6

The Impact of Autochthonous Languages on Bantu Language Variation: A Comparative View on Southern and Central Africa

Koen Bostoen & Hilde Gunnink

1. Introduction

The Bantu Expansion is not only the most important linguistic, cultural, and demographic process in Late Holocene Africa; it has also become one of the most controversial issues in African history with serious political repercussions in (post-)Apartheid South Africa (Esterhuysen & Lane 2013, Marks 1980) and elsewhere on the continent (Bisanswa 2013, Chrétien 1985, Kamanda Kola 2000). It has sparked intense debate across the disciplines and far beyond Africanist circles. Several generations of linguists, archaeologists, anthropologists, geneticists, and many others have debated on its driving forces. The Bantu language family branched off from the rest of the Niger-Congo phylum not earlier than some 4000–5000 years ago (Blench 2006, Bostoen 2007b, Vansina 1995), yet it is by far Africa's largest family, in terms of both speaker and language numbers and geographical spread. About one African in three to four speaks at least one Bantu language, and the overall majority of African communities south of c. 4°N are Bantu-speaking (Nurse & Philippson 2003a, Bostoen & Van de Velde 2019) (see Map 6.1).

It is widely agreed that this apparent paradox can only be accounted for by a rapid spread of Bantu languages from their West African homeland in

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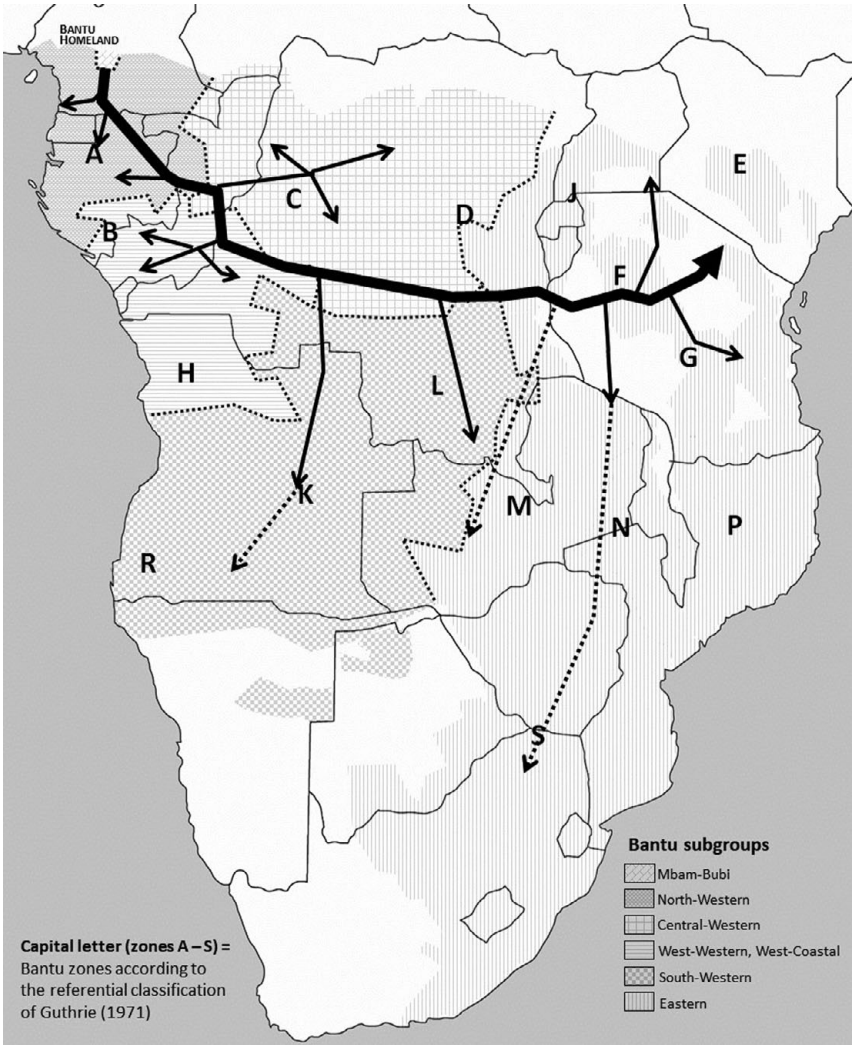

Map 6.1: Distribution area, internal classification, and hypothesized routes of initial expansion of the Bantu family according to Grollemund et al. (2015) (with the courtesy of Rebecca Grollemund, who produced this map).

the Nigerian-Cameroonian borderland to Southern Africa. This is all the more surprising given that latitudinal migration through areas differing in climate, habitat, rainfall, day length, and diseases of crops and livestock is more complicated than longitudinal migration (Diamond 1999, Ramachandran & Rosenberg 2011). Moreover, the Central African rainforest does not really offer the best conditions for a swift expansion.

Archaeologically, the Bantu Expansion has long been linked with the gradual southward spread of initially Neolithic and later on Early Iron Age (EIA) assemblages through Central Eastern and Southern Africa that are clearly distinct from pre-existing Late Stone Age (LSA) industries (de

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Maret 1994–5, 2013, Huffman 1970, Phillipson 1976). In the Bantu homeland, viz. the Grassfields region of current-day Cameroon, a new industry starts to appear around 7000–6000 BP, which gradually replaces the earlier microlithic LSA quartz industry and becomes predominant around 5000–4000 BP. The increasing production of large blades and bifacial tools of basalt suggests an important evolution in subsistence organization, but direct evidence for food production is lacking (de Maret 2013, Lavachery 2001). South of the homeland, the oldest settlement with a similar material culture and dating back to 3500–3000 BP is Obobogo in Central Cameroon (de Maret 1992). From that period onwards similar settlements associated with Bantu speakers spread from central Cameroon to the Lower Congo and the Central Congo Basin in a timespan of about one millennium, i.e. from c. 3500 to c. 2300 BP (Bostoen et al. 2015, Clist 2006a, de Maret 1994–5, 2013, Oslisly et al. 2013). This happened before the advent of iron metallurgy in Central Africa (Clist 2006b, 2012). In East Africa, the beginning of the Bantu language dispersal is already part of the EIA. It is commonly associated with the Urewe ceramic tradition from the Great Lakes region dating back to 2600 BP (Ashley 2010, Clist 1987). It would be ancestral to several EIA traditions further south and the signature of the Bantu Expansion in East Africa (Phillipson 1985).

