A historical-comparative study of the noun class systems in the Kasai-Ngounie (Extended) languages (Bantu B50-70, B81-84)

Wordcount: 41198

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A dissertation submitted to Ghent University in partial fulfillment of the requirements for the degree of Master of Arts in African Studies

Academic year: 2018 - 2019
Acknowledgements

To say it with a good old metaphor: the making of this dissertation was a wild ride. While some people made it even wilder, others prevented me from going too far astray. Heartfelt thank you’s go out to the following bunch of people in particular.

My supervisor, Koen Bostoen. I can say without a doubt that if weren’t for you, the process of writing this dissertation would not have been this hard. I also would not have been able to put even one word to paper, so there’s that. Thank you for being so meticulous when reading preliminary drafts, for always being reading to offer advice and, most of all, for believing in me.

My second supervisor, Sara Pacchiarotti. I thank my lucky stars that you arrived at Ghent University when you did. After our first meeting back in January 2018, I thought to myself: “She will be the reason I finish this thesis.” Today I can say that indeed, you are. You pushed me to always do better, but most of all to always believe in myself. Thank you as well for meticulously reading preliminary drafts. Thank you for the chats, the hugs, the coffees, the never-ending positivity and support. (Also for the maps and figures, which have made this dissertation look approximately twenty-six times more professional.)

The people I met during my fieldwork who made it a memorable experience. Thank you especially to Jude for welcoming me into Kinshasa and making sure my time in the DRC went as smoothly as possible, to Isidore for coming with me to Bankana and helping me wherever he could, and to Joseph for being so eager to share his knowledge on his mother tongue Bwala.

My friends. I don’t know why I do the things I do, but thank you for loving me and supporting me regardless.

Malaika, who was right there with me during the seemingly never-ending hours in the library and who saved me from insanity one too many times. We made it.

My parents. I don’t think any of us had an inkling I would be where I am today when I first enrolled at Ghent University five years ago to do African Studies, of all things. But look at me now. I’ve learned and I’ve grown and none of it would have been possible if it weren’t for you. Thank you for being a steady presence in my life and a constant source of support.

Thank you.
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1 Introduction

This dissertation provides a comparative study of the noun class systems of ten Bantu languages: Duma (ISO 639-9 code: dma), Nzebi (nzb), Tsaangi (tsa), Mbaama (mbm), Bwala (no ISO code), Ngungwel (ngz), Kukwa (kkw), Tiene (tti) and North Boma (no ISO code). These languages are spoken in the Gabonese Republic (henceforth Gabon), the Republic of the Congo (henceforth Congo-Brazzaville), and the Democratic Republic of the Congo (henceforth DRC). All ten languages belong to the Kasai-Ngounie (Extended) subclade of West-Coastal Bantu (henceforth WCB), one of the major branches of the Bantu language family.

In the first chapter, I provide background information about the genealogical classification (§1.1 Classification) and the geolinguistic (§1.2 Geolinguistic situation) and sociolinguistic (§1.3 Sociolinguistic situation) situation of the set of sample languages. After having briefly discussed earlier research, I explain the motivation for the current study in §1.4 Earlier research and motivation for current research. In §1.5 The collecting and processing of data I elaborate on the manner in which I collected the data used for this study. In §1.6 Abbreviations I provide an overview of the abbreviations used in this dissertation, accompanied by definitions where necessary. The second chapter is a discussion of noun class systems in Bantu languages. The third chapter offers a first description of Bwala, a previously undocumented and undescribed Bantu language. This chapter, based on new fieldwork data which I collected in August 2018, consists of a sketch of the synchronic phonology of Bwala and a synchronic analysis of the Bwala noun class system. Moreover, it discusses the evolution of the noun class system from Proto-Bantu (henceforth PB) to present-day Bwala. The fourth chapter brings the comparative perspective to this dissertation. First, it presents the noun class systems of all sample languages, except for Bwala. I use the following secondary sources for this purpose: Mickala-Manfoumbi (1988) for Duma, Marchal-Nasse (1989) for Nzebi, Loubelo (1990) for Tsaangi, Blanchon and Alihanga (1992) for Mbaama, Okoundowa (2016) for Mbaama, Rurangwa (1982) for Ngungwel, Paulian (1975) for Kukwa, Ellington (1977) for Tiene, and Stappers (1986) for North Boma. Thereafter follows a global comparative analysis of recurrent trends in the evolution of the noun class systems, and a historical interpretation of these trends in terms of shared innovations and shared retentions. The fifth chapter concludes this dissertation.

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1 In this dissertation, I write names of Bantu languages without a noun class prefix, following Maho (2009). For example, I write ‘Nzebi’ instead of ‘Inzebi’ and ‘Mbaama’ instead of ‘Lembaama’.
1.1 Classification

The term ‘Kasai-Ngounie (Extended)’ is introduced by Pacchiarotti et al. (forthcoming), who propose an internal lexicon-based phylogenetic classification of WCB, one of the major branches of the Bantu language family. The Bantu languages are part of the Niger-Congo phylum, Africa's largest language family. Guthrie's (1948) referential classification of the Bantu languages features only a few of the sample languages. Guthrie (1971) assigns an alphanumeric code to eight of them, not including Mpini and Bwala. In the present dissertation, I use the alphanumeric codes assigned in the updated referential classification of the Bantu languages by Maho (2009). Of the ten sample languages, Maho (2009) features the following: Duma (B51), Nzebi (B52), Tsaangi (B53), Mpini (B601), Mbaama (B62), Ngungwel (B72a), Kukwa (B77a), Tiene (B81) and North Boma (B82).

Since Bwala is not inventoried in either Guthrie (1971) or Maho (2009), it does not have an alphanumeric code. I am assigning the code ‘B70z’ to Bwala in accordance with the conventions established in Pacchiarotti et al. (forthcoming). The lowercase ‘z’ indicates that Bwala is a variety that was not previously inventoried. The ‘B70’ in Bwala's code ‘B70z’ means that I am tentatively placing it within Guthrie's B70 Teke Group. This decision is based on the geographic location of this variety and on the identity of the language consultant, who designates himself as a Mubwala belonging to the larger ethnic group of the Bateke.

All ten languages in the sample belong to the Kasai-Ngounie (Extended) subclade of WCB. Several studies offer hypotheses about both the internal classification of the WCB languages and their position within the larger Bantu family.

Including 542 language varieties, Bastin et al. (1999) is the most comprehensive lexicostatistical study of the Bantu family. Lexicostatistical studies use a limited set of ‘basic vocabulary’ to calculate the degree of similarity between a set of languages. The list of basic vocabulary used in Bastin et al. (1999) contains 92 items and is a reduced version of the Swadesh-100 list (cf. Swadesh 1955). Bastin et al. (1999) demonstrate that the B50-80 languages belong to a 'Western Bantu' cluster, where they are joined by most languages of Guthrie's zones C, H, K and R, groups B20 and B40 and the languages L21 and L22. Within the Western Bantu cluster, most of the B50-80 languages group together with languages of the B40, H10 and H30 groups and Hungan (H42). This set of languages further subdivides in three clusters, i.e. 'Kongo-Kwilu' (B40, H10, H30, Hungan (H42) and one variety of Nsambaaan (B85FY)), 'Nzebi’ (B50-70, without Tio Bali (B75) and Wuumu (B78)), and ‘Teke’ (most B80 varieties, plus Tio Bali and Wuumu) (Pachiarotti et al. forthcoming: 21-22).

The phylogenetic classification by Grollemund et al. (2015) displays the evolutionary relationships of some four hundred Bantu (and related, i.e. Bantoid) languages. The B50-80 languages form a distinct clade labelled ‘West Western Bantu’ (a.k.a. West-Coastal Bantu (Bostoen and de Schryver 2018)) together with the B40, H10 and H30 groups and Hungan (H42) and Sakata (C43). Within WCB, the
B50-70 languages form a first subclade. The second subclade is made up of B80 languages and Sakata (C34). The third WCB subclade consists of B40, H10 and H30 languages and Hungan (H42) (Grollemund et al. 2015). De Schryver et al. (2015) coined the name ‘Kikongo Language Cluster’ (KLC) for the latter subclade, to which they add Samba (L12a).

Bastin et al. (1999) and Grollemund et al. (2015) target the entire Bantu family. De Schryver et al. (2015) specifically target the KLC as part of the wider West-Coastal Bantu branch. While each of these studies shows the existence of a distinct WCB clade, they all include an incomplete sample of WCB languages. Pacchiarotti et al. (forthcoming) remedy this by incorporating as many B50-80 languages as possible in their internal lexicon-based phylogenetic classification of WCB.

Figure 1 is a schematic representation of Pacchiarotti et al.’s (forthcoming) classification of WCB, whereas Map 1 depicts this information geographically. Within WCB, Kasai-Ngounie (Extended) forms a monophyletic group. In phylogenetics, this term is used to refer to a group including the most recent common ancestor of a group of organisms and all its descendants (Memorial University of Newfoundland s.d.). A schematic representation of the Kasai-Ngounie (Extended) subclade, which contains all B50-70 varieties plus the B81-84 varieties, is provided in Figure 2. Map 2 shows where the Kasai-Ngounie (Extended) languages are located geographically.
Figure 1 - Internal phylogenetic structure of West-Coastal Bantu (Pacchiarotti et al. forthcoming: 38)²

² The circled capital letters in Figure 1 and Figure 2 do not apply to this thesis. They refer to nodes in the phylogenetic tree presented in Pacchiarotti et al. (forthcoming).
Map 1 - Distribution of West-Coastal Bantu and its main subgroups (Pacchiarotti et al. forthcoming: 40)
According to Pacchiarotti et al.'s (forthcoming) classification, Bwala (B70z) is one of the first languages to split off. The group of languages that split off first (B70x-z, B75, B78, B80x-y and B83-84, see Figure 2) do not form a monophyletic group, but what is known as a paraphyletic grade. This term is used to refer to a group including the most recent ancestor, but not all its descendants (Memorial University of Newfoundland s.d.). The remainder of the sample languages belong to a monophyletic group called Kasai-Ngounie. Within this subclade, Ngungwel (B72a) and Kukwa (B77a) are part of a paraphyletic group. The B50 and B80 varieties included in the sample are all part of a monophyletic group. Tiene (B81) and North Boma (B82) belong to Kwa-Kasai North, whereas Duma (B51), Nzebi (B52) and Tsaangi (B53) belong to Nzebi-Teke West. Mbaama (B62) belongs to the monophyletic group called Mbete. Mpini (B601) is not included in Pacchiarotti et al. (forthcoming).

Figure 2 - Internal phylogenetic structure of the Kasai-Ngounie (Extended) subclade of WCB (Pacchiarotti et al. forthcoming: 34)
Map 2 - Distribution of the Kasai-Ngounie (Extended) subclade and its subgroups (Pacchiarotti et al. forthcoming: 35)
1.2 Geolinguistic situation

Map 1 and Map 2 show that Kasai-Ngounie (Extended) languages are spoken in Gabon, Congo-Brazzaville and the DRC. Languages from the KLC are spoken to the south and the southwest of the Kasai-Ngounie (Extended) languages. To the southeast are languages from Guthrie’s B80 group (see Map 1). To the north and the east are languages from Guthrie’s zones A and C. \textbf{Fout! Verwijzingsbron niet gevonden.} shows the geographical distribution of all the B50-80 varieties that were surveyed in Pacchiarotti \textit{et al.} (forthcoming).

The geolinguistic information about Bwala (B70z) is limited to that provided to me by my language consultant Joseph on the one hand, and Nsuka Nkutsi (1990) on the other hand. Going by Joseph’s explanation, the Babwala appear to live in Kinshasa Province, from Bankana in the east to the last village before the Kongo Central province. Nsuka Nkutsi (1990) mentions Ngaana (Gana) and Kingao as the two main locations where Bwala is spoken. Map 4 shows the approximate area where Bwala is spoken.

While Joseph designates himself as a Mubwala, he also considers the Babwala to be part of a larger Teke people alongside several other groups. Moreover, he stressed repeatedly that ‘Teke’ is a name used by outsiders. The ‘Bateke’ designate themselves as ‘Batyoo’. The language they speak is called ‘Ityoo’. Pacchiarotti \textit{et al.} (forthcoming: 15) admit that the internal structure of the so-called Teke group is unclear. Since it is uncertain whether the languages belonging to it form a language continuum, I consider Bwala to be a distinct language variety in this dissertation.

More information is available about the geolinguistic situation of the other sample languages. Whereas in this dissertation I use only one secondary source per language, Pacchiarotti \textit{et al.} (forthcoming), whose maps and figures I use, often use multiple sources per language. If these indicate distinct geographical locations for the same language variety, Pacchiarotti \textit{et al.} (forthcoming) consider them to be regiolectal varieties of the same language variety. They indicate this by adding a capital X, Y, Z, etc. to the existing alphanumeric code. For example, B52X and B52Y (see \textbf{Fout! Verwijzingsbron niet gevonden.}) are regiolectal varieties of Nzebi (B52). \textbf{Fout! Verwijzingsbron niet gevonden.} also shows multiple regiolectal varieties for Mbaama (B62), Kukwa (B77a), Tiene (B81) and North Boma (B82). Since I use only one source per language, I discuss only those specific regiolectal varieties.
Map 3 - Indicative geographical distribution of the B50-80 varieties surveyed in Pacchiarotti et al. (forthcoming: 8)
Map 4 - Approximate location of Bwala speakers
According to Mickala-Manfoumbi (1988), Duma (B51) is mainly spoken in Lastourville, a city in the Ogooué-Lolo province in Gabon. On Map 3, this geographic location is found just north of ‘B51’. With regard to the number of Duma speakers, Mickala-Manfoumbi (1988) quotes Adam (1954), who says they are not numerous. Nonetheless, Adam (1954, as referenced in Mickala-Manfoumbi: 2) claims that Duma is a language of importance, since it is the language of the Ogooué River. Due to socio-economic factors, such as the availability of employment and education, Duma speakers are also present in Libreville, the capital city of Gabon, and in Port-Gentil, the second-largest city of Gabon and the centre of the petroleum industry (Mickala-Manfoumbi 1988: 2). Unlike Mickala-Manfoumbi (1988) and Adam (1954), the Ethnologue (Eberhard et al. 2019) does provide a number of speakers for Duma, i.e. 9840. Moreover, they note that Duma speakers also use Nzebi (Eberhard et al. 2019).

Marchal-Nasse (1989) shows that Nzebi (B52) is spoken in Gabon and Congo-Brazzaville, in an area south of Lastourville. B52X and B52Y on Map 3 are both located in this area, which covers some 32,000 km² of equatorial forest in the heart of the Chaillu Massif according to Dupré (1982, as quoted in Marchal-Nasse 1989: 3). Dupré (1982, as quoted in Marchal-Nasse 1989: 3) puts the total number of Nzebi speakers between 55,000 and 60,000. Of these, between 45,000 and 50,000 live in Gabon, while the rest lives in Congo-Brazzaville. These numbers are far lower than those provided by the Ethnologue, who estimates that there are 120,000 Nzebi speakers in Gabon and 20,000 in Congo-Brazzaville (Eberhard et al. 2019). Several other speech communities are located in and around the Nzebi area, such as the Wanzi, the Duma, the Punu and the Tsaangi, among others (Dupré 1982, as quoted in Marchal-Nasse 1989: 3). More than likely, this proximity has entailed situations of language contact.

Loubelo (1990: 6) states that Tsaangi (B53) is spoken in Moutamba District in the Niari Region of Congo-Brazzaville. On Map 3, ‘B53’ is located in this area. According to Loubelo (1990: 7), there are around 18,000 Tsaangi. People from other speech communities, such as the Nzebi and the Punu, among others, live in the Tsaangi area (Loubelo 1990: 7). Once again, the Ethnologue (Eberhard et al. 2019) indicates a higher number of speakers, i.e. 28,610, of which 20,000 live in Congo-Brazzaville. Presumably, the remaining Tsaangi speakers live in Gabon. Furthermore, Tsaangi speakers also use Kituba according to the Ethnologue (Eberhard et al. 2019).

The available information about Mpini (B601) is very limited. Pacchiarotti et al. (forthcoming) do not include Mpini, though they do not give a reason as to why they omit it. Moreover, it is not listed in the Ethnologue (Eberhard et al. 2019). Blanchon and Alihanga (1992) discuss the variety of Mpini that is spoken in Eyuga (Eyouga), a village located 30 km to the east of Franceville. On Map 3, this would be slightly to the east of ‘B602’, still within the Mbete subclade. Blanchon and Alihanga (1992) describe Mpini as a variety of Mbaama (B62). It is also considered as such by Maho (2009).

According to Okoudowa (2016), Mbaama (B62) is spoken in Haut-Ogooué, which is one of Gabon’s nine provinces, located in the southeast of the country. On Map 3, B62X is located in this province.
Map 3 also shows the regiolectal variety B62Y in Congo-Brazzaville, which is based on data from Bastin et al. (1999) (cf. Pacchiarotti et al. forthcoming: 60). Okoudowa (2016) states that there are about 24,800 Mbaama speakers. The Ethnologue (Eberhard et al. 2019) gives a similar number, i.e. 20,000. However, Eberhard et al. (2019) state that Mbaama is spoken in Lékoumou district in Congo-Brazzaville, which is decidedly more southerly than the Mbaama area delineated by Okoudowa (2016). It is noteworthy that Okoudowa (2016: 1) also mentions the Mpini as one of the ethnic groups comprising the Mbaama people.

Rurangwa (1982: 2) states that Ngungwel (B72a) is spoken in Gambona district in Congo-Brazzaville. In this district, the majority of the people live in the city of Gamboma, the administrative and commercial centre, which is indicated on Map 3 right next to ‘B72a’. Rurangwa (1982) does not state the number of Ngungwel speakers. The Ethnologue (Eberhard et al. 2019) puts the number at 45,000. Furthermore, Eberhard et al. (2019) note that Ngungwel speakers also use Lingala.

According to Paulian (1975), Kukwa (B77a), also called Kukuya (or Koukouya, in the French spelling), is spoken on the Koukouya Plateau in Congo-Brazzaville. ‘B77aY’ on Map 3 is found just north of Lekana, a town on the Koukouya Plateau (Paulian 1975: 12). The Koukouya Plateau is located between two rivers, the Leketi and the Mpama (Paulian 1975: 16). The number of Kukwa speakers suggested by Paulian (1975: 7), i.e. 14,000, is far lower than the 38,800 Kukwa speakers mentioned by the Ethnologue (Eberhard et al. 2019). The latter notes that the Kukwa also use Lingala.

According to Ellington (1977: x), Tiene (B81) is spoken around Bolobo near the Congo river in the DRC. Ellington’s (1977) description of Tiene is based on the variety spoken in and around Mansele. This town is located just to the northeast of Bolobo and is located west of ‘B81X’ on Map 3. Ellington (1977) notes that Tiene is bordered by languages from Guthrie’s zone C on three sides. Bobangi (C32) is spoken to the west and the north, while Kesengele (C33) is spoken to the east. To the south of the Tiene area are B languages, i.e. Mosieno (B76a), Ng’ee (B76b) and ‘Kiboma’ (B82) (Ellington 1977: x). Due to the confusion regarding the label ‘Boma’ (cf. Pacchiarotti et al. forthcoming: 9-15), I cannot be sure that the Kiboma mentioned by Ellington (1977) corresponds to the North Boma included in this dissertation. Ellington (1977: x) estimates the number of Tiene speakers around 25,000, of which more than 3000 live in Kinshasa, the capital of the DRC. According to the Ethnologue (Eberhard et al. 2019), there are around 24,000 Tiene speakers. Both Ellington (1977) and Eberhard et al. (2019) note that (the majority of) the Tiene speakers also speak Lingala. Ellington (1977: xii) adds that they also have some knowledge of Bobangi and/or the other neighboring languages.

North Boma (B82), the last sample language in this dissertation, is spoken in the DRC around Mushie according to Stappers (1986). This town is located just south of ‘B82X’ on Map 3. With regard to the number of North Boma speakers, Stappers (1986) mentions Bryan (1961), who says that there are about 8000. It is likely that the ‘Boma’ variety included in the Ethnologue (Eberhard et al. 2019) does not
correspond to North Boma, since both the geographic location and the number of speakers are quite different.

1.3 Sociolinguistic situation

All ten sample languages are vernacular languages spoken by a limited number of speakers. They classify as minority languages. According to Batibo (2005: 51), minority languages are mainly characterised by a small number of speakers and a lack of public function, social status or prestige. Moreover, they are usually not sufficiently described and therefore do not have a standardised orthography. Since minority languages have a limited or no socio-economic function, speakers also have to be acquainted with the dominant language in the region or country. Such languages of wider communication, or lingua francas, are used in public domains such as trade, political rallies and popular mass media (Batibo 2005: 17, 24, 54).

In the DRC and Congo-Brazzaville, two vehicular languages are relevant in this dissertation, i.e. Lingala and Kituba. Unlike the DRC and Congo-Brazzaville, Gabon does not appear to have any endogenous African languages that function as a lingua franca. While Fang (A75) is spoken by about 30 percent of the population (ca. 427,000 people) this language is mainly found in the northern provinces of Gabon (Assam and Mavoungou 2000: 257). French is the official language in the DRC, Congo-Brazzaville and Gabon.

Lingala is one of four national languages in the DRC (Bokamba 2009), together with Swahili, Kikongo and Ciluba. It does not only function as a lingua franca, but it is also a language with mother-tongue speakers among the inhabitants of Kinshasa and in the urban centres of the central-western and northwestern parts of the DRC. Many inhabitants of Brazzaville and Pointe-Noire, as well as northern Angola also speak Lingala as their native language. Additionally, Lingala functions in all these cities and regions as a second language for speakers with different mother tongues, i.e. as a lingua franca. In the rest of the DRC, the non-urban eastern parts of Congo-Brazzaville, and the Central African Republic, Lingala also appears as a lingua franca (Meeuwis 1998: 7). According to Bokamba (2009: 51), the number of Lingala speakers in the DRC and Congo-Brazzaville ranges from 20 to 25 million.

Lingala appeared relatively recently, at the end of the nineteenth century. At that time, Bobangi (C32) was one of the most important languages used in the trade activities along the Congo River, in the area between the present cities of Kinshasa and Lisala. In 1879 the colonial state was introduced. A pidgin of which Bobangi was the main lexifier was created when the Whites and their helpers (i.e. porters, interpreters etc. from African but non-native decent) learned the already diversified Bobangi to communicate with the local population. This new language, which was labelled 'Bangala' before the glossonym 'Lingala' was introduced, rapidly acquired a body of native speakers in the first decades of
the twentieth century, “especially in the urban centers along the Congo river” (Meeuwis 1998: 4). Before the end of the nineteenth century, the language that would become Lingala was already adopted as the official language of the armed forces. Moreover, Lingala was used for vertical communication during colonial times. After independence, “the position of Lingala was further consolidated and its geographical expansion continued” (Meeuwis 1998: 6). Lingala remained the preferred language for vertical communication and it became the dominant language of modern popular music (Meeuwis 1998: 4-7).

Kituba is spoken in the southern part of Congo-Brazzaville and in the former Lower-Congo and Bandundu provinces in the DRC (current Kongo Central and Mai-Ndombe, Kwilu and Kwango provinces). It serves as both a vernacular language for the urban population and, to a lesser degree, as a lingua franca for the rural population in this geographical area (Mufwene 2009: 217; Samarin 2013: 113). Even though estimates of the total number of Kituba speakers are difficult to make, Mufwene (2009: 220) offers a conservative estimate of 5 to 6 million speakers in the DRC alone. He does not specify the number of Kituba speakers in Congo-Brazzaville. Kituba is known by several other names, such as Fiot, Bula Matadi, Munukutuba, Kikongo ya Leta, Kikongo-Kituba and Kikongo. The latter name is especially used in the DRC (Samarin 2013: 113). To be clear, this language does not correspond to any of the language varieties of the Kikongo Language Cluster (de Schryver et al. 2015). Kituba originated in the same time period as Lingala, but the circumstances in which it did are less clear (Samarin 2013). Like Lingala, it is contact-based and it is not associated with a specific ethnic group (Mufwene 2009: 211).

Due to their prevalence, vehicular languages such as Lingala and Kituba may contribute to the endangerment of minority languages. According to UNESCO (2003: 2, italics in original), “[a] language is endangered when it is on a path toward extinction.” UNESCO (2003: 7-12) provides six factors to assess the vitality/endangerment of a language as follows: (1) intergenerational language transmission, (2) absolute number of speakers, (3) proportion of speakers within the total population, (4) trends in existing language domains, (5) response to new domains and media, and (6) materials for language education and literacy. I will only check these criteria for Bwala, since this is the only language with which I have first-hand experience. I will not use secondary sources which are often over twenty years old to assess the current vitality/endangerment of the other languages in the sample.

Even for Bwala, I cannot provide information for each of UNESCO’s (2003) six criteria. Since I rely on the observations I made during my fieldwork, my remarks apply only to Bankana and, in particular, to the people I met there. The first criterion to assess the vitality of a language is intergenerational language transmission. It appears that the youngest Bwala speakers are of the parental generation. While my language consultant, Joseph, spoke Bwala fluently, his children were able to say only a few words. Joseph spoke Lingala to his own children as well as to other children in the town. I cannot provide information about UNESCO’s (2003) second and third factor, which are the absolute number
of speakers, and the proportion of speakers within the total population. With regard to the fourth criterion, i.e. trends in existing language domains, I have the impression that Bwala is not used frequently. Joseph, age sixty, used Bwala when communicating with people of his generation. Younger people are not proficient, but they may still know Bwala songs. I did not gather information about UNESCO’s (2003) fifth and sixth factor, i.e. the response to new domains and media, and the materials for language education and literacy.

While the available information to assess the vitality of Bwala is very limited, Bwala may arguably be classified as an endangered language. The prevalence of Lingala in the area around Kinshasa plays an important role therein. As such, languages that are closely related to Bwala also risk endangerment. As UNESCO (2003: 8) states, “a small speech community is always at risk.” This statement may also apply to the remaining languages in the sample, since each of them has a limited number of speakers.

1.4 Earlier research and motivation for current research

Earlier research on Bwala (B70z) is as good as non-existent. To my knowledge, it was mentioned only once in Nsuka Nkutsi (1990), who lists it alongside ten other Teke varieties and states that it is mainly spoken in Gana and Kingao (see §1.1 Classification). Bwala is thus almost entirely undocumented and undescribed. This dissertation, which provides a first description of the phonology and the noun class system of Bwala, may be the starting point for further research into this language variety. It may also facilitate research into the Kasai-Ngounie (Extended) languages and the WCB languages in general. Furthermore, research into smaller language varieties such as Bwala is important for language preservation.

When it comes to the other nine sample languages, the existing literature on linguistic topics is limited. Nonetheless, I will not provide an overview of the earlier research on each of these languages. In the beginning of this chapter, I listed the secondary sources I use for each language. In §1.1 Classification I discussed the earlier research with regard to classification. In §1.2 Geolinguistic situation I used each of the selected secondary sources to provide information about the geolinguistic situation of the languages.

