zone C, such as Bangi C32 *ngá* COP.PRS, *líkì* COP.PST.HOD, *lìkí* COP.PST.REM (Whitehead 1899: 32; MacBeath 1940: 28) and Konda C61E *kí* COP.PST (Motingea Mangulu 2018: 53).

When used as a preposition, a connective relator or in the locative interrogative, this nominalised form may have been preceded by a copula, comparable to the Mongo connective relator *ˇ-lěkà* expressing ownership and contrastive focus on the owner and based on the relative form of the copula *lè* and the preposition *ěkà* 'at (somebody's place)' (cf. Van de Velde 2013: 231).

Appendix G Reflexes of the determiner **yé* in Buto (aka Bena-Mboi)

Beyond Bantoid, a particularly interesting set of forms sourced from the determiner **yé*, both as a noun class determiner and as a selective/restrictive determiner, can be found in Bena-Yungur [bena1260, Buto] and other languages of the Buto group (aka Bena-Mboi [bena1258]), a small Benue-Congo subgroup spoken in the north-east of Nigeria immediately to the north of Mbula (cf. Idiatov & Van de Velde 2019 on the classification of Buto as a Benue-Congo group).[63] As described in Van de Velde & Idiatov (2017), adnominal modifiers in Bena-Yungur can agree in class with the noun they modify. The three agreement classes (noun classes), viz. WA, YA and ƃA as referred to by the inflected determiner forms, equally used as demonstrative modifiers that do not distinguish distance in space, can each be triggered by either a singular or a plural noun. The three inflected determiners, *wā*, *yā* and *ƃā*, are based on the proximal presentative demonstrative stem *-ā* (cf. Idiatov & Van de Velde 2018). Third person indexes do not agree in class, but in animacy. The determiner **yé* is likely to have been the source of a number of elements in Bena-Yungur. Most noticeably, the determiner **yé* is particularly plausible as the source of the class YA morphology, such as *y-*, the agreement marker on possessive pronominals and the remnant class prefix on nouns; *-e*, the agreement marker on some modifiers and the frozen class marker on nominal stems; and *yī*, the determiner of class *ya* without the proximal presentative demonstrative stem *-ā* (cf. Idiatov & Van de Velde 2018). While in Bena-Yungur, the assignment of nouns to class YA does not have a clear semantic basis, in the related language Mboi [mboi1246, Buto] class YA is limited to human nouns and acceptable for some nouns designating animals. This is reminiscent of the Bantu reflexes of the determiner **yé* in forms of class 1 and person indexes. Like with the Babungo [veng1238, South Ring Grassfields] class 5 agreement markers and the Mbula nominaliser *-yí*, class YA agreement markers can also be used in Bena-Yungur for purposes other than the expression of agreement or nominalisation.

[63] The data on Buto languages come from my joint research with Mark Van de Velde.

In particular, in certain constructions requiring the presence of a determiner, when the controller is of noun class WA, the agreeing determiner of class WA may be replaced by a non-agreeing determiner of class YA to change the interpretation of the preceding adnominal modifier licensed by the determiner from qualifying or classifying (as in '[I like] watery$_{\text{WA}}$ porridge$_{[\text{WA}]}$ (in general)') to identifying (as in '[I like] the porridge$_{[\text{WA}]}$ that is watery$_{\text{YA}}$ (when there are several types of porridge under discussion)') (cf. Idiatov & Van de Velde 2018). Outside of the noun class system, we find in Bena-Yungur, like in Bantoid, a singular logophoric person index, *yí ~yə́* SG.LOG.ANIM. And like in PB, in Bena-Yungur we also find reflexes of **yé* at the beginning of free personal pronominals (the Bantu substitutives) as *í-* in *ínâ* 1SG and *ítâ* 1PL.EXCL vs. *áysâ ~áísâ* 3SG.ANIM,[64] and possibly also in the beginning of bound possessive modifiers as the vowel length of *a:* in *-a:-n*^{M}-AG 1SG.POSS and *-a:-t*^{M}-AG 1PL.EXCL.POSS vs. *-a:-t*^{H}-AG 3SG.POSS and *-a:-y*^{H}-AG SG.LOG.POSS.