Certain archaeologists and historians have severely criticized human migration as an explanatory model for the Bantu Expansion (Gramly 1978, Lwanga-Lunyiigo 1976, Robertson & Bradley 2000, Schepartz 1988, Vansina 1995). However, thanks to recent advances in evolutionary genetics, we know that this dispersal was not just a matter of contact-induced diffusion of languages and technology. Especially the low diversity of Y-chromosomal haplogroups in Bantu-speaking populations is a strong indication in favor of rapid migration (Pakendorf, Bostoen, & de Filippo 2011). The Bantu Expansion was a major demic diffusion that can be considered as one of the most dramatic demographic events in human history (Li, Schlebusch, & Jakobsson 2014). The genetic data also point towards intensive interactions with autochthonous hunter-gatherers both in Central and Southern Africa. The maternal gene pool of several western Bantu speech communities is characterized by the significant presence of mtDNA haplogroups, such as L1c1a, which are otherwise omnipresent in Central African Pygmy[1] groups and can thus be interpreted as indicative

[1] Although Africanists tend to consider *Pygmy* as a derogatory term that puts emphasis on their short stature, no commonly accepted alternative has emerged to refer to Central African forest foragers (Hewlett 1996: 215, Mukwiza Ndahinda 2011: 217). As a consequence, it is still widely used, not only among geneticists (Cavalli-Sforza 1986, Destro-Bisol et al. 2004a, Patin et al. 2009, Quintana-Murci et al. 2008, Verdu et al. 2013), but also among historians, anthropologists, and linguists (Blench 1999, Joiris 1996, Klieman 2003, Koni Muluwa et al. 2013, Motingea 1994, Motte 1982). The often-proposed alternative *Batwa* is also an exonym, which Bantu speakers commonly use to refer to autochthonous groups, not only in Central Africa, but also in Southern Africa (Schadeberg 1999). Moreover, it is also not devoid of degrading connotations (Lewis 2006, Woodburn 1997). Our use of *Pygmy* in this chapter as a cover term for autochthonous Central African hunter-gatherers and their descendants is not meant to be depreciatory.

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of sex-biased sociocultural practices, such as patrilocality and polygyny. Generally speaking, mtDNA diversity among and within Bantu speech communities is much higher than Y-chromosome diversity, because ancestral Bantu-speaking societies intermarried with indigenous groups, and this exogamy especially involved women from local non-Bantu speaking groups (Destro-Bisol et al. 2004b, Patin et al. 2014, Quintana-Murci et al. 2008, Verdu et al. 2013, Wood et al. 2005). In Southern Africa, the outcomes of Bantu–Khoisan language contact have been examined (e.g., Bostoen & Sands 2012, Gunnink et al. 2015, Herbert 2002), but the impact of prehistoric interaction with non-Bantu speakers on Bantu-internal variation in Central Africa is understudied.

In this chapter, we focus on two areas where the autochthonous, pre-Bantu populations are at least superficially known: (1) Central Africa, where the pre-Bantu populations are thought to be the ancestors of modern hunter-gatherers, *aka* "Pygmies," and (2) Southern Africa, where the pre-Bantu population consisted of various hunter-gatherer and pastoralist groups subsumed under the label "Khoisan." In Section 3, we discuss the putative pre-Bantu (linguistic) landscape of Southern Africa, the interactions between native Khoisan speakers and incoming Bantu speakers, and the influence that this contact had on the Bantu languages involved. In Section 4, we contrast the southern African situation with the situation in Central Africa before the advent of Bantu speakers. Conclusions are presented in Section 5. However, before addressing early language contact between Bantu and pre-Bantu speech communities in both Central and Southern Africa, we first provide a succinct discussion of our current understanding of how the Bantu family is genealogically structured, in Section 2.

2. Internal Bantu Classification

Bantu as a language family has been recognized ever since Bleek (1851), and the location of its homeland in the borderland of Southeastern Nigeria and Western Cameroon ever since Greenberg (1972). This is the region where "Narrow Bantu" languages, i.e. those conventionally classified as "Bantu" by Guthrie (1948, 1971), meet "Wide Bantu" languages, i.e. their closest Benue-Congo relatives, *aka* "Bantoid." The small "Mbam-Bubi" subgroup, consisting of several languages of the Mbam region of Central Cameroon and Bubi spoken on Bioko Island, is the genealogical junction between Narrow and Wide Bantu (Bastin & Piron 1999, Bostoen et al. 2015, Grollemund 2012: 349, Grollemund et al. 2015). The (Narrow) Bantu family further branches into five major subgroups, which Grollemund et al. (2015) call "North-Western," "Central-Western" *aka* "North Zaire" (Vansina 1995: 185) or "Congo" (Bostoen et al. 2015: 360), "West-Western" *aka* "West-Coastal" (Bostoen et al. 2015, Vansina 1995: 185), "South-Western," and "Eastern" (see Map 6.1).

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Most elementary models of Bantu genealogy and migration are founded on quantitative approaches to language classification, viz., the lexicostatistical classifications of Narrow Bantu by Bastin, Coupez, & Mann (1999) and Wide Bantu by Piron (1997), which are the most comprehensive of their kind, as well as several more recent classifications relying on phylogenetic methods, such as maximum parsimony (Holden 2002, Holden & Gray 2006, Rexová, Bastin, & Frynta 2006) and Bayesian inference (Currie et al. 2013, de Filippo et al. 2012, Grollemund et al. 2015, Holden & Gray 2006, Holden, Meade, & Pagel 2005, Rexová et al. 2006). All these studies are based on similar lists of basic vocabulary inspired on the original Swadesh-100 (Swadesh 1955) and/or Swadesh-200 (Swadesh 1952). Quantitative studies relying on non-lexical features in the wake of Bastin, Coupez, & de Halleux (1979) have been preliminary and/or limited in geographical scope. De Schryver et al. (2015: 106–27) offer a detailed discussion of quantitative approaches to historical Bantu classification (see also Philippson & Grollemund 2019).

Bantu-wide qualitative approaches considering phonological and/or grammatical features, such as Möhlig (1977, 1981), Ehret (1999), Hyman (1999), and Nurse & Philippson (2003b), are less compatible with the tree model of language divergence. However, they do not contradict so much the existence of the major genealogical subgroups listed above as they emphasize that convergence also had a decisive effect on the speciation of Bantu languages. It has long been recognized that the age-old interactions between Bantu speech communities and multilingualism have led to an intensive exchange of features between Bantu varieties (Mufwene 2001: 167ff., Schadeberg 2003: 157–60).

This is also in line with the genetic evidence for successive expansion phases rather than a single migration wave (e.g., Ansari, Plaster, & Bradman 2013). Not only has it been shown that Y-chromosome diversity is relatively low across Bantu speech communities (Alves et al. 2011, Berniell-Lee et al. 2009), but also that it does not diminish with distance from the putative homeland, which de Filippo et al. (2012) interpret as the result of an original founder event being erased by later migrations. Such spread-over-spread events must have led to extensive contact between Bantu languages and also Bantu internal language shift, viz., communities that abandon their ancestral Bantu language in favor of another socially more successful Bantu alternative. Since we deal with closely related languages, such contact-induced innovations tend to be difficult to distinguish from inherited features, especially if the contact situation took place in the remote past (see also Sands, this volume).