Except for Mpini (B601), all sample languages have been part of one or more studies that aimed at historical classification, see §1.1 Classification. Each of these studies was lexicon-based and showed that the sample languages are closely related. The present comparative study is based on noun class systems instead of lexicon. By comparing a set of languages with regard to a different aspect, the situation is looked at from a different perspective, which creates the possibility to gain new insights. In particular, this comparative study could contribute to resolve some of the lexicon-based paraphyly within the Kasai-Ngounie (Extended) subclade, see §1.1 Classification. In this way, the
insights from this thesis will hopefully contribute to the progress of the on-going BantuFirst project (https://www.bantufirst.ugent.be/), as part of which this MA thesis has been written. This cross-disciplinary project focuses on the material culture, subsistence and language dynamics of the first Bantu-speaking communities that would have settled south of the equatorial rainforest ca. 2500 years ago (Pacchiarotti et al. forthcoming: 1).

The subject of this study is inspired by Hyman et al. (2017). They present the noun class system of Teke (B71, Maho (2009) calls this variety ‘Teghe’), and examine how the noun classes of this language developed from PB. Hyman et al. (2017) claim that animacy, abstractness and number played a pivotal role in the reduction and restructuring of the Teghe noun class system with regard to PB. Like Hyman et al. (2017), the present thesis aims to figure out changes to the noun class systems of a particular set of languages, i.e. the Kasai-Ngounie (Extended) languages.

1.5 The collecting and processing of data

While Bwala is as of yet an undocumented and undescribed language, the other nine sample languages are not. As such, I applied different methods in my research for Bwala and for the other languages involved.

I conducted fieldwork in the DRC in August 2018. I did not know beforehand which language variety I would collect data for. In coordination with my supervisors and several people I met in Kinshasa, I decided to go to Bankana, a town located approximately 150 km east of Kinshasa. After being introduced to Joseph Emboto, a Mubwala, I decided to work with him and collect data on his language variety, i.e. Bwala. Additionally, I met with two other elder Bwala speakers. My meeting with Joseph Maba, who is a griot, yielded some audio recordings of Bwala discourse and songs. Due to time constraints, these were not exploited in the making of this dissertation. The meeting with the third Bwala speaker did not yield any useful material. As such, the description of Bwala offered in this dissertation is a description of the idolect of Joseph Emboto.

Joseph was born in 1958 or 1959 in Gombe Matadi, a town in Kongo Central province located to the southwest of Kinshasa, where his father worked as a nurse at the time. Throughout his childhood, Joseph lived in several places in the municipality of Maluku in the province of Kinshasa. In our meetings, he mentioned Bankana, Gana, Dumi, Yuo and Yoso, but it is possible that he lived in other places in addition to this. Joseph speaks French, Lingala, Bwala and some Kituba. Bwala is his mother tongue. He started learning Lingala once he went to school, where it was the language of education. Later in life, he worked in many different places due to his job as a catechist. As an example, Joseph mentions Masi-Manimba in Kwilu Province. Today Joseph lives in Bankana with his family. He is the principal of a primary school located 66 km from Bankana.
Joseph and I communicated in French. The data were collected by means of elicitation. I prepared in advance a wordlist of 150 items, for which I used the Swadesh-100 list as a starting point (Swadesh 1955). This preliminary list was supplemented by words from the Swadesh-200 list (Swadesh 1952) and words drawn from the secondary sources that I use for the other sample languages. Several more items were added during the meetings with Joseph, which were all audio-recorded. The final wordlist contains 214 items and is provided in Appendix A. While collecting the data, I focussed on the three criteria needed to determine a noun’s noun class, i.e. the nominal prefix, the plural form and the agreement pattern (see the second chapter). I asked each word multiple times, as well as its plural. Furthermore, I asked to translate the nouns accompanied by adjectives, numerals and demonstratives, as well as in constructions that require a connective. In addition to the nouns from the wordlist, Joseph and I put together a collection of Bwala proverbs. Even though these were not exploited in the making of this dissertation, they may be useful for further studies.

The next phase of the documentation process consists of the transcription of the data. I transcribed the majority of the audio recordings of my meetings with Joseph once I had returned from the DRC. I did not collaborate with a native Bwala speaker to make the transcriptions. At this stage, I was faced with several lacunae in my Bwala data. It is likely that these deficiencies in my data would have become apparent if I had made more thorough preliminary analyses while still in Bankana. As it turned out, my fieldwork had not been optimal for several reasons, the most prominent of which is lack of experience.

I went to Bankana with the goal of collecting data that would allow me to analyse the noun class system of Bwala. I knew that in order to achieve this, I had to elicit not only the Bwala equivalent of the nouns in my wordlist, but also the agreement patterns triggered by these nouns. However, I underestimated the importance of eliciting all possible agreement patterns for each noun. I did not elicit verbal prefixes, because at that point I was not aware that sometimes subject and/or object prefixes are the only factor to distinguish between two noun classes. For several nouns, I am missing a demonstrative, an adjective and/or a possessive, which are necessary to establish a noun’s class (see the second and third chapter). I did not collect data on locative classes in Bwala.

A second reason why my fieldwork was not optimal is of a more personal nature. Due to reasons related to my mental health, I cut my time in the field short. While I was in the DRC for four weeks, I spent only one week in Bankana. Originally I had planned to spend another week in Menkao, which is located roughly halfway between Bankana and Kinshasa. Most likely, I would have collected valuable data on another (Teke-)variety in Menkao. As it is, this remains food for further research.

After the collection and transcription of the data, the necessary material is available to start with the second phase, i.e. description. The results of that analysis are presented in the third chapter. A sketch of the synchronic phonology of Bwala is followed by an elaborate discussion of the Bwala noun class system from both a synchronic and a diachronic perspective.
Like Bwala, the other sample languages were picked for this study in a rather arbitrary manner. It had been decided that my comparative study would focus on the B50-80 languages. After this, I had to identify those secondary sources which offered analyses of the noun class systems of any of the B50-80 languages. It turned out that the secondary sources that meet this criterion are not numerous. As a consequence, the availability of a clear analysis of a language’s noun class system became the grounds on which to pick that particular language for the sample. In this way, I arrived at the current selection of language varieties. There are three B50 languages (Duma (B51), Nzebi (B52) and Tsaangi (B53), two B60 languages (Mpini (B601) and Mbaama (B62)), two B70 languages (Ngungwel (B72a) and Kukwa (B77a)), and two B80 languages (Tiene (B81) and North Boma (B82)). The sources I use for these (see p. 1) are all fairly recent, the oldest being Paulian (1975) for Kukwa and the most recent being Okoudowa (2016) for Mbaama.

With the exception of Bwala, I am comparing doculects in this dissertation. Cysouw and Good (2013: 342) introduced the term ‘doculect’ to refer to “a linguistic variety as it is documented in a given resource.” The nature of the data that is used inevitably forms a study. If one uses raw data (as I do for Bwala), they are free to make their own analysis of the data. If one chooses to work with secondary sources, they must use another author’s analysis. There is no way to know how complete or incomplete this analysis is. Certain details may be missing or certain interpretations may be up for discussion. These are inconveniences that need to be dealt with.

1.6 Abbreviations

Table 1 and Table 2 are meant to serve as a guide in navigating the many abbreviations that are used throughout this dissertation. The abbreviations in Table 1 relate directly to the descriptions of the noun class systems. Table 2 contains other abbreviations that are used in the dissertation but which do not necessitate a definition or which do not directly apply to noun class systems.
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Terminology</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUG</td>
<td>augment</td>
<td>The augment is an element that precedes the noun class prefix. It is also referred to as the pre-prefix or the initial vowel. The use of the augment is language-specific (Katamba 2003: 107; Van de Velde 2019: 245).</td>
</tr>
<tr>
<td>CON</td>
<td>connective</td>
<td>Usually, the connective is the element that links two nominal constituents that are in a relation of dependency (Van de Velde 2013).</td>
</tr>
<tr>
<td>NCP</td>
<td>nominal concord prefix</td>
<td>The nominal concord prefix is found on nominal modifiers, e.g. numerals and adjectives. It expresses agreement with the head noun.</td>
</tr>
<tr>
<td>NP</td>
<td>noun class prefix, nominal prefix</td>
<td>The noun class prefix, also called nominal prefix, usually precedes the (simple) noun stem. It encodes noun class assignment (Van de Velde 2019: 245-246).</td>
</tr>
<tr>
<td>PA</td>
<td>pronominal affix</td>
<td>‘Pronominal affix’ is an umbrella term to refer to both the pronominal prefixes and suffixes at once.</td>
</tr>
<tr>
<td>PP</td>
<td>pronominal prefix</td>
<td>In Bantu languages, the pronominal prefix is typically found on pronominal modifiers, e.g. demonstratives, possessives and connectives. It expresses agreement with the head noun (Meeussen 1967).</td>
</tr>
<tr>
<td>PS</td>
<td>pronominal suffix</td>
<td>This term is used specifically in the description of the Bwala noun class system (see the third chapter). It is found in demonstratives and expresses agreement with the head noun.</td>
</tr>
<tr>
<td>SP</td>
<td>subject prefix</td>
<td>The subject prefix occurs in the initial slot of the verbal form. It functions as an agreement marker when the lexical subject is present and as a pronoun when the subject is absent.</td>
</tr>
<tr>
<td>VP</td>
<td>verbal prefix</td>
<td>‘Verbal prefix’ is an umbrella term to refer to subject prefixes and object prefixes without specifying either one.</td>
</tr>
</tbody>
</table>
### Table 2 - Additional abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Terminology</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>BM</td>
<td>Bleek-Meinhof</td>
<td>This abbreviation refers to the Bleek-Meinhof numbering system.</td>
</tr>
<tr>
<td>C</td>
<td>consonant</td>
<td></td>
</tr>
<tr>
<td>DEM</td>
<td>demonstrative</td>
<td></td>
</tr>
<tr>
<td>DRC</td>
<td>Democratic Republic</td>
<td></td>
</tr>
<tr>
<td></td>
<td>of the Congo</td>
<td></td>
</tr>
<tr>
<td>FV</td>
<td>final vowel</td>
<td></td>
</tr>
<tr>
<td>KLC</td>
<td>Kikongo Language</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cluster</td>
<td></td>
</tr>
<tr>
<td>LOC</td>
<td>locative</td>
<td>This abbreviation is used in glosses to indicate that a morpheme has a</td>
</tr>
<tr>
<td></td>
<td></td>
<td>locative connotation.</td>
</tr>
<tr>
<td>N</td>
<td>homorganic nasal</td>
<td></td>
</tr>
<tr>
<td>NC</td>
<td>noun class</td>
<td></td>
</tr>
<tr>
<td>NMLZ</td>
<td>nominaliser</td>
<td>This suffix is used in verb-to-noun derivation.</td>
</tr>
<tr>
<td>PB</td>
<td>Proto-Bantu</td>
<td></td>
</tr>
<tr>
<td>PoS</td>
<td>part of speech</td>
<td></td>
</tr>
<tr>
<td>prep</td>
<td>preposition</td>
<td></td>
</tr>
<tr>
<td>PRES</td>
<td>present</td>
<td>tense</td>
</tr>
<tr>
<td>PRF</td>
<td>perfective</td>
<td>verbal extension</td>
</tr>
<tr>
<td>PTC</td>
<td>particle</td>
<td></td>
</tr>
<tr>
<td>RES</td>
<td>resultative</td>
<td>verbal extension</td>
</tr>
<tr>
<td>SG</td>
<td>singular</td>
<td></td>
</tr>
<tr>
<td>SM</td>
<td>stem marker</td>
<td></td>
</tr>
<tr>
<td>V</td>
<td>vowel</td>
<td></td>
</tr>
<tr>
<td>WCB</td>
<td>West-Coastal Bantu</td>
<td></td>
</tr>
</tbody>
</table>
2 Bantu noun class systems

This section draws on the abundant specialised literature on noun classification systems to provide an introduction to noun class systems in Bantu languages. In §2.1 The form and structure of nouns, I present some basic notions on the form and structure of Bantu nouns. The nature of noun class systems is the topic of §2.2 What are noun class systems? I discuss noun class systems in the world’s languages, after which I focus on how noun class systems have traditionally been analysed for Bantu languages. In §2.3 From Proto-Bantu to present-day Bantu languages, I briefly discuss some common evolutions of the reconstructed Proto-Bantu noun class system accounting for the variation observed in present-day Bantu languages.

2.1 The form and structure of nouns

In Bantu languages a noun minimally consists of a (simple) stem usually preceded by a prefix (Van de Velde 2019: 245). Other elements such as the augment (also known as the pre-prefix or the initial vowel)3 and inflectional or derivational affixes or proclitics may appear on the noun (Katamba 2003: 107, Van de Velde 2019: 245). In many present-day languages, the canonical stem shape is CVCV. However, in some languages most nouns are monosyllabic and often undergo loss of the final syllable or final vowel (Van de Velde 2019: 245).

2.2 What are noun class systems?

A noun class system is (perhaps tautologically) a system of noun classes. Corbett (1991) considers the terms ‘gender’ and ‘noun class’ as synonyms.4 Since his view differs from the one adopted in this study, I will use the term ‘gender’ in the following explanation, as he does.

In Corbett’s view (1991: 146), gender exists only if agreement exists, i.e. the presence of affixes on nouns is not sufficient to claim that a language has genders. According to Corbett:

“The term agreement commonly refers to some systematic covariance between a semantic or formal property of one element and a formal property of another. For example, adjectives may take some formal indication of the number and gender of the noun they modify.” (Steele 1978, as cited in Corbett 1991: 105, italics in original)

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3 ‘Initial vowel’ is not preferable since the augment does not always consist of a single vowel.
4 By contrast, in the Bantuist tradition the term ‘gender’ refers to a singular/plural noun class pairing. The definition of ‘noun class’ common among Bantuists is given at the end of §2.2.
Aikhenvald (2003) opts for a different, though similar, definition from Matthews (1997), who defines agreement as a “[s]yntactic relation between words and phrases which are compatible, in a given construction, by virtue of inflections carried by at least one of them” (Matthews 1997, as cited in Aikhenvald 2003: 28-29).

In literature on noun class systems the more commonly used term is ‘concordance’, which is generally treated as synonymous with ‘agreement’. According to Corbett (1991: 105), if authors distinguish the two, they mostly do so in idiosyncratic ways. In this thesis the two terms will be used as synonyms.

Corbett (1991: 148-150) states that two nouns belong to the same agreement class if, given the same conditions, they take the same agreement form. The examples in (1) illustrate the notion of agreement classes. The French nouns garçon ‘boy’, jardin ‘garden’, femme ‘woman’ and fleur ‘flower’ all occur in identical conditions. Garçon (1)a and jardin (1)b require the agreeing elements (also known as ‘targets’) to stand in the same form. They belong to the same agreement class, i.e. the masculine gender. Femme (1)c and fleur (1)d also have identical agreements, but these differ from those required by garçon and jardin. Femme and fleur belong to the feminine gender.

(1) French (Corbett 1991: 149)
   a. un grand garçon
      a big boy
   b. un grand jardin
      a big garden
   c. une grande femme
      a big woman
   d. une grande fleur
      a big flower

The agreement class approach is fit to distinguish the genders of languages such as French. However, Corbett (1991) finds that agreement classes often do not suffice for the purpose of counting the genders of a language. He therefore introduces what he calls ‘controller genders’ and ‘target genders’. Controller genders are the genders into which nouns are divided. Target genders are marked on adjectives, verbs and so on (Corbett 1991: 150-151).

Corbett (1991) illustrates these concepts on the basis of Rumanian. In Rumanian, four gender markers are used on adjectives. The singular gender markers are -Ø (2)a(2)b and -a (2)c, and the plural markers are -i (3)a and -e (3)b-(3)c. Rumanian thus has two target genders in both the singular and the plural. Controller genders, in their turn, are established on the basis of which nouns are associated with which target genders (Maho 1999: 144). As such, Rumanian has three controller genders: (i) nouns of which the adjectives take -Ø in the singular and -i in the plural, (ii) nouns of which the adjectives take -Ø in
the singular and -e in the plural, and (iii) nouns of which the adjectives take -a in the singular and -e in the plural (Corbett 1991: 151).

(2) Rumanian (Mallinson 1984, in Corbett 1991: 150)

a. bărbatul e bun
   man.the is good
   ‘The man is good.’

b. scaunul e bun
   chair.the is good
   ‘The chair is good.’

c. fata e bună
   girl.the is good
   ‘The girl is good.’

(3) Rumanian (Mallinson 1984, in Corbett 1991: 150)

a. bărbații sint buni
   men.the are good
   ‘The men are good.’

b. scaunele sint bune
   chairs.the are good
   ‘The chairs are good.’

c. fetele sint bune
   girls.the are good
   ‘The girls are good.’

The idea that only agreement evidence can demonstrate the existence of noun classes is not new to Corbett (1991) but was already elaborated by Heine (1982: 190), according to whom “[a] noun class or gender system is said to be present if the nouns of a given language are divided into classes by means of concordial agreement markers.”

The definition proposed by De Wolf (1971: 35) in his reconstruction of the Benue-Congo branch of Niger-Congo can be described as opposite to the view held by Corbett (1991) and Heine (1982). De Wolf (1971) states that in order to have a noun class system, all nouns of a given language must have noun class markers, whether that be prefixes, suffixes, infixes or some of these combined. The presence of agreement is not imperative.

Neither Corbett (1991) nor Heine (1982) nor De Wolf’s (1971) definitions suffice for a study of Bantu noun class systems. Unlike the aforementioned authors, Dixon (1986) does not limit himself to one definitional criterion. According to him, noun class systems are closed grammatical systems which
classify all nouns into a number of classes varying from two to around twenty. Generally, each noun is assigned to one class. In some languages, however, it is possible for a small number of nouns to select more than one class. Noun classes may be marked on the noun by means of affixes, or they may be coded as separate grammatical words or clitics such as articles. Along with information about noun class, the morpheme in question may convey definiteness, number or case (Dixon 1986: 106).

In French, singular articles carry information about gender and definiteness. While examples (4)a and (4)b both show a masculine article, the article in (4)a is indefinite and that in (4)b is definite. The same distinction is made between examples (4)c and (4)d, where the articles are feminine. All French nouns belong to either the masculine or the feminine gender.

(4) French
   a. un  livre
       a  book
   b. le  livre
       the  book
   c. une  table
       a  table
   d. la  table
       the  table

Furthermore, Dixon (1986) states that if an affix is used to indicate the noun class on the noun, it also triggers agreement on some other words in the sentence. Lastly, since noun classes constitute an obligatory morphological system, variation between speakers in the use of noun classes and variation in register are very limited (Dixon 1986: 106-7).

Whereas the definitions of Corbett (1991), Heine (1982) and De Wolf (1971) were insufficient for a study of Bantu noun class systems, Dixon’s (1986) comprehensive list of criteria touches on all functions of noun class systems in Bantu languages. The remainder of this section will demonstrate that.

First of all, Bantu noun class systems regulate noun class assignment. The prefixes that usually precede (simple) noun stems encode noun class assignment, hence their name ‘noun class prefix’ or ‘nominal class prefix’ (NP). Within the Bantuist tradition individual noun classes are referred to by means of numbers. Odd numbers are assigned to classes that contain singular nouns, while plural classes get even numbers. The most notable exceptions to this general rule are singular class 12 and plural class 13 (Van de Velde 2019: 246), an irregularity that goes back to the origins of Bantu studies.

5 The plural articles convey only definiteness, not gender. The plural indefinite article is des, the definite article is les.
Wilhelm Bleek pioneered the study of Bantu languages. In *A comparative grammar of South African languages* (Bleek 1862; 1869), he coined the term ‘Bantu’ for the family to which his selection of languages belongs. It is assumed that all present-day Bantu noun class systems go back to an original Proto-Bantu (henceforth PB) noun class system (Maho 1999: 50). Bleek was the first who attempted to reconstruct the PB noun class system. In the second volume of his comparative grammar (1869) he reconstructed sixteen noun classes (numbered 1-16) for what he called ‘Ancient Bantu’, as well as actual prefixal forms for each class. A few modifications (like the reversal of classes 12 and 13) notwithstanding, Bleek’s (1869) reconstruction turned out to be solid and it facilitated future comparative studies.

Meinhof (1899/1932; 1906) modified Bleek’s (1869) reconstruction of the PB noun class system by reconstructing five additional classes for what he called ‘Ur-Bantu’. This revised version of Bleek’s (1869) system came to be known as the Bleek-Meinhof system. Amendments to the Bleek-Meinhof system including additional reconstructions were proposed by Meeussen (1967), Guthrie (1971), and Welmers (1973). In total, approximately twenty-four noun classes were reconstructed for Proto-Bantu, see Table 3 (Maho 1999: 13-15; Katamba 2003: 104-108).
Bantuists widely agree that noun class assignment cannot generally be predicted on the basis of the meaning of a particular noun. They also agree that there are nevertheless some semantic regularities or tendencies in Bantu noun class systems. However, there exists disagreement about whether or not the noun class assignment of all nouns can be proven to be semantically motivated, either in contemporary languages or in a proto-stage (Van de Velde 2019: 249). Some scholars believe that the

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PB noun class system was semantically transparent and that semantic irregularities and idiosyncrasies developed later on in individual Bantu languages or language groups (Maho 1999: 67). For instance, Denny and Creider (1986) reconstructed a semantic model for PB which reflects many semantic tendencies of contemporary Bantu noun class systems, such as the fact that abstracts are mostly found in class 14. On the other hand, Maho (1999: 69) and others before him argue that since there are no present-day Bantu languages with a semantically transparent noun class system, one should be careful in assuming that PB did have one.

Irrespective of whether or not the PB noun class system was entirely semantically transparent, certain regular semantic tendencies are present in the system of contemporary Bantu noun classes. Most notably, in all Bantu languages classes 1 and 2 contain nouns denoting human beings (Maho 1999: 64). However, it is also quite common to find nouns with human reference in other classes, particularly those that refer to people with unusual characteristics. A second semantic regularity concerns words for liquids, which are typically found in class 6 (Van de Velde 2019: 250). These semantic regularities transcend Bantu and are widespread in Niger-Congo languages such as Gur (Peterson 1971). Other semantic regularities are not Bantu-wide and show many exceptions (Van de Velde 2019: 250). Maho (1999: 64) nevertheless calls attention to a few more. He notes, among others, that nouns denoting animals are most often found in class 9 and abstract nouns are mostly found in class 14. Class 15 usually contains the infinitives, which are nouns in Bantu languages and function as such (i.e. they trigger agreement).

Despite some regular semantic tendencies in Bantu noun class systems, irregularities and idiosyncrasies abound. In fact, the irregularities are so great that it is rare for a specific noun class to constitute a semantically coherent category. Virtually all noun classes of present-day Bantu languages contain nouns with different semantics which cannot be reduced to a single, coherent group (Maho 1999: 63-64).

In principle, the integration of loanwords into noun class systems has the potential to provide insights into the semantic motivation of noun class assignment. Unfortunately, semantically motivated noun class assignment of loan words is relatively exceptional in Bantu languages. Van de Velde (2019: 249) has found that it is “mostly restricted to language names and some nouns for human beings.” Rather, loanwords tend to be assigned to noun classes on formal grounds. First, noun classes that have no prefix, or one that is not clearly recognisable, such as noun class 1a, 5 or 9, are particularly welcoming to loanwords. Second, the initial segments of loanwords may be reinterpreted as an existing noun class prefix. For example, the Swahili word *kitabu* ‘book’, which was borrowed from Arabic, is a result of that process. The initial segment *ki-* of the Arabic word *kitaab* ‘book’ was reinterpreted as the class 7 noun class prefix *ki-* of Swahili. In conclusion, while the noun class assignment of loanwords has the potential to clarify the semantics involved in this process, it mainly points out that Bantu noun classes are largely formal instead (Stroganova 1952, as referenced in Corbett 1991: 49).
According to Dixon (1986), while most nouns belong to just one class, some nouns may select more than one class. Noun-to-noun derivation in Bantu languages may be interpreted in these terms. In Bantu languages, the primary classification of a noun refers to the noun class to which the noun inherently belongs. When a noun occurs in a different class, it is referred to as ‘secondary classification’. The formation of diminutives and augmentatives, both processes of noun-to-noun derivation, takes place by means of secondary classification (Maho 1999: 88). The special meaning of the secondary class is conveyed by its prefix. This prefix is either substitutive, in which case it replaces the inherent noun class prefix, or it is additive, which means that the secondary prefix is added in front of the primary prefix (Van de Velde 2019: 250).

Multiple classes have a secondary function in addition to their use for primary classification. For example, classes 12 and 19 are the most frequently used diminutive classes (Maho 1999: 89). Diminutive class 12, illustrated in example (5), is found in non-rainforest languages, while diminutive class 19 is chiefly found within the rainforest area. Other classes may be used as well, such as class 7, which is found especially in east coast languages, as well as “in Boma (B82) and Kikongo (H16b) in the south-western rainforest area” (Maho 1999: 215). As for augmentative classes, noun classes 5 and 7 are the most common and widespread. Example (6) shows the augmentative use of class 21. It is possible for a noun class to be used for augmentatives in one language and diminutives in another language (Maho 1999: 215).

(5) Luganda (JE15) (Cole 1967, as referenced in Maho 1999: 89)

`mbwâ → kàbwâ
N-bwâ kà-bwâ
NP9-dog NP12-dog
‘dog’ ‘small dog, puppy’

(6) Shona (S10) (Déchaine et al. 2014: 35)

mùkómáná → zìmùkómáná
mù-kómáná zi-mù-kómáná
NP1-boy NP21-NP1-boy
‘boy’ ‘big boy’

In addition to the formation of diminutives and augmentatives, another very common secondary function is that of locative classes (Maho 1999: 95). Three locative noun classes, i.e. classes 16, 17 and 18, were reconstructed for PB and are found frequently in present-day Bantu languages. Their prefixes are “pà-, ”kù- and “mù- respectively. Generally, class 16 refers to proximate or specific location, class 17 refers to distal or non-specific location, and class 18 refers to interiority (Marten 2010: 2-3). However, “the specific meaning expressed by a particular locative class may differ from language to language” (Zeller forthcoming: 2). All the locative classes can be used to mark nouns as locative by
adding a locative prefix, which serves as a secondary prefix (Marten 2010: 3). This process is illustrated in example (7). Since the locative classes have barely any basic members (except occasionally the word for ‘place’), derived nouns make up the vast majority of locative nouns (Marten 2010: 4).

