An introduction to Reconstructing Proto-Bantu Grammar

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This book is about reconstructing the grammar of Proto-Bantu, the ancestral language at the origin of the African linguistic family commonly known as Bantu. It is about how to retrieve the phonology, the morphology and the syntax the earliest Bantu speakers used to communicate with each other. In §1, I explain how this book came about. In §2, I offer a short presentation of its contents. In §3, I reflect critically on a number of methodological issues. Finally, in §4, I attempt to assess to what extent the new research presented in this volume requires a revision of Meeussen (1967).

1 Raison d'être for *Reconstructing Proto-Bantu Grammar*

Why would Proto-Bantu (PB) matter? Why would one put so much intellectual effort into recomposing a dead language, and especially its grammar, which unlike vocabulary tells us more about its internal functioning than about the outer world? What is the broader relevance of this academic endeavour?

First, Bantu is Africa's principal linguistic family, not only by language count, but also in terms of speakers' numbers and geographical extent (Bostoen & Van de Velde 2019: 3). This is the main reason why Niger-Congo, of which Bantu is a low-level branch, is today the world's biggest phylum as far as number of languages is concerned (Eberhard et al. 2022). Delving into the history of Bantu languages and their speakers is therefore inquiring into significant episodes of Africa's past. The history of Bantu as a distinct language family is assumed to have begun some 5,000 to 4,000 years ago when Bantu speakers started to migrate southwards from their putative homeland in the current-day borderland of southern Cameroon and Nigeria (Vansina 1995: 52; Blench 2006: 126; Bostoen

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2018, but see Idiatov & Van de Velde 2021: 98 who propose a more northerly location). The historical origins of Bantu languages and their ancestral speakers are not well known among the wider public, neither inside nor outside Africa, not even among populations currently living in the homeland area (John R. Watters, p.c.). Roughly four to five millennia ago is the approximate time by which PB, their most recent common ancestral language, would have started to diverge into different daughter languages. 'Proto' here means that this ancestral language is a reconstruction from present-day Bantu languages, not known from actual historical records.

As writing is a relatively late human invention, i.e. only some 5,000 to 6,000 years old (Pae 2018: 1), written attestations of language from that very period are actually extremely rare worldwide. Cuneiform, a logographic and syllabic script which developed in Mesopotamia out of earlier economy-related sign systems and whose oldest attestations date back to around 3,300 BCE, is commonly seen as the first graphic representation of language (Goody 1986: 47–49). Closer to the Bantu homeland, and on the African continent, is hieroglyphic writing, of which the earliest inscriptions are also dated ca. 3,300 BCE (Kahl 2001: 102), with the first instance of a complete sentence in Old Egyptian from 2,690 BCE (Allen 2013: 2). Thus, the world's two oldest writing systems, viz. cuneiform and hieroglyphs, hardly predate the assumed advent of Bantu itself. Other early writing systems are considerably younger. For example, Proto-Sinaitic, an intermediary form between Egyptian hieroglyphs and early Semitic alphabets from which later alphabetic scripts (e.g. Greek, Latin, Arabic) evolved, is thought to have been invented over 3,500 years ago (LeBlanc 2017). Similarly, Oracle Bone, the earliest known ancient Chinese script and the ancestor of modern Chinese, is estimated at about 3,300 years of age (Han et al. 2020: 228). In Mesoamerica, embryonic forms of writing only appeared around 700–500 BCE (Kettunen & Helmke 2019: 12).

In other words, Bantu is the rule rather than the exception among the world's languages in not having written records of its ancestral language, and definitely so for the period around 4 to 5 millennia ago. Apart from the Swahili world where writing in Arabic characters mediated through Islam might be older but without any surviving documentation (Mugane 2015: 175–181), literacy only entered the Bantu-speaking world as part of the so-called Columbian Exchange, i.e. "the exchange of diseases, ideas, food crops, technologies, populations, and cultures between the New World and the Old World after Christopher Columbus' voyage to the Americas in 1492" (Nunn & Qian 2010: 163). The oldest surviving Bantu text dates from the 17th century CE, i.e. a Kongo translation of a catechism by the Portuguese Jesuit Matheus Cardoso (1584–1625) from 1624 (cf. Cardoso

1624; Bontinck & Ndembe Nsasi 1978). Documentation and description of most Bantu languages – if any – did not start before the late 19th century. In order to retrace the history of the Bantu languages and their speakers, we therefore must go upstream, that is from the recent past back to the source.

Second, even if vocabulary may give more direct access to the history of human culture and society, through the so-called 'words-and-things method' (cf. Dimmendaal 2011: 334–336), historical grammar studies also offer insights into how the intricacies of the human mind evolved through time. Bantu Grammatical Reconstructions are particularly relevant in that regard if one reckons how the complexities of Bantu languages at different levels have advanced the development of linguistic theories over the past decades. For example, the intricate tonal systems of Bantu languages such as Ganda JE15 and Tonga M64, along with that of Igbo (Benue-Congo), encouraged Goldsmith (1976) to establish his theory of Autosegmental Phonology, which matured and went in new directions thanks to more theoretically-informed tone studies on a range of different Bantu languages (cf. Clements & Goldsmith 1984; Goldsmith 1987; Hyman & Kisseberth 1998; Kisseberth & Odden 2003; Marlo & Odden 2019). Likewise, tone spreading in the southern Bantu language Shona S10 was one of the case studies in Prince & Smolensky (1993) launching Optimality Theory, which led to many more studies in Bantu phonology (e.g. Downing 1995; Leitch 1996; Myers 1997; Kadenge 2014; Kadenge & Simango 2014) and extended to other domains of Bantu languages such as morphology (e.g. Lusekelo 2012) and syntax (e.g. Harford & Demuth 1999; de Vos & Mitchley 2012). The impact that morphosyntactic data from (mostly Eastern) Bantu languages has had on formal syntactic approaches such as Relational Grammar (e.g. Gary & Keenan 1977; Perlmutter & Postal 1983; Rosen 1984), Lexical Functional Grammar (e.g. Bresnan & Kanerva 1989; Alsina & Mchombo 1990; Bresnan & Moshi 1990; Alsina & Mchombo 1993; Bresnan & Moshi 1993), Government and Binding (e.g. Marantz 1981; 1982; Baker 1985; Baker 1988; 1990; 1992) and subsequent developments such as Minimalism (e.g. Pylkkänen 2000b,a; McGinnis 2001; 2008; Pylkkänen 2008) is immense. To give just one example, it was on the basis of data from Chaga E60 and Chewa N31b applicative constructions that Bresnan & Moshi (1990) developed the by now well-known distinction between symmetrical and asymmetrical object-type languages. Bantu languages such as Swahili G42d, Bemba M42, Rangi F33 and Swati S43 were also instrumental in the creation and expansion of the Dynamic Syntax formalism (e.g. Marten 2003; Gibson 2012; Marten 2013; Gibson & Marten 2016; Chatzikyriakidis & Gibson 2017), first developed in the early 2000s (Kempson et al. 2001; Marten 2002).

The significance of diachronic Bantu studies, and African historical-comparative linguistics more generally, for the birth and growth of linguistic typology

is by now universally acknowledged. Joseph Greenberg, with his work on universals (Greenberg 1966; Greenberg et al. 1978), is generally seen as the founding father of language typology (cf. Hyman 2018: 3). Not only did Greenberg propose a genealogy of African languages (Greenberg 1963), but he also contributed to the reconstruction of Proto-Afro-Asiatic (Greenberg 1958), as well as PB (Greenberg 1948) and its homeland (Greenberg 1972). He also carried out comparative Bantu research (e.g. Greenberg 1951). Ever since, the fields of (historical-)comparative Bantu grammar and language typology have been in an inspiring, mutually feeding relation (e.g. Givón 1971a; 1974; Poulos 1984; 1985; Güldemann 1996; 1999a,b; Odden 1999; Güldemann 2003b; Ngo-Ngijol Banoum 2004; Fleisch 2006; Van de Velde 2006; Maslova 2007; Van de Velde 2009; Devos et al. 2010; Devos & van der Auwera 2013; Aunio 2015; Guérois 2017; Dom et al. 2018; Pacchiarotti 2020). This is also clearly reflected in the current volume on PB grammar, in which several authors propose reconstructions that are strongly informed by typology (cf. infra). Given the importance of variation in Bantu grammar for linguistic theory and typology, reconstructing the foundations out of which it developed definitely deserves some scholarly scrutiny.

The importance of Bantu for Africa's past and present (for academic and popular audiences, both inside and outside Africa) and for the field of linguistics are the two main reasons why we thought it timely, half a century after A.E. Meeussen's seminal work *Bantu Grammatical Reconstructions* (1967), to devote a new book to the reconstruction of PB grammar. The present multi-authored volume is the result of this joint effort. Given the way in which Bantu linguistics developed over the past 50 years and the variety of approaches and theoretical frameworks it entails, our book could not be a systematic update of Meeussen (1967). An update of PB grammar cannot simply be resumed where it was left more than five decades ago; for one thing because Meeussen (1967) provides neither factual data nor explicit argumentation for his grammatical reconstructions. Moreover, no unanimity exists on the assumptions, principles and methods underlying Bantu Grammatical Reconstructions, a situation begging for critical reflection. In addition, the huge mass of newly available data has different implications for different aspects of PB grammar. For these reasons, our book is about reconstructing different ancestral grammatical features of Bantu languages rather than an actual comprehensive reconstruction of PB grammar.

2 Historical background to *Reconstructing Proto-Bantu Grammar*

In 2017, *Bantu Grammatical Reconstructions* (1967) by the Belgian linguist A.E. Meeussen celebrated its 50th anniversary. His treatise was the first systematic attempt at a reconstruction of all categories of PB grammar, even though several others before him had succeeded in identifying numerous grammatical cognates between Bantu languages, starting with Bleek (1869) and Meinhof (1899), based on a very small set of languages from different parts of the domain. In order to commemorate the golden jubilee of this important milestone in the history of Bantu linguistics, the *International Conference on Reconstructing Proto-Bantu Grammar* took place in Ghent and Tervuren (Belgium), on November 19–23, 2018. This commemorative event, proposed by Larry M. Hyman (University of California at Berkeley) and Jenneke van der Wal (Leiden University), was co-organised by the RMCA Service of Culture & Society (i.e. the linguists at the Royal Museum for Central Africa in Tervuren), which used to host the research program in comparative Bantu studies known as *Lolemi* (meaning 'tongue; language', a reflex of PB **dɔ-dɪmì*) led by Achiel Emiel Meeussen (cf. Polak-Bynon 1964; Doneux 1965; Meeussen 1965), and BantUGent (i.e. the UGent Centre for Bantu Studies), founded in 2016 to promote a transdisciplinary approach to the past and present of Bantu languages. This RMCA-UGent collaboration was firmly rooted in a shared history and existing partnerships within the field of Bantu linguistics.

The conference's organising committee consisted of Gilles-Maurice de Schryver (BantUGent), Maud Devos (RMCA & BantUGent), Sebastian Dom (then BantUGent, now University of Gothenburg), Rozenn Guérois (then BantUGent, now LLACAN, Paris), Hilde Gunnink (BantUGent), Jacky Maniacky (RMCA), Sara Pacchiarotti (BantUGent) and Koen Bostoen (BantUGent). The scientific committee comprised Maud Devos (RMCA & BantUGent), Larry M. Hyman (University of California at Berkeley), Jacky Maniacky (RMCA), Derek Nurse (independent scholar; emeritus), Gérard Philippson (DDL, Lyon; emeritus), Thilo C. Schadeberg (Leiden University; emeritus), Jenneke van der Wal (Leiden University), Mark Van de Velde (LLACAN, Paris) and Koen Bostoen (BantUGent).

Instead of simply being a commemoration, the conference intended to gather today's junior and senior scholars with the most relevant expertise in comparative Bantu studies in order to reflect together on how to realise a state-of-the-art update of Meeussen (1967). Given the large amount of Bantu language data that have become available since 1967, the vastness of the Bantu language family, and the wide array of grammatical topics to be addressed, such an update can

nowadays no longer be a one-person project. It is inevitably a collaborative effort building on the expertise of numerous scholars, a necessity which Meeussen (1973: 18) himself recognised: "future research in comparative Bantu should consist mainly in team work, in which all available evidence, examined critically, is taken into account".

The conference attempted to advance first and foremost the reconstruction of grammatical features of PB. Even if contributors were not used to adopting a historical-linguistic approach in their comparative Bantu research, they were asked to do so for their contribution to the conference. They were invited to revisit the comparative evidence on which they had been working for many years with the specific aim of identifying shared retentions with a current-day distribution across the family's subgroups significant enough to qualify for reconstruction back to PB. In this endeavour, following Meeussen (1967) himself, participants were requested to establish, whenever possible, specific associations of form and function/meaning that are likely to go back to PB.

The conference hosted more than 50 participants from four different continents (Africa, North America, Asia and Europe) representing a fine mix of junior and senior scholars in Bantu linguistics. The academic parts of the final program are reproduced below.