Attempts to disentangle successive strata of Bantu language history have been rare (Bostoen 2007a, Möhlig 1981, Nurse & Masele 2003), and their implications for historical linguistic method have never been fully assessed. A very important repercussion – to mention only one – is the fact that phylogenies generated from current-day languages do not necessarily

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reflect the original migration of Bantu speech communities, contrary to what is commonly assumed in quantitative models, such as in Currie et al. (2013) and Grollemund et al. (2015). The linguistic variation that was lost due to language death can never be factored in to reconstruct the best migration model, certainly not if only small sets of basic vocabulary are considered. Layered Bantu language history can possibly only be detected if more complex and diversified language data, such as phonology, morphology, and syntax, are studied both qualitatively and quantitatively, which is a very time-consuming and thus rarely undertaken enterprise. The impact of non-Bantu languages on Bantu-internal evolution, as discussed in this chapter, is also not so well understood.

Internal language diversity is much higher in the western half of the Bantu domain than in the eastern half, which hosts the latest major offshoot of the Bantu family tree, i.e. East-Bantu. Whether East-Bantu is an early or late split has remained a long-standing issue of debate (for a more detailed discussion, see Pakendorf, Bostoen, & de Filippo 2011 and Wiesmüller 1997), but the most recent studies in both historical linguistics and evolutionary genetics seem to favor the late split model (Alves et al. 2011, de Filippo et al. 2012, Grollemund et al. 2015). Eastern Bantu languages would only have emerged after the remainder of the subgroups had branched off as a result of the migration of Bantu speakers through the rainforest (see Map 6.1). It is increasingly recognized that the Bantu Expansion through Central Africa was facilitated and accelerated thanks to a climate-induced decline of the rainforest (Brncic et al. 2009, Hubau et al. 2015, Maley et al. 2012, Neumann et al. 2012b, Ngomanda et al. 2009, Schwartz 1992).

Palaeoenvironmental data indicate that a climate crisis affected the equatorial rainforest during the Holocene, first its periphery around 4000 BP and later its core around 2500 BP. The climate-induced extension of savannahs at the periphery of the rainforest around 4000–3500 BP facilitated the settlement of early Bantu-speech communities in the region of Yaoundé in present-day Cameroon and later along the coast of Equatorial Guinea and Gabon and inland along the Ogooué River, but did not lead to a large-scale geographic expansion of Bantu-speaking settlements in Central Africa. The slowness of this initial migration from the homeland is reflected in the greater linguistic diversity in the northwestern part of the Bantu domain. The rapid eastward and southward expansion of Bantu speech communities only took off when the core of the Central African rainforest was affected around 2500 BP, resulting in the dispersion of more close-knit language clusters over greater distances (Bostoen et al. 2015).

The rapidness of this initial migration through the forest is also indicated by genetic data suggesting that most admixture between various groups of hunter-gatherers and neighboring communities took place within the past 1000 years (Patin et al. 2014). Domesticated plants from the savannah, such as pearl millet, and metallurgy also spread through Central Africa around

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2500 BP (Clist 2012, Kahlheber, Bostoen, & Neumann 2009, Kahlheber et al. 2014, Neumann et al. 2012a) to become part of the cultural package that Bantu speakers took further east and south. Grollemund et al. (2015) corroborate this robust chronology by means of a tentatively dated Bantu phylogeny that was calibrated with archaeological dates. Combining this Bantu "time-tree" with contemporary geographical information and appropriate statistical modeling, they argue that early Bantu-speaking populations did not expand from their ancestral homeland in a "random walk," but rather followed emerging savannah corridors, and that rainforest habitats repeatedly imposed temporal barriers to movement. Transitions into the rainforest would have been delayed by c. 300 years compared with movements of a similar distance within the savannah environment.

3. Early Bantu/Pre-Bantu Language Contact in Southern Africa

3.1. The Linguistic Landscape of Southern Africa

Before the arrival of Bantu speakers, Khoisan[2] languages must have dominated the linguistic landscape of southern Africa. Although earlier scholars have considered Khoisan languages as one of Africa's four major indigenous language phyla (Greenberg 1963), several present-day Khoisan specialists contend that there is no evidence for Khoisan as a single genetic unit (Güldemann 2008a, 2014, Sands 1998). Instead, they prefer to use *Khoisan* as an umbrella term for all languages with phonemic clicks that are not part of another language family, such as Bantu or Cushitic. The languages subsumed under this label fall into three different families situated in southern Africa, viz., Kx'a, Khoe-Kwadi, and Tuu, as well as two isolates spoken in Tanzania, viz., Hadza and Sandawe. Their geographic distribution is shown in Map 6.2.

The Kx'a language family consists of two branches, the Ju language cluster, a set of closely related language varieties that cover large parts of northern Namibia and stretch into Angola and Botswana, and the ǂ'Amkoe language cluster, spoken in Southeastern Botswana, whose genetic relationship with Ju was only recently proven (Heine & Honken 2010).

The second language family that is subsumed under Khoisan is the Tuu family, comprising languages that were formerly classified as Southern Khoisan. Nowadays only small pockets of Tuu speakers remain in Botswana, as well as a few isolated speakers in northern South Africa, but there is written documentation of a number of now extinct Tuu languages spoken over large areas of South Africa and Southern

[2] Alternative spellings are "Khoesan" or "Khoesaan," which are advocated as a more phonetically accurate transcription. As the term *Khoisan* is an artificial creation that is not used as such in any of the languages it designates, we choose to ignore the issue of orthographic faithfulness and continue to use the term that is most widely known in the literature.

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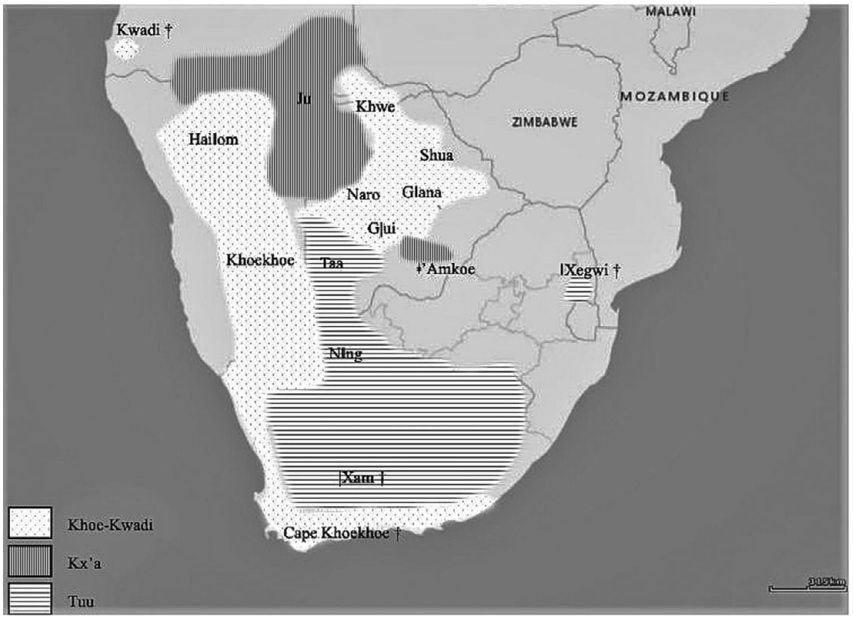

Map 6.2: Distribution of Khoe-Kwadi, Kx'a, and Tuu language families and main languages in southern Africa.