(7) Bemba (M42) (Marten 2012, as referenced in Zeller forthcoming: 1)

<table>
<thead>
<tr>
<th></th>
<th>a. pangándá</th>
<th>b. kúngándá</th>
<th>c. mungándá</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>pa-n-gándá</td>
<td>kú-n-gándá</td>
<td>mu-n-gándá</td>
</tr>
<tr>
<td></td>
<td>NP₁₆.LOC-NP₉-house</td>
<td>NP₁₇.LOC-NP₉-house</td>
<td>NP₁₈.LOC-NP₉-house</td>
</tr>
<tr>
<td></td>
<td>‘at the house’</td>
<td>‘to the house’</td>
<td>‘in the house’</td>
</tr>
</tbody>
</table>

Nouns cannot only be derived from other nouns, but also from verbs. A nominal stem must first be derived from a verbal base through the addition of a final suffix. Second, the derived nominal stem is assigned to a nominal class. Deverbative nouns may occur in all classes. Derived agent nouns are generally found in noun class 1, as shown in example (8), but other classes may be used as well. Other derived nouns, referring to the action itself, the result of the action, the instrument or the place are found in all other classes (Schadeberg 2003: 79-80). Example (9) shows a derived noun in class 11.

(8) Taabwa (M41) (Bostoen 2008: 300)

-lemb- → mulembi
‘decorate’ mu-lemb-i
NP₁-decorate-NMLZ
‘decorator’

(9) Bena (G63) (Morrison 2011: 171)

-génd- → lugééndo
‘walk’ lu-gend-o
NP₁₁-walk-NMLZ
‘journey’

The expression of number is the third function of Bantu noun class systems, in addition to noun class assignment and derivation. Dixon (1986) states that information about noun class may be fused with definiteness, number or case in a single morpheme. In Bantu languages, the affixes that are used to mark noun classes on nouns, simultaneously carry information about number. Each singular and plural class pairs with another class, according to a singular/plural opposition. The locative classes are the only ones that do not conform to this general rule (Kadima 1969: 86). The Swahili noun class pairing 7/8 is shown in example (10).
Certain noun class pairings are widespread across the Bantu area, namely pairings 1/2, 3/4, 5/6, 7/8, 9/10, 11/10, 12/13 and 14/6. Each of these classes may also occur in other, less common pairings, such as 1/6, 3/6, 7/10, 15/8 and 19/13 (Maho 1999: 53-54; Katamba 2003: 109). What is more, the categorisation of a class is in fact not always rigid. Class 6, for example, functions as a plural class in several pairings. In many languages it also accommodates liquids, which are treated as mass nouns (Maho 1999: 97).

Finally, Dixon (1986) states that if noun classes are marked on nouns by means of affixes, the latter always trigger agreement on some other words in the sentence. A definition of agreement used by Corbett (1991) was provided earlier. In Bantu languages, agreement (or concordance) is expressed by concords. They are found on words belonging to different syntactic categories, such as verbs and several types of words used to qualify nouns. The latter, which may be referred to as ‘adnominals’, can be categorised according to the concords they take. This implies that “different sets of adnominals (or adnominal stems) are associated with different concordial series” (Maho 1999: 100). Certain labels for these adnominal categories have become fairly common among Bantu scholars, such as ‘adjective’, ‘possessive’, ‘demonstrative’, ‘enumerative’ and ‘quantitative’ (Maho 1999: 99-100, 108).

Usually the noun class of a noun determines which concords are used, as in examples (11) and (12) (Maho 1999: 99). This is called mechanic agreement (Heine 1982: 194; Katamba 2003: 113). A dichotomy exists between this type of agreement on the one hand, and semantic agreement on the other hand. “We speak of semantic agreement, as opposed to syntactic agreement, when the choice of an agreement pattern depends on aspects of the meaning of the controller rather than on its morphological class defined by the nominal prefix” (Corbett 1991, as referenced in Van de Velde 2019: 250-251).
Semantic agreement manifests itself in several ways, of which animate agreement is the best-known. Animate agreement entails that animate nouns trigger the agreement patterns of class 1 in the singular and class 2 in the plural, regardless of the morphological class they belong to (Maho 1999: 122). In example (13) the Swahili class 7 noun *kiziwi* ‘deaf person’ triggers the agreement of class 1 instead of that of class 7.

(13) Swahili (G42)

\[
\text{Kiziwi} \quad mgonjwa \quad huyu \quad amekuva.
\]

ki-ziwi \quad m-gonjwa \quad hu-yu \quad a-me-ku-f-a

NP\textunderscore 7-deaf.person NCP\textunderscore 1-ill DEM-PP\textunderscore 1 SP\textunderscore 1-PRF-SM-die-FV

‘This ill deaf person has died.’

In almost all languages that have animate agreement, there are some restrictions to its use. Only rarely do languages employ animate agreement with all animates in all contexts where concords are needed (Maho 1999: 123). Maho (1999) cites, among others, the example of Myene (B11), where animate agreement “is employed only with free pronouns and subject concords” (Jacquot 1983, as referenced in Maho 1999: 125).

Bantu noun class systems meet the criteria listed by Dixon (1986), as was demonstrated in the course of this section by means of their functions, i.e. noun class assignment, derivation, the expression of number, and agreement. Kadima (1969: 82) identifies the three criteria that make up the definition of a single Bantu noun class: (i) the shape of the noun class prefix, (ii) the agreement patterns it triggers in different paradigms (i.e. subject prefixes, object prefixes, pronominal prefixes etc.), and (iii) the noun class pairing.

A noun class is recognised as distinct from others if it triggers different agreement patterns. Some scholars, such as Corbett (1991) and Heine (1982), consider the distinction on the basis of agreement patterns only as sufficient. However, in many Bantu languages the agreement patterns of two or more
classes have merged over time, while their noun class prefixes have remained unchanged. Such is the case in Swahili, where the concords of classes 3 and 11 are identical, while the nominal prefixes are distinct (see Table 4). As a result, Kadima (1969) and others add two conditions to determine what counts as a distinct noun class. If multiple sets of nouns trigger the same agreement pattern, they are split into two or more classes if both their nominal prefixes and their corresponding singular/plural class differ. Additionally, if one set contains singular nouns, while the other contains plural nouns, they are also considered separate classes (Kadima 1969: 82; Van de Velde 2019: 248). Semantics is not a conclusive criterion to recognise noun classes as distinct.

<table>
<thead>
<tr>
<th>Noun class</th>
<th>Noun prefix</th>
<th>Pronominal concord</th>
<th>Possessive concord</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>mu-</td>
<td>u-</td>
<td>wa</td>
</tr>
<tr>
<td>11</td>
<td>u-</td>
<td>u-</td>
<td>wa</td>
</tr>
</tbody>
</table>

2.3 From Proto-Bantu to present-day Bantu languages

The presence of a noun class system is a prominent feature of many Bantu languages. However, it should not be regarded as the family’s defining feature, since there exist languages which have lost all noun classes, e.g. Komo (Katamba 2003, 108-9). In the previous section, I discussed how all present-day Bantu noun class systems are assumed to go back to an original PB system.

To the best of our current knowledge, there is not a single present-day Bantu language in which all reconstructed noun classes are attested. The degree of simplification of synchronic noun class systems with respect to the reconstructed proty-system varies considerably. One extreme case is Komo, which has lost all noun classes. On the other hand of the spectrum one finds Ganda, which has twenty-one noun classes, “[t]he highest number of classes retained by a single language” (Katamba 2003: 108). This high degree of variation across Bantu languages led Maho (1999: 54) to distinguish between what he calls ‘reduced noun class systems’ and ‘traditional noun class systems’. Traditional noun class systems are reduced only quantitatively. They have fewer noun classes than the reconstructed PB noun class system. Reduced noun class systems, on the other hand, are reduced both quantitatively and qualitatively. They have up to three noun classes. The only semantic distinctions that are made in reduced noun class systems, are between singular and plural, and between animate and inanimate. In traditional noun class systems there are several more semantic regularities, even though many of these are not Bantu-wide.
One of the main objectives of the following chapters is to study how noun class systems have evolved in today’s B50-80 languages. A comparative analysis of the recurrent trends will allow me to come to a historical interpretation of them in terms of shared innovations and shared retentions.
3 Bwala

3.1 A sketch of the synchronic phonology of Bwala

Bwala has seven vowel phonemes, i.e. \( i \ e \ ɛ \ a \ ɔ \ o \ u \). Their phonemic status can be established on the basis of the minimal pairs in (14). Vowel length is also phonemic in Bwala, as shown by the minimal pair in (15).

(14) \( \text{búlä} \) ‘village’ vs. \( \text{búlè} \) ‘length, size (when huge)’
\( \text{ŋ́kì} \) ‘what’ vs. \( \text{ŋ́kɛ̀} \) ‘paddle’
\( \text{lìmì} \) ‘tongue’ vs. \( \text{lìmù} \) ‘day after tomorrow’
\( \text{búɔ} \) ‘mushroom’ vs. \( \text{búɔ̀} \) ‘knee’

(15) \( \text{ŋ́kì} \) ‘what’ vs. \( \text{ŋ́kìì} \) ‘neck’

In speech, the high vowels /\( i \)/ and /\( u \)/ may be lowered to [ɪ] and [ʊ] respectively. This process mainly happens in word-final position, e.g. \( \text{díín}ɪ̀ \) ‘tooth’ and \( \text{mísùn}ʊ̀ \) ‘meats’. Furthermore, final vowels may become devoiced, e.g. \( \text{kíl}ɪ \) ‘mortar’ and \( \text{mwél}è̥ \) ‘river’. Some words, like \( \text{móù/báár} \) ‘person(s)’ and \( \text{nám/bámám} \) ‘animal(s)’, completely lost their final vowel.

Table 5 presents the consonant system of Bwala. In this table and throughout the rest of this chapter, I follow the International Phonetic Alphabet (IPA).\(^7\) My current Bwala data set consists of approximately two hundred nouns, as well as the adnominals that are used in the analysis of the synchronic noun class system. As such, the data set is not sufficiently comprehensive to provide minimal pairs to determine the phonemic status of all consonants in Bwala. Most consonants that are included in Table 5 are thus assumed to be phonemes. Further study on the phonology of Bwala may bring new insights that require the table to be modified.

\(^7\) In the case of the palatal lateral approximant (IPA [\( j \)]), I use \( <y> \) instead of \( <j> \). I make this exception to avoid confusion, since \( <j> \) is commonly used in Bantu orthographies for [dʒ].
Table 5 - Bwala consonant system

<table>
<thead>
<tr>
<th></th>
<th>Bilabial</th>
<th>Labiodental</th>
<th>Alveolar</th>
<th>Post-alveolar</th>
<th>Palatal</th>
<th>Velar</th>
<th>Labial-velar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plosive</td>
<td>p</td>
<td>b</td>
<td>t</td>
<td>d</td>
<td>k</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nasal</td>
<td>m</td>
<td></td>
<td>n</td>
<td></td>
<td>p</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trill</td>
<td>r</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fricative</td>
<td>f</td>
<td>v</td>
<td>s</td>
<td>z</td>
<td>j</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Approximant</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>w</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lateral approximant</td>
<td></td>
<td>l</td>
<td></td>
<td></td>
<td>y</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affricate</td>
<td>pf</td>
<td>ts</td>
<td></td>
<td>tʃ</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

There is quite some variation in the phonetic realisation of these consonants. Since the table was based on the speech of one language consultant, I cannot say whether this variation is an idiosyncrasy of my consultant or whether it points to the existence of other phonemes. Sometimes my consultant realised the palatal lateral approximant [y] as a voiced palatal fricative [ʝ], e.g. ʝì ‘stomach’ and mù-ʝì ‘lower leg’. [w] was sometimes realised as [gw], e.g. úgwè ‘to go’ instead of úwè. Especially word-initially, [b] was often realised as [g̊b], e.g. gbúò ‘mushroom’ and gbwì ‘herd, group’.

Labial-velar stops, of which the voiced oral /gb/ is but one type (the others being voiceless oral /kp/, nasal /ŋm/ and prenasalised /Ngb/), are not widespread in Bantu languages (Bostoen and Donzo 2013: 436-437). They occur in several Forest Bantu languages in Guthrie’s zones A, C and D (Grégoire 2003: 353). Meeussen (1967) did not reconstruct them for Proto-Bantu. Bostoen and Donzo (2013) claim that the introduction of labial-velar stops in Lingombe (C41) was a contact-induced change which involved advanced Ubangi-Bantu bilingualism. As far as I can judge, labial-velar stops are not phonemes in Bwala. However, since labial-velar stops were not reconstructed for Proto-Bantu, their occurrence in Bwala does suggest language contact. The nature of this contact is yet to be established.

In several cases, there appeared to be geminate consonants in the speech of my language consultant. Since these cannot be contrasted to non-geminate consonants, it is unsure whether the geminate consonants are phonemic. Several examples are listed in (16). In the first column are the words as I heard them with geminate consonants, in the second are the same words as they appear in the wordlist in Appendix A  Word list: Bwala – English with non-geminate consonants.
Certain morphophonological processes may affect changes to the consonants presented in Table 5. For instance, /k/ may be palatalised under the influence of a front vowel, e.g. múkèì → múkjéì ‘tail’. Similarly, /n/ may be velarised under influence of a back vowel, e.g. únùà → úŋwà ‘to drink’. The homorganic nasal N causes fortition of the following consonant, as illustrated in (17).

(17)  
\[\begin{align*}  
\text{a. } & \text{N + } [l] \rightarrow [nd] \quad \text{e.g. } \ɛ́-N-lè \rightarrow \ɛ́ndè \quad \text{‘long (cl. 9)’} \\
\text{b. } & \text{N + } [s] \rightarrow [nts] \quad \text{e.g. } \text{Ñ-sáà} \rightarrow \text{ńtsáà} \quad \text{‘feathers’} \\
\text{c. } & \text{N + } [y] \rightarrow [nz] \quad \text{e.g. } \text{Ñ-yù} \rightarrow \text{ńzù} \quad \text{‘groundnuts’} 
\end{align*}\]

The Bwala tone system consists minimally of two tones, high (H) and low (L). As was the case for the consonants, I did not gather enough data to distinguish tonal minimal pairs. However, tone is clearly present in Bwala and is thus noted on all examples throughout this chapter.

### 3.2 A synchronic analysis of the Bwala noun class system

As a first step in the analysis of the noun class system of Bwala, I establish singular/plural pairings on the basis of nominal prefixes (NP). In this work I will use ‘nominal prefix’ as a synonym of ‘noun class prefix’. The majority of noun stems combine with two noun class prefixes, one of which marks the singular and the other the plural. Some noun stems occur with only one nominal prefix and are not part of a singular/plural pairing. Several examples illustrate recurrent pairs of singular/plural noun class prefixes, as well as the noun class prefixes that do not pair up with another noun class prefix.

Singular nouns having NP mú- form their plural with either bà- (18) or mí- (19). The vowel of the singular NP mú- may be also be realised as [ʊ] (18)b or [ɔ] (18)c, a process which is likely due to a vowel harmony system.

(18) mú-/bà-  
\[\begin{align*}  
\text{a. } & \text{mú-ntándòbù} \quad \text{‘fisherman’} \quad \text{bà-ntándòbù} \quad \text{‘fishermen’} \\
\text{b. } & \text{mó-àn} \quad \text{‘child’} \quad \text{bà-àn} \quad \text{‘children’} \\
\text{c. } & \text{mó-káàr} \quad \text{‘woman’} \quad \text{bà-káàr} \quad \text{‘women’} 
\end{align*}\]
Several nouns seem to miss a noun class prefix in the singular, as no commutation of prefixes is observed in front of the noun stem in singular vs. plural marking. The plural prefix is simply added to the noun stem. We therefore consider these singular nouns to have a zero-prefix, or Ø-. Such prefix-less singular nouns form their plural with three different NPs, i.e. either bá- (20), má- (21) or Ń- (22). The pairing Ø-/Ñ- occurs with only one noun in the data. As part of a distinct elicitation session, the language consultant gave an alternative form for this noun with singular prefix lí- (see (28)b).

19) mú-/mí-
   a. mú-tì 'tree'       mí-tì 'trees'
   b. mú-sùrù 'forest'  mí-sùrù 'forests'
   c. mú-ntò 'basket'    mí-ntò 'baskets'

Singular NPs kú- (23) and dí- (24) both pair with plural NP mí-. Both pairings only occur twice in the data.

20) Ø-/bá-
   a. Ø-bò 'man'       bá-bò 'men'
   b. Ø-nám 'animal'   bá-nám 'animals'
   c. Ø-nmbí 'fish'    bá-mbí 'fish'
   d. Ø-mwélè 'river'  bá-mwélè 'rivers'

21) Ø-/má-
   a. Ø-vùlù 'city'    má-vùlù 'cities'
   b. Ø-tsóò 'day'     má-tsóò 'days'
   c. Ø-kè 'egg'       má-kè 'eggs'
   d. Ø-nzò 'house'    má-nzò 'houses'
   e. Ø-ŋkè 'paddle'   má-ŋkè 'paddles'
   f. Ø-ŋkìì 'neck'    má-ŋkìì 'necks'
   g. Ø-bòàr 'canoe'    má-bòàr 'canoes'

22) Ø-/Ñ-
    Ø-sɔ̀ɔ 'leaf'      Ń-tsɔ̀ɔ 'leaves'

Singular NPs kú- (23) and dí- (24) both pair with plural NP mí-. Both pairings only occur twice in the data.

23) kú-/mí-
   a. kú-ð 'arm, hand' mí-ð 'arms, hands'
   b. kú-í 'foot'    mí-í 'feet'
(24) dí-/mí-
   a. dí-ù  ‘eye’  mí-ù  ‘eyes’
   b. dí-ìnì  ‘tooth’  mí-ìnì  ‘teeth’

The singular NP í- forms a pairing with plural bí-, as illustrated in (25). Only once, it pairs with má- in the plural (26).

(25) í-/bí-
   a. í-bú  ‘horn’  bí-bú  ‘horns’
   b. í-kɔ̀  ‘closure’  bí-kɔ̀  ‘closures’
   c. í-báà  ‘board’  bí-báà  ‘boards’
   d. í-kɔ̀  ‘garment’  bí-kɔ̀  ‘garments’

(26) í-/má-
   í-tɔ̀  ‘pelvic bone’  má-tɔ̀  ‘pelvic bone’

Singular NP lí- may pair with two plural NPs, i.e. either má- (27) or ŋ- (28). Noun stems taking lí- in the singular and má- in the plural all start with a nasal-consonant cluster, as shown in (27). The examples in (27) are likely cases of reanalysis where an erstwhile N-prefix was reanalysed as being part of the simple noun stem. This is not the case for those in (28), where the initial N- in the plural is clearly a prefix, as it commutes with a singular lí- prefix. This nasal prefix is homorganic in that it assimilates to the place of articulation of the stem-initial consonant. That is why I note it as a capital following conventions in Bantu studies. ‘N’ is commonly used to represent a homorganic nasal. In some cases, the nasal prefix causes fortition of the following consonant (see (17)). When ŋ- is followed by the voiceless alveolar fricative [s], the latter undergoes fortition to [t͡s] (see (28)a(28)b. This fortition does not occur when ŋ- precedes the voiceless labiodental fricative [f] (see (28)c.

(27) lí-/má-
   a. lí-nzáà  ‘fingernail’  má-nzáà  ‘fingernails’
   b. lí-ŋkɔ̀  ‘banana’  má-ŋkɔ̀  ‘bananas’
   c. lí-ntsɔ̀  ‘liver’  má-ntsɔ̀  ‘livers’

(28) lí-//ng-
   a. lí-sáà  ‘feather’  ní-tsáà  ‘feathers’
   b. lí-sɔ̀  ‘leaf’  ní-tsɔ̀  ‘leaves’
   c. lí-fɔ̀  ‘hair’  mí-fɔ̀  ‘hairs’

The singular prefix bú- pairs with má-, as illustrated in (29).
(29) bú-/má-
   a. bú-tà ‘rifle’    má-tà ‘rifles’
   b. bú-là ‘village’    má-là ‘villages’

The examples in (30)-(36) illustrate the noun stems that do not form part of a singular/plural pairing, but always occur with only one noun class prefix.

(30) Ø-
   a. Ø-mvóò ‘rain’
   b. Ø-télè ‘sun’
   c. Ø-stè ‘sand’
   d. Ø-tsùrù ‘heat’
   e. Ø-mbáà ‘fire’

(31) mú-
    mú-dīlī ‘cold’

(32) má-
   a. má-dyà ‘water’
   b. má-sɔ̀ ‘food’

(33) bí-
    bí-dyà ‘food’

(34) lí-
    lí-pfù ‘death’

(35) bú-
    bú-lūmù ‘major river’

(36) ú-
   a. ú-wùmù ‘to breathe, to dry’
   b. ú-yábà ‘to know’
   c. ú-wà ‘to give’
Table 6 presents the singular/plural prefix-pairings in combination with the concords they trigger. In addition to the noun class prefixes (NP), the table contains the nominal concord prefixes (NCP), the pronominal prefixes (PP), the pronominal suffixes (PS) and the connectives (CON). The connectives may be considered clitics (cf. infra). Verbal prefixes are not included in
Table 6 due to lack of data. In the table, lack of data is indicated by ‘×’.

Several categories of adnominals agreeing with the head noun were taken into account when compiling
Table 6, i.e. adjectives, numerals up to six, and proximate and distal demonstratives. Many Bantu languages have a restricted set of agreeing adjective stems, which may also include lower-digit numerals (Maho 1999: 105). In Bwala, adjectives have a different structure than numerals up to ‘six’, as shown in (37) and (38).

(37) Adjectives: PP-NCP-stem
(38) Numerals: NCP-stem

When it comes to the demonstratives, this system is very elaborate in some Bantu languages. There is often a distinction between degrees of closeness and, less commonly, between degrees of emphasis (Maho 1999: 104). I identified two demonstratives in Bwala, which I call the proximate (39) and the distal demonstrative (40). It is possible that other demonstrative forms exist.

(39) Proximate demonstratives: CON só-PS
(40) Distal demonstratives: CON só-PS-nání

In Bantu studies, a connective is the element that links two nominal constituents that are in a relation of dependency (Van de Velde 2013). In Bwala, connective elements are not only present in demonstratives, they also occur in possessive and associative constructions. Possessive constructions express ownership, as in the Bwala phrase mákɛ̀ má mɛ̀ ‘my eggs’, where má links the head noun ‘eggs’ with the personal pronoun mɛ̀. Associative constructions, on the other hand, involve meanings that do not relate to ownership (Maho 1999: 100-103), e.g. mwánɛ́ bɔ́ɔ ‘boy’, literally ‘child CON man’.

Meeussen (1967: 106) reconstructed the structure *PP-a for the connective. Even though this structure is still retrievable for certain classes, i.e. 2, 4, 5, 6, 8 and 14, the Bwala connectives have become fossilised morphemes. The *PP-a structure is not retrievable in the connectives of classes 1, 3, 7, 9 and 10. For each of these classes, the connective is ě.⁸

⁸ Class 1 has an alternative connective ā.
Table 6 - Bwala noun class prefixes (NP), agreement prefixes (NCP, PP and PS) and connectives (CON)

<table>
<thead>
<tr>
<th>Cl.</th>
<th>NP</th>
<th>NCP</th>
<th>PP</th>
<th>PS</th>
<th>CON</th>
<th>Cl.</th>
<th>NP</th>
<th>NCP</th>
<th>PP</th>
<th>PS</th>
<th>CON</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>mú-</td>
<td>mú-</td>
<td>mó-</td>
<td>Ø-</td>
<td>-wù</td>
<td>á/é</td>
<td>2</td>
<td>bá-</td>
<td>bá-</td>
<td>bá-</td>
<td>×</td>
</tr>
<tr>
<td>1a</td>
<td>Ø-</td>
<td>mú-</td>
<td>mó-</td>
<td>×</td>
<td>-wù</td>
<td>é</td>
<td>2</td>
<td>bá-</td>
<td>bá-</td>
<td>×</td>
<td>-bà</td>
</tr>
<tr>
<td>1n</td>
<td>Ø-</td>
<td>mú-</td>
<td>mó-</td>
<td>Ø-</td>
<td>-wù</td>
<td>é</td>
<td>2</td>
<td>bá-</td>
<td>bá-</td>
<td>bá-</td>
<td>-bà</td>
</tr>
<tr>
<td>3</td>
<td>mú-</td>
<td>mú-</td>
<td>mó-</td>
<td>Ø-</td>
<td>-wù</td>
<td>é</td>
<td>4</td>
<td>mí-</td>
<td>mí-</td>
<td>mí-</td>
<td>-mì</td>
</tr>
<tr>
<td>5a</td>
<td>Ø-, lí-</td>
<td>lí-</td>
<td>lí-</td>
<td>-lì</td>
<td>lè</td>
<td>6</td>
<td>má-</td>
<td>má-</td>
<td>má-</td>
<td>-mà</td>
<td>má</td>
</tr>
<tr>
<td></td>
<td>Ø-, lí-</td>
<td>lí-</td>
<td>lí-</td>
<td>-lì</td>
<td>lè</td>
<td>10</td>
<td>Ñ-</td>
<td>Ñ-</td>
<td>Ø-</td>
<td>×</td>
<td>-yì</td>
</tr>
<tr>
<td>5b</td>
<td>kú-, dí-</td>
<td>lí-</td>
<td>lí-</td>
<td>-lì</td>
<td>lè</td>
<td>4</td>
<td>mí-</td>
<td>mí-</td>
<td>mí-</td>
<td>-mì</td>
<td>mé</td>
</tr>
<tr>
<td>7</td>
<td>i-</td>
<td>i-</td>
<td>kí-</td>
<td>-kí</td>
<td>é</td>
<td>8</td>
<td>bí-</td>
<td>bí-</td>
<td>bí-</td>
<td>-bì</td>
<td>bè</td>
</tr>
<tr>
<td></td>
<td>i-</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>é</td>
<td>6</td>
<td>má-</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>9</td>
<td>Ø-</td>
<td>Ñ-</td>
<td>×</td>
<td>-yì</td>
<td>é</td>
<td>6</td>
<td>má-</td>
<td>má-</td>
<td>má-</td>
<td>-mà</td>
<td>má</td>
</tr>
<tr>
<td>14</td>
<td>bú-</td>
<td>Ø-</td>
<td>bú-</td>
<td>-bú</td>
<td>bó</td>
<td>6</td>
<td>má-</td>
<td>má-</td>
<td>má-</td>
<td>-mà</td>
<td>má</td>
</tr>
<tr>
<td>15</td>
<td>ú-</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td>×</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

43
Table 6 serves as the basis for the analysis of the synchronic Bwala noun class system. As discussed in the previous chapter, two noun classes are recognised as distinct if they trigger different agreement patterns. In the case of multiple sets of nouns triggering the same agreement pattern, the nominal prefixes and the corresponding singular/plural class are the conclusive criteria. If these differ, the two noun classes are distinct. In
Table 6, numbers are assigned to the different noun classes in accordance to the Bleek-Meinhof system (Bleek 1869; Meinhof 1906; 1932).