Monday November 19, 2018 (UGent)

Opening

09.15	Opening address by the organising committee (Koen Bostoen)
Chair	Koen Bostoen
09.30	Thilo C. Schadeberg (Leiden University) Reconstructing Proto-Bantu Grammar Half a Century after Meeussen (1967)
10.15	Rebecca Grollemund (University of Missouri) Reconstructing Proto-Bantu in the Light of the Latest Insights into Bantu Phylogeny

Proto-Bantu Phonology

Chair	Rozenn Guérois
11.30	Nancy C. Kula (University of Essex) Proto-Bantu Segmental Phonology
12.15	Gérard Philippson (DDL, Lyon) 'Double Reflexes' Revisited: Implications for the Proto-Bantu Consonant System

14.00 Lotta Aunio (University of Helsinki) & Jacky Maniacky (RMCA, Tervuren)
Proto-Bantu Nominal Tone
14.45 Michael R. Marlo (University of Missouri)
Proto-Bantu Verbal Tone
15.30 Larry M. Hyman (University of California at Berkeley)
Causative and Passive H Tone: Spurious or Proto?
16.45 Round table discussion

Tuesday November 20, 2018 (UGent)

Proto-Bantu Verbal Form
Chair Gilles-Maurice de Schryver
09.30 Jeff Good (University at Buffalo) & Tom Güldemann (Humboldt University of Berlin)
Proto-Bantu Verbal Form

Proto-Bantu Verbal Derivation
Chair Gilles-Maurice de Schryver
10.15 Roger M. Blench (Kay Williamson Educational Foundation)
Proto-Bantu Verbal Extensions from a Bantoid Perspective
11.30 Sara Pacchiarotti (Ghent University)
On the Reconstructable Main Clause Functions of Proto-Bantu Applicative Suffix *-ɪd
12.15 Rozenn Guérois (Ghent University)
Proto-Bantu Passive Constructions
14.00 Sebastian Dom (Ghent University) & Leonid Kulikov (Ghent University)
Proto-Bantu Middle Voice: From Meeussen to Schadeberg and Beyond
14.45 Koen Bostoen (Ghent University)
Non-Compositional Complex Verbal Derivation Suffixes and the Semantic Reconstruction of *-an in Proto-Bantu
16.00 Round table discussion

Wednesday November 21, 2018 (Royal Museum for Central Africa in Tervuren)

Welcome
10.15 Welcome address at the RMCA (Jacky Maniacky)
Chair Sebastian Dom
10.30 Maud Devos (RMCA, Tervuren)

Recent Research on the Biography of Achiel Emiel Meeussen in Relation to Bantu Grammatical Reconstructions 1967

Proto-Bantu Tense, Aspect and Polarity
Chair Sebastian Dom
11.30 Derek Nurse (Independent Scholar)
Proto-Bantu Tense and Aspect
12.15 John R. Watters (SIL International)
Proto-Bantu Tense from a Benue-Congo Perspective
14.00 Thera M. Crane (University of Helsinki) & Bastian Persohn (University of Hamburg)
Proto-Bantu Lexical Aspect
15.00 Round table discussion
16.15 Guided pre-view and visit of the renovated Royal Museum for Central Africa

Thursday November 22, 2018 (UGent)

Proto-Bantu Verbal Morphosyntax
Chair Sara Pacchiarotti
09.00 Mark Van de Velde (LLACAN, Paris)
Proto-Bantu Relative Clauses
09.45 Hannah C. Gibson (University of Essex)
Proto-Bantu Auxiliary Constructions
11.00 Rasmus Bernander (University of Helsinki) & Maud Devos (RMCA, Tervuren)
Proto-Bantu Existentials

Proto-Bantu Clausal Syntax and Information Structure
Chair Hilde Gunnink
11.45 Benji Wald (University of California at Los Angeles)
Some Problems in the Information Structure of Proto-Bantu (& its Descendants)
13.30 Fatima Hamlaoui (University of Toronto)
Proto-Bantu Word Order
14.15 Yukiko Morimoto (Humboldt University of Berlin) & Nobuko Yoneda (Osaka University)
Proto-Bantu Subject and Topic
15.00 Jenneke van der Wal (Leiden University)
Proto-Bantu Focus Constructions

16.15 Round table discussion

Friday November 23, 2018

Proto-Bantu Clausal Syntax and Information Structure (Continued)
Chair Jacky Maniacky
09.00 Laura J. Downing (Gothenburg University)
Prosodic Phrasing in Proto-Bantu
09.45 Tom Güldemann (Humboldt University of Berlin)
Meeussen's (1967) 'Advance Verb Construction' – What to Reconstruct?
10.30 Dmitry Idiatov (LLACAN, Paris)
Proto-Bantu Question Words

Proto-Bantu Nominal Morphosyntax
Chair Maud Devos
11.45 Josephat M. Rugemalira (University of Dar es Salaam)
Proto-Bantu Noun Phrase Structure
13.30 Jean Paul Ngoboka (University of Rwanda)
Proto-Bantu Locatives
14.15 Jean-Georges Kamba Muzenga (Lubumbashi University)
Proto-Bantu Substitutives and Possessives

Closure
15.30 Gilles-Maurice de Schryver (Ghent University)
Bibliometrics in Bantu Lexical and Grammatical Reconstructions: A.E. Meeussen and Beyond
16.15 Round table discussion + round-up
17.30 Closing words (Koen Bostoen)

Recordings of the talks and the round table discussions are available at the BantUGent website: https://www.bantugent.ugent.be/events/orpbgconference/.

After the conference, all presenters were invited to submit texts on the topics they developed for the conference. We received seventeen manuscripts (including one from a participant in the audience). Following double-blind peer review, fifteen chapters were eventually accepted. These were then assigned to one of the thematic sections in the current book (see Table of Contents) even though, unsurprisingly, most chapters treat issues that could belong to more than one thematic section.

3 Methodological issues in *Reconstructing Proto-Bantu Grammar*

In this section I go through some matters of method regarding the reconstruction of PB grammar and discuss how they are variably dealt with in the different contributions to this volume. I treat the Comparative Method (§3.1), genealogical classification (§3.2), and grammaticalisation theory and typology (§3.3).

3.1 The Comparative Method and Bantu grammatical reconstruction

Recovering the estimated 5,000-year-old ancestor of the Bantu language family needs to be based on more or less synchronic data that are mostly younger than 150 years, whether it concerns phonology, the lexicon or grammar. To do so, historical linguists rely first and foremost on the Comparative Method (CM). The reconstruction of proto-languages is one of the primary objectives of the CM. Without historical language sources, the CM is a necessary, effective and bottom-up approach for recreating past languages from cognate morphemes attested in its present-day descendants (cf. Nurse 1997: 361; Weiss 2014: 127). Reconstruction through the CM attempts to "reduce synchronic variation to earlier invariance and in doing so, to recover prehistoric linguistic changes" (Hock 1991: 581). As discussed in Bostoen (2019: 208–209), the CM has been particularly successful for the reconstruction of PB for at least three reasons: (1) the CM is a method for confirming or rejecting genetic affinity rather than for generating hypotheses about it, and such a hypothesis has existed for Bantu ever since Bleek (1862); (2) thanks to their close genealogical affinity, identifying cognate lexemes and grammemes between Bantu languages is relatively straightforward; (3) the efficacy of the CM depends on the quantity of synchronic data available, which is quite favourable in the case of Bantu, especially from a broader African perspective. As a consequence, since its first application by Meinhof (1899) to pave the way for his *Ur-Bantu*, the CM has greatly contributed to the reconstruction of PB phonology, the PB lexicon and PB grammar.

Bantu fulfils the three minimal conditions which Baldi (1990: 1–3) deems necessary for the CM to be used as fruitfully as in Finno-Ugric and Indo-European, where its main empirical foundations were laid during the 19th century: (1) a significant percentage of cognates in core vocabulary to establish genealogical relatedness; (2) the recurrence of systematic correspondences between related languages; (3) regular sound change. As soon as two languages comply with these conditions, the CM can be put to work to reconstruct their ancestral language, but many more languages can of course be added to the reconstruction

equation. The emphasis on regularity and systematicity betrays the legacy of the 19th century Neogrammarians, for whom sound change had no inexplicable exceptions. It also indicates a predilection of the CM for diachronic phonology, where change tends to be more regular and systematic than in other domains of language. Even though its full regularity and systematicity are doubtful in many cases (for a discussion of irregularity in diachronic sound change in Bantu, see Janssens 1993, Pacchiarotti & Bostoen 2022, Philippson 2022 [this volume]), phonological change still has what Baldi (1990: 5) calls a 'ripple effect' on other domains of language. It transforms morphs and can therefore eventually lead to the restructuring of grammatical categories and processes. So once the CM succeeds in undoing the sound shifts undergone by the languages of a given family, one can not only reconstruct the phonology of the proto-language, but one can also retrieve the proto-forms of those cognate morphemes, both lexical and grammatical, which were originally used to establish regular sound correspondences by 'triangulating backwards' from each of the comparative series (cf. Nurse 2008: 228). For example, the cognate series listed in Table 1, along with other ones, not only led Meinhof et al. (1932) to reconstruct the voiceless bilabial stop **p* to PB and establish the regular sound correspondences between its reflexes in five distant Bantu languages, i.e. Duala A24, Swahili G42d, Kongo H16, Herero R30, and Northern Sotho S32. It also allowed them to reconstruct the form and meaning of three verb stems and two grammemes, i.e. the locative prefix of class 16 and an interrogative particle (see also Idiatov 2022 [this volume]).

The reliance of the CM on cognate series of lexical and grammatical morphemes to establish regular sound correspondences explains why from the early days of historical-comparative Bantu linguistics phonological, lexical and grammatical reconstruction happened concurrently. In his pioneering study of Bantu phonology, *Grundriß einer Lautlehre der Bantusprachen* ('Outline of a phonology of the Bantu languages'), Meinhof (1899) not only reconstructed a Proto-Bantu sound system, but also identified numerous lexical and grammatical cognate series for which he proposed corresponding reconstructions. His *Grundriß* was soon followed by his *Grundzüge einer vergleichenden Grammatik der Bantusprachen* ('Basics of a comparative grammar of the Bantu languages') (Meinhof 1906), the forerunner of *Bantu Grammatical Reconstructions* by Meeussen (1967). The enterprise of reconstructing Proto-Bantu grammar has thus always been firmly rooted in the CM. This explains Meeussen's insistence on correspondences as a key notion for the reconstruction method.

In a short methodological assessment of Malcolm Guthrie's *Comparative Bantu* (Guthrie 1967; 1970; 1971), Meeussen (1973) mentions the concept of correspondence no less than 59 times. Exactly for that reason, he is very critical of Guthrie's

Table 1: Cognate series identified by Meinhof et al. (1932)

Duala[a] A24	Swahili G42d	Kongo[b] H16	Herero R31	N. Sotho S32	PB[c]
w-an-a 'bring'	*pa* 'give'	*va* 'give'	*pa* 'give'	*fa* 'give'	**pá* 'give'
/	*pa-a* 'scrape'	*val-a* 'scrape'	*par-a* 'scrape'	*fal-a* 'scrape'	**pád* 'scrape'
wos-o 'twist tog.'	*pot-e-a*[d] 'go astray'	*vot-a* 'twist'	*pot-a* 'be mixed'	*for-a* 'plait'	**pót* 'twist'
wa[e] 'here'	*pa-* loc. class 16	*va-* loc. class 16	*pa-* loc. class 16	*fa-* loc. class 16	**pa-* loc. class 16
we 'where?'	*-pi* 'which?'	*-vi* 'inter. suffix'	*pi* 'where?'	*-fe* 'which?'	**-pi* ?[f] 'inter. suffix'

[a]For reasons of uniformity, the examples of Meinhof et al. (1932) are not rendered in the original spelling here, but in IPA spelling.

[b]Kongo was not part of the original sample of Bantu languages which Meinhof used for his Grundriß (Meinhof 1899). Central Kongo data was added to the revised English version (Meinhof et al. 1932). Neither Makonde P23, which was already used in the first edition, nor Zulu S42, which was added to the revised edition, are included in Table 1 for reasons of space constraints.

[c]For reasons of uniformity, the original toneless Ur-Bantu reconstructions are not given here, but rather the PB reconstructions as found in Bastin et al. (2002), except for the last two which do not occur in the latter.

[d]Meinhof et al. (1932: 220) list this lexicalised applicative verb stem along with the deverbative noun *upote/phote* 'bowstring'. As Benji Wald (p.c.) pointed out, Swahili also has the underived base verb stem *pota* 'twist (strings by rolling them between the fingers or on the knee)' (Sacleux 1939: 759).

[e]Meinhof et al. (1932) do not provide this reflex; it is found in the Duala dictionary by Helmlinger (1972: 505).

[f]Idiatov (2009) reconstructs this interrogative particle as **pà-í* 'where?' [CL16- 'what?'].

so-called "two-stage method of Comparative Bantu study" (Guthrie 1962), which consists of: (1) the construction of 'Common Bantu' (CB) by establishing comparative series of synchronic correspondences (comparable to what tend to be called 'cognate sets' in historical linguistics), which in Guthrie's view should be absolutely free from irregularities or exceptions and are symbolised by 'starred forms'; (2) the true reconstruction of Proto-Bantu as a hypothesis on Bantu prehistory. Meeussen (1973: 16) considers this "explicit distinction between two successive stages in comparative work" as dispensable and at odds with the basic principles of the CM. In his view, the CM provides sufficient inherent guarantees for circularity not to creep in.[1]

For example, regarding the final vowel correspondences in several parallel starred forms in CB, such as **na*, **ne*, **ni*, and **nayi* 'four' and **da*, **de*, and **dai* 'long', Meeussen (1973: 6) judges:

> There is a group of synonymous sets of forms in *CB* which differ only in the final vowel. […] Each of these forms is given as a separate correspondence […] the attempts at unifying these divergences in prehistory are different from case to case. […] In a two-stage comparative method it is extremely difficult to obtain more than the observations and conclusions just reported. In an adequately developed one-stage method one is led to try and make full use of all kinds of data in order to reduce as much as possible the variations found between similar correspondences. In the present case it proves possible to view not only each of the clusters […] as a simplex lexical correspondence, but also the set of these clusters, apart from their consonants, as one complex phonetic correspondence.