Appendix H On BLR's initial **j*: PB roots were consonant-initial

The reconstruction of PB **j* in BLR has long been known to be highly problematic. As Wills (2022 [this volume]) correctly concludes, BLR's PB **j* is "a collection of distinct stories which require separate reconstructions, some clearer than others". While elucidating all these distinct stories would go far beyond the scope of this chapter, I have to address one aspect of Wills' reconstruction that is relevant for the reconstruction of PB NSIPs, viz. the reconstruction of initial Ø (zero) for BLR's **j* in verb and noun roots, as well as pronominal prefixes (augments). For brevity's sake, I will refer to these roots as JZ-roots, short for roots with initial **j* or zero. I argue that PB roots were consonant-initial and that BLR's initial **j* confounds several PB consonants, including minimally **s*, **z*, **ɟ*, **y*, and **g*. In what follows, the discussion will necessarily be limited to the gist of the argument. For a more detailed account, see Idiatov (In preparation).

To begin with, there is no doubt that at some pre-PB stage JZ-roots were consonant-initial. This is the canonical phonotactic pattern throughout Niger-

[64] Compare the difference between the PB preprefixes **i-* in 1PL and 2PL and **i- ~ *ɪ-* in class 1 person indexes in Kamba Muzenga's (2003) reconstruction. In Bena-Yungur, more like in Meeussen's (1967) PB reconstruction, the free personal pronominals of the first and second persons have a different structure from those of the third person. In the former, the person is indexed by the second morpheme, such as *n-* in *í-n-â* 1SG. In the latter, the person is indexed by the first morpheme, viz. *á-* in *áysâ ~áísâ* 3SG.ANIM and *ɓá-* in *ɓá:ɓô* 3PL.ANIM (where *ɓá:-* < *ɓá-í-*).

Congo for noun and verb roots, while vowel-initial roots emerge through consonant-loss or borrowing. Numerous reliable cognates of JZ-roots can be found beyond Bantu with their initial consonant still preserved. Thus, in (20) below several PB JZ-roots are compared with their cognates in Nizaa [suga1248, Mambiloid], as well as the corresponding pre-Nizaa internal reconstructions (Endresen 1991). In (21), several PB JZ-roots are compared with their cognates in the Buto group (aka Bena-Mboi [bena1258], cf. Appendix G.) accompanied by the initial consonants reconstructed for these roots in Proto-Buto (based on the internal reconstruction by Idiatov & Van de Velde 2020).

(20) Some BLR JZ-roots and their modern Nizaa (MN) and pre-Nizaa (PN) cognates (Endresen 1991)
   a. BLR 6142 **jíd* 'become dark, become black' || MN *sír* 'black' < PN **síd*
   b. BLR 3616 **jɔ́m* 'be dry' || MN *sóm* 'be dry' < PN **sóm*
   c. BLR 1602 **jòd* 'laugh'; BLR 1604 **jòdà* 'laughter' || MN *swɛ̄ɛ̄* 'laugh' < PN **sōd-ā*; MN *sòr* 'laughter' < PN **sōd*
   d. BLR 3577 **jónk* 'suck, suckle' || MN *swɑ̃̄ɑ̃̄* 'suck' < PN **sOŋ-a*
   e. BLR 3429 **jíjad* 'be full'; BLR 3430 **jíjɔd* 'become full' || MN *yír* 'be full' < PN **yíd*

(21) The cognates of some BLR JZ-roots in the Buto group (with reconstructions of their initial consonant in Proto-Buto, based on Idiatov & Van de Velde 2020)
   a. BLR 3615 **jɔ̀m* 'hit' || Bena-Yungur *zəmə* (Guto), *səmə* (Pra) 'kick' (**z-*)
   b. BLR 1583 **jénjé* 'cricket' || Bena-Yungur *zɛ̀ɛ̀zɛ̂* (Guto), *sɛ̀ɛ̀sɛ̂* (Pra) 'cricket' (**z-*)
   c. BLR 3350 **jíkì* 'bee' || Bena-Yungur *zɪ̀-ɔ̀* (Guto), *sɪ̀-ɔ̂* (Pra), Mboi *zìh-ɔ̀* 'bee' (**z-*)
   d. BLR 3525 **jóg* 'bathe' || Mboi *só?* 'bathe, take a bath' (**s-*)
   e. BLR 3530 **jòk* '(vi) roast, (vi) burn' || Bena-Yungur *yóó* 'roast, fry' (**y-*)
   f. BLR 1553 **jàb-ʊk* 'cross river'; BLR 3138 **jàb-ɪk* 'soak in water'; BLR 9809 **jàb-am* '(vi) soak'; BLR 3140 **jàb-ʊ́* 'crossing place, bridge' || Bena-Yungur *yàɓà* 'bathe, take a bath' (**ɟ-*)