The first class in
Table 6 is class 1. The connective of class 1 is either á or é. As far as I can tell from the data, CON á is used in possessive constructions, e.g. mwán á mè ‘my child’, and CON é is used in associative constructions, e.g. mwán é bɔ̀ ‘boy’. This distinction between a connective for possessive constructions and one for associative constructions is only observed in class 1. Class 1 forms a pairing with class 2. The limited amount of nouns in the data that belong to pairing 1/2 all denote human beings. The nouns that were presented in (18) belong to noun class pairing 1/2. The agreement patterns of these nouns are shown in (41).
The nouns listed in (20) belong to the noun class pairings 1a/2 and 1n/2. 1a and 1n are both subclasses of class 1. As shown in Table 6, 1a and 1n nouns have the same NP and they trigger the same agreement prefixes. However, subclass 1a and 1n differ with regard to the content and the form of the noun stems. Subclass 1a consists of kinship terms, e.g. táàrà ‘father’. Bɔ́ɔ ‘man’ also belongs to this class. Subclass 1n mainly consists of nouns designating animals. In addition, there are some kinship terms, e.g. TimeString[ŋ́]gù ‘mother’ and TimeString[ŋ́]kɔ́ɔ̀ ‘grandparent’, and nouns designating natural elements and phenomena, e.g. TimeString[ń]tswì ‘moon’ and TimeString[mvó]ʊ̀ ‘rain’ (see (51)). 1n nouns commonly begin with a homorganic nasal, unlike 1a nouns. In the following section, I explain that this nasal is a historical class 9 NP *N-.

(42) illustrates the agreement of the 1a noun given in (20)a. (43) shows the 1n/2 nouns given in (20)b and (20)d with examples of agreement. Since the data do not provide agreement for 1n/2 nouns that begin with a homorganic nasal (see (20)c), 1n/2 agreement is illustrated on the basis of a few anomalous 1n/2 nouns. Class 1n does not follow the basic structure that was identified for the Bwala adjective (see (37)). The singular adjective TimeString[ɛ́]múbì ‘bad’ in (43)a starts with the CON instead of the PP.

(42) 1a/2

a. TimeString[bó́]  mümò  [TimeString[bábó́]]10  búwè
    Ø-bó́  mú-mò  bá-bó́  bá-úwè
    NP1a-man  NCP1a-one  NP2-man  NCP2-two
    ‘one man’  ‘two men’

b. mwán  móbi  báán  bábabì
    mú-àn  Ø-mó-bì  bá-àn  bá-bá-bì
    NP1-child  PP1-NCP1-bad  NP2-child  PP2-NCP2-bad
    ‘bad child’  ‘bad children’

9 I have remained as close as possible to the phonetic form of the examples, both segmentally and supra-segmentally. I note surface tone. To gloss the words, I use the basic form of each morpheme as I have identified it and as it is included in the wordlist in Appendix A Word list: Bwala – English.

10 The square brackets indicate that this word was not uttered by the language consultant. Often when this occurs in the chapter, I said the word in between brackets, and the language consultant added the adnominal or possessive construction.
Class 3 has the same noun class prefix as class 1, i.e. mú-. It forms a pairing with class 4. I recognise classes 1 and 3 as distinct because they make their plural in different classes and their connective forms are different. Whereas class 1 has two connectives, á and é, class 3 only has é. Agreement for class 3 nouns listed in (19) is illustrated in (44).

(44) 3/4

a. mú tí  é  mú sûrù
   mú tí  é  mú sûrù
   NP3-tree  CON3  NP3-forest
   ‘tree of the forest’

b. mú sûrù  mó bí  mú sûrù  mú mbí
   mú sûrù  Ø-mó bí  mú sûrù  mú mbí
   NP3-forest  PP3-NCP3-bad  NP3-forest  PP3-NCP3-bad
   ‘bad forest’  ‘bad forests’

c. mú ntò  é  só wù  mí ntò  mí sámù
   mú ntò  é  só wù  mí ntò  mí sámù
   NP3-basket  CON3  DEM-PS3  NP3-basket  NCP4-six
   ‘this basket here’  ‘six baskets’

11 One might expect that mwélè ‘river’ belongs to class 3 instead of 1n. However, mwélè does not have a class 4 plural myélè, but a class 2 plural bámwélè. Mwélè ‘river’ has a zero-prefix in the singular and designates a natural element. As such, I analyse it as a class 1n noun. Historically, it most likely belonged to class 3.
Table 6 shows that class 5 can have four segmentally distinct realisations. I have distinguished two subclasses within class 5, i.e. 5a and 5b. When class 5 nouns have either a zero-prefix or lí- as their NP, they belong to 5a and they pair with class 6 or class 10. In the historical section I will argue that the nouns with NP lí- were originally class 11 nouns. However, since there is no evidence to analyse them in this way synchronically, I consider them as class 5a nouns for now. The words that were listed in (21)a-(21)c and (27) belong to noun class pairing 5a/6. The 5a/6 words with NP lí- all have noun stems that start with a nasal (see (27)). This is likely a historical N- that was reanalysed as part of the simple noun stem. (45) illustrates the agreement of the words listed in (21)a-(21)c. Unfortunately, the data does not contain agreement patterns for the 5a/6 nouns with NC lí-.

(45) 5a/6

a. [vúlú] lé sólínáni [mávúlú] má sómánáni
   Ø-vúlù lé só-lí-náni má-vúlù má só-mà-náni
   NP₅ₐ-city CON₅ₐ DEM-PS₅ₐ-DEM NP₆-city CON₆ DEM-PS₆-DEM
   ‘that city there’ ‘those cities there’

   vúlú lílìbì [mávúlù] mámàbì
   Ø-vúlù lí-lí-bì má-vúlù má-má-bì
   NP₅ₐ-city PP₅ₐ-NCP₅ₐ-bad NP₆-city PP₆-NCP₆-bad
   ‘bad city’ ‘bad cities’

b. tsúú lé sólí
   Ø-tsóu lé só-li
   NP₅ₐ-day CON₅ₐ DEM-PS₅ₐ
   ‘this day’

c. kɛ lé mɛ
   Ø-kɛ lé mɛ
   NP₅ₐ-egg CON₅ₐ 1SG NP₆-egg CON₆ 1SG
   ‘my egg’ (lit: ‘egg of me’) ‘my eggs’ (lit: ‘eggs of me’)
Table 6 shows that 5a/10 nouns have a NP Ø- or lí-, much like 5a/6 nouns. To be sure, there is only one 5a/10 noun in the data with NP Ø-, i.e. sɔ̀ɔ̀/ńtsɔ̀ɔ̀ ‘leaf/leaves’ (see (22)). What is more, this noun has an alternative form with NP lí-, i.e. lísɔ̀ɔ̀ ‘leaf’. The conditions of this variation are not clear. The noun stems of 5a/10 nouns with NP lí- do not start with a nasal (28), as opposed to the 5a/6 nouns with NP lí- (see (27)). (46) shows the 5a/10 nouns listed in (22) and (28) with examples of agreement. As is the case for some class 1a adjectives, class 10 adjectives begin with a connective, instead of a pronominal prefix (see (46)c). Furthermore, the numeral ‘two’ has a prefix yí- in class 10, instead of the NCP Ǹ- or Ø- (see (46)b).
(46) 5a/10

a. sɔ̀ lò mú-tì
Ø-sɔ̀ lè mú-tì
NP₅ₐ-leaf CON₅ₐ NP₅ₐ-tree
‘leaf of the tree’

b. lí-sáá lè só-lì
í-sàà lè só-lì
NP₅ₐ-feather CON₅ₐ DEM-PS₅ₐ
NP₁₀-feather CON₁₀ DEM-PS₁₀
‘this feather here’
‘these feathers here’

lí-sáà límò
tsàà yúwè
í-sàà lí-mò
Nsàà yi-úwè
NP₅ₐ-feather NCP₅ₐ-one
NP₁₀-feather PP₁₀-two
‘one feather’
‘two feathers’

ntsàà tůrù
Nsàà Ø-tůrù
NP₁₀-feather NCP₁₀-three
‘three feathers’

c. m̀fù émbì
Nì-fòö é-N-bì
NP₁₀-hair CON₁₀-NCP₁₀-bad
‘bad hairs’

Nouns with NP kú- and dí- trigger the same agreement pattern as class 5a nouns with NP Ø- and lí-.
They belong to noun class pairing 5b/4. Both NP kú- and dí- occur only twice in the data. Kü ‘arm, hand’ (23)a
and kù ‘foot’ (23)b have NP kú-, while dì ‘eye’ (24)a and dìini ‘tooth’ (24)b have NP dí-. Agreement is illustrated for each of these nouns in (47). Compared to the nouns belonging to pairings
5a/6 and 5a/10, these nouns have different nominal prefixes, as well as a different plural class. Thus,
according to the definitional criteria, they would constitute a different class. However, NP dí- is a
retention of the PB class 5 augment dí- (Meeussen 1967: 97). Furthermore, these four nouns have the
same agreement pattern as class 5a nouns. Therefore I consider them as belonging to the sub-class 5b.
I elaborate on class 5 when discussing the evolution of the PB noun class system to the present-day
Bwala noun class system.
Class 9 forms a pairing with class 6. This pairing has the same nominal prefixes as a portion of the 5/6 nouns, i.e. Ø-/mä-. However, since the agreement patterns of the class 9 and the class 5 nouns are different, they belong to distinct noun classes. The noun stems of the nouns belonging to class 9 all begin with a nasal. I elaborate on this characteristic further down. (48) shows the agreement patterns of the nouns that were listed in (21)d-(21)f. As was the case for class 10, class 9 adjectives begin with the connective instead of the PP (see (48)b and (48)d). I consider classes 9 and 10 as distinct because the former is a singular class while the latter is a plural class.
(48) 9/6

a. ńzó é byù [mánzò] má mè
    Ø-ńzó é byù má-ńzó má mè
    NP₉-house CON₉ 1PL NP₉-house CON₉ 1SG
    ‘our house’ (lit: ‘house of us’) ‘my houses’ (lit: ‘houses of me’)

ńzó é sóyì mánzí má sómà
    Ø-ńzó é só-yì má-ńzó má só-mà
    NP₉-house CON₉ NCP₉-bad NP₉-house CON₉ NCP₉-bad
    ‘this house here’ ‘these houses here’

b. ŋkè émbì (→ ŋkèmbì) máŋkè mámá-bì
    Ø-ŋkè é-Ñ-bì má-ŋkè má-má-bì
    NP₉-paddle CON₉-NCP₉-bad NP₉-paddle PP₉-NCP₉-bad
    ‘bad paddle’ ‘bad paddles’

şıngkè é sóyì-náñì máŋkè má sómá-náñì
    Ø-ŋkè é só-yì-náñì má-ŋkè má só-má-náñì
    NP₉-paddle CON₉ DEM-PS₉-DEM NP₉-paddle CON₉ DEM-PS₉-DEM
    ‘that paddle there’ ‘those paddles there’

c. ńkìí é mè
    Ø-ńkìí é mè
    NP₉-neck CON₉ 1SG NP₉-neck CON₉ 1SG
    ‘my neck’ (lit: ‘neck of me’) ‘my neck’ (lit: ‘neck of me’)

d. ńkìí èndè Ø-ńkìí è-N-lè
    NP₉-neck CON₉-NCP₉-long
    ‘long neck’

Class 7 nouns, with NP í-, form their plural in class 8.¹² The nouns listed in (25) belong to noun class pairing 7/8. Examples of agreement of these nouns are given in (49).

¹² There is one noun, ítɔ́ ‘pelvic bone’, which has NP í like the nouns of class 7, but which forms its plural in class 6, i.e. mátɔ́ ‘pelvic bones’. In terms of agreement, I only have evidence that this noun takes the connective é just like regular class 7 nouns. Since both the NP and the connective are the
The last noun class pairing in Bwala is 14/6. The noun class prefix of class 14 is bu-. However, in bóar, the original NP has become part of the simple noun stem (see (21)g and (50)b). Hence, the class 14 NP same, I am analysing ítšò ‘pelvic bone’ as belonging to noun class pairing 7/6. No other nouns belong to this pairing.
has an alternative form, \( \varnothing \). Some other 14/6 words were listed in (29). Examples of agreement are shown in (50).

(50) 

\( \text{14/6} \)

a. bútà  bó  sóbù  [má-tà]  má  só-mà
    bú-tà  bó  só-bù  má-tà  má  só-mà
    NP\(_{14}\)-rifle  CON\(_{14}\)  DEM-PS\(_{14}\)  NP\(_6\)-rifle  CON\(_6\)  DEM-PS\(_6\)
    ‘this rifle here’

b. bútà  búnò  [má-tà]  mádànànà
    bú-tà  bú-mò  má-tà  mádànànà
    NP\(_{14}\)-rifle  NCP\(_{14}\)-one  NP\(_6\)-rifle  NCP\(_6\)-five
    ‘one rifle’

b. bwár  bó  mè  mábwár  má  mè
    Ø-bóùàr  bó  mè  má-búùr  má  mè
    NP\(_{14}\)-canoe  CON\(_{14}\)  1SG  NP\(_6\)-canoe  CON\(_6\)  1SG
    ‘my canoe’ (lit: ‘canoe of me’)  ‘my canoes’ (lit: ‘canoes of me’)

b. bwár  búbùbì  [mábwár]  mámábì
    Ø-bóùrà  bù-bù-bì  má-bóùrà  má-má-bì
    NP\(_{14}\)-canoe  PP\(_{14}\)-NCP\(_{14}\)-bad  NP\(_6\)-canoe  PP\(_6\)-NCP\(_6\)-bad
    ‘bad canoe’  ‘bad canoes’

c. bùlà  bùbùnùn
    bú-là  bù-bù-nùn
    NP\(_{14}\)-village  PP\(_{14}\)-NCP\(_{14}\)-big
    ‘big village’

b. bùlà  bùmò
    bú-là  bù-mò
    NP\(_{14}\)-village  NCP\(_{14}\)-one
    ‘one village’

(30)-(36) listed Bwala nouns that do not form part of a noun class pairing. Since they do not have a plural, the noun classes of these nouns are determined only on the basis of the NPs and the agreement patterns. These nouns are presented in (51)-(57) with examples of agreement. Classes 1n, 3, 5, 6, 8, 9, 11, 14 and 15 all contain non-paired nouns. Class 6 has words for liquids, as is common in Bantu.
languages, but also contains a few other words. Class 15 is used to mark infinitives, as is common in Bantu languages (Maho 1999: 78) (see (36)). Since there are no examples in the data to illustrate the agreement of infinitives, class 15 is identified solely on the basis of the NP. However, in the case of class 15, the semantic content of the nouns is also significant.

(51) \[\text{1n}\]
\[
mvú ɛ́ sówù
\]
\[
Ø-mvóù ɛ́ só-wù
\]
\[
\text{NP}_{1n}\text{-rain} \text{ CON}_{1n} \text{ DEM-PS}_{1n}
\]
‘this rain’

\[
móbì
\]
\[
Ø-mvóù Ø-mó-bì
\]
\[
\text{NP}_{1n}\text{-rain} \text{ PP}_{1n}	ext{-NCP}_{1n}\text{-bad}
\]
‘bad rain’

(52) \[\text{3}\]
\[
módìl ɛ́ sówù
\]
\[
mú-dìlì ɛ́ só-wù
\]
\[
\text{NP}_{3}\text{-cold} \text{ CON}_{3} \text{ DEM-PS}_{3}
\]
‘this cold’

(53) \[\text{5}\]
\[\text{a.}\]
\[
télè lìlìbì
\]
\[
Ø-télè lí-li-bì
\]
\[
\text{NP}_{5a}\text{-sun} \text{ PP}_{5a}\text{-NCP}_{5a}\text{-bad}
\]
‘the bad sun’

\[\text{b.}\]
\[
[sìè] lè sólì
\]
\[
Ø-sìè lé só-lij
\]
\[
\text{NP}_{5a}\text{-sand} \text{ CON}_{5a} \text{ DEM-PS}_{5a}
\]
‘this sand’

\[\text{c.}\]
\[
[sìè] lè Mbáàŋkànà
\]
\[
Ø-sìè lé Mbáàŋkànà
\]
\[
\text{NP}_{5a}\text{-sand} \text{ CON}_{5a} \text{ Mbankana}
\]
‘the sand of Mbankana’
d. tsùrù lè sólı
Ø-tsùrù lè só-lı
NP₉-hea CON₉ DEM-PS₉
‘this heat’

e. lípfù lè ndè
lí- pfù lè ndè
NP₉-death CON₉ them.SG
‘their (sg.) death’ (lit. ‘death of them (sg.)’)

(54) 6

  a. mádyà má sómànàní
má-dyà má só-mà-nàní
NP₆-water CON₆ DEM-PS₆-DEM
‘that water’

mádyà màmàbì
má-dyà má-má-bì
NP₆-water PP₆-NCP₆-bad
‘bad water’

  b. màssò má mè
má-sàò má má mè
NP₆-food CON₆ 1SG
‘my food’ (lit: ‘food of me’)

(55) 8

  bìdyà bë mè
bì-dyà bë mè
NP₈-food CON₈ 1SG
‘my food’ (lit: ‘food of me’)

(56) 9

mbá ɛ sóyì
Ø-mbàà ɛ sò-yì
NP₉-fire CON₉ DEM-PS₉
‘this fire here’
I did not elicit data on locative classes in Bwala. During the sessions with the language consultant, some locative phrases did occur. For example, the interrogative kùnì ‘where?’ was used once. Additionally, úyù means ‘in the sky’. According to Grégoire (1975), PB locative classes 16, 17 and 18 no longer exist as classes in languages of zone B. Agreement is rare and when it does occur, there is a considerable degree of fossilisation. PB locative classes left numerous remnants suggesting that at some point in the past they were used productively. Morphemes that were once nominal prefixes are used as prepositions, independently used demonstratives, and interrogatives meaning ‘where?’ (Grégoire 1975: 114). In order to determine whether Bwala is in line with these observations, further research is necessary.

In conclusion, Bwala has twelve noun classes. There are seven singular classes, i.e. 1, 3, 5, 7, 9, 14 and 15. Class 1 has two sub-classes 1a and 1n and class 5 consists of two sub-classes, i.e. 5a and 5b. There are five plural classes, i.e. 2, 4, 6, 8 and 10. These group together into nine singular/plural noun class pairings, of which seven pairings are regular, i.e. 1/2 (including 1a/2 and 1n/2), 3/4, 5a/6, 5a/10, 7/8, 9/6 and 14/6, and two pairings are exceptional, i.e. 5b/4 and 7/6. Each of these pairings is illustrated once more in Table 7. Non-paired nouns occur in classes 1a, 3, 5, 6, 8, 9, 14 and 15.
### Table 7 - Bwala noun class pairings

<table>
<thead>
<tr>
<th>Cl.</th>
<th>Example</th>
<th>Cl.</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>mú-àn</td>
<td>2</td>
<td>bà-àn</td>
</tr>
<tr>
<td>1a</td>
<td>Ø-bɔ̀</td>
<td>2</td>
<td>bà-ɔ̀</td>
</tr>
<tr>
<td>1n</td>
<td>Ø-nbɔ̀ bíli</td>
<td>2</td>
<td>bà-mbɔ̀ bíli</td>
</tr>
<tr>
<td>3</td>
<td>mú-sùrù</td>
<td>4</td>
<td>mí-sùrù</td>
</tr>
<tr>
<td>5a</td>
<td>Ø-vùlù</td>
<td>6</td>
<td>má-vùlù</td>
</tr>
<tr>
<td></td>
<td>lí-ŋkò</td>
<td></td>
<td>má-ŋkò</td>
</tr>
<tr>
<td></td>
<td>Ø-ɔ̀</td>
<td>10</td>
<td>ní-tsɔ̀</td>
</tr>
<tr>
<td></td>
<td>lí-sàà</td>
<td></td>
<td>ní-tsàà</td>
</tr>
<tr>
<td>5b</td>
<td>kà-ɔ́</td>
<td>4</td>
<td>mí-ɔ́</td>
</tr>
<tr>
<td></td>
<td>dìùnù</td>
<td></td>
<td>míùnù</td>
</tr>
<tr>
<td>7</td>
<td>i-kɔ̀</td>
<td>8</td>
<td>bí-kɔ̀</td>
</tr>
<tr>
<td></td>
<td>i-tɔ̀</td>
<td>6</td>
<td>má-tɔ̀</td>
</tr>
<tr>
<td>9</td>
<td>Ø-ŋkè</td>
<td>6</td>
<td>má-ŋkè</td>
</tr>
<tr>
<td>14</td>
<td>bù-tà</td>
<td>6</td>
<td>má-tà</td>
</tr>
</tbody>
</table>

### 3.3 Evolution from PB to Bwala

The goal of this section is twofold. It takes a closer look at how the PB noun class prefixes evolved in Bwala, as well as at the evolution of the structure of the noun class system itself. When it comes to the form of the PB prefixes, I use Meeussen (1967) as point of reference. Meeussen (1967) reconstructed the PB nominal prefixes with a low tone. In Bwala all nominal prefixes have a high tone. Throughout the rest of this section I will only treat the evolution of the segmental form of the noun class prefixes.

With regard to which noun class pairings were present in PB, I take Maho’s (1999) hypothesis as reference (see Table 3). Starting from Meeussen’s (1967) and Guthrie’s (1971) list of PB noun class pairings, Maho (1999) concludes that the pairings which were probably present in PB are 1/2, 1a/2, 3/4, 5/6, 7/8, 9/10, 11/6, 11/10, 12/13, 14/6, 15/6. Classes 16, 17, 18 and 19 can also be reconstructed for PB (Maho 1999). PB noun class pairings 1/2, 1a/2, 3/4, 5/6, 7/8 and 14/6 are present in Bwala. PB pairing 11/10 does not occur in Bwala as such, but it was retained in Bwala 5a/10. 1n/2, 5b/4, 7/6 and 9/6 are innovative noun class pairings in Bwala. Compared to the original system, Bwala has fewer noun classes (i.e. 12 according to my current data set) and it underwent restructuring in term of form, noun class pairings, agreement patterns and contents.

The following paragraphs provide a closer examination of, respectively, the retentions and the innovations in the Bwala noun class system.
3.3.1 Retentions

Bwala retained PB noun class pairings 1/2, 1a/2, 3/4, 5/6, 7/8 and 14/6. Furthermore, PB 11/10 is retained in the form of 5/10.

The nominal prefixes of Bwala noun class pairing 1/2, i.e. *mu-*/ba-, retained the segmental shape they had in PB. PB class 1 nominal prefix *mu- underwent only minimal change. To be sure, the Bwala class 1 nominal prefix may sometimes be realised as [mɔ], e.g. mɔ́-káàr ‘woman’. Meeussen (1967) did not reconstruct pairing 1a/2 for PB. However, Maho (1999) did and he posits the PB 1a/2 noun class prefixes as *Ø-/*ba-. These were retained as such in PB.

PB noun class pairing 3/4 has nominal prefixes *mu-/*mi-. The Bwala 3/4 noun class prefixes mu-/mi- are retentions. Class 4 did not retain the PB pronominal prefix *gɪ-. The Bwala class 4 PP and PS are mí- and -mì respectively. There seems to have been a merger of the nominal prefixes and the pronominal affixes (PA) in Bwala class 4.

Synchronically, Bwala class 5 has four nominal prefixes, i.e. Ø-, li-, di- and ku-. None of these are retained from the PB class 5 NP i-. However, li- and di- are reflexes of the PB class 5 augment *dɪ (Meeussen 1967), which evolved to a noun class prefix. Of these, only li- is used for the retained pairing 5a/6. The stems of 5a/6 li- nouns all start with a nasal. Likely, an erstwhile N- prefix was reanalysed as part of the simple noun stem. The class 6 nominal prefix ma- retained the same segmental form it had in PB. Like class 4, class 6 did not retain its PB pronominal prefix, i.e. *ga-. In present-day Bwala, the class 6 PA have the same form as the NP, i.e. (-)ma(-). The pronominal affixes of classes 4 and 6 suggest that there has been a partial merger of the NP and PA in Bwala.

NP li- is also used for 5a/10 nouns. Bwala class 5a/10 is a retention of the PB 11/10 pairing. Meeussen (1967) posits the PB class 11 NP and all agreement prefixes as *dʊ-. Class 11 underwent a phonemic merger with class 5 in terms of the NP and of the agreement pattern. The PB class 10 NP *n- retained its segmental form in Bwala. According to Maho (1999: 162), 5/10 pairings mostly occur in the rainforest area. He also states that 5/10 pairings might be the result of a merger of classes 5 and 11 (Maho 1999: 162).

The class 5 NP di- is used with nouns belonging to the innovated noun class pairing 5b/4 (see below). The data contain only two nouns with di-, i.e. di-ù ‘eye’ and di-ùni ‘tooth’. Possibly di- is synchronically used as the nominal prefix of Bwala class 5 nouns of which the stem starts with a vowel. Dìù ‘eye’ and diùni ‘tooth’ are the only class 5 nouns in the data (besides kù-ù ‘leg’ and kú-ɔ̀ ‘arm, hand’, see below) that fulfil this criterion.

PB noun class pairing 7/8 was also retained in Bwala. While the class 7 nominal prefix was phonologically innovated, that of class 8 was retained, i.e. bi-. Furthermore, Bwala retained the PB class
10 nominal prefix, i.e. N-. However, Bwala class 10 does not longer function as the plural equivalent of class 9.

Lastly, Bwala retained PB noun class pairing 14/6. The PB class 14 noun class prefix *bu- was also retained in Bwala. There are two class 14 nominal prefixes in Bwala, one of which is bu-. As stated above, the PB class 6 nominal prefix, i.e. ma- was also retained in Bwala.

### 3.3.2 Innovations

In addition to the retained noun class pairings, Bwala has several innovative pairings, i.e. 1n/2, 5b/4, 7/6 and 9/6.

1n/2 nouns have the same NPs as the retained 1a/2 nouns, i.e. Ø-/ba-. Unlike 1a/2, the noun stems of 1n/2 nouns commonly begin with a homorganic nasal, e.g. Ø-nbwà ‘dog’, Ø-ntëlí ‘snake’ and Ø-nzɔ̀ ‘elephant’, which is the fossilisation of an erstwhile homorganic class 9 NP N-. The 1n nouns are thus original class 9 nouns which were reclassified. This set contains nouns designating animals (see above) and natural elements, e.g. Ø-mpárá múílì ‘star’.

All of Bwala’s synchronic class 5 nominal prefixes, i.e. Ø-, li-, di- and ku- are innovations. Two of these, i.e. di- and ku- are used for the innovative noun class pairing 5b/4. The data contain four nouns that belong to pairing 5b/4. Two of these have NC di-, i.e. di-ù ‘eye’ and di-ìn ‘tooth’. The other two have NC ku-, i.e. kú-ú ‘foot’ and kú-ɔ̀ ‘arm, hand’.