Meeussen strongly stresses here that in order to reconstruct the original ancestral language the CM should strive to reduce as much as possible synchronic variation by maximally establishing correspondences – even complex and indirect ones – between present-day languages (see also Hock 1991: 581, cited above). This same methodological emphasis on cross-linguistic form-meaning correspondences made us require contributors to this volume to be as explicit as possible on the specific associations of form(s) and function(s)/meaning(s) they propose to reconstruct to Proto-Bantu and to present sufficient and convincing evidence from present-day languages to substantiate these reconstructions. We furthermore asked them to be explicit with regard to their arguments when considering a given form-function pairing as either a shared retention (i.e. reconstructable to Proto-Bantu) or a shared innovation (i.e. not reconstructable to Proto-Bantu).

[1]Circularity is what Guthrie (1962: 1) terms 'feed-back', i.e. the introduction of some of the results of an investigation into the conduct of the investigation itself.

3.2 Genealogical classification and Bantu grammatical reconstruction

Our request to authors in this volume to position their (PB) reconstructions in the phylogenetic tree of the Bantu family by Grollemund et al. (2015) and to consider Bantu-external evidence is also prompted by methodological recommendations spelled out in Meeussen (1973). Criticising Guthrie's distinction between PB-X (i.e. the earliest PB stage), PB-A (i.e. the Western 'dialect' of PB) and PB-B (i.e. the subsequent Eastern 'dialect') (see also Dalby 1975; 1976), Meeussen (1973: 17–18) observes that:

> all considerations about PB-A and PB-B must remain extremely vague and general, whereas PB-X is purely speculative since it refers to an utterly unattainable stage. Pending the construction of an acceptable genealogical tree for Bantu, we can have reconstructions for one period of Bantu only (the "threshold"). […] But there is an extremely powerful means of ascertaining the value of a reconstruction by showing that it is required by other, more distantly related languages, in the first place Benue-Congo languages in the case of Bantu.

Not only did pioneers in Bantu reconstruction miss a compass in terms of internal classification, but they also had to work without a widely accepted hypothesis on the Bantu homeland. It is therefore not surprising that Meeussen (1967; 1969) gave less prominence to data from north-western Bantu than we do today with the insights into Bantu classification accumulated over the past five decades.

Although there is still no comprehensive Bantu genealogy based on the CM (Nurse & Philippson 2003; Schadeberg 2003; Philippson & Grollemund 2019), consecutive quantitative approaches using basic vocabulary – mainly lexicostatistical and phylogenetic – considerably enhanced our understanding of the external and internal classification of Bantu since Meeussen (1973). We asked authors to refer to the lexicon-based phylogeny in Grollemund et al. (2015), not because we consider it to be the definitive statement on the internal divergence of the Bantu family, but rather because it is the latest and most comprehensive phylogenetic classification which basically confirms – some deviations notwithstanding – the main results of earlier quantitative approaches such as Bastin et al. (1999), the last and most complete lexicostatistical study for Bantu (see also Bastin & Piron 1999).[2] Grollemund et al. (2015) sub-classify the Bantu family into five major clades, i.e. North-Western, Central-Western, West-Western, South-Western

[2]The recent publication of a new phylogeographic analysis of the Bantu language expansion by Koile et al. (2022) shows that Grollemund et al. (2015) is indeed not a definitive internal classification of the Bantu family. As our book was sent off for production in July 2022, it was

and Eastern, which is a substantial simplification of the actual divergence their tree displays (see Bostoen Forthcoming for a detailed assessment of this tree). What is important to retain here is that Grollemund et al. (2015) confirm earlier studies in showing that the north-western part of the Bantu domain, more specifically Cameroon and northern Gabon, is linguistically the most diverse. Their so-called *North-Western clade* actually lumps five discrete monophyletic groups (Pacchiarotti & Bostoen 2020: 156–157). Moreover, Grollemund et al. (2015) corroborate previous studies in demonstrating that after the initial diversification in the north-west, only four major clades occupy the rest of the Bantu domain. Three of them cover the western half, i.e. (1) *Central-Western* aka *North Zaire* or *Congo*, (2) *West-Western* aka *West-Coastal*, and (3) *South-Western*, while all Bantu languages spoken in eastern and south-eastern Africa belong to a single *Eastern* branch (Vansina 1995; Bastin et al. 1999; Bastin & Piron 1999; Bostoen et al. 2015; de Schryver et al. 2015). What is more, *South-Western* and *Eastern* are as a matter of fact not discrete clades in Grollemund et al. (2015), but form one single superclade (cf. Pacchiarotti & Bostoen 2020: 156–157). In other words, the linguistic diversity in the north-west is extremely high compared to the remainder of the Bantu domain. Consequently, a feature occurring in North-Western and Eastern Bantu, for instance, has more relevance for Proto-Bantu reconstruction than one only attested in West-Western and South-Western Bantu or even in South-Western and Eastern Bantu, except of course if it also occurs elsewhere in Benue-Congo or Niger-Congo outside of Bantu. If one admits that Eastern Bantu is indeed a lower-level offshoot in the Bantu family tree, a feature attested in North-Western Bantu and one or more of the other Western clades but not in Eastern Bantu could also be considered for reconstruction into Proto-Bantu, which we situate at the level of either node 1 (excluding Grassfields Bantu) or node 0 (including Grassfields Bantu) in the tree of Grollemund et al. (2015).

The crucial importance of evidence from both North-Western Bantu and Benue-Congo, or even Niger-Congo, outside of Bantu for the reconstruction of PB is an insight that is broadly shared by scholars who contributed to this volume. While several chapters consider evidence from outside Bantu, both **Blench** and **Nurse & Watters** really place Bantoid or Wide Bantu, as opposed to Narrow Bantu, i.e. Bantu as defined by the referential classification of Guthrie (1948; 1971),

too late to take into account this new research published online on August 1, 2022. In any event, for the purposes of this book, their maximum clade credibility tree has no significant implications since its typology is broadly in line with Grollemund et al. (2015). The most important difference regarding the family's internal divergence is that the Western-Western or West-Coastal branch and part of the Central-Western Bantu languages share a most recent common ancestral node which they do not share in the phylogeny of Grollemund et al. (2015).

in the forefront. Comparative data from Benue-Congo and Kwa languages, and even from Niger-Congo languages far beyond, also play a prominent role, along with data from mainly north-western Bantu languages, in the revision of verbal argument cross-reference in PB by **Güldemann**. Likewise, **Philippson**'s chapter focuses specifically on North-Western Bantu. Several other chapters reanalyse earlier PB reconstructions by giving more historical weight to north-western Bantu data than Meeussen (1967; 1973) ever did. For example, more data from the North-Western Bantu branches play an important role in **Wills**'s revision of PB **j* in several Bantu lexical reconstructions. Likewise, **Nurse & Watters** and **Bostoen & Guérois** question the PB status of the anterior final suffix **-ide* (Bastin 1983) and the passive suffix **-ɪbʊ* (Stappers 1967) respectively, because they miss reflexes in present-day North-Western Bantu. They rather consider these suffixes to be innovations that emerged at a later node of the Bantu family tree after the ancestral North-Western Bantu branches had split off. A thorough review of comparative north-western Bantu data also leads **Good** to conclude that the system of final inflectional vowels reconstructed by Meeussen (1967: 110) is to be seen as an innovation that rather happened at node 2 in the tree of Grollemund et al. (2015). For the same reasons, **Hamlaoui** disputes the hypothesis of both Meeussen (1967: 120–121) and Nsuka-Nkutsi (1982) according to which lexical subjects would have followed the verb in PB object relative clauses. Being largely absent from the North-Western Bantu branches, Hamlaoui considers VS order in relative clauses to be an innovation that possibly only arose at node 2 or 3 in the tree of Grollemund et al. (2015). North-western Bantu data are also crucial in **Devos & Bernander**'s reconsideration of non-inverted existential locational constructions as a possible archaism. The reconstruction of such existentials to PB would imply that the main clause type reconstructed to PB by Meeussen (1967: 120) as '*anastasis*', better known today as 'subject inversion' (cf. Marten & van der Wal 2014), is also a later innovation. Absence from North-Western Bantu is also for **Güldemann & Fiedler** a conclusive argument to consider 'preverbal preposed verb focus doubling', one of the constructions possibly corresponding to the so-called 'advance verb construction' which Meeussen (1967: 121) reconstructs to PB, as a post-PB innovation, unlike 'in-situ verb focus doubling' and 'initial preposed verb focus doubling' which can be ascribed to PB. **Wald** too reviews ample data from north-western Bantu languages in his chapter on PB object marking. Although he agrees with Polak (1986) in observing that north-western Bantu languages generally do not admit more than one object prefix per verb form, he disagrees with her conclusion that multiple object marking is an innovation posterior to PB. In doing so, **Wald** goes against the possible misconception that if a given feature is not in North-Western Bantu, it cannot have been in PB. It is not

because North-Western Bantu consists of older clades than the rest of Bantu that its features (or lack thereof) must be older and presumably closer to PB. **Wald** interprets the diversity of object indexing systems in north-western Bantu languages as the outcome of progressively ordered stages of change away from the state of affairs in PB, which is more conservatively preserved in more recently formed clades. As such he rather sides with Meeussen (1967: 112) in reconstructing a PB object marking system that allowed for sequences of object prefixes in one and the same verb form, even though both authors seemingly have different views on the functional motivation for prefix ordering (cf. infra).

All in all, the general picture that emerges from our volume is that when checked against increasing insights into Bantu internal classification, several PB grammatical reconstructions proposed by Meeussen (1967) turn out to be not as old as previously thought. Rather than go back to the most recent common ancestor of all (Narrow) Bantu languages, i.e. the "threshold" which Meeussen (1973: 18) had in mind, they seem to go back no further than the one that emerged after the ancestors of several North-Western Bantu branches had split off. Methodologically, it shows the importance of genealogical classification for a judicious appraisal of the relative time depth of reconstructions. In terms of chronology, it calls for a general reassessment of the actual time depth of Proto-Bantu grammar as reconstructed by Meeussen (1967), which goes beyond the scope of this book.

The insight that Proto-Bantu as traditionally conceived is in all likelihood considerably younger than commonly assumed, even within Narrow Bantu, is also highly relevant for future reconstruction work within Bantoid and more widely Benue-Congo or even Niger-Congo. As Watters (2018: 16) points out:

> It is tempting, whether conscious or subconscious, to take a Bantu-centric view and begin conceiving Proto-Bantoid as being equivalent to Proto-Bantu, and even perhaps extending the temptation and conceiving Proto-EBC [Proto-East Benue-Congo] as being equivalent to Proto-Bantu. Bantu has received the attention of a multitude of linguists for more than a century and Proto-Bantu has been reconstructed in ways to which no other Bantoid subgroup can compare. […] It can be easy to […] forget that Proto-Bantu and its own subgroups and individual languages have their own history of retentions, innovations, and borrowings. So, in reconstructing Bantoid and EBC, caution has to be taken. […] Care is needed not to attribute everything found in Proto-Bantu to Proto-Bantoid, and in Proto-Bantoid to Proto-EBC.

Such care and caution are even more warranted if one reckons that several typical Bantu features that have commonly been seen as retentions from PB turn

out to be later innovations. Hence, Bantoid or EBC did not necessarily lose what Bantu retained. Bantu also developed morphology and syntax that its ancestors never had.

3.3 Grammaticalisation and typology in Bantu grammatical reconstruction

Meeussen's strong reliance on the CM and his emphasis on regular correspondences explains why his *Bantu Grammatical Reconstructions* focuses on phonology and morphology rather than on syntax, to which he nonetheless dedicates some pages. It also accounts for the fact that his reconstructions are prominently biased towards form to the detriment of meaning and function. The CM does not have a distinct approach to phonological vs. morphological reconstruction (Hoenigswald 1991; Koch 1996; 2014). Morphological and syntactic reconstruction are known to be more challenging than their phonological counterpart (Hock 1991; Koch 1996). Morphological and syntactic changes also happen independently of phonological change, and not necessarily in a systematic way reflected in regular correspondences. Hence, the undoing of such changes with the aim of reconstruction is considerably more difficult, not only because non-phonological changes are much less regular but also because we have much less insight into their natural direction (Hock 1991: 610). Due to analogy, regular sound changes might be blocked or undone in morphemes. This is especially so in inflectional paradigms, where grammatical morphemes are easily affected by reanalysis of their external boundaries and therefore become more readily eroded than lexical morphemes (e.g. Traugott & Heine 1991). Gildea (2000) also sees the absence of regular laws of grammatical change as one of the main reasons why it is so difficult for comparative linguists to identify cognates among grammatical constructions and morphosyntactic patterns to the extent that some would even consider grammar unreconstructable.

Grammaticalisation theory fortunately came to the rescue of morphosyntactic reconstruction by identifying recurrent patterns of grammatical evolution across languages, most prominently "the almost universal directionality from independent, concrete lexical item to bound, abstract grammatical morpheme" (Gildea 2000: vii). This theory allows for establishing possible cognates between lexemes and grammemes and distinguishing between likely sources and later innovations. Initially such patterns were mainly observed in historical language documents (i.e. based on attested change through time) and by means of internal reconstruction (i.e. based on language-internal synchronic variation reflecting successive diachronic developments).