Even closer to Narrow Bantu, Elias et al. (1984: 36–38) reconstruct for Proto-Mbam-Nkam Grassfields only consonant-initial verb roots and just a few vowel-initial noun roots "which have incorporated the prefix as part of the stem". This is reminiscent of the tendency for the reflexes of the PB JZ-roots not preceded by **i* or **n* to be vowel-initial when they are nominal, and consonant-initial when they are verbal, as highlighted by Wills (2022 [this volume]): "a major difference between the vowel-initial nouns and verbs is the frequent presence of glides before the verb stems". Wills accounts for this difference between nominal and verbal JZ-roots by assuming that a palatal glide appeared due to hiatus resolution only in verbal vowel-initial roots and then "in some languages […] the glide variant of the verb was generalised throughout (and sometimes even strengthened)". This is not inconceivable, but it is definitely not the most straightforward interpretation, especially given that beyond Bantu or Bantoid the roots are consonant-initial. Both for Proto-Mbam-Nkam Grassfields and PB, we can simply assume that certain kinds of root-initial consonants were lost in the relevant nouns because there they only occurred in an intervocalic environment following the same one or two (viz. singular and plural) CV- noun class prefixes, while they often happened to survive in verbs because there they appeared in a variety of contexts, most importantly word- and utterance-initially after a pause (as in the imperative construction). The inventory of the root-initial consonants in Proto-Mbam-Nkam Grassfields reconstructed by Elias et al. (1984: 39) includes both the palatal series **c* and **j* and the alveolar voiceless fricative **s*. As a side consequence, we also have to reject Wills' suggestions of "relabelling both **c* and **j* as **s* and **z*" and "to remove the palatal series altogether".

Another problematic aspect of the scenario proposed by Wills with the initial consonants consistently emerging in JZ-roots out of zero through epenthesis and strengthening is that often in a given language, especially in the north-west, we find a whole range of different reflexes of **Ø* whatever the environment, with no way to account in any principled fashion for why in some cases no epenthesis would take place (i.e. **Ø* would stay *Ø*), while elsewhere some glide would be epenthesised and occasionally further strengthened to a specific fricative, affricate or stop. For example, as illustrated in (22), in Eton A71, reflexes of the presumed **Ø* in verbs can be as diverse as *Ø*, *y*, *j*, *ɲ*, *c* and *s*. This comparison is limited to verbs to avoid the complication of a possible merger of the stem with a class prefix in nouns. In Eton nouns, we find an additional reflex *z*, as in (22f).

(22) The reflexes of some JZ verb roots in Eton A71 (based on Van de Velde In preparation)

a. *Ø*

i. BLR 1602 **jòd* 'laugh' > *wɛ̀* 'laugh' from earlier **ɔ̀l*[65]

ii. BLR 3525 **jóg* 'bathe' > *wágɔ̂ ~wɔ́gɔ̂* 'bathe' from earlier **ɔ́gà*[66]

b. *y*

i. BLR 3145 **jác* 'open the mouth; yawn' > *yáànì* 'yawn', *yázî* 'open (the door)'

ii. BLR 3295 **jén* 'see' > *yɛ́n* 'see'

iii. BLR 3338 **jíg* 'learn; imitate' > *yɔ́gî* 'learn; imitate'

c. *j*

i. BLR 3429 **jíjád* 'be full' > *já* 'be(come) full'

ii. BLR 3387 **jíb* 'steal' > *jíb* 'steal'

d. *ɲ*

i. BLR 3177, 3178 **jám(ú)* 'suck' > *ɲáŋ* 'suck'

ii. BLR 3147 **jàd* 'spread' > *ɲɛ̀d ~sɛ̀d* 'spread'