The two Bwala nouns with NC ku- originally belonged to class 15. In many languages, class 15 contains a small number of non-infinitive nouns in addition to the infinitives. These are mostly words for body parts, such as ‘arm, hand’, ‘leg’, ‘armpit’, ‘ear’ and ‘shoulder’. Even in languages where these words synchronically do not belong to class 15, it is likely that they once did, but have been reclassified (Maho 1999: 82). Often, the noun stem has a remnant of an older NC ku-, as in the Swahili class 5 noun kwapa ‘armpit’ (Dimmendaal 2011: 98). The concords of the Bwala nouns kú-ú ‘foot’ and kú-ɔ̀ ‘arm, hand’ (see (47)) show that they have been reinterpreted as members of class 5. The fact that the synchronic class 15 nominal prefix is u- supports this hypothesis. This prefix underwent an evolution from *ku- to u-. The nominal prefix of kú-ú ‘foot’ and kú-ɔ̀ ‘arm, hand’ did not undergo this evolution. Possibly, the reanalysis of these nouns as belonging to class 5 prevented the loss of the initial consonant [k].

For all nouns but one, class 7 nouns form part of the retained pairing 7/8. The class 7 nominal prefix i- is an innovation. It was reconstructed *ki- for PB. *k has thus disappeared. I have analysed one Bwala

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13 The reanalysed nasal does not always have a H tone in 1n nouns. Possibly, the N- was reanalysed as part of the noun stem before noun class prefixes became H in Bwala.

14 *Mwélè/bámwélè ‘river(s)’ is an anomalous 1n/2 noun since it originally belonged to 3/4.
noun, í-tɔ́ɔ, ma-tɔ́ɔ ‘pelvic bone’, as belonging to pairing 7/6, which is the second innovated noun class pairing in Bwala. Maho (1999) shows that pairing 7/6 has a fairly wide distribution in the Bantu area. However, it seems to be lacking in the area where Bwala is located (Maho 1999: 166-167).

9/6 is the third innovated noun class pairing in Bwala. Class 9 nouns have a zero-prefix, but their noun stems systematically begin with a nasal. The historical class 9 NP *N- was thus reanalysed as part of the noun stem. The original class 9 underwent a semantic split. Animate nouns, as well as some nouns designating natural elements, which synchronically also have a zero-prefix and start with a reinterpreted nasal, ended up in class 1n (e.g. mbwà ‘dog’, ntéílì ‘snake’, nzɔ́ɔ ‘elephant’). They form their plural in class 2. The majority of the inanimate nouns, on the other hand, remained in class 9 (e.g. jhkè ‘paddle’, ntàlà ‘bed’, jkwànù ‘stone’). Their plural marking shifted to class 6 instead of class 10, which was the plural class of class 9 in PB. Class 9 nouns (with NP Ø-) may have paired with class 6 by analogy with class 5 nouns, which also have a zero-prefix. The agreement pattern did not change accordingly (see Table 6).

A last innovation with regard to the Bwala noun class system is the class 14 nominal prefix Ø-. Òó ‘canoe’ is the only class 14 noun in the data with this zero-prefix. The original prefix *bu- was reanalysed as part of the simple noun stem.

In conclusion, six out of nine Bwala noun class pairings were retained from PB. Three pairings, i.e. 5b/4, 7/6 and 9/6 are innovations. The 1n/2, which contains the sub-class 1n, is also an innovation. Bwala does not have PB pairings 9/10, 11/6, 11/10, 12/13 and 15/6, but classes 12 and 13 are the only ones that have completely disappeared from Bwala. Class 11 did not disappear, but merged with class 5. The nouns kú-ú ‘foot’ and kú-ɔ̀ ‘arm, hand’ suggest that the nouns belonging to pairings 15/6 in PB belong to 5/4 in Bwala.
4 The noun class systems of B50-80 languages

In this chapter, I compare the noun class system of Bwala to that of nine other languages belonging to Guthrie’s referential B50-80 groups. From each of these groups I selected following languages, which all belong to the so-called ‘Kasai-Ngounie Extended’ branch of West-Coastal Bantu (Pacchiarotti et al. forthcoming):

**B50**
- Duma (B51) (Mickala-Manfoumbi 1988)
- Nzebi (B52) (Marchal-Nasse 1989)
- Tsaangi (B53) (Loubelo 1990)

**B60**
- Mpinini (B601) (Blanchon and Alihanga 1992)
- Mbaama (B62) (Okoudowa 2016)

**B70**
- Ngungwel (B72a) (Rurangwa 1982)
- Kukwa (B77a) (Paulian 1975)

**B80**
- Tiene (B81) (Ellington 1977)
- North Boma (B82) (Stappers 1986)

These languages are a convenience sample that was selected based on the availability of in-depth descriptions of their noun class systems.

4.1 The noun class systems in B50

4.1.1 Duma (B51)

Table 8 presents the noun class system of Duma (B51) according to Mickala-Manfoumbi (1988). Table 8 includes noun class numbers, nominal prefixes (NP) and two paradigms of agreement prefixes, i.e. pronominal prefixes (PP) and verbal prefixes (VP), more specifically subject prefixes (SP) as there are no object prefixes in Duma. Each noun class system in this chapter will be illustrated with a table that is similar in format. The paradigms that are included depend on the secondary source that is used for each sample language.
Table 8 does not include nominal concord prefixes (NCP), which usually occur on adjectives to express agreement with the head noun. Mickala-Manfoumbi (1988) does not mention the existence of a morpheme specifically used to express agreement between an adjective and a noun. He states that agreeing adjectives take an augment (AUG) and a nominal prefix, as illustrated in (58)a. Nouns have the same structure as adjectives according to Mickala-Manfoumbi (1988), i.e. AUG-NP-stem, but the augment appears as a zero-morpheme Ø (see (58)a). I suggest that the nouns do not have an augment. However, there does appear to be a floating high tone which is realised on the NP. Furthermore, I would not analyse the initial morpheme of agreeing adjectives as an augment, but as a PP that functions as a connective (cf. Bouka 1994). Following this analysis, the example in (58)a would be analysed as shown in (58)b.

To gloss the examples, I use the language in which the secondary source is written. If this is any other language than English, I add an abbreviation indicating the original language. I use ‘Fr.’ for French, ‘Ger.’ for German and ‘Port.’ for Portuguese. An English translation of the examples is given in the fourth line of the analysis (cf. Maho 1999).

(58)

a. mů́tù yùmùnɛ̀nɛ̀
   Ø-mů́-tù yú-mů́-nɛ̀nɛ̀
   AUG₁-NP₁-personne AUG₁-NP₁-gros (Fr.)
   ‘a big person’

b. mů́tù yùmùnɛ̀nɛ̀
   mů́-tù yù-mů́-nɛ̀nɛ̀
   NP₁-personne PP₁-NP₁-gros (Fr.)
   ‘a big person’
According to Mickala-Manfoumbi (1988), there are ten noun class pairings in Duma, i.e. 1/2, 3/4, 5/6, 5/10, 7/8, 7/4, 9/10, 9/6 + 10, 9/2 + 10 and 14/6 (+14) (his notation). Each of these pairings is illustrated below. The first two line of the examples, i.e. the language data and the segmentation, are taken from Mickala-Manfoumbi (1988). I added the glosses based on Mickala-Manfoumbi’s (1988) description, as well as the English translation.

The regular 1/2 and 3/4 pairings are illustrated in (59) and (60) respectively.

(59) 1/2

a. mù-tù  bá-tù
NP₁-homme (Fr.)  NP₂-homme (Fr.)
‘person’  ‘persons’

b. mù-kàásù  bá-kàásù
NP₁-femme (Fr.)  NP₂-femme (Fr.)
‘woman’  ‘women’
Like in Bwala, Duma class 11 underwent a phonemic merger with class 5 in terms of the NP and of the agreement pattern. Mickala-Manfoumbi (1988) labels the merged class as 5. It is part of the regular noun class pairings 5/6 and 5/10. (61) shows examples of 5/6 nouns. The class 5 NP lì- is used before consonant-initial noun stems, while ì- is used before vowel-initial noun stems. One may suggest that the plural noun mîsù ‘eyes’ (see (61)b) has a class 4 NP mì- instead of a class 6 NP mà-. Mickala-Manfoumbi (1988) does not provide an example of agreement to substantiate his claim that it is a class 6 noun.

The 5/10 pairing, which is a retention of PB 11/10 due to the 5 = 11 merger, is illustrated in (62). Mickala-Manfoumbi (1988) analyses the class 10 NP as ñ-, which I would note as ñ- in order to demonstrate the homorganic quality of the nasal more clearly. However, both plural nouns in (62) appear to have a zero-prefix. It is likely that the nasal prefix was lost before the voiceless initial consonants of the noun stems. While 5/10 nouns with a noun stem having a voiced initial consonant would most likely still exhibit the nasal prefix ñ-, Mickala-Manfoumbi (1988) does not provide a complete plural form of such nouns, e.g. lîbà ‘palm nut’ ('noix de palme’ (Fr.)). I suggest to recognise Ø- as a class 10 NP in addition to ñ-. The discussion of 9/10 and 9/6 nouns (see below) will support this suggestion.
Class 7 forms a regular pairing with class 8, as illustrated in (63). The NP \( i \)- is used before consonant-initial noun stems, while \( s \)- is used before vowel-initial noun stems and monosyllabic noun stems beginning with a nasal.

Furthermore, Mickala-Manfoumbi (1988) analyses two nouns as belonging to the pairing 7/4, i.e. \( g \ddot{o} \ddot{g} / m \ddot{y} \ddot{g} \ddot{g} \) ‘arm(s)’ (‘bras’ (Fr.)) and \( g \ddot{u} \ddot{l} / m \ddot{i} \ddot{l} \ddot{u} \) ‘leg(s)’ (‘jambe’ (Fr.)) (see (64)). He posits their nominal prefixes as \( g \ddot{u} / m \ddot{i} \)-. As is clear from the singular NP \( g \ddot{u} \)-, which is a reflex of the PB class 15 NP ‘\( k \ddot{o} \)-, \( g \ddot{u} \ddot{l} \) ‘leg’ and \( g \ddot{o} \ddot{g} \) ‘arm’ historically belonged to class 15. According to Mickala-Manfoumbi’s (1988) description, both historical class 15 nouns were reclassified as belonging to class 7. However, no examples of agreement are available to verify this claim. Mickala-Manfoumbi (1988) does illustrate the agreement of \( g \ddot{e} \ddot{l} \ddot{a} \) ‘object’ (‘objet’ (Fr.)). As shown in (65), this noun also has a NP \( g \ddot{u} \)- and triggers class 7 agreement. Mickala-Manfoumbi (1988) indicates that the plural of \( g \ddot{e} \ddot{l} \ddot{a} \) ‘object’ is formed in class 8, but he does not provide the complete plural form.
(64) 7/4

a. gɔɔgɔ  myɔɔgɔ
   gù-ɔɔgɔ  mi-ɔɔgɔ
   NP₇-bras (Fr.)  NP₄-bras (Fr.)
   ‘arm’  ‘arms’

b. gùlú  mîlú
   gù-ùlú  mi-ùlú
   NP₇-jambe (Fr.)  NP₄-jambe (Fr.)
   ‘leg’  ‘legs’

(65) gélà  sìkêgê
   gù-élà  sí-i-kêgê
   NP₇-objet  PP₇-NP₇-petit (Fr.)
   ‘a small object’

Infinitives take a class 7 NP Ḣ, as illustrated in (66).

(66)

a. ëyibà
   ì-yibà
   NP₇-voler (Fr.)
   ‘to steal’

b. itànìgbà
   ì-tùngà
   NP₇-construire (Fr.)
   ‘to build’

According to Mickala-Manfoumbi (1988), class 9 forms a pairing with three plural classes, i.e. 10, 6 and 2. He analyses the class 9 and 10 NP as ṁ- and states that this nasal prefix disappears before the voiceless consonants [p], [t] and [k]. As is clear from the examples in (67), there is no commutation of prefixes in singular vs. plural marking of 9/10 nouns. Therefore I consider the synchronic class 9 and 10 NP in Duma as Ø-. The historical NP ṁ- was reinterpreted as part of the noun stem of 9/10 nouns. It is still recognisable if the original noun stem started with a voiced consonant, as in (67)a-(67)c. ṁ- was lost if the original noun stem started with a voiceless consonant, as in (67)d. The examples represent my analysis of the nouns. (67)b demonstrates the class 9 agreement of ìbùtù ‘seed’. (67)c and (67)d are not glossed since Mickala-Manfoumbi (1988) does not segment these nouns.
According to Mickala-Manfoumbi (1988), the 9/6 + 10 nouns have a NP Ǹ- in the singular and a double NP mà-Ǹ- in the plural. As is clear from the examples in (68)a and (68)c, the plural class 6 NP mà- is added in front of the complete singular noun. This supports my analysis of the class 9 NP as Ø- instead of Ǹ-. The historical class 9 NP *N- was reinterpreted as part of the simple noun stem, where it is still recognisable before a voiced consonant (see (68)c), while it disappeared before a voiceless consonant (see (68)a). Example (68)a, of which the agreement is demonstrated in (68)b, shows that the nasal caused fortition of [s] → [ts] before it was lost. Since I do not analyse the nasal in the plural nouns as a class 10 NP, Mickala-Manfoumbi’s (1988) pairing 9/6 + 10 may be referred to as 9/6 instead.
c. mbulà

Ø-mbulà

NP₁ₙ-pluie (Fr.)

‘rain’

There is a set of nouns with NPs \( Ñ-/bà-\-N \)- which Mickala-Manfoumbi (1988) analyses as 9/2 + 10. As shown in (69), the plural class 2 NP bà- is added in front of the complete singular noun. Therefore, I analyse the singular NP as Ø- instead of \( Ñ \)-. Mickala-Manfoumbi’s (1988) 9/2 + 10 could thus be referred to as 9/2. He does not provide examples of agreement that illustrate the 9/2 belonging of these nouns.

(69) \( 9/2 + 10 = 9/2 \)

\( ngóyì \)

Ø-ngóyì

NP₁ₙ-habit (Fr.)

‘garment’

Many of the nouns that are classified as 9/2 by Mickala-Manfoumbi (1988) belong to a 1a or 1n class in several other sample languages. In the languages where this is the case, they historically belonged to the 9/10 pairing, but they were reanalysed. Their prefixes are Ø-/bà- and they agree in 1/2. Since Mickala-Manfoumbi (1988) does not provide agreement for the so-called 9/2 nouns in Duma, one cannot know whether they agree in 1/2 and were thus reclassified, or if they in fact agree in 9/2. Based on comparative evidence, it is likely that animate nouns, as well as those designating natural phenomena (e.g. ‘star’), were reclassified. Several examples of such nouns are shown in (70). If there is only a singular form, the plural was not provided.

(70) \( 9/2 + 10 = 1a/2 \)

a. mbulà

Ø-mbulà

NP₁ₙ-étoile (Fr.)

‘star’

b. mbúndí

Ø-mbwándí

NP₁ₚ-chien (Fr.)

‘dog’
c. ndumì
\(\emptyset\)-ndumì
NP_{1a}-frère (Fr.)
‘brother’

d. tâtà
\(\emptyset\)-tâtá
NP_{1a}-père (Fr.)
‘father’

Class 14 forms a regular pairing with class 6. The class 6 NP mà- may be either substitutive (see (71)a)
or additive (see (71)b(71)c), which is why Mickala-Manfoumbi (1988) refers to the pairings as 14/6 and 14/6+14 respectively. In accordance with my analysis of Bwala, I suggest that the NP bù- was
reanalysed as part of the simple noun stem in those class 14 nouns where the plural NP is additive.
Consequently, their NP is \(\emptyset\). (71)b shows that these nouns still agree in class 14. The example in (71)c is not glossed because Mickala-Manfoumbi (1988) did not segment it.

(71) 14/6

a. bólà màlà
bù-ólà mà-ólà
NP_{14}-village (Fr.) NP_{6}-village (Fr.)
‘village’ ‘villages’

b. bônsò bù màbônsò
\(\emptyset\)-bônsò bù mà-bônsò
NP_{14}-cerveau (Fr.) PP_{14} NP_{6}-cerveau (Fr.)
‘this brain’ ‘brains’

c. bótà màbótà
‘bow (‘arc’ (Fr.))’ ‘bow’ (‘arcs’ (Fr.))

According to Mickala-Manfoumbi (1988), Duma has three locative classes, i.e. 17, 18 and 20. Class 20, with a NP i-, is not a regular locative noun class in Bantu languages. However, Meeussen (1967: 104) suggests the existence in PB of a locative class 24 with a NP *ì- which is used with a restricted set of nouns. In Duma, the so-called class 20 is used with a limited number of noun stems which only occur with a locative particle, i.e. -tsì ‘inside’ (‘à l’intérieur’ (Fr.)), -pángá ‘nearby’ (‘à proximité’ (Fr.)) (see (72)), -yòlà ‘upwards’ (‘en haut’ (Fr.)), and -tsélà ‘towards’ (‘vers’ (Fr.)). Hence, I recognise Mickala-Manfoumbi’s (1988) class 20 as the PB class 24.
Mickala-Manfoumbi (1988) indicates that both class 17 and 18 have a nominal prefix. Since they do not appear to trigger agreement, I analyse them as prepositions instead of NPs. Gù-, which is a reflex of the class 17 NP *kù-, expresses the meaning of ‘towards, at’ (‘vers, à’ (Fr.)) (see (73) and (74)). Mù-, which is a reflex of the class 18 NP *mù-, expresses the meaning of ‘in’ (‘dans’ (Fr.)). According to Mickala-Manfoumbi (1988), mù- also plays an important role in the formation of the present progressive, as illustrated in (74). This mù-morpheme is likely what Mickala-Manfoumbi (1988) recognises as the class 18 VP (see Table 8). While in his summary table (see Table 8) he also notes the existence of verbal prefixes for classes 17 and 20, and of pronominal prefixes for classes 16, 17 and 18, he does not appear to discuss these any further.

(73)  
\[
\begin{align*}
gú & nsálí \\
gù & ð-nsálí \\
\text{prep NP}_{g}-\text{marigot (Fr.)} \\
\text{‘at the backwater’}
\end{align*}
\]

(74)  
\[
\begin{align*}
\text{àlíí n} &ũy\bò gú nsálí \\
\text{‘he is washing himself at the backwater’ (‘il est en train de se laver au marigot’ (Fr.))}
\end{align*}
\]

PB → Duma (B51)

Table 9 presents the amended noun class system of Duma. With regard to Table 8, I added the subclass 1a, deleted the locative noun classes and edited the NPs of classes 9, 10 and 14.
Table 9 - Duma (B51) amended noun class system

<table>
<thead>
<tr>
<th>Cl.</th>
<th>NP</th>
<th>PP</th>
<th>VP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>mù-</td>
<td>yú-, mú-</td>
<td>à-, Ø-</td>
</tr>
<tr>
<td>1a</td>
<td>Ø-</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>2</td>
<td>bà-</td>
<td>bá-</td>
<td>bà-, bù-</td>
</tr>
<tr>
<td>3</td>
<td>mù-</td>
<td>yú-, mú-</td>
<td>mú-</td>
</tr>
<tr>
<td>4</td>
<td>mì-</td>
<td>mí-</td>
<td>mì-</td>
</tr>
<tr>
<td>5</td>
<td>lì-, dì-</td>
<td>lì-</td>
<td>lì-</td>
</tr>
<tr>
<td>6</td>
<td>mà-</td>
<td>mà-</td>
<td>mà-</td>
</tr>
<tr>
<td>7</td>
<td>ì-, sì-, gù-</td>
<td>sì-, ì-</td>
<td>ì-</td>
</tr>
<tr>
<td>8</td>
<td>bì-</td>
<td>bì-</td>
<td>bì-</td>
</tr>
<tr>
<td>9</td>
<td>Ø-</td>
<td>yì-, Ø-</td>
<td>yì-</td>
</tr>
<tr>
<td>10</td>
<td>Ñ-, Ø-</td>
<td>yì-, Ø-</td>
<td>yì-</td>
</tr>
<tr>
<td>14</td>
<td>bù-, Ø-</td>
<td>bù-</td>
<td>bù-</td>
</tr>
</tbody>
</table>

According to my analysis, Duma has eleven noun classes. Of the regular noun classes that were reconstructed for PB, classes 11, 12, 13 and 15 are absent from Duma. Class 11 merged with class 5. The 5/10 pairing is thus a retention of the PB 11/0 pairing. Likewise, the distinction between PB pairings 5/6 and 11/6 disappeared in Duma. Class 15 merged with class 7. Both the infinitives and the historical class 15 nouns ɡɔ̀ ɡɔ̀ ‘arm’ and ɡûlú ‘leg’ belong to class 7 according to Mickala-Manfoumbi (1988). The reclassified nouns for ‘arm’ and ‘leg’ form their plural in class 4, which led to the innovative 7/4 pairing. The innovative 9/2 and 9/6 pairings are both the result of a shift in the plural formation of ancient 9/10 nouns. There also remain synchronic 9/10 nouns. Even though the data was lacking to find out whether part of the 9/2 nouns may actually be analysed as 1a/2 nouns, I assume the reanalysis took place based on comparative evidence.

Of the locative classes that were reconstructed for PB, class 16 was entirely lost in Duma. There are remnants of PB locative classes 17 and 18 in the form of ɡù- and mù-, which are reflexes of the PB locative NPs *kù- and *mù- respectively. They are used as prepositions. Furthermore, the particle ì-, which is a reflex of the PB class 24 NP *ɪ-, is used in combination with a restricted set of noun stems to express specific locations such as ‘inside’ or ‘nearby’.

Innovative NPs are present in classes 5, 7, 9, 10 and 14. Class 5 lì- is used with consonant-initial noun stems, while dì- is used with vowel-initial noun stems. Both lì- and dì- are reflexes of the PB class 5 augment *dì. Class 7 ì- is used with consonant-initial noun stems, while sì- is used with vowel-initial noun stems and monosyllabic noun stems beginning with a nasal. ì- and sì- are reflexes of the PB class 7 NP *kì-. Class 7 ɡù- is a reflex of the PB class 15 *kù- and is thus a result of the 7 = 15 merger. The
zero-prefix may be considered an innovative NP in classes 9, 10 and 14 and is a result of the reanalysis of the historical NPs *N*- and *bù*- as part of the simple noun stem. The reanalysed nasal was lost when followed by a voiceless consonant.

### 4.1.2 Nzebi (B52)

Table 10 presents the noun class system of Nzebi (B52) according to Marchal-Nasse (1989). It includes the NP, PP and VP paradigms. As was the case for Duma, the VP are subject prefixes since there are no object prefixes in Nzebi. In Marchal-Nasse’s (1989) analysis of Nzebi, the NCP paradigm is not present. Agreeing adjectives take a NP. However, not all NPs are used on both nouns and adjectives. In classes 9 and 10, NP *yì-* is only found on adjectives, while *n-* and Ø- only occur on nouns. More specifically, the zero-prefix only occurs on loanwords. I will make adjustments to Marchal-Nasse’s (1989) analysis below.

Table 10 - Nzebi (B52) noun class system (Marchal-Nasse 1989)\(^\text{15}\)

<table>
<thead>
<tr>
<th>Cl.</th>
<th>NP</th>
<th>PP</th>
<th>VP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>mù-</td>
<td>wú-, ú-, Ø-</td>
<td>á-, Ø-</td>
</tr>
<tr>
<td>2</td>
<td>bà-</td>
<td>bá-</td>
<td>bá-</td>
</tr>
<tr>
<td>3</td>
<td>mù-</td>
<td>wú-, Ø-</td>
<td>á-</td>
</tr>
<tr>
<td>4</td>
<td>mì-</td>
<td>mí-</td>
<td>mí-</td>
</tr>
<tr>
<td>5</td>
<td>mà-</td>
<td>mà-</td>
<td>mà-</td>
</tr>
<tr>
<td>6</td>
<td>ì-, sí-</td>
<td>sí-</td>
<td>í-, sì-</td>
</tr>
<tr>
<td>7</td>
<td>bì-</td>
<td>bì-</td>
<td>bì-</td>
</tr>
<tr>
<td>8</td>
<td>n-, yì-, Ø-</td>
<td>yì-, Ø-</td>
<td>yì-</td>
</tr>
<tr>
<td>9</td>
<td>n-, yì-, Ø-</td>
<td>yì-, Ø-</td>
<td>yì-</td>
</tr>
<tr>
<td>10</td>
<td>ì-, dì-</td>
<td>lí-</td>
<td>lí-</td>
</tr>
<tr>
<td>11</td>
<td>bù-</td>
<td>bù-</td>
<td>bù-</td>
</tr>
<tr>
<td>12</td>
<td>ù-, gù-</td>
<td>gù-</td>
<td>gù-</td>
</tr>
<tr>
<td>13</td>
<td>×</td>
<td>vá-</td>
<td>vá-</td>
</tr>
<tr>
<td>14</td>
<td>×</td>
<td>gù-</td>
<td>gù-</td>
</tr>
<tr>
<td>15</td>
<td>×</td>
<td>mú-</td>
<td>×</td>
</tr>
</tbody>
</table>

\(^{15}\) In Table 10, as well as in the rest of this chapter, ‘×’ is used to indicate that a morpheme is absent from the description in question. E.g. in Nzebi, the locative noun classes do not have nominal prefixes according to Marchal-Nasse (1989).
According to Marchal-Nasse (1989), there are eight noun class pairings in Nzebi. Of these, seven are regular pairings, i.e. 1/2, 3/4, 7/8, 9/6, 11/6, 11/10 and 14/6, and one is uncommon, i.e. 11/2. Marchal-Nasse (1989) does not explicitly mention the existence of a pairing 7/4, but she does analyse gɔːgɔ́/myɔgɔ́ ‘arm’ and gúlú/múlú ‘leg, foot’ as 7/4 nouns (Marchal-Nasse 1989: 598, 610). Furthermore, I would recognise the existence of the pairing 1a/2 in Nzebi. The first two lines of the examples, i.e. the language data and the segmentation, are taken from Marchal-Nasse (1989). I translated the examples into English and added glosses based on Marchal-Nasse’s (1989) analysis.

The 1/2 pairing is illustrated in (75).

(75) 1/2

a. mùkàsà

mùkàsà

NP₁-femme (Fr.)

‘woman’

bàkàsà

bà-kàsà

bàkàsà

NP₂-femme (Fr.)

‘women’

b. mùlúmì

mùlúmì

NP₁-mari (Fr.)

‘husband’

bàlúmì

bàlúmì

NP₂-mari (Fr.)

‘husbands’

Marchal-Nasse (1989) discusses a group of nouns that trigger 1/2 agreement, but which do not have the NPs mù- (NP₁) or bà- (NP₂). This group consists of kinship terms, animates and some miscellaneous terms. I recognise these nouns as belonging to a 1a/2 pairing. According to Marchal-Nasse’s (1989) analysis, they have a class 9 NP n- (i.e. N-) in the singular and two prefixes in the plural, i.e. class 2 bà- and class 10 N-. Since the plural class 2 NP bà- is additive, I recognise the singular NP of these nouns as Ø-. The nasal, which is present in some 1a/2 nouns, is the historical class 9 NP *N- that was reanalysed as part of the simple noun stem. If the original noun stem started with a voiced consonant, the nasal is still there. If the original noun stem started with a voiceless consonant, the nasal was lost.