Botswana, such as |Xam, once spoken in the Cape, and ǁXegwi, once spoken north of Swaziland.

The third family is the Khoe-Kwadi family, which consists of the relatively large and well-studied branch of Khoe languages, formerly called Central Khoisan, and the now-extinct Kwadi language, which until the 1960s was spoken in Southwestern Angola. The Khoe languages are spoken across large areas of Central and Southern Namibia, and in most of Botswana. Now extinct branches of the Khoe family were also spoken along the western and southern coast of South Africa.

The Khoe-Kwadi family differs from the two other southern African Khoisan families in two ways. First, whereas most Kx'a- and Tuu-speaking groups traditionally lived a foraging lifestyle, many groups speaking Khoe-Kwadi languages, especially the Khoekhoe speakers of Namibia (and formerly also in South Africa) and the former Kwadi speakers of Angola, traditionally live as pastoralists. Secondly, there are strong indications that Khoe-Kwadi speakers have an eastern African origin. This is supported by genetic studies, which show evidence for a migration from eastern Africa into southern Africa separate from, and prior to, the Bantu Expansion (Coelho et al. 2009, Henn et al. 2008, Macholdt et al. 2014, Pickrell et al. 2014) The higher prevalence of lactase persistence, the genetic mutation that allows for the continued ability to process milk into adulthood, suggests that this migration involved pastoralists. There is also archaeological evidence for the advent of sheep-herding in Southern Africa at about 2000 BP (Sadr 2015). Although this has traditionally been

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linked with the ancestors of Khoe-Kwadi speakers, their arrival in Southern Africa was not part of a large-scale population movement like the Bantu Expansion, but more likely a number of small groups immigrating and interacting heavily with the autochthonous populations. There is even tentative linguistic evidence for an Eastern African origin of Khoe-Kwadi languages (Güldemann & Elderkin 2010). Güldemann (2020) reconstructs the spread of Khoe-Kwadi languages over Southern Africa. For a more detailed overview of earlier and current classification of Khoisan languages, we refer the reader to Honken (2013) and Güldemann (2014).

3.2. Language Shift and Language Death in Southern Africa

The current state of Khoisan languages in southern Africa is much more dire than the historical picture sketched above. Language shift, often resulting in language death, has taken place at a large scale. Examples of ongoing language shift from a Khoisan language to a neighboring Bantu language include, for instance, ǂ'Amkoe, a highly endangered language with only about 100 remaining speakers who are in the process of shifting to the Bantu language Kgalagadi (Collins & Gruber 2013, Lukusa & Monaka 2008: 6–7), which is in itself a somewhat endangered language (Janson 1995, Lukusa 2000). In Northeastern Botswana, speakers of various Khoisan languages are in the process of shifting towards the Bantu language Tswana, the national language of Botswana (Batibo 1998, Smieja & Batibo 2000). In South Africa, Khoisan speakers have shifted, and are still shifting, to Afrikaans (Crawhall 2004, Traill 2002). Cape Khoekhoe speakers are reported to have shifted to Afrikaans (or rather its predecessor Dutch) within three generations (Brenzinger 2007: 185). These cases of language shift are mainly known from written historical documentation, produced by colonial governments, missionaries, and travelers. Another source that can provide insights in now completed language shift scenarios is oral history as told by Bantu speakers. The Tjaube Chronicle from speakers of Manyo, a Bantu language of Northeastern Namibia, details the historical incorporation of a native non-Bantu group, the Tjaube, in Manyo society (Fleish & Möhlig 2002, Möhlig 1998).

All these cases of language shift greatly facilitated the demise of the original native language. But language death was also brought about by other factors, such as genocide and disease. Conflict between "San" in the Cape (presumably speakers of |Xam, a Tuu language) and migrating Dutch colonists, the "trekboers," resulted in the large-scale destruction of the former (Brenzinger 2007). This relentless campaign against |Xam communities may also have put pressure on remaining |Xam speakers to give up their language and identity in favor of one less dangerous. Smallpox epidemics in the eighteenth century also wiped out large numbers of Khoisan speakers in the Cape (Traill 2002).

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Language shift did not always take the direction away from Khoisan languages. There are also cases of Khoisan speakers shifting to a different Khoisan language. In Western Botswana, speakers of several smaller Khoisan languages are shifting to the relatively large and prestigious Khoe language Naro (Hasselbring 2000, Visser 2000). Older cases of language shift from one Khoisan language to another can be deduced from the traces of substrate left in the target of shift, such as the shift from different !Ui languages, one of the two sub-branches of the Tuu family, to Khoekhoe in the Cape area, as attested by a !Ui substrate in Khoekhoe (Güldemann 2006).

There are even cases where a shift appears to have taken place from a Bantu language to a Khoisan language. The Damara are an ethnic group who speak the Khoe-Kwadi language Khoekhoe, but genetically they pattern strongly with Bantu speakers, which suggests a historic shift from Bantu to Khoe (Pakendorf 2014, Pickrell *et al.* 2012: 3). In the Central Kalahari Game Reserve, Kgalagadi (Bantu) speakers shifted their identity to San through intermarriage with speakers of the Khoe languages G|ui and G‖ana (Ikeya 2000), although it is not clear what was the effect of this ethnic identity change on language.

3.3. Khoisan Influence on Bantu

These historically attested cases of language shift show that the sociolinguistic situation in southern Africa was complex: shift from Khoisan to Bantu was probably the predominant but not the only pattern that occurred, suggesting that the functions and relative prestige of the different Khoisan and Bantu languages must have varied over time and from one area to another. We will now turn to the Bantu languages of southern Africa (see Map 6.3) and discuss the kind of Khoisan influence found in these languages, which in turn can shed light on the sociolinguistic conditions of the contact situation.

3.3.1. Lexical Influence

In many Bantu languages of Southern Africa, at least some Khoisan loanwords can be identified, for instance in the Nguni languages of South Africa, which have adopted words from Khoe languages (Bourquin 1951, Louw 1977a, 1977b, 1979, 1986), and possibly also from Tuu languages (Pakendorf et al. 2017: 8). Khoe and Ju (Kx'a) loanwords are found in the Bantu languages Manyo, Mbukushu, Kwangali, Yeyi, Fwe, and Tswana (Gunnink et al. 2015, Gunnink 2020), and Nama (Khoe) loanwords have been identified in the Bantu language Herero (Meinhof 1910).

Khoisan loanwords in Bantu are frequently found in specific semantic domains, such as natural phenomena, hunting, and fishing (Gunnink et al. 2015, Gunnink 2020), i.e. the cultural domains in which Khoisan speakers, as foragers and pastoralists but also as long-term residents of the area, would have more knowledge than the immigrant Bantu speakers. Other

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Map 6.3: Distribution of Bantu languages in southern Africa.

interesting loans include the Khoe word *guu* 'sheep', which is found in many Bantu languages of Southern Africa, suggesting not only that Khoe speakers were familiar with sheep but also that Bantu speakers probably were not (cf. Güldemann 2008b).