When going by language-internal evidence, synchronically irregular or anomalous forms are crucial for morphological reconstruction, since regular forms can always result from analogical levelling, i.e. the principle of 'archaic heterogeneity' (cf. Hetzron 1976). Likewise, it is important to compare archaic patterns surviving in peripheral areas of grammar and/or idiomatic expressions. To do so, comparative evidence from closely or more distantly related languages might be essential to identify archaisms and argue for the plausibility of a specific levelling or reanalysis scenario or for a given pathway of grammaticalisation (cf. Bybee et al. 1994; Heine & Kuteva 2002). That is why, in the absence of historical data, "one must become a typologist to motivate the evolutionary scenario" (Gildea 2000: viii). Thanks to Bernd Heine and his team (cf. Heine & Reh 1984; Heine et al. 1993), African languages greatly contributed to the efflorescence of the typological literature on grammaticalisation.

Unsurprisingly, both grammaticalisation and typology also play an important role in this volume, not only in the chapters of **Güldemann**, one of Heine's most prolific disciples, but also in many other chapters. For instance, in **Pacchiarotti**'s chapter on the main clause functions of the PB applicative ***-ɪd***, whose formal reconstruction she considers to be established, paths of change from allative to benefactive, which are numerously attested in the grammaticalisation literature, constitute a main argument in favour of reconstructing the suffix with an original Spatial Goal or Location-oriented function. Obviously, grammaticalisation also plays an important role in the reconstruction by **Nurse & Watters** of how tense emerged and evolved in ancestral Bantoid and Bantu. The pre-stem domain in Bantu is known to be particularly productive in attracting lexical verbs for the expression of grammatical categories of tense, aspect and mood/modality, first as free auxiliaries and subsequently as bound prefixes (Güldemann 2003a; Nurse 2008; Nurse & Devos 2019). Alongside grammaticalisation, typology is given a lot of argumentative power in several chapters, especially in the third thematic part on clausal morphosyntax and information structure. Authors tend to deal there with abstract patterns, such as agreement and word order, rather than with specific morphological constructions. **Devos & Bernander** and **Idiatov** are exceptions in that they do target specific form-meaning associations in the domains of existential locationals and non-selective interrogative pronominals respectively. They come up with what **Idiatov** calls "typologically informed reconstructions". In other words, the CM and typology go hand in hand. **Idiatov** provides a general methodological discussion of the issue of variation in functional elements and the possible ways of dealing with it in reconstruction as well as an overview of the diachronic typology of non-selective interrogative pronominals. He does not reconstruct specific morphosyntactic constructions to any given node in the

Bantu family tree, but rather identifies recurrent formal types of non-selective interrogatives as starting points for further reconstruction. **Devos & Bernander** do come up with specific existential locational constructions to which they attribute variable time depths according to their present-day distribution across major Bantu clades. **Idiatov**'s formal types, on the contrary, could easily emerge as convergent innovations due to repeated cycles of the accretion and reduction of the same inherited substance. The attestation of similar interactions between accretion and reduction but with different morphemes in other language families of the world leads **Idiatov** to the conviction that several interrogatives from present-day Bantu languages are nothing but seeming cognates, which seriously hampers proper reconstruction. A bottom-up approach starting out from low-level Bantu branches might shed new light on **Idiatov**'s diachronic typology.

Cyclicity in the reanalysis of morpheme sequences also plays a major role in **Van de Velde**'s historical interpretation of how agreement evolved in Bantu relative verb forms. He contests the direct and indirect relative clause constructions which Meeussen (1967: 120–121) reconstructed for PB, not so much because these would be unattested in present-day Bantu languages or insufficiently spread across subgroups, but because no logically possible scenario of morphosyntactic change within Bantu relative clause constructions can derive present-day variation in Bantu from these reconstructions. Despite their widespread distribution across the Bantu family and their relative uncommonness in the world's languages, **Van de Velde** refutes, contra Meeussen (1967: 120–121) and Nsuka-Nkutsi (1982), the assumption that relative verbs agreeing with the antecedent are shared retentions inherited from PB. Just like **Idiatov**'s formal types of non-selective interrogatives are possibly the outcome of convergent evolutions, **Van de Velde** considers these widespread relative constructions as parallel innovations of the "Bantu Relative Agreement cycle". However, relative verbs agreeing with their subject which he proposes as the alternative PB starting point is strictly speaking not a reconstruction, but a default situation, both typologically and within Bantu and Bantoid. It could have occurred at any stage in the evolution of Bantu, Benue-Congo and Niger-Congo. In my view, it is impossible to say whether attestations in present-day Bantu languages of what **Van de Velde** identifies as the PB source constructions are shared retentions or the outcomes of convergent evolution. It might prove interesting to test his typologically informed top-down proposal for PB via a bottom-up approach focusing on low-level Bantu subgroups.

Such bottom-up testing could also be applied to **Güldemann**'s hypotheses on predicate structure and argument indexing in early Bantu, which result from what he describes himself as "primarily an arguably viable exercise in diachronic (and partly areal) typology". The so-called 'Macro-Sudan Belt' in northern Sub-Saharan Africa, a linguistic macro-area stretching between Senegal and Ethiopia

and including the Bantu homeland (cf. Clements & Rialland 2008; Güldemann 2008; 2018; Idiatov & Van de Velde 2021), plays a key role in his areal-typological considerations. In his contribution to our volume, **Güldemann** further buttresses his earlier claim that the PB verb template was not highly agglutinative, as reconstructed by Meeussen (1967: 108–111) and defended by Hyman (2004; 2011), but rather a split predicate structure with free pronouns or person-inflected portmanteau morphemes simultaneously encoding tense, aspect, modality, and polarity. This is the typological profile which is most prominent today in North-Western Bantu, including the Bantu homeland, and in Niger-Congo outside of Bantu. Strongly relying on grammaticalisation theory and areal typology, Güldemann (2011) argues that the direction of change from Proto-Bantu to most of present-day Bantu beyond the north-west was from analyticity towards agglutination by way of phonological fusion. Relying on what he considers to be relic features in North-Western Bantu and Niger-Congo beyond Bantu, Hyman (2011) advocates the opposite direction of change from agglutination towards analyticity by way of erosion and loss of bound morphology. The two poles of this debate adopt a top-down approach relying on very similar and selective samples of distantly-related Niger-Congo languages to argue for "today's morphology is yesterday's syntax" (**Güldemann**), aka "grammaticalisation" or "morphologisation through desyntactisation" (cf. Givón 1971b), vs. "today's syntax is yesterday's morphology" (Hyman 2011), aka "degrammaticalisation" (cf. Norde 2009). Unlike in Güldemann (2011), **Güldemann** does go beyond typology and grammaticalisation in his contribution to this volume by performing a comparative study of concrete morphemes, i.e. subject and object indexes involved in verbal cross-referencing. He shows that the prefixes reconstructed by Meeussen (1967) deviate considerably from the (free) pronoun forms, which prevail in North-Western Bantu. The latter would correspond to those which can be assumed for earlier Benue-Kwa and Niger-Congo (cf. Güldemann 2017) and can therefore be considered as archaisms in his view. As a consequence, Meeussen's reconstructions of bound participant cross-reference are to be seen as later innovations. Their emergence is to be situated after the branching off of North-Western Bantu clades (cf. supra) and be seen as intimately linked with the development of a more agglutinative verb template. This hypothesis merits to be tested through a contemporary and cross-linguistically informed bottom-up application of the CM for morphosyntactical reconstruction, as in **Pacchiarotti**'s ongoing post-doctoral research project focusing on a specific Bantu clade, i.e. West-Coastal Bantu aka West-Western Bantu.[3]

[3]See https://research.flw.ugent.be/en/projects/directionality-morphosyntactic-change-west-coastal-bantu-historical-test-case-linguistic.

4 Reconsidering *Bantu Grammatical Reconstructions*

As discussed above, a systematic revision of the PB grammar reconstructed by Meeussen (1967) is not feasible at this stage and goes beyond the scope of the current volume. Nonetheless, by way of closing the introduction to this book, I run through its chapters and discuss succinctly how each of them revises (or not) Meeussen's *Bantu Grammatical Reconstructions*.

Philippson brings up a long-standing question in Bantu historical linguistics, i.e. the so-called *double reflexes*. It is the phenomenon, particularly common in North-Western Bantu, whereby one and the same proto-consonant has two or more reflexes in a given language which cannot be accounted for by phonological conditioning and/or lexical borrowing. Such unexplainable exceptions to the Neogrammarian principle of regular sound change raise the question whether an additional series of consonants subsequently lost through phonemic merger should be reconstructed in PB, or whether a specific conditioning which caused phonemic split became opaque. To shed new light on this question, **Philippson** systematically reviews comparative evidence from North-Western Bantu, whose internal classification he summarises in his own view. He concludes that double reflexes of voiced PB oral stops can to a large extent be accounted for by a tonal conditioning that was lost, but that the situation regarding voiceless PB consonants is much blurrier. This is definitely the case for a recurrent set of stems whose reconstructed **t* systematically escapes the lenition that is regular in other stems. He relies on the lexical diffusion model of sound change to explain these irregular retentions. All things considered, he concludes that for the time being his survey does not warrant a revision of the PB consonant system proposed by Meeussen (1967).

Wills does contest one specific segment in Meeussen's PB consonantal phoneme inventory, i.e. **j*, for which Guthrie distinguished between **j* and **y*. **Wills** systematically reviews the comparative lexical evidence across Bantu, with special attention to North-Western Bantu. Based on this broad survey, he argues that most stem-initial segments in present-day Bantu languages, such as in /y/, /z/ or /j/, are the outcome of later developments universally common at morpheme boundaries. They should not be seen as regular reflexes of PB **j*, as Meeussen (1967; 1969) and his disciples (cf. Coupez et al. 1998; Bastin et al. 2002) proposed. As a consequence, many *Bantu Lexical Reconstructions* with initial **j* should be reconstructed with a stem-initial vowel instead and both **ny* and **nj* should be

reconstructed as distinct phonemes. However, **Idiatov**, in the appendix to his chapter, argues why several PB roots reconstructed with **j* did have an initial consonant, even if the initial **j* seen in *Bantu Lexical Reconstructions* confounds several PB consonants, including minimally **s*, **z*, **ɟ*, **y*, and **g*.

Following the two chapters on PB phonology, **Nurse & Watters** open the section on PB verbal morphology. Their chapter and the following by **Good** focus on verbal inflection. **Nurse & Watters** consider, predominantly though not exclusively, tense and aspect morphology in the pre-stem domain, while Good (2022 [this volume]) deals with verb endings involved in the expression of tense, aspect, mood, and polarity. As discussed above, **Nurse & Watters** review extensive new data from Bantoid, which **Watters** accumulated and in the light of which **Nurse**'s earlier historical-comparative research on tense and aspect in Bantu is reassessed (cf. Nurse 2003; Nurse & Philippson 2006; Nurse 2008). Their main new idea is that tense as a grammatically encoded category emerged in Benue-Congo (or more narrowly in Bantoid) not long before the rise of PB itself. It was innovated in the most recent common ancestor of Narrow Bantu and those Bantoid languages spoken along and to the east of the Cameroon Volcanic Line. Early Benue-Congo (or more strictly Bantoid) ancestral languages must have been aspect-prominent, i.e. without grammatically contrastive tense categories, as is still the case for many Niger-Congo languages today. In other words, **Nurse & Watters** confirm Meeussen's reconstruction of both tense and aspect morphology to PB, but posit that tense-related grammemes were a relatively recent development at that stage. When it comes to specific tense/aspect constructions, i.e. verbal conjugations involving prefixes and/or suffixes, the revisions of the PB *tense formulae* proposed by Meeussen (1967: 112–113) are basically the same as those already proposed in Nurse (2008), as nicely summarised in **Nurse & Watters**' Table 10 in their conclusions, except for two suffixes involved in several of those *tense/aspect forms*. As discussed above, **Nurse & Watters** consider verb-final **-ide* as a later innovation and reconstruct instead **-i* as the verb ending involved in two PB conjugations, i.e. present and past retrospective (perfect). Similarly, they propose **-ag* instead of **-ang* (*-nga-* in Meeussen 1967), as the pre-final suffix in two PB conjugations, i.e. present and past imperfective. Direct reflexes of **-ag* are also attested in Bantoid, while direct reflexes of **-ang* do not occur outside of Narrow Bantu (see also Sebasoni 1967).

Without stating it explicitly, **Good** actually contests **Nurse & Watters**' reconstruction of the verb ending **-i* to PB, because he considers the entire PB reper-

toire of inflectional verb endings proposed by Meeussen (1967: 110) as an innovation that only emerged after the first North-Western Bantu branches had split off. His extensive review of final vowel patterns in fifteen North-Western Bantu languages of Guthrie's zones A and B leads to the observation that the northernmost languages of the survey area, all belonging to the first North-Western Bantu branches, i.e. those splitting off before ancestral node 2 in the tree of Grollemund et al. (2015), generally miss the reconstructed inventory of final vowels. Relics only surface in the southern part of the survey region, i.e. in languages belonging to later North-Western Bantu branches as well as West-Western Bantu. Good (2022 [this volume]) prudently interprets this situation as suggesting that Meeussen's relevant reconstructions may be better associated with a later stage corresponding roughly to node 2 in the tree of Grollemund et al. (2015). He also reconstructs a plausible historical path for the development of the canonical Bantu final vowel system that involves the gradual integration of postverbal elements coding tense/aspect/mood/polarity (TAMP) categories into the verb form, their subsequent reduction and reanalysis to vocalic suffixes, and the analogical extension of these to all verb forms. He admits, nonetheless, that its time depth remains unclear. The existence of inflectional final vowels in several Bantoid languages surveyed in the chapter of **Nurse & Watters** might suggest that, contra **Good**, their emergence actually did pre-date PB, or that they are parallel innovations. If they would be older than PB, their absence in the North-Western Bantu languages in **Good**'s sample would have to be the outcome of loss instead of reflecting the original system, as **Wald** argues, for example, with regard to multiple object marking (cf. supra).