Examples of 1a/2 nouns are given in (76). (76)b and (76)e, which illustrate agreement, are not glossed since Marchal-Nasse (1989) does not segment or gloss them. Since the segmentation of Nzebi words and phrases is not a straightforward process, I refrain from doing it myself. This will be the case for several examples in this section.

(76) 1a/2

a. ngù

Ø-ngù

NP₁-mère (Fr.)

‘mother’

bàngù

bà-ngù

NP₂-mère (Fr.)

‘mothers’
b. ngwêmé ábèkìfì básùmbì bà måldmà
   ‘my mother found wine buyers’ (‘ma mère a trouvé des acheteurs de vin’ (Fr.))

c. mbɔmò
   bàmbɔmò
   Ø-mbɔmò bà-mbɔmò
   NP₁a-python (Fr.) NP₂-python (Fr.)
   ‘python’ ‘pythons’

d. tèyi
   bàtèyi
   Ø-tèyi bà-tèyi
   NP₁a-père (Fr.) NP₂-père (Fr.)
   ‘father’ ‘fathers’

e. tàt’ämë áswëdë bístëlë hyá kìnù
   ‘my father brought a lot of iron’ (‘mon père a apporté beaucoup de fer’ (Fr.))

f. këtsì
   bàkëtsì
   Ø-këtsì bà-këtsì
   NP₁a-oncle (Fr.) NP₂-oncle (Fr.)
   ‘uncle’ ‘uncles’

The regular 3/4 pairing is illustrated in (77).

(77) 3/4

a. mûkóngò mikóngò
   mù-kóngò mi-kóngò
   NP₁-montagne (Fr.) NP₂-montagne (Fr.)
   ‘mountain’ ‘mountains’

b. mùlëngì mîlëngì
   mú-lëngì mi-lëngì
   NP₁-bouteille (Fr.) NP₂-bouteille (Fr.)
   ‘bottle’ ‘bottles’

As in Bwala and Duma, a 5 = 11 merger took place in Nzebi. While Marchal-Nasse (1989) labels the merged class as 11, I label it as 5 in accordance with the other sample languages. Class 5 is part of three noun class pairings, i.e. 5/2, 5/6 and 5/10 (i.e. 11/2, 11/6 and 11/10 according to Marchal-Nasse (1989)). (78) shows the only 5/2 noun, as well as an example of its agreement.
(78) $11/2 = 5/2$

a. lòbágàlànà bòbágàlànà  
li-bàbálà bàbálà  
NP$_2$-homme (Fr.) NP$_2$-homme (Fr.)  
‘man’ ‘men’

b. lòbàxàlà làráxà bà tòà  
‘the man falls to the ground’ (l’homme tombe par terre’ (Fr.))

The examples in (79) illustrate to the regular 5/6 pairing. The NP dì- is only used with the stems -ínà ‘tooth’ and -ísà ‘eye’ (see (79)c). Li- is used everywhere else. Agreement is demonstrated for a singular and for a plural noun in (79)b and (79)d respectively.

(79) $11/6 = 5/6$

a. lòmánà màmánà  
lì-mànà mà-mànà  
NP$_2$-pierre (Fr.) NP$_6$-pierre (Fr.)  
‘stone’ ‘stones’

b. lòmànì lòsàbòmà nàmà vè  
‘the stone did not kill the animal’ (la pierre ne tuait pas l’animal’ (Fr.))

c. dìsà màsà  
dì-ísà mà-ísà  
NP$_2$-oeil (Fr.) NP$_6$-oeil (Fr.)  
‘eye’ ‘eyes’

d. m’ènòntì màsá màwè  
‘I saw your eyes’ (j’ai vu tes yeux’ (Fr.))

The 5/10 pairing is illustrated in (80). Historically, they are 11/10 nouns. (80)b demonstrates the agreement of lòvèndà ‘groundnut’ (see (80)a).

(80) $11/10 = 5/10$

a. lòvèndà pèndà  
lì-vèndà N-vèndà  
NP$_2$-arachide (Fr.) NP$_{10}$-arachide (Fr.)  
‘groundnut’ ‘groundnuts’
b. bèmbè lèvèndà lòkùmà
   ‘touch another groundnut’ (‘touche une autre arachide’ (Fr.))

c. lònàngà nàngà
   li-nàngá N-nàngá
   NP₇-cheveu (Fr.) NP₁₀-cheveu (Fr.)
   ‘hair’ ‘hairs’

d. bòmbèngolà mbòngolà
   li-bòngálà N-bòngálà
   NP₇-aubergine (Fr.) NP₁₀-aubergine (Fr.)
   ‘aubergine’ ‘aubergines’

Class 7 forms a regular pairing with class 8, as illustrated in (81). The NP ì- is used with consonant-
initial noun stems, while si- is used with vowel-initial noun stems.

(81) 7/8
a. fèbè byèbè
   si-èbè bi-èbè
   NP₇-corbeille (Fr.) NP₈-corbeille (Fr.)
   ‘basket’ ‘baskets’

b. ikùmbù bikùmbù
   i-kùmbù bi-kùmbù
   NP₇-chose (Fr.) NP₈-chose (Fr.)
   ‘thing’ ‘things’

The ancient class 15 nouns gògò ‘arm’ and gùlù ‘leg, foot’ (see (82)) also belong to class 7 in Nzebi. Even though these nouns trigger class 7 agreement, as shown in (82)c, Marchal-Nasse (1989) still analyses their singular NP gù- as a class 15 NP. I recognise gù- as an innovative class 7 NP. Furthermore, Marchal-Nasse (1989) designates gògò/mygò ‘arm’ and gùlù/mèlù ‘leg, foot’ as 7/4 nouns in the lexicon included at the end of her work. However, elsewhere in her work, she claims that gùlù/mèlù ‘leg, foot’ triggers 7/6 agreement. As far as I was able to find, she does not illustrate the agreement triggered by either of the plural nouns. I choose to interpret mygò ‘arms’ and mèlù ‘legs, feet’ as belonging to class 4 based on their NP. The specific cause for the form of the noun stem of mì-ilà ‘legs’ is still unclear to me.
Like Mickala-Manfoumbi (1988), Marchal-Nasse (1989) considers the class 9 NP to be \( n \) (i.e. \( N^- \)). However, the class 6 NP \( m^- \) is additive instead of substitutive in the plural formation of 9/6 nouns, as is clear from the examples in (83)a-(83)c. Therefore, I analyse the class 9 NP as \( \emptyset \). The historical class NP \( ^*N^- \) was reanalysed as part of the simple noun stem. While the nasal is still present in nouns of which the original stem begins with a voiced consonant (see (83)a), it disappeared when the original stem begins with a voiceless consonant (see (83)b-(83)c). (83)c shows that the nasal first caused fortition of [s] → [ts] when the original stem began with [s]. (83)d demonstrates the class 9 agreement.

(83) 9/6

a. \( mbísà \)  \( màmbísà \)
\( \emptyset\)-mbísà  \( mà\)-mbísà
NP\(_e\)-dos (Fr.)  NP\(_e\)-dos (Fr.)
‘back’  ‘backs’

b. \( píndì \)  \( màpíndì \)
\( \emptyset\)-píndì  \( mà\)-píndì
NP\(_e\)-forêt (Fr.)  NP\(_e\)-forêt (Fr.)
‘forest’  ‘forests’

c. \( tsàndà \)  \( màtsàndà \)
\( \emptyset\)-tsàndà  \( mà\)-tsàndà
NP\(_e\)-pagne (Fr.)  NP\(_e\)-pagne (Fr.)
‘loincloth’  ‘loincloths’
d. tsàndà yímósí

‘one loincloth’ (‘un pagne’ (Fr.))

The regular 14/6 pairing is illustrated in (84).

(84) 14/6

a. bó là málà
   bù-élà mà-élà
   NP₁₄-village (Fr.) NP₆-village (Fr.)
   ‘village’ ‘villages’

b. bùkò màkò
   bù-kò mà-kò
   NP₁₄-beau.parent (Fr.) NP₆-beau.parent (Fr.)
   ‘parent-in-law’ ‘parents-in-law’

According to Marchal-Nasse (1989), there are two nominal forms of the verb. The infinitive has a class 15 NP à-, while the ‘special deverbative’ has a class 7 NP i-. They differ not only with regard to their NP, but also with regard to the construction in which they are used. The so-called special deverbative is used with a locative particle gù (see below), as shown in (85). The infinitives may be used, among others, in isolation, as a subject or an object (see (86)a(86)b), and with a locative particle mù (see (86)c). (86)a shows that the infinitive triggers class 15 agreement.

(85)

a. wè niyéndáŋgé gù lòbì?
   ‘will you go fishing often?’ (‘est-ce que tu iras souvent à la pêche? (Fr.))

b. m'ëyéndè vâǹvà gú ñlé bó sít lòkò lâyéndè bwédì
   ‘I was there to tell them if the school had worked well’ (‘j’étais là-bas pour leur dire si l’école avait bien marché’ (Fr.))

(86)

a. ìsúlá ìrëkò
   ‘working is tiring’ (‘travailler est fatiguant’ (Fr.))

16 Marchal-Nasse (1989) uses the term ‘special deverbative’ to distinguish it from other deverbatives, which are full-fledged nouns. She considers this special deverbative as a nominal form of the verb, i.e. not a full-fledged noun.
b. *mɛ̀tɔ́ːndɔ́ ūsálá gúts (…)
   ‘I like working at (…) (‘j’aime travailler à (…)’ (Fr.))

c. *mɛ̀tɔ́ːndɔ́ mú ūsáːdá mú lákɔ́lɔ́ psikɔpátɔlɔ̀zì
   ‘I’d like to do psychopathology at school’ (‘j’aimerais faire psycho-pathologie à l’école’ (Fr.))

Table 10 includes classes 16, 17 and 18, which are usually the locative noun classes in Bantu languages. In Nzebi, they can no longer be considered as full-fledged locative classes according to Marchal-Nasse (1989) since they do not have a NP that triggers agreement. There remain three locative morphemes va, gu and mu which may be used in several contexts. They are reflexes of the PB locative noun class prefixes *pá-*, *kó-* and *mó-* respectively.

If the locative morphemes have a low tone, i.e. và, gù and mú, Marchal-Nasse (1989) calls them ‘locative particles’. They are used in combination with certain nouns to form locative expressions such as gù/vâ tsɔ̀ ‘in, inside’ (‘dans, à l’intérieur de’ (Fr.)), gù/vâ tʃinà ‘below, underneath’ (‘en-dessous (de), en bas (de)’ (Fr.)), gù/mù yulù ‘above, on’ (‘au-dessus de, sur’ (Fr.)). The examples in (87) illustrate this use of the locative particles. In Duma, such expressions are formed with i-, which is a reflex of the PB class 24 NP *ɪ-. The locative particles may also be used to introduce a subordinate clause of time or place, as shown in (88).

(87)
   a. gú tsí pìndì
      ‘in the forest’ (dans la forêt’ (Fr.))
   b. sòsà jò gù tʃinà
      ‘put that underneath’ (‘pose ça là-dessous’ (Fr.))
   c. ndɛ̀ ákàássòsà mukàkà và yulù à tábɔ̀là
      ‘he puts his hands on the table’ (‘il pose ses mains sur la table’ (Fr.))

(88) va me kíyé vâ:nɔ́vá
    ‘when I will go there’ (‘quand j’irai là-bas’ (Fr.))

The locative morphemes va, gu and mu may also get a high tone. Marchal-Nasse (1989) considers và, gù and mú to be fossilised locative prefixes, since the way they appear is not determined by agreement. As shown in Table 10, Marchal-Nasse (1989) recognises pronominal and verbal ‘locative prefixes’. The pronominal prefixes are found in demonstratives (e.g. ãgú ‘here’ (‘ici’ (Fr.)), vâ:nɔ́vá ‘there’ (‘là-bas’ (Fr.)), see (88)) and interrogatives (e.g. vêni ‘where?’ (‘où?’ (Fr.))). I would consider these demonstratives and interrogatives as invariable words. The morphemes which Marchal-Nasse (1989)
recognises as verbal prefixes of the locative classes only occur with the verb ‘to be’, which is \(-báá\-\) or \(-lūd\-.\) These verbs then take on the meaning of ‘there is/are’ (see (89)).

(89)

a. \(gùsàbà\,(dà)\) byélá và vè
   ‘there was no food there’ (‘il n’y avait pas de nourriture là’ (Fr.))

b. \(gú\ tsò\ nzêlî, \(gù\łò\,(dì)\) bátfwi bákùnù
   ‘in the water, there are a lot of fish’ (‘dans l’eau, il y a beaucoup de poissons’ (Fr.))

PB → Nzebi (B52)

Table 11 presents the amended noun class system of Nzebi. With regard to Table 10, I added the subclass 1a and relabeled Marchal-Nasse’s (1989) class 11 as class 5. Furthermore, I deleted the locative noun classes and I edited the NPs of classes 7, 9, 10 and 15.

Table 11 - Nzebi (B52) amended noun class system

<table>
<thead>
<tr>
<th>Cl.</th>
<th>NP</th>
<th>PP</th>
<th>VP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>mú-</td>
<td>wù-, ú-, Ø-</td>
<td>á-, Ø-</td>
</tr>
<tr>
<td>1a</td>
<td>Ø-</td>
<td>wù-, ú-, Ø-</td>
<td>á-, Ø-</td>
</tr>
<tr>
<td>2</td>
<td>bà-</td>
<td>bá-</td>
<td>bá-</td>
</tr>
<tr>
<td>3</td>
<td>mú-</td>
<td>wù-, Ø-</td>
<td>á-</td>
</tr>
<tr>
<td>4</td>
<td>mí-</td>
<td>mí-</td>
<td>mí-</td>
</tr>
<tr>
<td>5</td>
<td>lì-, dì-</td>
<td>lì-</td>
<td>lì-</td>
</tr>
<tr>
<td>6</td>
<td>mà-</td>
<td>má-</td>
<td>má-</td>
</tr>
<tr>
<td>7</td>
<td>i-, sì-, gù-</td>
<td>sì-</td>
<td>sì-, í-</td>
</tr>
<tr>
<td>8</td>
<td>bì-</td>
<td>bì-</td>
<td>bì-</td>
</tr>
<tr>
<td>9</td>
<td>Ø-, yi-</td>
<td>yì-, Ø-</td>
<td>yì-</td>
</tr>
<tr>
<td>10</td>
<td>N-, yi-</td>
<td>yì-, Ø-</td>
<td>yì-</td>
</tr>
<tr>
<td>14</td>
<td>bù-</td>
<td>bú-</td>
<td>bú-</td>
</tr>
<tr>
<td>15</td>
<td>ù-</td>
<td>gù-</td>
<td>gù-</td>
</tr>
</tbody>
</table>

According to my analysis, Nzebi has twelve noun classes. Of the regular classes that were reconstructed for PB, classes 11, 12 and 13 are absent from Nzebi. Class 11 merged with class 5. While Marchal-Nasse
(1989) labels this merged class as 11, I label it as 5 based on comparative evidence. Classes 12 and 13, which formed the PB pairing 12/13, were lost.

Innovative pairings in Nzebi are 5/2, 7/4 and 9/6. The innovative 5/2 pairing contains only one noun, i.e. ₁b₂b₃g₆₄g₇₄l₇ₕ₄ 'man'. The innovative 7/4 pairing is the result of the reclassification of the ancient class 15 nouns ɡɔ̃ɡɔ̀ 'arm' and ɡùlù 'leg, foot'. A part of the ancient 9/10 nouns shifted their plural to class 6, which led to the innovative 9/6 pairing. The remaining ancient 9/10 nouns were reanalysed as 1a/2, hence the content of the PB 1a/2 pairing was innovated.

The PB locative classes 16, 17 and 18 only left remnants in Nzebi. The locative morphemes va, gu and mu are reflexes of the PB locative noun class prefixes *pá-, *kʊ̀- and *mʊ́- respectively. They are used with a set of nouns to form certain locative expressions, such as 'inside' and 'underneath'. Furthermore, the locative morphemes are used to introduce subordinate clauses of time and place, and they may be recognised in demonstratives (e.g. ɗgù ‘here’) and interrogatives (e.g. vɛ́nì ‘where?’). Unlike in Duma, the locative morphemes are not used as prepositions.

Innovative NPs are present in classes 5, 7, 9 and 15. Class 5 ₁li- and ₁di- are reflexes of the PB class 5 augment *dɪ-. ₁Li- is used with consonant-initial noun stems, while ₁di- is used with vowel-initial noun stems. Class 7 ₁i- and ₁si- are reflexes of the PB class 7 NP *kɪ̀-. ₁i- is used with consonant-initial noun stems, while ₁si- is used with vowel-initial noun stems. Class 7 ₁gù- is a reflex of the PB class 15 NP *kʊ̀-. It is a result of the reclassification of the ancient class 15 nouns ɡɔ̃ɡɔ̀ 'arm' and ɡùlù 'leg, foot'. The class 15 NP ₁ù-, used on infinitives in Nzebi, is also an innovation. In this case, PB class 15 *kʊ̀- lost the initial [k]. Furthermore, class 9 has an innovative NP Ø-. Marchal-Nasse (1989) already recognises the class 9 NP Ø-, but she states that it is only used on loanwords, whereas I claim that all class 9 nouns have a zero-prefix. The reanalysed historical class 9 NP *N- was lost before voiceless consonants.

4.1.3 Tsaangi (B53)

Table 12 presents the noun class system of Tsaangi according to Loubelo (1990). It includes the NP, NCP and PP paradigms. The NCP paradigm is based on what Loubelo (1990) calls ‘préfixes d’accord’, i.e. ‘agreement prefixes’. The PP paradigm is based on Loubelo’s (1990) ‘déterminants’, i.e. determinants. According to Loubelo (1990), the determinants are actually free or unbound morphemes, not prefixes. However, they correspond to the paradigm of the pronominal prefixes in Bwala (and elsewhere). For the sake of continuity with the other languages in the sample, I have therefore dubbed the ‘determinants’ as PP in Table 12. Loubelo (1990) does not provide VPs for Tsaangi, hence why they are not included in Table 12.
According to Loubelo (1990), there are ten noun class pairings in Tsaangi, i.e. 1/2, 1/4, 5/2, 5/6, 5/10, 7/8, 9/2, 9/6, 14/6, 15/4. All the examples that are used to illustrate these pairings below are taken from Loubelo (1990), but only a part of them were segmented and glossed. I segmented and glossed the rest of the examples in accordance with Loubelo’s (1990) analysis. I also translated the examples into English.

Loubelo (1990) states that classes 1 and 3 merged in Tsaangi. The merged class, which Loubelo (1990) labels as 1, forms a pairing with class 2 and with class 4, as shown in (90) and (91) respectively. It is unfortunate that Loubelo (1990) does not provide verbal prefixes, as they are often the only criterion by which to make a distinction between classes 1 and 3 besides the plural class. As it is, there is no way to check whether a full 1 = 3 merger indeed took place.

(90)  1/2

a. mùná
mù-àná
NP₁-enfant (Fr.)
‘child’

b. mù-tú
mù-tú
NP₁-homme (Fr.)
‘person’
Several animate 1/2 have a zero-prefix in the singular, as shown in examples (92)a and (92)c. (92)b and (92)d show that they trigger the same agreement as class 1 in the singular. I consider this set of animate nouns as belonging to the subclass 1a. Some 1a nouns have a noun stem that begins with a nasal, e.g. Ø-mvùá ‘dog’, while others do not, e.g. Ø-pfúmú ‘chief’. All the examples provided by Loubelo (1990) are ancient class 9 nouns that were reclassified on grounds of animacy. The historical class 9 NP *N- was lost before voiceless consonants, but not before causing fortition of [f] → [pf], see pfúmú ‘chief’. Since the nasal prefix was lost in some nouns, I do not make a distinction between a subclass 1a (containing nouns without an initial nasal) and a subclass 1n (containing nouns with an initial nasal).
d. *pfúmú  mùmósì  mükímà
   Ø-pfúmú  mù-mósì  mükímà
   NP₁₉-chef  NCP₁₉-un  NCP₁₉-autre (Fr.)
   ‘one other chief’

Nouns belonging to the 9/2 pairing have the same set of NPs as 1a/2 nouns, i.e. Ø-/bà-, as shown in (93). 9/2 nouns are not numerous. Unfortunately, Loubelo (1990) does not provide examples of agreement to illustrate the class 9 belonging of these nouns. Nevertheless, I follow his analysis because the 9/2 nouns all appear to be inanimate, unlike the nouns that were reclassified to 1a.

(93) 9/2
   a. mbálà  bàmbálà
      Ø-mbálà  bà-mbálà
      NP₉-igname (Fr.)  NP₂-igname (Fr.)
      ‘yam’  ‘yams’
   b. mví  bàmví
      Ø-mví  bà-mví
      NP₉-cheveu.blanc (Fr.)  NP₂-cheveu.blanc (Fr.)
      ‘white hair’  ‘white hairs’

While some class 9 nouns form their plural in class 2, the majority of the class 9 nouns form their plural in class 6, as shown in (94). The historical class 9 NP *N- is lost before voiceless consonants (see (94)a). (94)d demonstrates the agreement of nzó ‘box’.

(94) 9/6
   a. tsàndá  màtsàndá
      Ø-tsàndá  mà-tsàndá
      NP₉-pagne (Fr.)  NP₆-pagne (Fr.)
      ‘loincloth’  ‘loincloth’
   b. mbèdí  màmbèdí
      Ø-mbèdí  mà-mbèdí
      NP₉-couteau (Fr.)  NP₆-couteau (Fr.)
      ‘knife’  ‘knives’

87
c. nzó  
Ø-nzó  
NP₅-case (Fr.)  
‘box’

mànzó
mà-nzó
NP₆-case (Fr.)
‘boxes’

d. nzó  yi  yinéné  
Ø-nzó  yi  yi-néné  
NP₅-case  PP₉  NCP₉-gros (Fr.)  
‘the big box’

The synchronic class 5 in Tsaangi is the result of the merger of class 5 and 11. It forms part of two regular pairings, i.e. 5/6 and 5/10, and one uncommon pairing, i.e. 5/2. (95) illustrates the 5/6 pairing. The class 5 NP dí- is used before vowel-initial noun stems, while ë- is used before the majority of the consonant-initial noun stems. Ø- is used before a few consonant-initial noun stems only. (95)f demonstrates the agreement of kúmì ‘ten’, since its NPs Ø-/mà- are identical to those of 9/6 nouns. Furthermore (95)d demonstrates the class 6 agreement of mìsú ‘eyes’, since one might suggest that it is a class 4 noun based on its segmental form.

(95)  5/6

a. likáyá  màkáyá  
li-káyá  mà-káyá  
NP₅-feuille (Fr.)  NP₆-feuille (Fr.)  
‘leaf’  ‘leaves’

b. diàmbú  màmbú  
di-àmbú  mà-àmbú  
NP₅-parole (Fr.)  NP₆-parole (Fr.)  
‘word’  ‘words’

c. disú  mìsú  
di-ìsú  mà-ìsú  
NP₅-œil (Fr.)  NP₆-œil (Fr.)  
‘eye’  ‘eyes’

d. mìsú  mà  á  ndé  
mà-ìsú  mà  á  ndé  
NP₆-eye  PP₆  CON 3SG  
‘their (sg.) eyes’
e. kúmi  màkúmi
   Ø-kúmi mà-kúmi
   NP₁₀-dix (Fr.) NP₁₀-dix (Fr.)
   ‘ten’ ‘tens’

f. bàná  kúmi  limósì
   bà-àná Ø-kúmi li-mósì
   NP₂-enfant NP₁₀-dix NCP₅-un (Fr.)
   ‘ten children’

The 5/10 pairing is illustrated in (96). The class 10 NP Ǹ- is lost before noun stems beginning with a voiceless consonant. However, it causes fortition of [s] → [ts] (see (96)) and possibly of other voiceless consonants.

(96)  5/10
   a. libütú  mbütú
       li-bütú  Ì-bütú
       NP₁₀-fruit (Fr.) NP₁₀-fruit (Fr.)
       ‘fruit’ ‘fruits’

   b. lisálà  tsálà
       li-sálà  Ì-sálà
       NP₁₀-plume.d’oiseau (Fr.) NP₁₀-plume.d’oiseau (Fr.)
       ‘feather’ ‘feathers’

The 5/2 pairing contains only two nouns, shown in (97). The agreement of bàlá ‘man’ is demonstrated in (97)c since it has the same NPs as the 1a/2 and 9/2 nouns, i.e. Ø-/bà-.

(97)  5/2
   a. likútà  bàkútà
       li-kútà bà-kútà
       NP₁₀-centime (Fr.) NP₁₀-centime (Fr.)
       ‘cent’ ‘cents’

   b. bàlá  bàbàlá
       Ø-bàlá bà-bàlá
       NP₂-homme (Fr.) NP₂-homme (Fr.)
       ‘man’ ‘men’
The 7/8 pairing is illustrated in (98). The NP ́i- is used before consonant-initial noun stems, while ̃h- is used before vowel-initial noun stems.

(98) 7/8

a. ́idúkà ̃bí dúkà
   i-dúkà ̃bí dúkà
   NP₇-moineau (Fr.) NP₈-moineau (Fr.)
   ‘sparrow’  ‘sparrows’

b. ̃hiòmvó ̃bíòmvó
   hi-òmvó ̃bí-òmvó
   NP₇-buffle (Fr.) NP₈-buffle (Fr.)
   ‘buffalo’  ‘buffaloes’

The examples in (99) illustrate the 14/6 pairing.

(99) 14/6

a. ̀bùlá ́màlá
   bù-lá ́mà-lá
   NP₁₄-village (Fr.) NP₆-village (Fr.)
   ‘village’  ‘villages’

b. ̀bùbèdù ́màbèdù
   bù-bèdù ́mà-bèdù
   NP₁₄-maladie (Fr.) NP₆-maladie (Fr.)
   ‘disease’  ‘diseases’

Loubelo (1990) identified two nouns as belonging to pairing 15/4, i.e. ̀hùlú ‘leg’ and ̀hògó ‘hand’ (see (100)). (100)c illustrates the agreement of ̀hùlú ‘leg’.

(100) 15/4

a. ̀hògó ́mìògó
   hù-ògó ́mì-ògó
   NP₁₅-main (Fr.) NP₄-main (Fr.)
   ‘hand’  ‘hands’
Infinitives, or ‘verbal nouns’ as Loubelo (1990) calls them, take a class 15 NP ʊ- in Tsaangi. The examples in (101) were taken from the texts which Loubelo (1990) provided as an appendix. Therefore, their tonal patterns may be different from when the infinitives had been offered in isolation. The examples are not segmented or glossed because Loubelo (1990) did not do so.