The identification of Khoisan loanwords in Bantu languages is hampered by the general lack of data on Khoisan languages, not only because of the restricted documentation of modern Khoisan languages but especially because many Khoisan languages became extinct before documentation could be undertaken. An alternative, but much more laborious, method of identifying possible loanwords is by considering words that lack a Bantu etymology and/or do not have regular sound change patterns, as applied to Tswana by Gunnink (2020).

3.3.2. Phonological Influence

The most notable and undisputable influence of Khoisan languages on southern Bantu languages is the adoption of click consonants. Outside the Khoisan group, phonemic clicks are only found in Bantu languages of Southern Africa and have therefore not been reconstructed to Proto-Bantu (Meeussen 1967). Bantu click languages are found in two separate areas in Southern Africa. One group of the Bantu click languages is spoken in the southwestern part of the Bantu-speaking area, which we will refer to as South-West Bantu languages (SWB), which include Fwe, Manyo, Mbukushu, Kwangali, and Yeyi. Although these languages cluster together geographically, they are not all closely related genealogically. Fwe is an Eastern Bantu language and is part of the Bantu Botatwe subgroup (Bostoen 2009, de Luna 2010). None of the other Bantu Botatwe languages uses clicks, including Fwe's closest genetic relative,

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Shanjo. Mbukushu, Manyo, and Kwangali, on the other hand, are closely related to each other (but not to Fwe and Yeyi), all classified as part of the Kavango subgroup, which is ultimately part of South-West Bantu (Bastin, Coupez, & Mann 1999, Grollemund et al. 2015, Möhlig 1997), although Kwamashi, the closest genetic relative of Mbukushu, also lacks clicks. Yeyi is without a doubt a Bantu language, but it is unclear what, if any, its closest genetic relatives within Bantu are (Seidel 2005). Despite the lack of genetic unity among the SWB languages, some of its click words are shared among them. This is evident mainly from the Kavango languages Manyo, Mbukushu, and Kwangali, which share between 34% and 50% of their click words, but also from Fwe and Yeyi, which share at least seven click words (Gunnink et al. 2015: 215).

The second geographic cluster of Bantu click languages is found in the southeastern part of the Bantu-speaking area, which we will refer to as South-East Bantu languages (SEB). The SEB languages include Zulu, Xhosa, Swati, Southern and Zimbabwean Ndebele (but not Northern Ndebele), Phuthi, and Southern Sotho. As in the SWB languages, the use of clicks cuts across genetic groupings, though there is considerably more genetic unity among the SEB languages than among the SWB languages. All SEB languages are part of the close-knit Nguni language cluster, with the exception of Southern Sotho, which is part of the Sotho language cluster. Within the Sotho cluster, Southern Sotho is the only language to use clicks, and its closest Sotho relatives, such as Pedi (also called Northern Sotho) and Tswana, do not use clicks. Possibly, Southern Sotho did not acquire its clicks through direct contact with Khoisan languages but through lexical borrowing from Nguni languages, as many of its click words are shared with Nguni (Bourquin 1951, Doke & Mofokeng 1957: 23). The Nguni languages probably already acquired clicks relatively early in its history, as click phonemes can be reconstructed to their shared ancestor, Proto-Nguni (Gunnink forthcoming).

The Bantu click languages differ considerably with respect to the functional load of their clicks, measured by the number of different click phonemes and the percentage of the vocabulary that contains a click (Pakendorf et al. 2017). Languages in which clicks have a very low functional load include the SWB languages (except Yeyi) but also the SEB languages Southern Sotho and Swati. Clicks have a higher functional load in the other SEB languages and in the Botswana variety of Yeyi, which is both the only Bantu language to use four different click types and the one with the largest click inventory. Overall, the functional load of clicks in Bantu click languages tends to be considerably lower than in most of the Khoisan languages (Güldemann & Stoneking 2008).

Although the occurrence of click phonemes in Bantu languages is clearly the result of contact with Khoisan, the words in which clicks occur are not all necessarily borrowed. Clicks also occur in native Bantu vocabulary, where they have replaced earlier non-click consonants, but not in a regular manner, the contrary of what would be expected if the occurrence of these

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clicks was the result of regular sound change. Rather, it has been proposed that the practice of *hlonipha*, the cultural taboo observed by married women on the names of their male in-laws, has facilitated the substitution of native sounds with clicks. As married women had to avoid words with syllables that resembled the names of their male in-laws, one of the practices to render these taboo words acceptable would be to substitute the consonant in the relevant syllable with a click (Herbert 1990). This is not the only explanation for the insertion of clicks in native Bantu words, however, because these consonants are also attested in SWB languages, whose speakers do not practice *hlonipha*. For these languages, click insertion may be motivated by sound symbolism, as clicks are frequently found in native Bantu words that are linked to sound symbolism (Bostoen & Sands 2012). Another explanation is that clicks and other Khoisan-derived linguistic elements had positive connotations for Bantu speakers; their maintenance in borrowings and their insertion in native vocabulary served an identity-marking function (Gunnink et al. 2015).

The presence of click consonants in a non-Khoisan language is not always an indication of direct contact with speakers of a Khoisan language. Clicks and click words also spread from one Bantu language to another, for instance from Zulu to a number of Bantu languages that lack clicks in Mozambique (Pakendorf et al. 2017), or to the northern variety of Ndebele, which, unlike Southern and Zimbabwean Ndebele, lacks clicks, but appears to reintroduce them through borrowing from Zulu (Schulz et al. 2019).

Although clicks are the most recognizable form of Khoisan phonological influence in Bantu, there are also other phonological aspects of Bantu languages that have been attributed to Khoisan contact. Xhosa stops with delayed voicing followed by murmured vowels may be the result of Khoe influence (Louw 1977a). Furthermore, Southern Africa forms a single linguistic area on the basis of phonological features, including but not limited to clicks, suggesting that contact between Bantu languages, with their fairly small phoneme inventories, and the phonologically rich Khoisan languages has led to an enrichment of the phoneme inventories of Bantu languages in Southern Africa (Naumann & Bibiko 2015).

3.3.3. Grammatical Borrowing

Linguistic influence other than clicks and loanwords from Khoisan on Bantu languages is much more difficult to identify. A few isolated cases of borrowed grammatical morphemes are attested: Xhosa has borrowed a suffix *-se*[3] to derive a girl's name from a noun, from the Khoe feminine suffix *-s*, and a suffix *-xa* deriving an adjective, from the Khoe adjectival

[3] Throughout this paper, forms from any language are transcribed using standard IPA transcription, rather than the official orthography of the language in question, in order to facilitate cross-linguistic comparison.