Blench is the first of four chapters dealing with verbal derivation morphology. Through a survey in a set of languages belonging to different Bantoid branches, he assesses the relevance of their repertoires of verbal extensions (i.e. derivational suffixes) for the reconstruction of PB verbal extensions. Rather than being a true historical-linguistic exercise in reconstruction, his chapter is a comparative overview of relevant morphology in the most well-known Bantoid subgroups in close proximity of the putative Bantu homeland, i.e. Dakoid, Mambiloid, Tivoid, Beboid, Grassfields, and Mbe-Ekoid. It does not directly lead to revisions of the PB derivational verb suffixes reconstructed by Meeussen (1967: 92). Blench (2022 [this volume]) observes that apart from the long causative suffix **-ic*, clear traces of the reconstructed PB system can only be found in Grassfields and may also be reconstructed to their most recent common ancestor. However, formal resemblances between extensions attested in other Bantoid languages and extensions in some languages of Guthrie's zone A, which do not appear to be cognate with

any of the established PB reconstructions, lead **Blench** to the conclusion that the PB inventory of verbal derivation suffixes might need to be enlarged with suffixes that were never reconstructed before. This hypothesis needs to be tested via a thorough application of the CM, especially to exclude that superficial resemblances between certain extensions in zone A Narrow Bantu languages and those in nearby Bantoid are not false cognates or later contact-induced innovations.

Hyman revises a specific feature of the PB verbal derivation system, i.e. the high tone which Meeussen (1967: 92) tentatively sets up for the causative **-i* and passive **-ʊ* suffixes. The possible high tone of these two suffixes is historically relevant, because along with their exceptional vowel shape it is one of the two formal features that makes them stand out compared to all other verb derivational suffixes reconstructed with a low tone and a VC form. Moreover, both suffixes tend to be stacked after all other derivational suffixes, i.e. just before the final vowel (Hyman 2003; Good 2005). These three odd features have been interpreted as indications that they could be old Niger-Congo voice suffixes, which were integrated later on in the verbal derivational system (see Hyman 2007: 161). **Hyman** demonstrates, however, that the high tone on short causative and passive suffixes is attested almost exclusively in some Eastern Bantu languages of the Great Lakes region, where Meeussen was very active as a descriptive linguist. **Hyman** also elaborates different morphological and phonological scenarios in which the high tone on these suffixes could have developed. He concludes that causative and passive high tone does not go back to PB confirming Meeussen's own hesitations on its reconstructability.

With her diachronic approach to the semantics and syntax of PB applicative **-ɪd*, **Pacchiarotti** fills a void in Meeussen (1967), not only with regard to this specific suffix, but also more generally with regard to the semantic and syntactic reconstruction of PB grammemes. As discussed above, Meeussen's efforts focused on the reconstruction of form to the detriment of meaning and function. Relying on her earlier comparative research gathering data from all major Bantu branches (cf. Pacchiarotti 2020), **Pacchiarotti** reconstructs the main clause functions of **-ɪd*. This is quite a challenge given the semantic underspecification and the high degree of polyfunctionality of the applicative suffix in present-day Bantu languages. The suffix further stands out with respect to other Bantu verbal derivational suffixes in that it performs dedicated discourse functions. She argues that the traditional view of PB **-ɪd* as a purely valence-increasing syntactic device should be abandoned. She identifies three interrelated functional retentions that

are sufficiently shared among current-day reflexes of **-ɪd* to be reconstructed to PB: (1) syntactically, introducing a non-Actor semantic role which can otherwise not be conveyed in the main clause; originally, this was likely a Spatial Goal or a Location-related role; (2) semantically, adding notions such as completeness, iterativity or thoroughness to the verb root's meaning; and (3) pragmatically, signalling narrow focus on a Location-related noun phrase.

Bostoen & Guérois introduce the concept of 'suffixal phrasemes' in the field of Bantu verbal derivation and assess whether any non-compositional suffix sequences can be reconstructed to PB. They argue that the coinage of such suffixal phrasemes is first and foremost a morphological strategy on which Bantu languages have repeatedly relied to innovate verbal derivation morphology, though using suffixes inherited from PB. Across Bantu, semantically non-compositional aggregations of suffixes are common in verb derivational categories as diverse as the pluractional, neuter, intensive, reciprocal, passive and causative. The rise of suffixal phrasemes started within the paradigm of causative morphology. **Bostoen & Guérois** show that PB did not only inherit from older Benue-Congo ancestors causative **-i* and **-ic*, as reconstructed by Meeussen (1967: 92), but also innovated **-ɪdi*, a non-compositional reanalysis of PB applicative **-ɪd* and causative **-i*. After North-Western Bantu split off, **-ɪki* (itself probably resulting from the phraseologisation of neuter **-ɪk* and causative **-i*) was added to the causative repertoire. As for the passive, they agree with Meeussen (1967: 92) in only reconstructing **-ʊ* and not the suffixal phraseme **-ibʊ* as proposed by Stappers (1967), which only emerged when the main North-Western subgroups had branched off. They argue that the middle suffix **-Vb*, the first component of **-ibʊ*, does in all likelihood go back to the most recent common ancestor of all Bantu languages and should be added to the inventory of extensions reconstructed by Meeussen (1967: 92).

Güldemann argues that the morphologically compact predicate with bound argument cross-reference on the agglutinative verb form reconstructed by Meeussen (1967: 108–111) for PB, is a later innovation. According to his historical-linguistic analysis, PB rather had a split predicate structure with free pronouns or person-inflected portmanteau morphemes also encoding tense, aspect, modality, and polarity, as is still the case in many present-day North-Western Bantu languages and in Niger-Congo languages beyond Bantu. In support of this line of argumentation, he reviews comparative evidence for the morphosyntax of verbal argument cross-reference and the basic segmental shape of its exponents across

Bantu, especially the form of speech-act participant cross-reference morphemes. From the bound 1SG/PL and 2SG/PL subject and object prefixes (eight in total) proposed by Meeussen (1967: 97), only the bound 1SG prefix **n-* (for both subject and object syntactic functions, possibly with a front vowel following the nasal) can be maintained (see his Table 10). **Güldemann** considers it as a potential retention from earlier Benue-Kwa that co-existed with a 1SG free pronoun and therefore had functional restrictions to specific contexts. All other prefixes reconstructed to PB by Meeussen (1967: 97), i.e. **ʊ-* (2SG subject), **kʊ-* (2SG object), **tʊ-* (1PL subject/object), and **mʊ-* (2PL subject/object), only emerged at later stages according to **Güldemann**. In his PB reconstruction, predicate arguments were chiefly marked through independent pronouns inherited from ancestral Benue-Kwa, i.e. **mi* (1SG), **(B)U* (2SG), **tU* (1PL) and **nU* (2PL). **Güldemann** prefers to remain agnostic on the specific consonant and/or vowel qualities of the last three pronouns and indicates this with capital letters.

In the same vein as **Pacchiarotti** does for PB applicative **-ɪd*, **Wald** focuses on the function rather than the form of the PB object marking system. As discussed above, he agrees with Meeussen (1967: 110) in reconstructing a PB verb form that allowed for the prefixation of more than one object index. In doing so, he does not only disagree with Polak (1986), who considers multiple object marking (MOM) as a later innovation of the PB single object marking (SOM) system, but probably also with Güldemann (2022 [this volume]) above who reconstructs *SBJ OBJ STEM, *[SBJ=TAMP] OBJ STEM, and *[SBJ=TAMP] [OBJ=STEM] as the three major PB morphosyntactic patterns of predicates involving object marking. Although **Güldemann** is not really explicit on the number of bound object markers, he seems to reconstruct both no object marking (NOM) and SOM to PB. **Wald** suggests that "a major problem of Güldemann's dependence on typology is the timing of the V-O_{PRO} > O_{PRO}-V change relative to PB", i.e. when free postverbal object pronouns shifted into pronominal object prefixes. For **Wald**, situating this change after PB is problematic because there is a relic area of full object marking systems among the North-Western Bantu languages that first split off according to Grollemund et al. (2015). He resolves this question by projecting **Güldemann**'s reconstruction back to a stage earlier than PB, which itself would then already have had a MOM system. In so doing, **Wald** further notes that retrofitting Güldemann's proposal to pre-Bantu is compatible with a MOM system at the PB stage, because it allows for multiple object pronouns in a single predicate simultaneously morphologising into object prefixes. While Meeussen remains silent on how the ordering of object prefixes was semantically conditioned in the PB MOM system, **Wald** does come up with a functional motivation. Based on his extensive

comparative review of pragmatic and syntactic factors determining variation in object marking systems across Bantu, he reconstructs for PB a MOM system with contextual topicality as the decisive principle for the selection and ordering of object prefixes. The leftmost prefix, i.e. the subject prefix before any object prefix, marks the referent with the highest topicality, i.e. the one which is the oldest, most given or deducible, according to the discourse context. Thereafter each object prefix continues in next leftmost order according to the higher contextual topicality of its referent relative to the referent of any object prefix to its right. This proposal differs from that of Meeussen (1967: 110), who proposes, without any further argumentation, a PB object prefix ordering which corresponds to the mirror-image of the order of postverbal object noun phrases.

Van de Velde challenges the PB reconstruction by Meeussen (1967: 113–114) of both direct and indirect relative clause constructions that agree with the head noun by means of an agreement morpheme belonging to the paradigm of so-called *pronominal prefixes (PPs)*. Although relative verb forms agreeing with the relativised noun phrase are common in present-day Bantu languages, **Van de Velde** does not consider them to be shared retentions. Rather, he posits them as the outcome of convergent evolution through the so-called *Bantu Relative Agreement (BRA) cycle*, whereby erstwhile independent relativisers occurring between the relativised noun phrase and the relative clause gradually get integrated into the relative verb form. In this way, unbound morphemes of diverse origins, such as demonstratives, personal pronouns, and connective relators, turned into bound relative agreement prefixes by means of parallel, independent innovations. In indirect relative constructions, the agreement prefixes may precede the subject prefix agreeing with the subject of the relative clause and occupy the verb form's so-called *pre-initial* slot (cf. Meeussen 1967: 108). According to **Van de Velde**, they should not be reconstructed to PB either. Although the BRA cycle in itself does not exclude the existence of bound relative agreement on the verb in PB and some of the PP in present-day relative verb forms could be shared retentions, **Van de Velde** rejects this possibility, because "[t]he only logically possible starting point from which the currently attested typological variation in Bantu relative clause constructions could have evolved is one in which relative verbs agreed with their subject".

Hamlaoui also focuses on PB relative clauses, specifically the position of subject noun phrases in indirect relative clauses. She tests the hypothesis that a *free subject* (i.e. lexically overt subject), if any, follows the verb in PB indirect relative clauses, as claimed by Meeussen (1967: 220) and confirmed by Nsuka-Nkutsi

(1982). To do so, she enlarges Nsuka-Nkutsi's original sample to 167 languages, viz. 151 Narrow Bantu and 16 other Niger-Congo languages, and observes that VS is still the most frequent word order. Nonetheless, SV-only word order prevails in Bantu zone A as well as Niger-Congo beyond Narrow Bantu. What is more, SV-only is attested in a significant portion of Eastern Bantu. The hypothesis that SV-only would be an innovation linked with the assumed shift from more synthetic to more analytic, as argued by Nurse (2007) and Hyman (2017), and the concomitant loss of argument cross-reference on the verb does not hold for the highly agglutinative Eastern Bantu languages with SV order. Given its present-day distribution within and outside Narrow Bantu, SV-only could be posited as a shared retention from PB. If so, like several other reconstructions in Meeussen (1967), VS order in indirect relative clauses would be a later innovation that only emerged at the level of nodes 2 or 3 in the tree of Grollemund et al. (2015).

Güldemann & Fiedler closely examine the so-called *advance verb construction* which Meeussen (1967: 121) reconstructs to PB as "[a] peculiar kind of sentence, with twice the same verb, the first occurrence being an infinitive", but without much functional elaboration, i.e. "[t]he meaning varies between stress of « reality », stress of « degree », and even « concession »". **Güldemann & Fiedler** present a detailed comparative review of the structure and function of this and related constructions and come up with a diachronic interpretation of the synchronic variation they manifest across Bantu. In the end, they ascribe two verb doubling constructions to PB, i.e. one whose non-finite verb occurs in-situ and one where it is preposed to clause-initial position before the subject/agent noun phrase. Both constructions had the function of signalling focus on the state-of-affairs expressed by the verb. Structurally speaking, **Güldemann & Fiedler** consider verb doubling constructions whose non-finite verb occurs immediately before the finite verb, which are recurrent outside of North-Western Bantu, as later innovations. Functionally speaking, they interpret the expansion from state-of-affairs focus to general predicate-centred focus (i.e. including polarity, truth value and TAM), and further to temporal predicate meanings (first to focus-sensitive progressive aspect and then to proximal future tense), as posterior to PB.