(101)

a. ʊyʊgà
   ‘to hear’ (’entendre’ (Fr.))

b. ʊtʊʊlʊà
   ‘to be able’ (’pouvoir’ (Fr.))

c. ʊyʊdà
   ‘to come’ (’venir’ (Fr.))

There are no locative classes in Tsaangi. However, there are three locative particles, ñà, hù and mù, which Loubelo (1990) refers to as ‘locative markers’. They are reflexes of the PB locative noun class prefixes *pà-, *kò- and *mù- respectively. In (102)c and (102)e-(102)f, the locative particles are used as prepositions. In (102)a-(102)b) and (102)d, they combine with a noun to form a more specific locative expression. The locative markers may also combine with a demonstrative marker, e.g. ñà ná ‘there’ (’là’ (Fr.)), hù ná ‘there’ (’là’ (Fr.)) and mù ná ‘in there’ (’là-dedans’ (Fr.)). There are three sets of locative demonstratives, corresponding to the erstwhile locative classes 16, 17 and 18.

(102)

a. ñà yʊlʊ
   ñà Ø-yʊlʊ
   LOC.PTC NP₅-ciel (Fr.)
   ‘above’
Table 13 presents the amended noun class system of Tsaangi. With regard to Table 12, I added the subclass 1a and assigned the NP Ø- to this subclass instead of the class 1.
Table 13 - Tsaangi (B53) amended noun class system

<table>
<thead>
<tr>
<th>Cl.</th>
<th>NC</th>
<th>NCP</th>
<th>PP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>mù-</td>
<td>mù-</td>
<td>wù</td>
</tr>
<tr>
<td>1a</td>
<td>Ø-</td>
<td>mù-</td>
<td>wù</td>
</tr>
<tr>
<td>2</td>
<td>bà-</td>
<td>bà-</td>
<td>bà</td>
</tr>
<tr>
<td>4</td>
<td>mì-</td>
<td>mì-</td>
<td>mì</td>
</tr>
<tr>
<td>5</td>
<td>lì-, Ø-, dì-</td>
<td>lì-</td>
<td>lì</td>
</tr>
<tr>
<td>6</td>
<td>mà-</td>
<td>mà-</td>
<td>mà</td>
</tr>
<tr>
<td>7</td>
<td>i-, hì-</td>
<td>hì-</td>
<td>hì</td>
</tr>
<tr>
<td>8</td>
<td>bì-</td>
<td>bì-</td>
<td>bì</td>
</tr>
<tr>
<td>9</td>
<td>Ø-</td>
<td>yì(N)-</td>
<td>yì</td>
</tr>
<tr>
<td>10</td>
<td>Ñ-</td>
<td>yì(N)-</td>
<td>yì</td>
</tr>
<tr>
<td>14</td>
<td>bù-</td>
<td>bù-</td>
<td>bù</td>
</tr>
<tr>
<td>15</td>
<td>ù-, hù-</td>
<td>hù-</td>
<td>hù</td>
</tr>
</tbody>
</table>

According to my analysis, there are eleven noun classes in Tsaangi. Of the regular classes that were reconstructed for PB, classes 3, 11, 12 and 13 are absent from Tsaangi. Class 3 merged with class 1. The 1/4 pairing is thus a retention of the PB 3/4 pairing. However, this is not a definitive analysis, since it appears to be based on incomplete agreement patterns that do not include verbal prefixes. Class 11 merged with class 5. Hence, the 5/10 pairing in Tsaangi is a retention of the PB 11/10 pairing.

Innovative noun class pairings in Tsaangi are 5/2, 9/2, 9/6 and 15/4. Furthermore, the content of the subclass 1a was innovated with regard to PB since it contains ancient class 9 nouns that were reclassified on the grounds of animacy. The remaining class 9 nouns shifted their plural formation from class 10 to either class 2 or to class 6, resulting in the innovative pairing 9/2 and 9/6. The innovative 5/2 pairing contains only two nouns, i.e. bàːlá ‘man’ and likútà ‘cent’. A shift in the plural formation of the class 15 nouns hòːgó ‘arm’ and hùːlú ‘leg’ resulted in the innovative 15/4 pairing.

The PB locative classes 16, 17 and 18 left remnants in the form of the locative particles ñà, hù and mù, which are retentions of the PB locative noun class prefixes *pà-, *kù- and *mù- respectively. They are used as prepositions and they combine with a limited set of nouns to form certain locative expressions, such as ‘above’, ‘next to’ and ‘behind’. The locative markers are also used in demonstrative expressions, such as ‘there’.

Innovative NPs are present in classes 5, 7, 9 and 15. Class 5 lì- and dì- are reflexes of the PB class 5 augment *dì-. Lì- is used before consonant-initial noun stems and dì- before vowel-initial noun stems. Class 7 i- and hì- are reflexes of the PB class 7 NP *kì-. I- is used before consonant-initial nouns stems, while hì- is used before vowel-initial noun stems. The evolution *k → [h] also took place in the class
15 NPs *hù-, which is a reflex of PB class 15 NP *kò-. The second class 15 NP *tà-, which is used on infinitives, is also a reflex of the PB class 15 NP. The innovative class 9 NP Ø- is a result of the reinterpretation of the PB NP N- as a part of the simple noun stem. This nasal was lost when it occurred before voiceless consonants.

4.1.4 B50: A historical-comparative summary

The B50 languages included in this thesis share several innovations of the PB noun class system. Class 11 underwent a phonemic merger with class 5 in terms of the NP and of the agreement pattern in Duma, Nzebi and Tsaangi. In each of these languages, the 5/10 pairing is thus a retention of the PB 11/10 pairing. Classes 12 and 13, which formed the PB 12/13 pairing, were lost in the B50 sample languages. The innovative pairing 9/6 is present in Duma, Nzebi and Tsaangi.

In Duma, PB 9/10 was retained. Additionally, the innovative 9/2 pairing is present in Duma and Tsaangi. While the content of the 9/2 pairing does not correspond in these languages, I consider this an artefact of the respective descriptions by Mickala-Manfoumbi (1988) and Loubelo (1990). While the 9/2 pairing in Tsaangi contains only inanimate nouns, Mickala-Manfoumbi (1988) claims that the 9/2 pairing in Duma contains both animate and inanimate nouns. However, he does not provide examples of agreement to substantiate this claim. Therefore, I believe that at least the animate nouns may have been reclassified as 1a/2 nouns, as was the case in both Nzebi and Tsaangi. These languages share the 1a/2 pairing, which contains both historical class 1a/2 nouns and ancient class 9/10 nouns that were reclassified on grounds of animacy.

In addition to 1a/2, Nzebi and Tsaangi also share the innovative 5/2 pairing. In Nzebi, it contains only the noun designating ‘man’, while in Tsaangi, it contains the noun designating ‘man’ as well as that for ‘cent’. Furthermore, Tsaangi most likely has an innovative 1/4 pairing. This is a retention of the PB 3/4 pairing and resulted from a merger of classes 1 and 3.

In Duma, class 15 merged with class 7. Infinitives take a class 7 NP *i-, and the historical class 15 nouns designating ‘arm’ and ‘leg’ now belong to the innovative 7/4 pairing. In Nzebi, a similar evolution appears to be in process. The historical class 15 nouns designating ‘arm’ and ‘leg’ were reclassified as belonging to 7/4. Furthermore, the infinitive takes a class 7 NP *i- in certain contexts. However, there still exists a form of the infinitive which both takes a class 15 NP and triggers class 15 agreement. In Tsaangi, the innovative 7/4 pairing is absent. The nouns designating ‘arm’ and ‘leg’ belong to the 15/4 pairing and the infinitives belong to class 15.

The function of the PB locative noun classes is highly reduced in the B50 sample languages. I will only discuss the main uses of the remnants of the locative noun classes. In Nzebi and Tsaangi there remain three locative particles, which are reflexes of the PB class 16, 17 and 18 NPs *pà-, *kù- and *mò-. In
both languages, they are used in combination with a limited set of nouns to form locative expressions such as ‘above’, ‘next to’ and ‘inside’. Furthermore, the locative particles in Nzebi and Tsaangi are recognisable in demonstratives and/or interrogatives such as ‘there’ and ‘where?’. In Tsaangi, the locative particles themselves are also used as prepositions. In Duma, the reflexes of the PB class 17 and 18 NPs *kʊ̀- and *mʊ̀- are used as prepositions. A reflex of the PB class 24 NP *ʔ- is used in combination with a limited set of noun stems to form specific locative expressions in Duma.

Duma, Nzebi and Tsaangi each make a distinction between two class 5 and two class 7 NPs. In class 5, lì- is used before consonant-initial noun stems in all three languages, while dì- is used before vowel-initial noun stems. Lì- and dì- are both reflexes of the PB class 5 augment *dɪ-. In class 7, the NP ĭ- is used before consonant-initial noun stems, while the NP with a CV-structure (sī- in Duma and Nzebi, ɦī- in Tsaangi) is used before vowel-initial noun stems. Each of these class 7 NPs are reflexes of the PB class 7 NP *kɪ-. The innovative class 7 NPs ɡū- (Duma and Nzebi) and ɦù- (Tsaangi) are the result of the reclassification of the historical class 15 nouns designating ‘arm’ and ‘leg’. Nzebi and Tsaangi also share the innovative class 15 NP ʊ-, which is used on infinitives. The innovative class 9 NP Ø-, which is the result of the reinterpretation of the historical class 9 NP *N- as part of the simple noun stem, is present in Duma, Nzebi and Tsaangi. This reinterpreted nasal was lost when the original noun stem begins with a voiceless consonant.

4.2 The noun class systems in B60

4.2.1 Mpini (B601)

Table 14 presents the noun class system of Mpini (B601) according to Blanchon and Alihanga (1992). It includes the NP, DEM, CON and VP paradigms. The PP paradigm is not included in Table 14, but Blanchon and Alihanga (1992) state that the simple demonstratives (DEM) are historically derived from *PP. Tone is not indicated since Blanchon and Alihanga (1992) refrain from indicating tone.
According to Blanchon and Alihanga (1992), Mpini has eight noun class pairings, i.e. 1/2, 1n/2, 3/4, 5/6, 7/8, 9/6, 9/2 and 11/10. The examples that are used to illustrate the pairings are taken from Blanchon and Alihanga (1992). Since they provide only full forms of the nouns, I did the segmentation and glossing of the examples myself, based on their analysis. I also translated the examples into English.

While Blanchon and Alihanga (1992) do not state so explicitly, their analysis suggests that classes 1 and 3 merged in Mpini. Table 14 shows that the agreement prefixes they took into account are all identical. The class 1 and 3 NPs are also identical, with the exception of the class 1 NP `mv-`, which only occurs before `[u]`. However, it is most likely that there would also be a class 3 NP `mv-` if a class 3 noun stem were to start with `[u]`. Tonal data may shed a different light on this situation, but for now I assume a 1 = 3 merger took place. As such, I label the 3/4 pairing posited by Blanchon and Alihanga (1992) as 1/4. This pairing is illustrated in (104), while the 1/2 pairing is illustrated in (103).

Blanchon and Alihanga (1992) posit a NP `b-` for class 2 which occurs before vowel-initial noun stems (see (103)b(103)c). This NP is most likely `ba-`. Since it is unclear to me how to segment the examples in (103)b and especially in (103)c assuming a NP `ba-`, I follow Blanchon and Alihanga’s (1992) analysis in the glosses. There are no examples of agreement for Mpini since Blanchon and Alihanga (1992) do not provide these.

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Table 14 - Mpini (B601) noun class system (Blanchon and Alihanga 1992)

<table>
<thead>
<tr>
<th>Cl.</th>
<th>NP</th>
<th>DEM</th>
<th>CON</th>
<th>VP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>o-, mw-, (mv-)</td>
<td>yu</td>
<td>a, Ø</td>
<td>aː-, a-, o-</td>
</tr>
<tr>
<td>1n</td>
<td>Ø</td>
<td>yu</td>
<td>a, Ø</td>
<td>aː-, a-, o-</td>
</tr>
<tr>
<td>2</td>
<td>a-, b-</td>
<td>ba</td>
<td>a, m', ma</td>
<td>mac:, a-</td>
</tr>
<tr>
<td>3</td>
<td>o-, mw-</td>
<td>yu</td>
<td>a, Ø</td>
<td>aː-, a-, o-</td>
</tr>
<tr>
<td>4</td>
<td>e-, my-, ny-</td>
<td>bi</td>
<td>e, m', me</td>
<td>meː, e-</td>
</tr>
<tr>
<td>5</td>
<td>le-, di-, dy-</td>
<td>li</td>
<td>le, l'</td>
<td>leː, le-</td>
</tr>
<tr>
<td>6</td>
<td>a-, m-</td>
<td>ma</td>
<td>a, m', ma</td>
<td>maː:, a-</td>
</tr>
<tr>
<td>7</td>
<td>yo-, ky-</td>
<td>ki</td>
<td>yo, γ'</td>
<td>yeː:, yo-</td>
</tr>
<tr>
<td>8</td>
<td>e-, by-</td>
<td>bi</td>
<td>e, m', me</td>
<td>meː, e-</td>
</tr>
<tr>
<td>9</td>
<td>Ø</td>
<td>yi</td>
<td>e, Ø</td>
<td>eː, e-</td>
</tr>
<tr>
<td>10</td>
<td>Ø</td>
<td>yi</td>
<td>e, Ø</td>
<td>eː, e-</td>
</tr>
<tr>
<td>11</td>
<td>le-, Ø-</td>
<td>li</td>
<td>le, l'</td>
<td>leː, le-</td>
</tr>
<tr>
<td>14</td>
<td>o-, bw-, (bv-)</td>
<td>bu</td>
<td>o, m', mo</td>
<td>moc:, o-</td>
</tr>
<tr>
<td>15</td>
<td>yo-</td>
<td>ki</td>
<td>yo, γ'</td>
<td>yeː:, yo-</td>
</tr>
</tbody>
</table>
Blanchon and Alihanga (1992) make a distinction between class 1 and class 1n, which share the same agreement pattern and plural class, but which have different NPs (see Table 14). While they consider classes 1 and 1n as entirely distinct classes, I consider class 1n as a subclass of class 1, in accordance with the other sample languages. However, I label it 1a instead, since Blanchon and Alihanga (1992) indicate that the nouns belonging to this class do not always begin with a nasal. As Blanchon and Alihanga (1992) state, class 1a, which is illustrated in (105), consists of ancient class 9 nouns that were reclassified. While many of them were reclassified on grounds of animacy, there are also some reclassified nouns that designate natural phenomena, e.g. ‘rain’ and ‘star’ (see (105)c).
Blanchon and Alihanga (1992) make a distinction between classes 5 and 11 mainly on the basis of the plural class with which they pair. According to them, class 5 pairs with class 6, e.g. *leŋgulu/angulu* 'basket(s)', while class 11 pairs with class 10, e.g. *lesala/ntsala* ‘feather(s)’. As Table 14 shows, the agreement patterns of classes 5 and 11 are identical. Furthermore, they share the NP *le-*, which occurs before consonant-initial noun stems. Unlike Blanchon and Alihanga (1992), I thus do not make a distinction between classes 5 and 11, but I argue that a 5=11 merger took place. The resulting class 5 pairs with plural class 6 and 10, as shown in (106) and (107) respectively.

While Blanchon and Alihanga (1992) analyse the class 6 NP of *miisi* ‘eyes’ as *m-*, I assume it is *ma-*. The vowel [a] disappears when followed by the high vowel [i]. There are no examples of agreement to verify the class of this noun.

(106) 5/6

a. *leŋgulu*  
   *angulu*  
   le-ŋgulu  
   a-ŋgulu  
   NP₅-corbeille (Fr.)  
   NP₆-corbeille (Fr.)  
   ‘basket’  
   ‘baskets’

b. *diisi*  
   *miisi*  
   di-isi  
   ma-isi  
   NP₅-œil (Fr.)  
   NP₆-œil (Fr.)  
   ‘eye’  
   ‘eyes’
Blanchon and Alihanga (1992) analyse the class 10 NP as Ø-. However, I identify it as N- since there is clearly commutation of the NPs in singular vs. plural marking. For example, the plural of lesala ‘feather’ is ntsala ‘feathers’. Going by Blanchon and Alihanga’s (1992) analysis, these nouns should be segmented as le-sala and Ø-ntsala respectively. Likewise, the Mpini word for ‘leaf’ would be Ø-ntfusi/Ø-ntfusi. In both cases, Blanchon and Alihanga (1992) consider the nasal in the plural form as part of the noun stem. It is clear that the nasal should instead be considered as a synchronic NP, as shown in (107).

(107) \[\frac{11}{10} \approx \frac{5}{10}\]

a. lesala ntsala
    le-sala N-sala
    NP5-plume (Fr.) NP10-plume (Fr.)
    ‘feather’ ‘feathers’

b. tfusi ntfusi
    Ø-tfusi N-ntfusi
    NP5-feuille (Fr.) NP10-feuille (Fr.)
    ‘leaf’ ‘leaves’

While Blanchon and Alihanga (1992) consider classes 7 and 15 as distinct classes, I suggest that a 7 = 15 merger took place. Table 14 shows that the agreement patterns of classes 7 and 15 are identical. Furthermore, they share a NP ŋo-, as shown in (108) and (109). While Blanchon and Alihanga (1992) also mention ky- as a class 7 NP which occurs before vowel-initial noun stems, they do not provide an example for this. I label the merged class as 7. Original class 7 nouns form a pairing with class 8, as illustrated in (108). Infinitives historically belonged to class 15, but now belong to class 7 (see (109)). One would also expect the nouns designating ‘arm’ and ‘leg’ to be original class 15 nouns, but Blanchon and Alihanga (1992) do not mention them.

(108) \[\frac{7}{8}\]

ŋoye etye
ŋo-tye e-tye
NP5-marmite (Fr.) NP8-marmite (Fr.)
‘pot’ ‘pots’

99
Class 9 forms a regular pairing with class 6 in Mpini, as illustrated in (110). Blanchon and Alihanga (1992) claim that ancient class 5 nouns with a consonant-initial noun stem lost their NP and were reclassified as class 9 nouns, which resulted in the 9/6 pairing. Alternatively, I suggest that ancient 9/10 nouns shifted their plural formation to class 6.

(109) ɣolama
ɣo-lama
NP$_7$-cuisiner (Fr.)
‘to cook’

(110) 9/6

<table>
<thead>
<tr>
<th>9</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. ntulu</td>
<td>antulu</td>
</tr>
<tr>
<td>Ø-ntulu</td>
<td>a-ntulu</td>
</tr>
<tr>
<td>NP$_9$-poitrine (Fr.)</td>
<td>NP$_6$-poitrine (Fr.)</td>
</tr>
<tr>
<td>‘chest’</td>
<td>‘chests’</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>9</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>b. byɛɛlɛ</td>
<td>abyɛɛlɛ</td>
</tr>
<tr>
<td>Ø-byɛɛlɛ</td>
<td>a-byɛɛlɛ</td>
</tr>
<tr>
<td>NP$_9$-sein (Fr.)</td>
<td>NP$_6$-sein (Fr.)</td>
</tr>
<tr>
<td>‘breast’</td>
<td>‘breasts’</td>
</tr>
</tbody>
</table>

The 9/2 pairing contains only one noun, i.e. ‘man’ (see (111)). Blanchon and Alihanga (1992) note that this noun commonly belongs to the 5/2 pairing. Nzebi lɔ-báŋlɔ ‘man’ and Tsaangi Ø-bɔɔ ‘man’ are indeed 5/2 nouns. Blanchon and Alihanga (1992) do not provide examples of agreement through which one could verify the 9/2 belonging of balaya ‘man’. However, I am inclined to follow their analysis since they explicitly state that they ruled out the possibility of balaya ‘man’ belonging to 5/2. For the same reason, I do not suggest that it belongs to 1a/2, which has the same NPs as 9/2, i.e. Ø-/ba-.

(111) 9/2

<table>
<thead>
<tr>
<th>9</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>balaya</td>
<td>abalaya</td>
</tr>
<tr>
<td>Ø-balaya</td>
<td>a-balaya</td>
</tr>
<tr>
<td>NP$_9$-homme (Fr.)</td>
<td>NP$_2$-homme (Fr.)</td>
</tr>
<tr>
<td>‘man’</td>
<td>‘men’</td>
</tr>
</tbody>
</table>

According to Blanchon and Alihanga (1992), class 14 does not pair with any plural class. It contains only single-class nouns, as shown in (112).
Blanchon and Alihanga (1992) do not discuss locative classes.

PB → Mpini (B601)

Table 15 presents the amended noun class system of Mpini. With regard to Table 14, I deleted classes 3, 11 and 15. I suggest class 3 merged with class 1, class 11 merged with class 5, and class 15 merged with class 7. Furthermore, I relabelled the class 1n as the subclass 1a and I edited the NPs of classes 2, 6 and 10.

Table 15 - Mpini (B601) amended noun class system

<table>
<thead>
<tr>
<th>Cl.</th>
<th>NP</th>
<th>DEM</th>
<th>CON</th>
<th>VP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>o-, mw-, (mv-)</td>
<td>yu</td>
<td>a, Ø</td>
<td>aː-, a-, o-</td>
</tr>
<tr>
<td>1a</td>
<td>Ø-</td>
<td>yu</td>
<td>a, Ø</td>
<td>aː-, a-, o-</td>
</tr>
<tr>
<td>2</td>
<td>a-, ba-</td>
<td>ba</td>
<td>a, m', ma</td>
<td>maː-, a-</td>
</tr>
<tr>
<td>4</td>
<td>e-, my-, ny-</td>
<td>bi</td>
<td>e, m', me</td>
<td>meː-, e-</td>
</tr>
<tr>
<td>5</td>
<td>le-, Ø-, di-, dy-</td>
<td>li</td>
<td>le, l'</td>
<td>leː-, le-</td>
</tr>
<tr>
<td>6</td>
<td>a-, ma-</td>
<td>ma</td>
<td>a, m', ma</td>
<td>maː-, a-</td>
</tr>
<tr>
<td>7</td>
<td>yo-, ky-</td>
<td>ki</td>
<td>yo, y'</td>
<td>yeː-, yo-</td>
</tr>
<tr>
<td>8</td>
<td>e-, by-</td>
<td>bi</td>
<td>e, m', me</td>
<td>meː-, e-</td>
</tr>
<tr>
<td>9</td>
<td>Ø-</td>
<td>yi</td>
<td>e, Ø</td>
<td>eː-, e-</td>
</tr>
<tr>
<td>10</td>
<td>N-</td>
<td>yi</td>
<td>e, Ø</td>
<td>eː-, e-</td>
</tr>
<tr>
<td>14</td>
<td>o-, bw-, (bv-)</td>
<td>bu</td>
<td>o, m', mo</td>
<td>moː-, o-</td>
</tr>
</tbody>
</table>
According to my analysis, Mpini has ten noun classes. With regard to the PB noun class system, the regular classes 3, 11, 12, 13 and 15 are absent. Class 3 appears to have merged with class 1. The 1/4 pairing is thus a retention of the PB 3/4 pairing. Likewise, the 5/10 pairing is a retention of the PB 11/10 pairing due to the merger of the historical classes 5 and 11. PB pairing 12/13 was lost. Class 15 merged with class 7. Blanchon and Alihanga (1992) do not discuss locative noun classes, hence I cannot make statements about their evolution.

Other classes merged only (part of) their agreement patterns. Classes 4 and 8 have an identical agreement pattern and are only distinguished by the variant of their NP that occurs before vowel-initial noun stems. It seems likely that classes 4 and 8 will merge entirely over time. Furthermore, there was a partial merger of the agreement patterns of classes 2 and 6. Their CON and VP are identical, while their DEM remain distinct. Classes 2 and 6 also differ with regard to the NP occurring before vowel-initial noun stems.

PB pairings 14/6 and 15/6 appear to be lost according to Blanchon and Alihanga’s (1992) analysis. Class 14 only contains single-class nouns, while the historical class 15 nouns for ‘arm’ and ‘leg’ are not mentioned. Innovative pairings in Mpini are 9/2 and 9/6. Furthermore, the content of 1a was innovated with regard to PB due to the reclassification of a part of the ancient class 9 nouns. The majority of the remaining class 9 nouns shifted their plural formation from class 10 to class 6, which resulted in the innovative 9/6 pairing. The innovative 9/2 pairing contains only one noun, i.e. balayu ‘man’. This is a 5/2 noun in both Nzebi and Tsaangi.

Practically every noun class in Mpini has one or more innovative NPs. The NPs of classes 1, 2, 4, 6, 8 and 14 lost their initial consonant when used before consonant-initial noun stems. The class 4 NP ny- is likely the result of variation of my-, which occurs before vowel-initial stems and is a reflex of the PB class 4 NP *mî-. Class 5 di-, dy- and le- are reflexes of the PB class 5 augment *dî-. Di- and dy- are used before vowel-initial noun stems, while le- occurs before consonant-initial noun stems. The innovative class 7 NP yo-, which occurs before consonant-initial stems, resulted from the merger of classes 7 and 15 and is thus a reflex of the PB class 15 NP *kî-. The reinterpretation of the historical *N- prefix of class 9 nouns led to the innovative class 9 NP Ø- in Mpini.

4.2.2  Mbaama (B62)

Table 16 presents the noun class system of Mbaama according to Okoudowa (2016). Okoudowa’s (2016) numbering of the noun classes does not fully correspond to the Bleek-Meinhof (BM) numbering system. In Table 16, the second column presents what I assume to be the corresponding BM numbers, which I will continue to use throughout this section, as they facilitate the comparison with the other languages. Additionally, Table 16 includes the NP, NCP, CON and VP paradigms. Okoudowa (2016)
refers to the NCP as ‘prefixo do adjetivo’, i.e. ‘adjective prefix’. The VP included in Table 16 are the subject prefixes, which Okoudowa (2016) refers to as ‘indice do sujeito’ or ‘subject prefix’.