e. *c*

i. BLR 3167 **jàk* 'be lit; (vi) burn'; BLR 9595 **jàkì* '(vt) light' > *càk* '(vt) light'

f. *s*

i. BLR 8668 **jáng* 'say no, refuse; hate' > *sáánì ~sɛ́ɛ́nì* 'quarrel, argue', *záŋ* (9/10) '(n) quarrel'

ii. BLR 5329 **jɔ̀gʊ̀* 'loud noise'; BLR 7098 **jòɡʊd* 'make confused noise' > *sòg* 'shout to scare off (e.g. a thief); boo, jeer at'

iii. BLR 3147 **jàd* 'spread' > *ɲɛ̀d ~sɛ̀d* 'spread'

Finally, a scenario implying frequent consonant epenthesis, especially in verb roots, is problematic because all Bantu languages allow vowel-initial utterances and most modern Bantu languages are also perfectly fine with vowel-initial roots.

[65] The form of this verb in Eton is the result of two productive morphonological processes, viz. the breaking of |ɔ| to *wa* in certain stem-initial syllables (cf. Van de Velde 2008a) and the subsequent fronting of *a* to *ɛ* due to the vocalisation of the word-final |l| to *i* followed by vowel coalescence (cf. Van de Velde 2008b: 35, 246–247).

[66] The form of this verb in Eton is due to the same breaking of |ɔ| to *wa* as with *wɛ̀* 'laugh' in combination with the assimilation of the final vowel. In this respect, compare *dɔ́lɔ̂ ~dwálɔ̂* '5 francs' which is a borrowing from English *dollar* (cf. Van de Velde 2008a).

It is true that many Bantu languages do not tolerate hiatus, but if hiatus is resolved through consonant epenthesis, the choice of the epenthetic consonant is determined by the vowels involved and is limited to a palatal or labial-velar glide, *y* or *w*.

The cognates from outside of Bantu cited in (20) and (21) suggest that the two JZ verbs with *Ø* reflex in Eton in (22a), viz. 'laugh' and 'bathe', should be reconstructed with initial **s* in PB. That the initial **s* had not yet lenited to *Ø* in PB is confirmed by the reflexes of the augment of class 10, reconstructed by Meeussen (1967: 97) as **ji*, but which should rather be reconstructed as **si*. Contra Wills (2022 [this volume]), the initial consonant of the augment (pronominal prefix) of class 10 is not an "Eastern innovation", as we also find it in Grassfields, such as the Proto Grassfields connective marker of class 10 reconstructed by Hyman & Tadadjeu (1976: 76) as **sí ~ *í*, and in zone A, such as the Yangben A62A class 10 prefix allomorph *sy(^{L})-* before some vowel initial-roots (cf. Boyd 2016), and zone B, such as the augment of class 10 *(s)ì-* and pronominal and verbal prefixes of class 10 *s^{H}-* in Orungu B11b (cf. Ambouroue 2007: 60, 86; and example (19) in §6.1.4 of the present chapter). Similarly, the initial consonant of the augment of class 9 is not an "Eastern innovation" but a retention from pre-PB and should be reconstructed as PB **zɪ*, while the augment of class 1 should be reconstructed as PB **gʊ*.

As amply illustrated by Wills (2022 [this volume]), the initial consonants of nominal JZ-roots are best preserved when protected by a preceding nasal of the noun class prefix. In order to reconstruct the initial consonants of those nominal JZ-roots whose reflexes never happen to be preceded by the nasal of a noun class prefix in any Bantu language, such as BLR 3252 **játò* 'canoe' (N 14), we need to find their cognates beyond Bantu with initial consonants preserved. These consonants would probably reflect earlier **s*, **z*, **ɟ*, **y*, or **g*. Thus, for BLR 3252 **játò* external evidence suggests a velar, such as PB **g*, as the most likely candidate. We can be quite sure that the lenition of the initial consonants of these particular problematic nominal roots to *Ø* postdates the PB stage because we can demonstrate that the same initial consonants were still there in PB in other nominal and verbal roots. The most straightforward case here is obviously PB **g*, whose presence in PB has never been a matter of debate. In this respect, see also footnote 55 in the present chapter, on BLR 1386 **gìjí* ~BLR 1385 **gìjé* 'egg', which should be reconstructed as **gìgí*.

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