Devos & Bernander present the results of their comparative study of existential constructions in a convenience sample of 180 Bantu languages with a special focus on existential locationals. The two most widespread constructions are one with a locative copula and (formal) locative inversion, i.e. *[(LOC.NP

#) LOC.SM-*dɪ* # NP (# LOC.NP)] (# = word boundary), and another one with a locative subject marker and a comitative copula, i.e. *[(LOC.NP #) LOC.SM-*dɪ* (#) *na* (#) NP (# LOC.NP)]. Despite their wide distribution across Bantu, **Devos & Bernander** doubt their reconstructability to PB, because of their scarcity in the North-Western and Central-Western Bantu branches. As discussed above, this might imply that the common Bantu main clause type known as 'subject inversion' and reconstructed to PB by Meeussen (1967: 120) as *anastasis* might also be a later innovation. North-Western and Central-Western Bantu languages tend to have non-inverted existential locationals, which are nevertheless uncommon elsewhere in Bantu and in the world's languages. The rare non-inverted constructions outside of North-Western and Central-Western Bantu could be seen as instances of archaic heterogeneity, which would support their interpretation as a shared retention and thus their reconstruction to PB. **Devos & Bernander** are uncertain, however, whether this is the most plausible scenario, because North-Western and Central-Western Bantu do have "inverted constructions which are not easily interpreted as independent innovations but rather seem to involve traces of a former full-fledged concord system with locative agreement". Inverted constructions could therefore be an archaism from PB after all. In that case, the emergence of the cross-linguistically uncommon non-inverted existential locationals needs to be accounted for. **Devos & Bernander** think that such an innovation could have been triggered by the reduction of the agreement system and the loss of locative agreement, which is widespread in the north-western Bantu periphery and possibly an effect of contact with non-Bantu languages.

Idiatov, lastly, deals with non-selective interrogative pronominals in PB and thus partially reviews the "fragmentary system of interrogative nouns with stem *-í* : 7 *kɪ-í* 'what', 16 *pa-í* (17 *ku-í*, 18 *mu-í*) 'where'; but 1a *n(d)áí* 'who'" (Meeussen 1967: 103), which Meeussen reconstructs, with some hesitance on whether the last interrogative is really part of it, because "an element *n(d)á-* [...] is not attested otherwise" (Meeussen 1967: 103). **Idiatov** shows that there is no such thing as an element *n(d)á-*, but that such sequences may have popped up independently through Bantu language history due to the accretion of inherited morphology. In the same vein, he concludes that no 'who?' stem can be reconstructed for PB. The form *n(d)áí* "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". Reconstructable PB non-selective interrogatives originate in complex constructions that were created earlier on at some ancestral Southern Bantoid stage, i.e. **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?'. The last one led to *n(d)áí*-like 'who?' interrogatives but also to question words meaning 'what?' or both 'who?' and 'what?'. For PB 'what?', **Idiatov** reconstructs something like **yìí* or **yıí*, probably going back to the same pre-PB structure **yé-yà-yé* (~ **yé-là-yé*) [$NMLS_1$-which?-$NMLS_2$]. Given the complex constructional origin of non-selective interrogatives, **Idiatov** also touches upon several other issues of Bantu historical 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.

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Abbreviations

BRA	Bantu Relative Agreement	PB	Proto-Bantu
C	consonant	PL	plural
CM	Comparative Method	PP	pronominal prefix
COP	copula	SBJ	subject
LOC	locative	SG	singular
MOM	multiple object marking	SM	subject marker
NMLS	nominaliser	SOM	single object marking
NOM	no object marking	TAM(P)	tense/aspect/mood/(polarity)
NP	noun phrase	V	verb; vowel
OBJ	object	#	word boundary
O_{pro}	object pronoun; pronominal object		

References

Allen, James P. 2013. *The Ancient Egyptian language: An historical study*. Cambridge: Cambridge University Press.

Alsina, Alex & Sam A. Mchombo. 1990. The syntax of applicatives in Chichewa: Problems for a theta theoretic asymmetry. *Natural Language & Linguistic Theory* 8(4). 493–506.

Alsina, Alex & Sam A. Mchombo. 1993. Object asymmetries and the Chichewa applicative construction. In Sam A. Mchombo (ed.), *Theoretical aspects of Bantu grammar 1* (CSLI Lecture Notes 38), 17–45. Stanford, CA: Center for the Study of Language & Information.

Aunio, Lotta. 2015. A typological perspective on Bantu nominal tone: The case of Ikoma-Nata-Isenye in Western Tanzania. *Southern African Linguistics and Applied Language Studies* 33(3). 359–371.

Baker, Mark C. 1988. Theta theory and the syntax of applicatives in Chichewa. *Natural Language and Linguistic Theory* 6(3). 353–389.

Baker, Mark C. 1990. Elements of a typology of applicatives in Bantu. In John P. Hutchison & Victor Manfredi (eds.), *Current approaches to African linguistics 7* (Publications in African Languages and Linguistics 11), 111–124. Dordrecht: Foris Publications.

Baker, Mark C. 1992. Thematic conditions on syntactic structures: Evidence from locative applicatives. In Iggy M. Roca (ed.), *Thematic structure: Its role in grammar* (Linguistic Models 16), 23–46. Berlin: Walter de Gruyter.

Baker, Mark Cleland. 1985. *Incorporation: A theory of grammatical function changing*. Cambridge, MA: Massachusetts Institute of Technology. (Doctoral dissertation).

Baldi, Philip. 1990. Introduction: The comparative method. In Philip Baldi (ed.), *Linguistic change and reconstruction methodology 1* (Trends in Linguistics. Studies and Monographs 45), 1–13. Berlin: Mouton de Gruyter.

Bastin, Yvonne. 1983. *La finale verbale -ide et l'imbrication en bantou* (Annales – Série in-8° – Sciences humaines 114). Tervuren: Royal Museum for Central Africa.

Bastin, Yvonne, André Coupez & Michael Mann. 1999. *Continuity and divergence in the Bantu languages: Perspectives from a lexicostatistic study* (Annals – Human Sciences 162). Tervuren: Royal Museum for Central Africa. https://www.africamuseum.be/en/research/discover/human_sciences/culture_society/lexicostatistic-study-bantu-languages.

Bastin, Yvonne, André Coupez, Evariste Mumba & Thilo C. Schadeberg (eds.). 2002. *Bantu lexical reconstructions 3 / Reconstructions lexicales bantoues 3*. Tervuren: Royal Museum for Central Africa. http://www.africamuseum.be/collections/browsecollections/humansciences/blr.

Bastin, Yvonne & Pascale Piron. 1999. Classifications lexicostatistiques : bantou, bantou et bantoïde (de l'intérêt des « groupes flottants »). In Jean-Marie Hombert & Larry M. Hyman (eds.), *Bantu historical linguistics: Theoretical and empirical perspectives* (CSLI Lecture Notes 99), 149–163. Stanford, CA: Center for the Study of Language & Information.

Bleek, Wilhelm H. I. 1862. *A comparative grammar of South African languages, Part 1: Phonology*. London: Trübner & Co.

Bleek, Wilhelm H. I. 1869. *A comparative grammar of South African languages, Part 2: The concord*. London: Trübner & Co.

Blench, Roger M. 2006. *Archaeology, language, and the African past*. Lanham, MD: AltaMira Press.

Blench, Roger M. 2022. The relevance of Bantoid for the reconstruction of Proto-Bantu verbal extensions. In Koen Bostoen, Gilles-Maurice de Schryver, Rozenn Guérois & Sara Pacchiarotti (eds.), *On reconstructing Proto-Bantu grammar*, 235–280. Berlin: Language Science Press. DOI: 10.5281/zenodo.7575823.

Bontinck, François & D. Ndembe Nsasi. 1978. *Le catéchisme kikongo de 1624 : réédition critique* (Classe des Sciences Morales et Politiques 44-5). Brussels: Académie royale des Sciences d'Outre-Mer.

Bostoen, Koen. 2018. The Bantu expansion. In *Oxford research encyclopedia of African history*. Published online April 26, 2018. DOI: 10 . 1093 / acrefore / 9780190277734.013.191.

Bostoen, Koen. 2019. Reconstructing Proto-Bantu. In Mark Van de Velde, Koen Bostoen, Derek Nurse & Gérard Philippson (eds.), *The Bantu languages*, 2nd edn. (Routledge Language Family Series), 308–334. Milton Park, Abingdon: Routledge.

Bostoen, Koen. Forthcoming. Language and (pre)history in Bantu-speaking Africa. In Lutz Marten, Nancy C. Kula, Jochen Zeller & Ellen Hurst (eds.), *The Oxford guide to the Bantu languages* (Oxford Guides to the World's Languages 2). Oxford: Oxford University Press.

Bostoen, Koen, Bernard Clist, Charles Doumenge, Rebecca Grollemund, Jean-Marie Hombert, Joseph Koni Muluwa & Jean Maley. 2015. Middle to late Holocene paleoclimatic change and the early Bantu expansion in the rain forests of Western Central Africa. *Current Anthropology* 56(3). 354–384.

Bostoen, Koen & Mark Van de Velde. 2019. Introduction. In Mark Van de Velde, Koen Bostoen, Derek Nurse & Gérard Philippson (eds.), *The Bantu languages*, 2nd edn. (Routledge Language Family Series), 1–13. Milton Park, Abingdon: Routledge.

Bresnan, Joan & Jonni M. Kanerva. 1989. Locative inversion in Chichewa: A case study of factorization in grammar. *Linguistic Inquiry* 20(1). 1–50.

Bresnan, Joan & Lioba Moshi. 1990. Object asymmetries in comparative Bantu syntax. *Linguistic Inquiry* 21(2). 147–185.

Bresnan, Joan & Lioba Moshi. 1993. Object asymmetries in comparative Bantu syntax. In Sam A. Mchombo (ed.), *Theoretical aspects of Bantu grammar 1* (CSLI

Lecture Notes 38), 47–92. Stanford, CA: Center for the Study of Language & Information.

Bybee, Joan L., Revere Perkins & William Pagliuca. 1994. *The evolution of grammar: Tense, aspect, and modality in the languages of the world*. Chicago, IL: University of Chicago Press.

Cardoso, Mattheus. 1624. *Dovtrina Christaã. Composta pelo P. Marcos Iorge da Companhia de IESV Doutor em Theologia. Acrescentada pelo Padre Ignacio Martinz da mesma Companhia Doutor Theologo. De nouo traduzida na lingoa do Reyno de Congo, por ordem do P. Mattheus Cardoso Theologo, da Companhia de IESV, natural da cidade de Lisboa. Ao muito poderoso, & catholico Rey de Congo dom Pedro Affonso Segundo deste nome [Christian Doctrine. Composed by Father Marcos Jorge of the Society of Jesus, PhD. Augmented by Father Ignacio Martinz of the same Society, PhD. Translated into the language of the Kongo Kingdom under the supervision of Mattheus Cardoso, Theologian of the Society of Jesus, born in the city of Lisbon. To the very powerful and catholic King of the Kongo Dom Pedro Affonso II of this name]*. Lisbon: Geraldo da Vinha.

Chatzikyriakidis, Stergios & Hannah C. Gibson. 2017. The Bantu-Romance-Greek connection revisited: Processing constraints in auxiliary and clitic placement from a cross-linguistic perspective. *Glossa: A journal of general linguistics* 2(1). 1–39.

Clements, George N. & John Goldsmith (eds.). 1984. *Autosegmental studies in Bantu tone*. Dordrecht: Foris Publications.

Clements, George N. & Annie Rialland. 2008. Africa as a phonological area. In Bernd Heine & Derek Nurse (eds.), *A linguistic geography of Africa*, 36–85. Cambridge: Cambridge University Press.

Coupez, André, Yvonne Bastin & Evariste Mumba (eds.). 1998. *Bantu lexical reconstructions 2 / Reconstructions lexicales bantoues 2*. Tervuren: Royal Museum for Central Africa.

Dalby, David. 1975. The prehistorical implications of Guthrie's 'Comparative Bantu'. Part I: Problems of internal relationship. *Journal of African History* 16(4). 481–501.

Dalby, David. 1976. The prehistorical implications of Guthrie's 'Comparative Bantu'. Part II: Interpretation of cultural vocabulary. *Journal of African History* 17(1). 1–27.

de Schryver, Gilles-Maurice, Rebecca Grollemund, Simon Branford & Koen Bostoen. 2015. Introducing a state-of-the-art phylogenetic classification of the Kikongo Language Cluster. *Africana Linguistica* 21. 87–162 + supplementary material online.

de Vos, Mark & Hazel Mitchley. 2012. Subject marking and preverbal coordination in Sesotho: A perspective from Optimality Theory. *Southern African Linguistics and Applied Language Studies* 30(2). 155–170.

Devos, Maud, Michael Kasombo Tshibanda & Johan van der Auwera. 2010. Jespersen cycles in Kanincin: Double, triple and maybe even quadruple negation. *Africana Linguistica* 16. 155–181.

Devos, Maud & Johan van der Auwera. 2013. Jespersen cycles in Bantu: Double and triple negation. *Journal of African Languages and Linguistics* 34(2). 205–274.

Dimmendaal, Gerrit J. 2011. *Historical linguistics and the comparative study of African languages*. Amsterdam: John Benjamins.

Dom, Sebastian, Leonid Kulikov & Koen Bostoen. 2018. Valency-decreasing derivations and quasi-middles in Bantu: A typological perspective. *Southern African Linguistics and Applied Language Studies* 36(3). 165–173.

Doneux, Jean Léonce. 1965. Bibliographie du programme Lolemi. *Africana Linguistica* 2. 201–221.