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suffix *-xa* (Louw 1976: 90–2). Yeyi has a causative suffix *-kawo* (Seidel 2008), which is a borrowing from a Kalahari Khoe language, possibly Naro, where the causative suffix is *-kaxu* (Visser 2001), or one of the Shua varieties that use a causative suffix *-ka.xu* or *-ka.hu* (Voßen 1997: 350).[4] The suffix *-kawo* in Yeyi, however, has a fairly limited distribution, and Yeyi also has a more productive native Bantu causative suffix. The Xhosa morphological borrowings are also fairly marginal in the overall grammar of the language.

3.3.4. Morphosyntactic Copying

Another kind of grammatical influence from Khoisan languages on Bantu is seen not in the copying of forms, but in the replication of grammatical patterns. The clearest example is the acquisition of nominal diminutive and feminine suffixes in certain southern Bantu languages. These suffixes are the result of the grammaticalization of a compound where the second element has the meaning of 'child' (for the diminutive) or 'woman' (for the feminine). The fact that the head element of the construction is the final element, as is typical for Khoe languages, and not the initial element, as is typical in Bantu languages, suggests that these constructions are the result of Khoe contact (Güldemann 1999). Other examples of head-final nominal compounds, which have not grammaticalized to become suffixes, also exist in Southern Bantu; again, the final position of the head indicates their non-Bantu origin. Moreover, nominal compounds in Bantu are rare in general. Most Bantu languages outside of Southern Africa do not use them productively, whereas in many Khoisan languages compounding is a very productive strategy. Such head-final nominal compounds are found in a number of plant names in Mbukushu, Manyo, and Fwe (Gunnink et al. 2015), as well as in the productive compounding strategy with the element *-ntu* 'thing, person' as the second element in Fwe (Gunnink 2018) and in Herero, where it is attributed to influence of the Khoe language Nama (Meinhof 1910).

The different kinds of Khoisan influence found in Bantu languages of Southern Africa do not necessarily cluster together in the same language. Herero, for instance, has acquired head-finality in compounds and loanwords from the Khoe-Kwadi language Khoekhoe, but not clicks. Conversely, Yeyi has acquired loanwords, clicks, and even grammatical affixes through contact with Khoisan, but shows no signs of having acquired head-final compounds or nominal suffixes derived from them.

[4] Khwe, a Khoisan language spoken near the Yeyi area, and with which Yeyi is still in contact, uses a causative suffix *-ka* (Kilian-Hatz 2008: 158), which suggests that the more southern and southeastern Khoe varieties are the more likely donors. In addition, Yeyi seems to have acquired a number of loanwords from these Khoe varieties (Gunnink et al. 2015: 203), suggesting that Yeyi may once have been spoken further south in the Kalahari or that these southern Khoe varieties were once spoken further north.

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3.4. The Reconstruction of Bantu–Khoisan Contact, Based on Linguistic Data

From the kind of Khoisan influence found in Bantu languages of Southern Africa today, we can deduce the historic contact situations in which they have taken place. The copying of linguistic forms (rather than patterns) indicates a situation of borrowing (Thomason & Kaufman 1988), also called recipient language activity (Van Coetsem 1988, 2000), where Bantu speakers acquired some proficiency in a Khoisan language but no language shift took place. Bantu languages did not only acquire Khoisan lexical items, which may also have happened in a situation of fairly superficial contact, but also Khoisan grammatical morphemes, which rather suggests extensive bilingualism. The copying of bound morphology from one language into another, as appears to have occurred in Xhosa and Yeyi among others, presupposes an understanding of the grammar of the donor language on the part of the speakers of the recipient language.

There is also evidence for language shift: the occurrence of structural features such as click consonants and head-final compounds are best explained as the result of interference through shift (Thomason & Kaufman 1988), also called source language agentivity (Van Coetsem 1988, 2000) or imposition (Van Coetsem 1988, 2000, Winford 2005, 2007, 2013). Native speakers of Khoisan languages would have acquired a Bantu language as their second language, imposing certain features of their native language, and subsequently lost their native language. Even the copying of lexical items could also be understood as concomitant of this language shift, as many Khoisan borrowings in Bantu seem to be part of specialized vocabulary, which can also be transferred in a case of language shift. This is especially likely when the shifting speakers have a very different cultural background than that of the language they shift to (Ross 2013), as would be the case with the hunter-gatherer and pastoralist Khoisan speakers shifting to the languages of Bantu-speakers who rely on farming.

3.5. The Reconstruction of Bantu–Khoisan Contact, Based on Genetic Data

The linguistic facts thus point towards a variegated contact situation, where both bilingualism on the part of Bantu speakers and language shift from Khoisan to Bantu must have taken place. This picture of prehistoric Bantu–Khoisan contact that emerges from the linguistic data can be combined with insights from molecular anthropological studies, which study the genetic history of populations on the basis of DNA samples from modern members. First of all, genetic studies show that Khoisan speakers have highly divergent genetic lineages, clearly setting them apart from Bantu speakers, so that the occurrence of these typical Khoisan lineages in Bantu speakers can be taken as an indication of historical contact (Pakendorf 2014). Furthermore, genetic studies allow us to differentiate between

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male-mediated and female-mediated contact by distinguishing Y-chromosomal DNA, passed on only from father to sons, and mitochondrial DNA, passed on only from mothers to daughters. Studies of speakers of Xhosa, Zulu, Southern Ndebele, and Southern Sotho in South Africa (Marks et al. 2015), of speakers of Fwe, Mbukushu, and Shanjo in Zambia and Namibia (Barbieri et al. 2013), and of speakers of Kgalagadi, Tswana, Kalanga and Herero (Barbieri et al. 2014) show that they carry considerable percentages of Khoisan-derived lineages, but only in the maternal line. The rate varies from 15% in the Mbukushu up to 53% in the Kgalagadi, but there is little to no evidence of Khoisan-derived lineages in the paternal line. Only Southern Sotho speakers stand out at 11.2%, whereas among Fwe, Mbukushu, Tswana, Kalanga, and Shanjo speakers Khoisan-derived paternal lineages were completely absent (for an overview, see Pakendorf et al. 2017).

These findings show that interference through shift did not come about as the result of the integration of entire Khoisan-speaking groups in Bantu societies, but rather through the intermarriage of Bantu-speaking men with Khoisan-speaking women, who must have learned the Bantu language of their new homes and imposed certain elements from their native Khoisan languages on it. Stronger linguistic influence from Khoisan on Bantu as seen in the use of clicks also correlates with higher degrees of admixture, though the reverse is not necessarily accurate: not all languages whose speakers have intermarried extensively with Khoisan women now contain click consonants (Pakendorf et al. 2017). It is, however, possible that these languages used to have clicks but have subsequently lost them, or perhaps that contact with Khoisan did not introduce click consonants but triggered other changes, which have not yet been studied extensively.