Downing, Laura J. 1995. The metrical domain of register raising in Jita: An Optimality approach. In Francis X. Katamba (ed.), *Bantu phonology and morphology* (LINCOM Studies in African Linguistics 6), 28–39. Munich: LINCOM Europa.

Eberhard, David M., Gary F. Simons & Charles D. Fennig (eds.). 2022. *Ethnologue: Languages of the world*. 25th edn. Dallas, TX: SIL International.

Fleisch, Axel. 2006. Agent phrases in Bantu passives. In F.K. Erhard Voeltz (ed.), *Studies in African linguistic typology* (Typological Studies in Language 64), 93–111. Amsterdam: John Benjamins.

Gary, Judith O. & Edward L. Keenan. 1977. On collapsing grammatical relations in Universal Grammar. In Peter Cole & Jerrold M. Sadock (eds.), *Syntax and semantics 8: Grammatical relations*, 83–120. New York, NY: Academic Press.

Gibson, Hannah C. 2012. *Auxiliary placement in Rangi: A Dynamic Syntax perspective*. London: School of Oriental & African Studies, University of London. (Doctoral dissertation).

Gibson, Hannah C. & Lutz Marten. 2016. Variation and grammaticalisation in Bantu complex verbal constructions: The dynamics of information growth in Swahili, Rangi and siSwati. In Léa Nash & Pollet Samvelian (eds.), *Approaches to complex predicates* (Syntax and Semantics 41), 70–109. Leiden: Brill.

Gildea, Spike. 2000. Preface. In Spike Gildea (ed.), *Reconstructing grammar: Comparative linguistics and grammaticalization* (Typological Studies in Language 43), vii–xiv. Amsterdam: John Benjamins.

Givón, Talmy. 1971a. Dependent modals, performatives, factivity, Bantu subjunctives and what not. *Studies in African Linguistics* 2(1). 61–81.

Givón, Talmy. 1971b. Historical syntax and synchronic morphology: An archaeologist's field trip. *Chicago Linguistic Society* 7. 394–415.
Givón, Talmy. 1974. Syntactic change in Lake-Bantu: A rejoinder. *Studies in African Linguistics* 5(1). 117–139.
Goldsmith, John. 1987. Stem tone patterns of the Lacustrine Bantu languages. In David Odden (ed.), *Current approaches to African linguistics*, vol. 4 (Publications in African Languages and Linguistics 7), 167–177. Dordrecht: Foris Publications.
Goldsmith, John A. 1976. *Autosegmental phonology*. Cambridge, MA: Massachusetts Institute of Technology. (Doctoral dissertation).
Good, Jeff. 2005. Reconstructing morpheme order in Bantu: The case of causativization and applicativization. *Diachronica* 22(1). 3–57.
Good, Jeff. 2022. Reconstructing the development of the Bantu final vowels. In Koen Bostoen, Gilles-Maurice de Schryver, Rozenn Guérois & Sara Pacchiarotti (eds.), *On reconstructing Proto-Bantu grammar*, 173–234. Berlin: Language Science Press. DOI: 10.5281/zenodo.7575821.
Goody, Jack. 1986. *The logic of writing and the organization of society* (Studies in Literacy, the Family, Culture and the State). Cambridge: Cambridge University Press.
Greenberg, Joseph H. 1948. The tonal system of Proto-Bantu. *Word* 4(3). 196–208.
Greenberg, Joseph H. 1951. Vowel and nasal harmony in Bantu languages. *Zaïre : revue congolaise / Zaïre: Congolees tijdschrift* 5. 813–820.
Greenberg, Joseph H. 1958. The labial consonants of Proto-Afro-Asiatic. *Word* 14(2–3). 295–302.
Greenberg, Joseph H. 1963. *The languages of Africa* (Indiana University Research Center in Anthropology, Folklore and Linguistics 25). Bloomington, IN; The Hague: Indiana University; Mouton.
Greenberg, Joseph H. 1966. *Language universals: With special reference to feature hierarchies*. The Hague: Mouton.
Greenberg, Joseph H. 1972. Linguistic evidence regarding Bantu origins. *The Journal of African History* 13(2). 189–216.
Greenberg, Joseph H., Charles A. Ferguson & Edith A. Moravcsik (eds.). 1978. *Universals of human language, Vol 1. Method & theory, Vol. 2. Phonology, Vol. 3. Word structure, Vol. 4. Syntax*. Stanford, CA: Stanford University Press.
Grollemund, Rebecca, Simon Branford, Koen Bostoen, Andrew Meade, Chris Venditti & Mark Pagel. 2015. Bantu expansion shows that habitat alters the route and pace of human dispersals. *Proceedings of the National Academy of Sciences of the United States of America* 112(43). 13296–13301.

Guérois, Rozenn. 2017. Conditional constructions in Cuwabo. *Studies in African Linguistics* 46(1–2). 193–212.

Güldemann, Tom. 1996. *Verbalmorphologie und Nebenprädikationen im Bantu: Eine Studie zur funktional motivierten Genese eines konjugationalen Subsystems* (Bochum-Essener Beiträge zur Sprachwandelforschung 27). Bochum: Universitätsverlag Dr. N. Brockmeyer.

Güldemann, Tom. 1999a. The genesis of verbal negation in Bantu and its dependency on functional features of clause types. In Jean-Marie Hombert & Larry M. Hyman (eds.), *Bantu historical linguistics: Theoretical and empirical perspectives* (CSLI Lecture Notes 99), 545–587. Stanford, CA: Center for the Study of Language & Information.

Güldemann, Tom. 1999b. Toward a grammaticalization and typological account of the ka-possessive in Zulu. *Journal of African Languages and Linguistics* 20(2). 157–184.

Güldemann, Tom. 2003a. Grammaticalization. In Derek Nurse & Gérard Philippson (eds.), *The Bantu languages* (Language Family Series 4), 182–194. London: Routledge.

Güldemann, Tom. 2003b. Present progressive vis-à-vis predication focus in Bantu: A verbal category between semantics and pragmatics. *Studies in Language* 27(2). 323–360.

Güldemann, Tom. 2008. The Macro-Sudan Belt: Towards identifying a linguistic area in northern sub-Saharan Africa. In Bernd Heine & Derek Nurse (eds.), *A linguistic geography of Africa*, 151–185. Cambridge: Cambridge University Press.

Güldemann, Tom. 2011. Proto-Bantu and Proto-Niger-Congo: Macro-areal typology and linguistic reconstruction. In Osamu Hieda, Christa König & Hirosi Nakagawa (eds.), *Geographical typology and linguistic areas: With special reference to Africa* (Tokyo University of Foreign Studies, Studies in Linguistics 2), 109–141. Amsterdam: John Benjamins.

Güldemann, Tom. 2017. A shared pronominal canon in the Macro-Sudan Belt: Typological, areal and genealogical perspectives. In Raija Kramer & Roland Kießling (eds.), *Mechthildian approaches to Afrikanistik: Advances in language based research in Africa. Festschrift für Mechthild Reh*, 101–146. Cologne: Rüdiger Köppe.

Güldemann, Tom. 2018. Areal linguistics beyond contact, and linguistic areas in Afrabia. In Tom Güldemann (ed.), *The languages and linguistics of Africa* (The World of Linguistics 11), 448–545. Berlin: Mouton de Gruyter.

Güldemann, Tom. 2022. Predicate structure and argument indexing in early Bantu. In Koen Bostoen, Gilles-Maurice de Schryver, Rozenn Guérois & Sara Pacchiarotti (eds.), *On reconstructing Proto-Bantu grammar*, 387–421. Berlin: Language Science Press. DOI: 10.5281/zenodo.7575831.

Guthrie, Malcolm. 1948. *The classification of the Bantu languages* (Handbook of African Languages). London: Oxford University Press (for the International African Institute).

Guthrie, Malcolm. 1962. A two-stage method of comparative Bantu study. *African Language Studies* 3. 1–24.

Guthrie, Malcolm. 1967. *Comparative Bantu: An introduction to the comparative linguistics and prehistory of the Bantu languages. Part I, Volume 1: The comparative linguistics of the Bantu languages*. Farnborough: Gregg Press.

Guthrie, Malcolm. 1970. *Comparative Bantu: An introduction to the comparative linguistics and prehistory of the Bantu languages. Part II, Volumes 3 & 4: A catalogue of Common Bantu with commentary*. Farnborough: Gregg International.

Guthrie, Malcolm. 1971. *Comparative Bantu: An introduction to the comparative linguistics and prehistory of the Bantu languages. Part I, Volume 2: Bantu prehistory, inventory, and indexes*. Farnborough: Gregg International.

Han, Xu, Yuzhuo Bai, Keyue Qiu, Zhiyuan Liu & Maosong Sun. 2020. Isobs: An information system for oracle bone script. In Qun Liu & David Schlangen (eds.), *Proceedings of the 2020 Conference on Empirical Methods in Natural Language Processing: System Demonstrations*, 227–233. Stroudsburg, PA: Association for Computational Linguistics.

Harford, Carolyn & Katherine Demuth. 1999. Prosody outranks syntax: An Optimality approach to subject inversion in Bantu relatives. *Linguistic Analysis* 29(1–2). 47–68.

Heine, Bernd, Tom Güldemann, Christa Kilian-Hatz, Donald A. Lessau, Heinz Roberg, Mathias Schladt & Thomas Stolz. 1993. *Conceptual shift: A lexicon of grammaticalization processes in African languages* (Afrikanistische Arbeitspapiere 34-35). Cologne: Institut für Afrikanistik.

Heine, Bernd & Tania Kuteva. 2002. *World lexicon of grammaticalization*. Cambridge: Cambridge University Press.

Heine, Bernd & Mechthild Reh. 1984. *Grammaticalization and reanalysis in African languages*. Hamburg: Helmut Buske.

Helmlinger, Paul. 1972. *Dictionnaire duala – français, suivi d'un lexique français – duala* (Langues et littératures de l'Afrique noire 9). Paris: Librairie C. Klincksieck (pour L'Université fédérale du Cameroun).

Hetzron, Robert. 1976. Two principles of genetic reconstruction. *Lingua* 38(2). 89–108.

Hock, Hans H. 1991. *Principles of historical linguistics*. Second edition, revised and updated (Mouton Textbook). Berlin: Mouton de Gruyter.

Hoenigswald, Henry M. 1991. Morphemic change, typology, and uniformitarianism: A study in reconstruction. In Winfred P. Lehmann & Helen-Jo Jakusz Hewitt (eds.), *Language typology 1988: Typological models in the service of reconstruction* (Current Issues in Linguistic Theory 81), 17–26. Amsterdam: John Benjamins.

Hyman, Larry M. 2003. Suffix ordering in Bantu: A morphocentric approach. In Geert Booij & Jaap van Marle (eds.), *Yearbook of morphology 2002*, 245–281. Dordrecht: Kluwer Academic Publishers.

Hyman, Larry M. 2004. How to become a 'Kwa' verb. *Journal of West African Languages* 30(2). 69–88.

Hyman, Larry M. 2007. Niger-Congo verb extensions: Overview and discussion. In Doris L. Payne & Jaime Peña (eds.), *Selected proceedings of the 37th Annual Conference on African Linguistics*, 149–163. Somerville, MA: Cascadilla Press.

Hyman, Larry M. 2011. The Macro-Sudan Belt and Niger-Congo reconstruction. *Language Dynamics and Change* 1(1). 3–49.

Hyman, Larry M. 2017. Multiple argument marking in Bantoid: From syntheticity to analyticity. In Walter Bisang & Andrej Malchukov (eds.), *Unity and diversity in grammaticalization scenarios* (Studies in Diversity Linguistics 16), 67–95. Berlin: Language Science Press. DOI: 10.5281/zenodo.823230.

Hyman, Larry M. 2018. What is phonological typology? In Larry M. Hyman & Frans Plank (eds.), *Phonological typology* (Phonology and Phonetics 23), 1–20. Berlin: Walter de Gruyter.

Hyman, Larry M. & Charles W. Kisseberth (eds.). 1998. *Theoretical aspects of Bantu tone*. Stanford, CA: Center for the Study of Language & Information.

Idiatov, Dmitry. 2009. A Bantu path towards lack of differentiation between 'who?' and 'what?' *Africana Linguistica* 15. 59–76.

Idiatov, Dmitry. 2022. Diachronic typology and the reconstruction of non-selective interrogative pronominals in Proto-Bantu. In Koen Bostoen, Gilles-Maurice de Schryver, Rozenn Guérois & Sara Pacchiarotti (eds.), *On reconstructing Proto-Bantu grammar*, 667–737. Berlin: Language Science Press. DOI: 10.5281/zenodo.7575843.

Idiatov, Dmitry & Mark Van de Velde. 2021. The lexical distribution of labial-velar stops is a window into the linguistic prehistory of Northern Sub-Saharan Africa. *Language* 97(1). 72–107.

Janssens, Baudouin. 1993. *Doubles réflexes consonantiques : quatre études sur le bantu de zone A (bubi, nen, bafia, ewondo)*. Brussels: Université libre de Bruxelles. (Doctoral dissertation).

Kadenge, Maxwell. 2014. Comparing nasal-obstruent clusters derived from /mu-/ reduction in Shangwe and Zezuru: An Optimality Theory analysis. *Language Matters, Studies in the Languages of Africa* 45(1). 40–62.

Kadenge, Maxwell & Silvester R. Simango. 2014. Comparing vowel hiatus resolution in ciNsenga and chiShona: An Optimality Theory analysis. *Stellenbosch Papers in Linguistics Plus* 44. 105–127.

Kahl, Jochem. 2001. Hieroglyphic writing during the fourth millennium BC: An analysis of systems. *Archéo-Nil* 11. 101–134.

Kempson, Ruth M., Wilfried Meyer-Viol & Dov M. Gabbay. 2001. *Dynamic Syntax: The flow of language understanding*. Oxford: Wiley-Blackwell.

Kettunen, Harri & Christophe Helmke. 2019. *Introduction to Maya hieroglyphs*. Sixteenth revised edition. Wayeb. https://www.wayeb.org/wp-content/uploads/2019/04/wh2019english.pdf.

Kisseberth, Charles W. & David Odden. 2003. Tone. In Derek Nurse & Gérard Philippson (eds.), *The Bantu languages* (Language Family Series 4), 59–70. London: Routledge.

Koch, Harold. 1996. Reconstruction in morphology. In Mark Durie & Malcolm Ross (eds.), *The comparative method reviewed: Regularity and irregularity in language change*, 218–263. Oxford: Oxford University Press.

Koch, Harold. 2014. Morphological reconstruction. In Claire Bowern & Bethwyn Evans (eds.), *The Routledge handbook of historical linguistics*, 286–307. London: Routledge.

Koile, Ezequiel, Simon J. Greenhill, Damián E. Blasi, Remco Bouckaert & Russell D. Gray. 2022. Phylogeographic analysis of the Bantu language expansion supports a rainforest route. *Proceedings of the National Academy of Sciences* 119(32). e2112853119.

LeBlanc, Paul D. 2017. *Deciphering the Proto-Sinaitic script: Making sense of the Wadi el-Hol and Serabit el-Khadim early alphabetic inscriptions*. Ottawa: Subclass Press.

Leitch, Myles Francis. 1996. *Vowel harmonies in the Congo Basin: An Optimality Theory analysis of variation in the Bantu zone C*. Vancouver: University of British Columbia. (Doctoral dissertation).

Lusekelo, Amani. 2012. *Inflectional and derivational morphology in Optimality Theory. Multiple object-nouns and co-occurrence of verbal extensions in Kinyakyusa*. Gaborone: University of Botswana. (Doctoral dissertation).

Marantz, Alec Paul. 1981. *On the nature of grammatical relations*. Cambridge, MA: Massachusetts Institute of Technology. (Doctoral dissertation).

Marantz, Alec Paul. 1982. Affixation and the syntax of applied verb constructions. In Daniel P. Flickinger, Marlys Macken & Nancy Wiegand (eds.), *Proceedings of the First West Coast Conference on Formal Linguistics*, 330–340. Stanford, CA: Center for the Study of Language & Information.

Marlo, Michael R. & David Odden. 2019. Tone. In Mark Van de Velde, Koen Bostoen, Derek Nurse & Gérard Philippson (eds.), *The Bantu languages*, 2nd edn. (Routledge Language Family Series), 150–171. Milton Park, Abingdon: Routledge.

Marten, Lutz. 2002. *At the syntax-pragmatics interface: Verbal underspecification and concept formation in Dynamic Syntax*. Oxford: Oxford University Press.

Marten, Lutz. 2003. The dynamics of Bantu applied verbs: An analysis at the syntax-pragmatics interface. In Kézié K. Lébikaza (ed.), *Actes du 3e congrès mondial de linguistique africaine. Lomé 2000*, 207–221. Cologne: Rüdiger Köppe.

Marten, Lutz. 2013. Formal syntax and African languages: Dynamic Syntax case studies of Swahili, Bemba, and Hadiyya. *SOAS Working Papers in Linguistics* 16. 195–213.

Marten, Lutz & Jenneke van der Wal. 2014. A typology of Bantu subject inversion. *Linguistic Variation* 14(2). 318–368.

Maslova, Elena S. 2007. Reciprocal and polyadic (remarkable reciprocals in Bantu). In Vladimir P. Nedjalkov (ed.), *Reciprocal constructions* (Typological Studies in Language 71), 335–352. Amsterdam: John Benjamins.

McGinnis, Martha. 2001. Variation in the phase structure of applicatives. In Pierre Pica (ed.), *Linguistic variation yearbook 2001* (Linguistic Variation Yearbook 1), 105–146. Amsterdam: John Benjamins.

McGinnis, Martha. 2008. Applicatives. *Language and Linguistics Compass* 2(6). 1225–1245.

Meeussen, Achiel Emiel. 1965. Vijf jaar Lolemi-activiteit. *Africa-Tervuren* 15. 1–3.

Meeussen, Achiel Emiel. 1967. Bantu grammatical reconstructions. *Africana Linguistica* 3. 79–121.

Meeussen, Achiel Emiel. 1969. *Bantu lexical reconstructions*. Unpublished ms., 28 pp. Tervuren: Royal Museum for Central Africa.

Meeussen, Achiel Emiel. 1973. Comparative Bantu: Test cases for method. *African Language Studies* 14. 6–18.

Meinhof, Carl. 1899. *Grundriß einer Lautlehre der Bantusprachen, nebst Anleitung zur Aufnahme von Bantusprachen. Anhang: Verzeichnis von Bantuwortstämmen* (Abhandlungen für die Kunde des Morgenlandes 11(2)). Leipzig: F.A. Brockhaus.

Meinhof, Carl. 1906. *Grundzüge einer vergleichenden Grammatik der Bantusprachen*. Berlin: Dietrich Reimer.

Meinhof, Carl, Alice Werner & Nicolaas J. Van Warmelo. 1932. *Introduction to the phonology of the Bantu languages*. Being the English version of *Grundriß einer Lautlehre der Bantusprachen*. Berlin: Dietrich Reimer (Ernst Vohsen).

Mugane, John M. 2015. *The story of Swahili*. Athens, OH: Ohio University Press.

Myers, Scott. 1997. OCP effects in Optimality Theory. *Natural Language & Linguistic Theory* 15(4). 847–892.

Ngo-Ngijol Banoum, Bertrade B. 2004. Bantu gender revisited through an analysis of Basaá categories: A typological perspective. In Akinbiyi Akinlabi & Oluseye Adesola (eds.), *Proceedings of the 4th World Congress of African Linguistics, New Brunswick 2003*, 445–458. Cologne: Rüdiger Köppe.

Norde, Muriel. 2009. *Degrammaticalization* (Oxford Linguistics). Oxford: Oxford University Press.

Nsuka-Nkutsi, François. 1982. *Les structures fondamentales du relatif dans les langues bantoues* (Annales – Série in-8° – Sciences humaines 107). Tervuren: Royal Museum for Central Africa.

Nunn, Nathan & Nancy Qian. 2010. The Columbian exchange: A history of disease, food, and ideas. *Journal of Economic Perspectives* 24(2). 163–188.

Nurse, Derek. 1997. The contributions of linguistics to the study of history in Africa. *Journal of African History* 38(3). 359–391.

Nurse, Derek. 2003. Aspect and tense in Bantu languages. In Derek Nurse & Gérard Philippson (eds.), *The Bantu languages* (Language Family Series 4), 90–102. London: Routledge.

Nurse, Derek. 2007. Did the Proto-Bantu verb have a synthetic or an analytic structure? In Nancy C. Kula & Lutz Marten (eds.), *Bantu in Bloomsbury: Special issue on Bantu linguistics* (SOAS Working Papers in Linguistics 15), 239–256. London: Department of Linguistics, School of Oriental & African Studies.

Nurse, Derek. 2008. *Tense and aspect in Bantu* (Oxford Linguistics). New York, NY: Oxford University Press.

Nurse, Derek & Maud Devos. 2019. Aspect, tense and mood. In Mark Van de Velde, Koen Bostoen, Derek Nurse & Gérard Philippson (eds.), *The Bantu languages*, 2nd edn., 204–236. Milton Park, Abingdon: Routledge.

Nurse, Derek & Gérard Philippson. 2003. Towards a historical classification of the Bantu languages. In Derek Nurse & Gérard Philippson (eds.), *The Bantu languages* (Language Family Series 4), 164–181. London: Routledge.

Nurse, Derek & Gérard Philippson. 2006. Common tense-aspect markers in Bantu. *Journal of African Languages and Linguistics* 27(2). 155–196.

Odden, David. 1999. Typological issues in tone and stress in Bantu. In Shigeki Kaji (ed.), *Proceedings of the Symposium "Cross-Linguistic Studies of Tonal Phenomena, Tonogenesis, Typology, and Related Topics", December 10–12, 1998, Takino-*

gawa City Hall, Tokyo, 187–215. Tokyo: Institute for the Study of Languages, Cultures of Asia & Africa, Tokyo University of Foreign Studies.

Pacchiarotti, Sara. 2020. *Bantu applicative constructions* (Stanford Monographs in African Languages). Stanford, CA: Center for the Study of Language & Information.

Pacchiarotti, Sara & Koen Bostoen. 2020. The Proto-West-Coastal Bantu velar merger. *Africana Linguistica* 26. 139–195.

Pacchiarotti, Sara & Koen Bostoen. 2022. Erratic velars in West-Coastal Bantu: Explaining irregular sound change in Central Africa. *Journal of Historical Linguistics* 12(3). 381–445.

Pae, Hye K. 2018. Written languages, East-Asian scripts, and cross-linguistic influences: An introduction. In Hye K. Pae (ed.), *Writing systems, reading processes, and cross-linguistic influences. Reflections from the Chinese, Japanese and Korean languages* (Bilingual Processing and Acquisition 7), 1–22. Amsterdam: John Benjamins.

Perlmutter, David M. & Paul M. Postal. 1983. Toward a universal characterization of passivization. In David M. Perlmutter (ed.), *Studies in relational grammar 1*, 3–29. Chicago, IL: University of Chicago Press.

Philippson, Gérard. 2022. Double reflexes in north-western Bantu and their implications for the Proto-Bantu consonant system. In Koen Bostoen, Gilles-Maurice de Schryver, Rozenn Guérois & Sara Pacchiarotti (eds.), *On reconstructing Proto-Bantu grammar*, 3–58. Berlin: Language Science Press. DOI: 10.5281/zenodo.7575815.

Philippson, Gérard & Rebecca Grollemund. 2019. Classifying Bantu languages. In Mark Van de Velde, Koen Bostoen, Derek Nurse & Gérard Philippson (eds.), *The Bantu languages*, 2nd edn. (Routledge Language Family Series), 335–354. Milton Park, Abingdon: Routledge.

Polak, Louise. 1986. Les infixes ("prefixes objets") du bantou et leur reconstruction. *Africana Linguistica* 10. 365–421.

Polak-Bynon, Louise. 1964. Lolemi : un programme de dépouillement de grammaires bantoues. *Africa-Tervuren* 10. 63–66.

Poulos, George. 1984. A typological approach to Bantu linguistic studies. *African Studies* 43(2). 241–248.

Poulos, George. 1985. Typological trends in South-Eastern Bantu. *South African Journal of African Languages* 5(1). 17–23.

Prince, Alan S. & Paul Smolensky. 1993. *Optimality Theory: Constraint interaction in Generative Grammar*. Tech. rep. Piscataway, NJ: Rutgers Center for Cognitive Science, Rutgers, the State University of New Jersey.

Pylkkänen, Liina. 2000a. What applicative heads apply to. *University of Pennsylvania Working Papers in Linguistics* 7(1). 197–210.
Pylkkänen, Liina. 2008. *Introducing arguments* (Linguistic Inquiry Monographs 49). Cambridge, MA: The MIT Press.
Pylkkänen, Liina. 2000b. Deriving adversity. In Roger Billerey & Brook D. Lillehaugen (eds.), *Proceedings of the 19th West Coast Conference on Formal Linguistics*, 399–410. Somerville, MA: Cascadilla Press.
Rosen, Carol G. 1984. The interface between semantic roles and initial grammatical relations. In David M. Perlmutter & Carol G. Rosen (eds.), *Studies in relational grammar 2*, 38–77. Chicago, IL: University of Chicago Press.
Sacleux, Charles. 1939. *Dictionnaire swahili – français* (Travaux et mémoires de l'Institut d'ethnologie 36–37). Paris: Institut d'ethnologie.
Schadeberg, Thilo C. 2003. Historical linguistics. In Derek Nurse & Gérard Philippson (eds.), *The Bantu languages* (Language Family Series 4), 143–163. London: Routledge.
Sebasoni, Servilien. 1967. La préfinale du verbe bantou. *Africana Linguistica* 3. 122–135.
Stappers, Leo. 1967. Het passief suffix -u- in de Bantoe-talen. *Africana Linguistica* 3. 137–145.
Traugott, Elizabeth C. & Bernd Heine (eds.). 1991. *Approaches to grammaticalization* (Typological Studies in Language 19). Amsterdam: John Benjamins.
Van de Velde, Mark. 2006. Multifunctional agreement patterns in Bantu and the possibility of genderless nouns. *Linguistic Typology* 10(2). 183–221.
Van de Velde, Mark. 2009. Agreement as a grammatical criterion for proper name status in Kirundi. *Onoma* 44. 219–241.
Vansina, Jan. 1995. New linguistic evidence and 'the Bantu expansion'. *Journal of African History* 36(2). 173–195.
Watters, John R. 2018. East Benue-Congo. In John R. Watters (ed.), *East Benue-Congo: Nouns, pronouns, and verbs* (Niger-Congo Comparative Studies 1), 1–25. Berlin: Language Science Press. DOI: 10.5281/zenodo.1314337.
Weiss, Michael. 2014. The comparative method. In Claire Bowern & Bethwyn Evans (eds.), *The Routledge handbook of historical linguistics*, 127–146. London: Routledge.