4. Early Bantu/Pre-Bantu Language Contact in Central Africa

4.1. The Linguistic Landscape of Central Africa

Bantu languages currently are the predominant language group in Central Africa, with Ubangian and Nilo-Saharan languages spoken on, respectively, its northwestern and its northeastern fringes. Reconstructing the Central African linguistic landscape is extremely challenging, given that, in contrast to Southern Africa, none of the present-day forest forager groups still speaks a language that does not belong to one of the above-mentioned families. If current-day Pygmy groups are indeed descendants of the original inhabitants of central Africa, as is commonly thought, they must have lost their ancestral languages in favor of the newcomers' languages. The distinct ethnic identities of today's Pygmy groups tend to correlate with a distinctive way of life and subsistence economy, which usually focuses on the hunting and gathering of forest products or, less commonly, on a craft,

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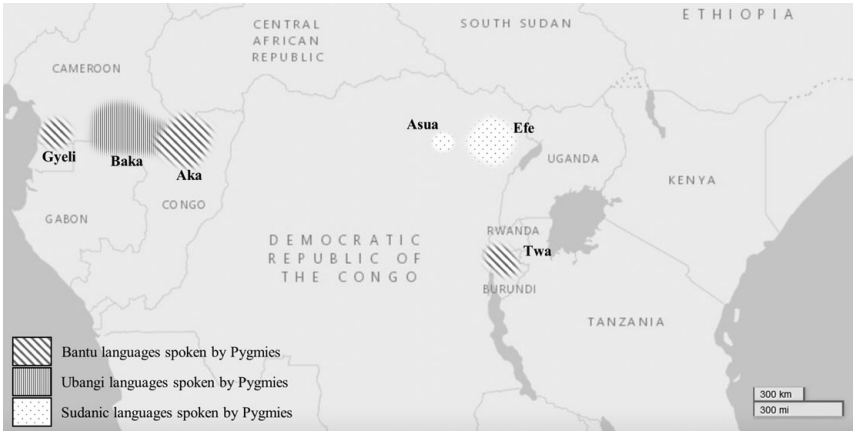

Map 6.4: Distribution of languages spoken by Central African Pygmy communities mentioned in this chapter.

such as pot making or blacksmithing (Biebuyck 1973, Mukwiza Ndahinda 2011, Seitz 1970). Language-wise, however, no Pygmy group is still "unique." The overall majority of them speak a Bantu language, while some speak an Ubangian language (Niger-Congo), such as the Baka from Cameroon, Gabon, Congo, and the Central African Republic, or a Central-Sudanic language (Nilo-Saharan), such as the Mbuti from the Ituri region in the Democratic Republic of the Congo (see Map 6.4).

This absence of a distinct language family has occasionally been interpreted as evidence that Pygmy communities only recently became culturally and economically separate from neighboring communities (Blench 1999, Klieman 2003). Although the exact relationship between autochthonous populations and newcomers has undoubtedly changed over time, genetic studies have shown an ancient split between the ancestors of "Pygmies" and the ancestors of modern farmers, who started to diverge between 60,000 and 70,000 years ago (Batini et al. 2011, Patin et al. 2009, Quintana-Murci et al. 2008). Furthermore, evidence for sex-biased intermarriage between Pygmy and neighboring populations is found in much the same way as in Southern Africa, with autochthonous women, but not men, marrying into Bantu-speaking societies (Quintana-Murci et al. 2008).

Given the parallels between Bantu–Khoisan contact and Bantu–Pygmy contact in the genetic data, it is expected that the linguistic traces of this contact in Central Africa may also be similar to those found in Southern Africa. However, the lack of comparative material in the form of surviving or historically documented isolate Pygmy languages seriously hampers the identification of such a linguistic substrate. Earlier attempts at identifying remnants of an original Pygmy language focused on comparing languages spoken by modern forest foragers to the languages spoken by their neighbors in order to identify unique elements shared among Pygmy languages. The availability of more and better data on the languages of both forest

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foragers and their neighbors allows us to reassess these claims and to show that these so-called substrate features are usually also found in other Bantu languages.

4.2. Earlier Attempts to Identify Phonological and Lexical Pygmy Substrate

Earlier scholars were particularly interested in identifying unique phonemes in Pygmy languages, i.e. sounds not only lacking in surrounding languages but also more generally in the world's languages. This approach was clearly inspired by the identification of click phonemes as the hallmark of hunter-gatherer languages in southern Africa. One example of a phoneme that has been proposed as a remnant of an ancient Pygmy language is a "labial click" in Efe, a Sudanic language spoken by forest foragers (Schebesta 1952, Trilles 1932). Modern analyses recognize this sound as a labial flap. This phoneme is indeed cross-linguistically rare, but it is an areal feature of northern Central Africa that is also found in a number of languages not spoken by hunter-gatherers and may have its origin in the Adamawa-Ubangi language family (Olson & Hajek 2003).

Schebesta (1949) also ascribes the use of pharyngeals and labial implosives in the languages Efe and Asua of the Mbuti foragers to a Pygmy substrate. More recent studies of these languages give detailed descriptions of sounds in which uvular, labial, and implosive features are combined, but these are also not restricted to Pygmy languages. While the labial-uvular stop [qb], an allophone of the labial-velar stop /gb/, is used in Efe, spoken by foragers, a highly similar sound [qɓ] occurs in Lese, a language closely related to Efe but not spoken by hunter-gatherers (Demolin & Teston 1997). Furthermore, labial-velar stops are highly common in Central Africa (Clements & Rialland 2008, Güldemann 2008c) and have spread to several "non-Pygmy" languages spoken in the northern Bantu borderland (Bostoen & Donzo 2013).

Attempts at identifying lexical items that are part of a Pygmy substrate have mainly focused on Pygmy groups living in Western Central Africa. Out of 366 plant names in Baka, Letouzey (1976) found that 104 were not shared with any neighboring languages, suggesting that they may be remnants of a now extinct Pygmy language. A more detailed study by Bahuchet (1989) presents 644 lexical items shared between the Bantu language Aka and the Ubangi language Baka, both spoken by forest foragers. As Aka and Baka are genealogically unrelated, or very distantly related, languages, he attributes this lexicon to a shared Pygmy substrate, which has remained after the Aka shifted to a Bantu language and the Baka to an Ubangi language. However, a large part of this shared lexicon is of Bantu origin, and the number of lexemes shared between Aka and Baka that are not also used in other languages is very low. For example, out of 34 words for mammal species shared between Aka and Baka, only one was not found in any of the other

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languages surveyed (Bahuchet 1989: 97). Similarly, out of 119 words for tree species shared between the two languages, only 26 were found to be unique to Aka and Baka alone (Bahuchet 1989: 179–80). Furthermore, 10 of these are likely to be of ultimate Bantu origin, as the form used in the Ubangi language Baka contains an initial syllable that resembles a Bantu noun class prefix. This is the case with *mòndùmbā* '*Copaifera mildbraedii*' (Bahuchet 1989: 180), which contains the initial syllable *mò*, which resembles the Bantu prefix of noun class 3 *mu-*, or *lìkūmbì* '*Ochthocosmus africanus*' (Bahuchet 1989: 180), in which the initial syllable *lì* resembles the prefix *li-* used in many Bantu languages for noun class 5. A significant portion of the shared Aka/Baka lexicon thus appears to be of Bantu origin, even though the exact Bantu donor language cannot always be identified. A better documentation of vernacular plant and animal names in surrounding languages would definitely make it possible to identify new cognates for the isolated items in Aka/Baka.

In sum, no linguistic features have been identified in modern Central African languages spoken by forest foragers that can convincingly be attributed to a Pygmy substrate. This does not mean, however, that the enterprise of identifying remnants of the ancestral languages originally spoken by forest foragers is completely doomed, if at least we adapt our research methodologies, as proposed in the following section.

4.3. Searching for Pygmy Substrate in "Non-Pygmy" Languages

The search for a Pygmy substrate in Central Africa has so far concentrated on the languages of populations still living a foraging lifestyle. As we have shown in Section 3, however, traces of the pre-Bantu languages of Southern Africa are found in the Bantu languages currently spoken by people living an agriculturalist lifestyle. A more fruitful attempt at identifying traces of the original languages of Central Africa, then, could be to investigate the languages of populations who live as farmers rather than hunter-gatherers, in which archaisms from an earlier Pygmy language could have been introduced by forest foragers shifting to the language of their neighboring communities. Not only did the autochthonous hunter-gatherers lose their ancestral language(s) to those of immigrant Bantu speakers, but many of them also – especially women and their children – were assimilated into the newcomer's communities through intermarriage, as molecular anthropological research has pointed out (e.g., Quintana-Murci et al. 2008).

A second clue for identifying languages in which Pygmy substrate may be found is a more careful study of the genetic profile of western Bantu speech communities. As discussed in Section 3.5, stronger signs of Khoisan linguistic influence in Southern African Bantu languages correlate to higher degrees of genetic admixture, suggesting that Central African Bantu languages whose speakers show higher degrees of admixture with Pygmy

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populations may also have the highest chances of having preserved an earlier Pygmy substrate. Just like linguists investigating Pygmy substrate in Bantu languages, who have focused almost exclusively on the languages of forest foragers, molecular anthropologists working on Central Africa have dedicated disproportional attention to "Pygmies" to the detriment of "ordinary" Bantu speech communities. The latter have rarely been the subject of dedicated and systematic ethnolinguistic sampling. Studies, such as Verdu et al. (2013) and Patin et al. (2014), unfortunately remain few and far between and, in this case, restricted to Gabon.

In southern Africa, scholars have been able to identify Khoisan influence on Bantu languages based on a dual argumentation: firstly, a possible substrate feature in Bantu should occur in one or more Khoisan languages, and secondly, the feature should not be common in Bantu languages outside of Southern Africa. Whereas in Central Africa, comparison with attested Pygmy languages is impossible, as no such languages are documented that can serve as a point of comparison, comparison with other Bantu languages may prove a fruitful basis for identifying features that are uncommon in Bantu languages, and/or unlikely to arise as the result of language-internal processes. Given the advances made in the documentation, classification, and reconstruction of Bantu languages over the last few decades (see Section 2), we are in a better position than ever to use our increasing understanding of what a typical Bantu language "should" look like to identify those languages and linguistic features that fall outside this pattern.

A good case in point might be the "Teke (B70)" and "Yanzi (B80)" subgroups of West-Coastal Bantu, which are the closest relatives of the Kikongo Language Cluster (KLC) (de Schryver et al. 2015, Pacchiarotti et al. 2019). They manifest peculiar phonological, morphological, and syntactic features that are not only absent from the KLC, but also rather atypical from a more common Bantu point of view, i.e. uncommon vowel harmonies, umlaut effects, final vowel loss, nine or more vowel systems, verb suffix mergers producing abnormal verb bases, and rare types of polysemy, e.g., causative/applicative syncretism, absence of passive morphology, etc. (Bostoen & Mundeke 2011a, 2011b, Daeleman 1977, Koni Muluwa & Bostoen 2011, 2012, Mufwene 2006, Rottland 1977). It has been suggested that their relative isolation in the transition zone between the equatorial rainforest and the southern savannahs may have played a decisive role in the development of this distinctive linguistic profile (Vansina 1966). Another factor that may have contributed to this distinctive linguistic profile, but which has never been closely examined, is substrate influence from non-Bantu languages, possibly spoken by autochthonous hunter-gatherer groups, with which their ancestors interacted in the vicinity of the putative homeland after Proto-West-Coastal Bantu had diversified into distinct subgroups (cf. Pacchiarotti & Bostoen 2020, 2021).

Through interdisciplinary research that juxtaposes insights from historical linguistics, evolutionary genetics, and archaeology, it might be possible

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to catch a glimpse of the prehistoric linguistic landscape of Central Africa and the way languages and their speakers interacted in the early days of the Bantu Expansion (e.g. Fortes-Lima et al. 2021). However, given the time-depth of the first Bantu–Pygmy contacts and the complete lack of attested Pygmy languages to serve as a point of comparison, it should be taken into account that any trace of autochthonous languages in Bantu, if ever there, may have been erased by time or become completely indistinguishable.

5. Conclusions

The Bantu Expansion had a significant impact on the autochthonous populations, linguistically, genetically, and culturally, especially in lifestyle and the practice of subsistence economy. However, this influence was not one-sided. Indigenous foragers and pastoralists also considerably contributed to the gene pool of Bantu speech communities, the speciation of their languages, and the evolution of their cultures. In this chapter, we have assessed the impact of autochthonous languages on Bantu language variation through a comparative stance on Southern and Central Africa. The Southern African situation is much better known, mainly because the much more shallow time depth of the contact between Bantu-speaking newcomers and autochthonous populations has allowed various autochthonous groups to survive as separate populations, often maintaining a language that is markedly different from that of their Bantu-speaking neighbors. This contrasts with the Central African case, where the early arrival of the Bantu Expansion caused the demise of all the languages previously spoken by the autochthonous hunter-gatherer groups. We have shown that despite the early scholarly interest in the Pygmy substrate issue, still very little is known about the linguistic interactions between indigenous forest foragers and immigrant Bantu speakers. However, the better known Southern African case provides us with useful insights to be applied and better-formulated hypotheses to be tested in order to advance our understanding of prehistoric language contact in Central Africa. The contact-induced impact of autochthonous languages on Central African Bantu need not be phonological and lexical only; it can also be morphosyntactic. Moreover, it should not be searched only for in the languages of the few remaining forager groups, but first and foremost in those Bantu speech communities that have assimilated significant numbers of indigenous hunter-gathers. Those can only be identified through dedicated evolutionary genetic research relying on a solid ethnolinguistic sampling strategy and, where possible, completed by the excavation of early contact sites, which are still particularly scarce in Central African archaeology. In other words, the reconstruction of early language contact between autochthonous forest foragers and Bantu-speaking newcomers will have to be interdisciplinary in order for our knowledge of the subject matter to advance significantly.

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