Table 16 - Mbaama (B62) (Okoudowa 2016)

<table>
<thead>
<tr>
<th>Cl.</th>
<th>BM</th>
<th>NP</th>
<th>NCP</th>
<th>CON</th>
<th>VP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>mù-</td>
<td>ó-</td>
<td>à-</td>
<td>ò-</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>bà-</td>
<td>mà-</td>
<td>à-</td>
<td>à-</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>ð-</td>
<td>ð-</td>
<td>á-</td>
<td>ð-</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>è-</td>
<td>mé-</td>
<td>è-</td>
<td>è-</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>dʒí-</td>
<td>lé-</td>
<td>lé-</td>
<td>lè-</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>mí-</td>
<td>má-</td>
<td>à-</td>
<td>à-</td>
</tr>
<tr>
<td>7</td>
<td>9</td>
<td>Ø-</td>
<td>è-</td>
<td>ð-</td>
<td>è-</td>
</tr>
<tr>
<td>8</td>
<td>6</td>
<td>à-</td>
<td>mà-</td>
<td>mà-</td>
<td>à-</td>
</tr>
<tr>
<td>9</td>
<td>11</td>
<td>lè-</td>
<td>lé-</td>
<td>lé-</td>
<td>lé-</td>
</tr>
<tr>
<td>10</td>
<td>10</td>
<td>N-</td>
<td>è-</td>
<td>è-</td>
<td>è-</td>
</tr>
<tr>
<td>11</td>
<td>14</td>
<td>ð-</td>
<td>mó-</td>
<td>ð-</td>
<td>ð-</td>
</tr>
<tr>
<td>12</td>
<td>15</td>
<td>ð-</td>
<td>γé-</td>
<td>γó-</td>
<td>γò-</td>
</tr>
</tbody>
</table>

Mbaama’s noun classes pair into nine noun class pairings according to Okoudowa (2016), i.e. 1/2, 3/4, 5/6, 9/6, 9/4, 11/6, 11/10, 14/4 and 15/4. A discussion on these noun class pairings follows below. The examples used are provided by Okoudowa (2016) in segmented form. I translated the examples into English and added the glosses based on Okoudowa’s (2016) analysis. I could not find examples for the pairings 9/4, 11/6, 14/4 and 15/4.

The 1/2 pairing is illustrated by the examples in (113).

(113) 1/2
a. mùáná    bááná
   mù-áná    bá-áná
   NP₁-criança (Port.)  NP₂-criança (Port.)
   ‘child’   ‘children’

b. ðókáásí à-ðókáásí
   ðó-káásí    à-káásí
   NP₁-mulher (Port.)  NP₂-mulher (Port.)
   ‘woman’ ‘women’
Okoudowa (2016) indicates that there are also 1/2 nouns with NPs Ø-/à-. I consider these to belong to the subclass 1a. 1a/2 nouns are ancient class 9 nouns that were reclassified, as evidenced by the initial nasal of the noun stem. They designate animals and natural phenomena. (114) shows the only 1a/2 example provided by Okoudowa (2016).

(114) 1a/2

\[
\begin{align*}
mvälá & \quad \text{àmvälá} \\
Ø-mvälá & \quad \text{à-mvälá} \\
\text{NP}ₗₐ-chuva \text{ (Port.)} & \quad \text{NP}₂-chuva \text{ (Port.)} \\
\text{'rain'} & \quad \text{'rains'}
\end{align*}
\]

The examples in (115) illustrate the 3/4 pairing.

(115) 3/4

\[
\begin{align*}
a. \quad \text{òtí} & \quad \text{ètí} \\
\text{ò-tí} & \quad \text{è-tí} \\
\text{NP}₄-árvore \text{ (Port.)} & \quad \text{NP}₄-árvore \text{ (Port.)} \\
\text{'tree'} & \quad \text{'trees'}
\end{align*}
\]

\[
\begin{align*}
b. \quad \text{òkàjí} & \quad \text{èkàjí} \\
\text{ò-kàjí} & \quad \text{è-kàjí}^{18} \\
\text{NP}₄-antílope \text{ (Port.)} & \quad \text{NP}₄-antílope \text{ (Port.)} \\
\text{'antelope'} & \quad \text{'antelopes'}
\end{align*}
\]

A phonemic merger took place of classes 5 and 11, as is evidenced by their agreement patterns (see Table 16). However, Table 16 shows a tonal difference between the class 5 and class 11 VPs. The class 5 VP lè- bears a low tone, whereas the class 11 VP lé- bears a high tone. Despite this minor tonal difference, the situation regarding classes 5 and 11 in Mbaama is strikingly similar to other languages that have been reviewed in this chapter. Therefore I am assuming a 5=11 merger in Mbaama, but I take the tonal difference into account by dividing the merged class 5 into two subclasses. I refer to the ancient class 5 as 5a and to the ancient class 11 as 5b. The 5b/10 pairing, illustrated in (116), is thus a retention of the ancient 11/10 pairing.

(116) 11/10 = 5b/10

\[
\begin{align*}
a. \quad \text{lèmfú} & \quad \text{m̀fú} \\
\text{lè-mfú} & \quad \text{m̀-fú} \\
\text{NP}₃ₗₐ-cabelo \text{ (Port.)} & \quad \text{NP}₄-cabelo \text{ (Port.)} \\
\text{'hair'} & \quad \text{'hairs'}
\end{align*}
\]

\[^{18}\text{Okoudowa (2016) indicates a different tonal pattern on the singular and the plural noun.}\]
Table 16 shows that I assigned the BM number 6 to two of Okoudowa’s (2016) classes, i.e. 6 and 8. Even though these classes differ in NP, CON and the singular class with which they pair, both correspond to PB class 6 in my opinion. To accommodate the difference between the two classes posited by Okoudowa (2016), I make a distinction between the subclasses 6a and 6b.

6a pairs with both 5a and 5b, but Okoudowa (2016) only provides examples to illustrate the plural formation of 5a nouns (see (117)). What is more, the only 5a examples he provides are dz inté/mí-ísí ‘eye(s)’ and dz inté/mí-ísí ‘tooth/teeth’ (his segmentation). Going by the NPs, one might designate the plural nouns as class 4. Okoudowa (2016) does not provide examples of agreement to substantiate his claim that they are class 6 instead. However, I decide to follow his analysis on the grounds of comparative evidence. In other languages of the sample the nouns ‘eye’ and ‘tooth’ also belong to the 5/6 pairing. Furthermore, in the B50 languages Duma, Nzebi and Tsaangi, the plural NP was analysed as ma-, which I suggest to do for Mbaama as well. In mísí ‘eyes’ and míí ‘teeth’, the [a] of the NP is assimilated to the following [i] of the noun stem.

(117) 5/6≈5a/6a

a. dz inté  míí
   dz inté  má-í
   NPsa-dente (Port.)  NPsa-dente (Port.)
   ‘tooth’  ‘teeth’

b. dz inté  mísí
   dz inté  má-ísí
   NPsa-olho (Port.)  NPsa-olho (Port.)
   ‘eye’  ‘eyes’

The subclass 6b pairs with 5b and 9. Okoudowa (2016) does not provide examples for the 5b/6b pairing. The 9/6b pairing is illustrated in (118). The additive class 6b NP à- indicates that the historical class 9 NP *N- was reinterpreted as part of the simple noun stem. Once again, there are no examples of agreement to demonstrate the noun classes of the nouns shown in (118).
The infinitives belong to class 15 in Mbaama and have a NP ò-, as illustrated in (119). Furthermore, class 15 contains kwóyá ‘arm’. Okoudowa (2016) does not segment this noun, but for now I assume that its NP is kù-. While I was not able to find a plural form of kwóyá ‘arm’, it is likely that it is formed in class 4, since Okoudowa (2016) posits a 15/4 pairing. Okoudowa (2016) does not provide the noun designating ‘leg’, but it most probably also belongs to 15/4.

Okoudowa (2016) does not provide examples for the remaining noun class pairings, i.e. 9/4, 5b/6b and 14/4.

The locative noun classes are absent from Mbaama. To express location, Mbaama uses independent morphemes that function as prepositions, such as ó ‘at’ (‘no’ (Port.)), má ‘in’ (‘em’ (Port.)), ntá ‘inside of’ (‘dentro de’ (Port.)) and jílá ‘on, over’ (‘sobre’ (Port.)). Ó ‘at’ is likely a reflex of PB class 17 *kù-. Má ‘in’ shows similarities to the PB class 18 NP *mù- in form and meaning. The examples in (120), for which I follow Okoudowa’s (2016) glosses, illustrate some of the prepositions that express locative meanings. Ó only appears to be used in combination with one of the other locative propositions (see (120)a).
PB → Mbaama (B62)

Table 17 presents the amended noun class system of Mbaama. With regard to Table 16, I added the subclass 1, I relabelled classes 5 and 11 as 5a and 5b respectively, and I made a distinction between the subclasses 6a and 6b. Furthermore, I added a class 15 NP kù-.

Table 17 - Mbaama (B62) amended noun class system

<table>
<thead>
<tr>
<th>Cl.</th>
<th>NP</th>
<th>NCP</th>
<th>CON</th>
<th>VP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>mù-, ò-</td>
<td>ó-</td>
<td>à-</td>
<td>ò-</td>
</tr>
<tr>
<td>1a</td>
<td>ò-</td>
<td>ó-</td>
<td>à-</td>
<td>ò-</td>
</tr>
<tr>
<td>2</td>
<td>bá-, à-</td>
<td>má-</td>
<td>à-</td>
<td>à-</td>
</tr>
<tr>
<td>3</td>
<td>ò-</td>
<td>ò-</td>
<td>à-</td>
<td>ò-</td>
</tr>
<tr>
<td>4</td>
<td>è-</td>
<td>mé-</td>
<td>é-</td>
<td>è-</td>
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<tr>
<td>5a</td>
<td>dʒí-</td>
<td>lé-</td>
<td>lé-</td>
<td>lé-</td>
</tr>
<tr>
<td>5b</td>
<td>lè-, Ø-</td>
<td>lé-</td>
<td>lé-</td>
<td>lé-</td>
</tr>
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<td>mó-</td>
<td>ò-</td>
<td>ò-</td>
</tr>
<tr>
<td>15</td>
<td>ò-, kù-</td>
<td>γé-</td>
<td>γó-</td>
<td>γò-</td>
</tr>
</tbody>
</table>

According to my analysis, there are ten noun classes in Mbaama. Of the regular classes that were reconstructed for PB, classes 7, 8, 11, 12 and 13 are absent. Classes 7, 8, 12 and 13 appear to be lost.
Especially the loss of the 7/8 is remarkable, since it was reconstructed for PB and it is distributed fairly densely over the entire Bantu area (Maho 1999: 225). It is also present in each of the remaining sample languages. I consider class 11 to have undergone a merger with class 5. I make a distinction between subclasses 5a and 5b to account for the tonal difference that exists between the verbal prefixes. Subclass 5a corresponds to PB class 5, while subclass 5b corresponds to PB class 11. The 5b/10 pairing in Mbaama is thus a result of the 5=11 merger. Table 17 also shows two subclasses 6a and 6b instead of one class 6. Both correspond quite clearly to PB class 6, but the small difference in agreement patterns led me to consider them as subclasses.

9/6b, 9/4, 14/4 and 15/4 are innovative noun class pairings in Mbaama. Furthermore, the content of 1a/2 was innovated with regard to PB due to the reclassification of ancient class 9 nouns. The remainder of the ancient class 9 nouns shifted their plural formation to class 4 and 6, which resulted in the innovative 9/4 and 9/6b pairing. While Okoudowa (2016) only specifies the class 15 belonging of ‘arm’, the innovative 15/4 pairing most probably contains the nouns designating ‘arm’ and ‘leg’. The 14/6 pairing is absent from Mbaama. Class 14 forms a pairing with class 4 instead.

The locative classes 16, 17 and 18 were lost in Mbaama. The particles ó and má are likely reflexes of the PB class 17 NP *kʊ̀- and the PB class 18 NP *mʊ̀- respectively. They do not appear to be used independently as prepositions, but always in combination with another locative preposition, such as ntʃá ‘inside of’ or jìlá ‘on, over’.

Like in Mpini, practically all noun classes in Mbaama have one or more innovative noun class prefixes. The NPs of classes 1, 2, 3, 4, 6b, 14 and 15 lost their initial consonant. Classes 1 and 2 have an additional NP of a CV-structure, which is likely used before vowel-initial noun stems. Class 5 dʒí- and lè- are reflexes of the PB class 5 augment *dɪ-. Dʒí- is used before the vowel-initial noun stems, while lè- is used before consonant-initial noun stems. Class 9 Ø- is the result of the reanalysis of the historical class 9 NP *N- as part of the simple noun stem.

4.2.3 B60: A historical-comparative summary

I consider the 5=11 merger to have taken place in Mpini and Mbaama. Thus, the 5/10 pairing is a retention of the PB 11/10 pairing in both languages. Classes 12 and 13, which formed the PB 12/13 pairing, were lost in Mpini and Mbaama. The PB 14/6 pairing also appears to be lost in both languages. In Mpini, class 14 does not pair with a plural class. In Mbaama, it pairs with class 4. Mbaama is the only sample language with a 14/4 pairing. Elsewhere it occurs scattered across the western and northeastern parts of the Bantu area, according to Maho (1999: 190).

The innovative 9/6 pairing is present in both Mpini and Mbaama. In Mpini, the noun designating ‘man’ is the only class 9 noun to form its plural in an alternative class, i.e. class 2. In Nzebi, Tsaangi and
Kukwa (see below), this noun belongs to 5/2. In Mbaama, class 9 also forms a pairing with class 4, but Okoudowa (2016) does not specify which nouns belong to the 9/4 pairing. The ancient 9/10 nouns that did not shift their plural formation, were reclassified as 1a/2 nouns in both B60 languages. The set of reclassified nouns contains animates, but also nouns designating natural phenomena. Due to the reclassification of ancient 9/10 nouns, the content of the synchronic 1a/2 pairing does not correspond to PB 1a/2.

In Mpini, class 15, which contained the infinitives, merged with class 7. The merged class is labelled as 7. In Mbaama, classes 7 and 8, which formed the PB 7/8 pairing, were lost. Mbaama class 15 remains a distinct class which on the one hand contains the infinitives, and on the other hand forms a pairing with class 4. It is likely that the 15/4 pairing contains the nouns designating ‘arm’ and ‘leg’, but this is not specified by Okoudowa (2016). Blanchon and Alihanga (1992) do not mention these nouns for Mpini. Also in Mpini, it is likely that 1=3 merger took place. The 1/4 pairing is thus a retention of the PB 3/4 pairing.

Blanchon and Alihanga (1992) do not discuss the locative system of Mpini. In Mbaama, there are two locative particles which may be recognised as reflexes of the PB class 17 and 18 NPs *kʊ̀- and *mʊ̀-. These do not appear to be used as prepositions, but only in combination with other terms to express more specific locations such as ‘on top of’. This function of the locative particles is also present in the B50 sample languages.

In Mpini and Mbaama, the initial consonant of the NPs of classes 1, 2, 4, 6 and 14 occurring before consonant-initial noun stems was lost. The Mpini class 8 NP and the Mbaama class 3 and 15 NP also underwent this evolution. Furthermore, both Mpini and Mbaama have innovative class 5 NPs that are reflexes of the PB class 5 augment *dɪ-. They also share an innovative class 9 NP Ø- which is the result of the reanalysis of the historical class 9 NP *N- as part of the simple noun stem. The 7=15 merger in Mpini resulted in an innovative class 7 NP that is a reflex of the PB class 15 NP *kʊ̀-.

4.3 The noun class systems in B70

4.3.1 Ngungwel (B72a)

Table 18 presents the noun class system of Ngungwel according to Rurangwa (1982). In the summary table provided by Rurangwa (1982: 216), the nominal prefixes of classes 17 and 18 constitute a distinct paradigm of ‘locative prefixes’. I added them to the NP paradigm in Table 18 in analogy with the analyses of the other sample languages. In addition to the NPs, Table 18 includes the PP and VP paradigms. The NCP paradigm is not present since adjectives take a PP in Ngungwel according to Rurangwa (1982).
According to Rurangwa (1982), there are seven noun class pairings in Ngungwel, i.e. 1/2, 3/4, 5/6, 5/10, 7/8, 9/6 and 14/6. These are discussed in the course of the following pages. The language data are taken from Rurangwa (1982). For the most part, I did the segmentation of the examples. I also glossed the examples based on Rurangwa’s (1982) analysis and added an English translation.

The examples in (121) illustrate the 1/2 noun class pairing. Rurangwa (1982) states that the NP *mbù-* occurs on only one noun, i.e. *mbùl* ‘person’. I do not consider *mbù-* to be a NP, hence why the nouns in (121)c are not glossed. The specific form of *mbùl* ‘person’ is likely the result of specific morphophonological change due to contact between the NP and the noun stem.

![Table 18 - Ngungwel (B72a) noun class system (Rurangwa 1982)](attachment)

<table>
<thead>
<tr>
<th>Cl.</th>
<th>NP</th>
<th>PP</th>
<th>VP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ź-, mù-</td>
<td>wù-, à-, á-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ų-, Ø-</td>
<td>ni-, ndì-</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>à-, bà-, à-</td>
<td>bà-, à-</td>
<td>á-</td>
</tr>
<tr>
<td>3</td>
<td>ź-, ţ-, ţ-</td>
<td>wù-, à-, ó-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ni-, ndì-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>ì-</td>
<td>mi-, ì-, mvi-</td>
<td>ì-</td>
</tr>
<tr>
<td>5</td>
<td>è-, Ø-, zi-</td>
<td>li-, è-</td>
<td>é-</td>
</tr>
<tr>
<td>6</td>
<td>à-, mà-</td>
<td>mà-, à-</td>
<td>á-</td>
</tr>
<tr>
<td></td>
<td>mbà-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>è-, è-</td>
<td>kì-, è-</td>
<td>é-, kí-</td>
</tr>
<tr>
<td>8</td>
<td>è-, è-</td>
<td>vi-, è-</td>
<td>é</td>
</tr>
<tr>
<td>9</td>
<td>ŋ-</td>
<td>yì-, i-</td>
<td>é</td>
</tr>
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<td>10</td>
<td>ŋ-</td>
<td>yì-, ì-</td>
<td>é</td>
</tr>
<tr>
<td>14</td>
<td>ò-</td>
<td>bò-, ò-</td>
<td>ó-</td>
</tr>
<tr>
<td>15</td>
<td>ò-</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>16</td>
<td>×</td>
<td>ṇà-</td>
<td>×</td>
</tr>
<tr>
<td>17</td>
<td>kò-</td>
<td>kò-</td>
<td>×</td>
</tr>
<tr>
<td>18</td>
<td>mò-, ã-</td>
<td>×</td>
<td>×</td>
</tr>
<tr>
<td>24</td>
<td>è-</td>
<td>×</td>
<td>é-</td>
</tr>
</tbody>
</table>

(121) 1/2

a. źí | źí

êsí | ësí

NP1-, hôte (Fr.) | NP2-, hôte (Fr.)

‘host’ | ‘hosts’
Rurangwa (1982) considers the class 1 nouns with a NP Ø- to belong to a subclass 1Ø, while those with a NP ñ- belong to a subclass 1n. Unlike Rurangwa (1982), I consider both subclasses to have a NP Ø-.

The nouns beginning with a nasal are ancient class 9 nouns that were reclassified. The historical class 9 NP *N- was reinterpreted as part of the noun stem. Unlike in the B50 languages, the nasal was not lost before voiceless consonants. Therefore, I follow Rurangwa (1982) in making a distinction between two subclasses. However, I call them 1a and 1n. 1a nouns do not begin with a nasal, while 1n nouns do. Both subclasses pair with class 2. The examples in (122) illustrate the pairing 1a/2, which mainly contains kinship terms. Pairing 1n/2, which is illustrated in (123), contains animates and some kinship terms and nouns designating natural phenomena. If the examples only show a singular noun, Rurangwa (1982) did not provide the plural form.

(122) 1Ø/2 = 1a/2

\[
\begin{array}{ll}
\text{tal} & \text{átàl} \\
\text{Ø-tal} & \text{à-tal} \\
\text{NP}_1\text{-père (Fr.)} & \text{NP}_2\text{-père (Fr.)} \\
\text{‘father’} & \text{‘fathers’} \\
\end{array}
\]

(123) 1n/2

a. ntswi & àntswi \\
\text{Ø-ntswi} & \text{à-ntswi} \\
\text{NP}_1\text{-lune (Fr.)} & \text{NP}_2\text{-lune (Fr.)} \\
\text{‘moon’} & \text{‘moons’} \\

b. nkùn & ànkùn \\
\text{Ø-nkùn} & \text{à-nkùn} \\
\text{NP}_1\text{-pigeon (Fr.)} & \text{NP}_2\text{-pigeon (Fr.)} \\
\text{‘pigeon’} & \text{‘pigeons’} \\

Rurangwa (1982) considers the class 1 nouns with a NP Ø- to belong to a subclass 1Ø, while those with a NP ñ- belong to a subclass 1n. Unlike Rurangwa (1982), I consider both subclasses to have a NP Ø-.

The nouns beginning with a nasal are ancient class 9 nouns that were reclassified. The historical class 9 NP *N- was reinterpreted as part of the noun stem. Unlike in the B50 languages, the nasal was not lost before voiceless consonants. Therefore, I follow Rurangwa (1982) in making a distinction between two subclasses. However, I call them 1a and 1n. 1a nouns do not begin with a nasal, while 1n nouns do. Both subclasses pair with class 2. The examples in (122) illustrate the pairing 1a/2, which mainly contains kinship terms. Pairing 1n/2, which is illustrated in (123), contains animates and some kinship terms and nouns designating natural phenomena. If the examples only show a singular noun, Rurangwa (1982) did not provide the plural form.
c. ŋg ámbè
  Ø-ŋg ámbè
  NP₁n-bœuf (Fr.)
  ‘ox’

d. ṇkyón
  Ø-ŋkyón
  NP₁n-petit.fils (Fr.)
  ‘grandson’

The examples in (124) illustrate the 3/4 pairing.

(124) 3/4
  a. òtám        ìtám
     ò-tám      ì-tám
     NP₄-piège (Fr.) NP₄-piège (Fr.)
     ‘trap’      ‘traps’

  b. ŋkél        ìkél
     ŋ-kél      ì-kél
     NP₄-ruisseau (Fr.) NP₄-ruisseau (Fr.)
     ‘stream’    ‘streams’

  c. ůkyám        ìkyám
     ů-kyám    ì-kyám
     NP₄-remède (Fr.) NP₄-remède (Fr.)
     ‘remedy’   ‘remedies’

Class 5, which is the result of a 5 = 11 merger, pairs with two classes, i.e. class 6 and class 10. The 5/6 pairing is illustrated in (125). The class 6 belonging of mvíl ‘eyes’ may be disputed, but there are no examples of agreement to verify its noun class. This plural noun is not glossed, since I do not follow Rurangwa (1982) in considering its prefix as mvà-. As was the case for mbúl ‘person’, the specific form of mvíl ‘eyes’ is likely the result of specific morphophonological change due to contact between the NP and the noun stem.
(125) 5/6

a. èkwál  àkwál
   è-kwál  à-kwál
   NP₅-nuque (Fr.)  NP₆-nuque (Fr.)
   ‘neck’  ‘necks’

b. byál  àbyál
   Ø-byál  à-byál
   NP₅-sein (Fr.)  NP₆-sein (Fr.)
   ‘breast’  ‘breasts’

c. zìīl  mviīl
   zì-îl  ‘eyes’
   NP₅-oeil (Fr.)
   ‘eye’

The 5/10 pairing, which is a retention of PB 11/10, is illustrated in (126).

(126) 5/10

a. èkwí  ēkwí
   è-kwí  ē-kwí
   NP₅-bois.sec (Fr.)  NP₁₀-bois.sec (Fr.)
   ‘dry wood’  ‘dry wood’

b. èkwí  lì
   è-kwí  lì
   NP₅-bois.sec (Fr.)  PP₅
   ‘this dry wood’

Both classes 7 and 8 share a NP è- with class 5. Therefore, an example of agreement is provided for a class 5, 7 and 8 noun having a NP è- in (126)b and (127)b. The examples each have a demonstrative, which consists of a PP. In the lexicon provided at the end of his work, Rurangwa (1982) indicates that kúl ‘foot’ also belongs to class 7. If this is the case, it was reclassified from PB class 15 to class 7 in Ngungwel. Rurangwa (1982) does not provide agreement or a plural class for kúl ‘foot’, nor does he mention the noun for ‘hand’ and which class it belongs to.
Class 9 forms a pairing with class 6, as illustrated in (128). Unlike Rurangwa (1982), I would consider the class 9 NP to be $\emptyset$- instead of $Ǹ$-, as there is no commutation of prefixes in singular vs. plural marking. Once again, the historical class 9 NP $^*N$- was reanalysed as part of the simple noun stem. (128)b shows that the reanalysed nasal was not lost in front of voiceless consonants.

The 14/6 pairing is illustrated (129).
Infinitives belong to class 15 in Ngungwel, as illustrated by the examples in (130).

(130)

a. ötsiyil
   ò-tsìyìl
   NP15-couper (Fr.)
   ‘to cut’

b. òlám
   ò-lám
   NP15-cuire (Fr.)
   ‘to cook’

According to Rurangwa (1982), there are four locative noun classes in Ngungwel, i.e. 16, 17, 18 and 24. Rurangwa (1982) admits that these classes have many restrictions. In my view, kò and mò, which are.

reflexes of the PB class 17 NP *kò- and class 18 NP *mò- respectively, are used as prepositions rather than as prefixes. Kò expresses direction or approximate location, e.g. kò ñkìyó ‘in the surroundings of the mountain’ (‘aux environs de la montagne’ (Fr.)), while mò expresses a specific location or time, e.g. mò ñkúl ‘on the road’ (‘sur le chemin’ (Fr.)) and mò èpál ‘in the morning’ (‘dans la matinée’ (Fr.)).

The morphemes kò, ò and è, which may be found in Table 18 as the NPs of classes 17, 18 and 24 respectively, are used in what Rurangwa (1982) calls paralocatifs, i.e. paralocatives. The majority of the paralocatives include a locative particle, e.g. kòmb ë ‘behind’ (‘derrière’ (Fr.)), kwêl ‘before, in front of’ (‘avant, devant’ (Fr.)), òngwél ‘next to’ (‘à côté’ (Fr.)), èkâdâkâl ‘in the middle’ (‘au milieu’ (Fr.)), and ènkêl ‘beforehand’ (‘au paravant’ (Fr.)). These constructions, which in my view consist of a locative particle and a noun stem, are also found in other sample languages. They function as expressions of place or time.

Table 18 also includes a PP for class 16 and 17. Class 16 ñà- and class 17 kò- are reflexes of the PB PPs *pá- and *kò- respectively. ñà- is used in the substitutive ñà (though no examples are given of its use), in the proximate demonstrative ñà(bù), and in the distal demonstrative òngbò. kò- is used in the interrogative kwên. Even though Rurangwa (1982) does not provide examples of these words being used in sentences, I assume they are fossilised expressions. The appearance of the PPs of the locative classes is thus no longer triggered by agreement. Table 18 also shows a VP for class 24, but Rurangwa (1982) does not elaborate on this.
PB → Ngungwel (B72a)

Table 19 presents the amended noun class system of Ngungwel. With regard to Table 18, I added the subclasses 1a and 1n, I deleted the locative classes and I changed the class 9 NP.

<table>
<thead>
<tr>
<th>Cl.</th>
<th>NP</th>
<th>PP</th>
<th>VP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>ò-, mù-</td>
<td>wù-, â-, á-</td>
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<tr>
<td></td>
<td></td>
<td>ni-, ndi-</td>
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</tr>
<tr>
<td>1a</td>
<td>Ø-</td>
<td>wù-, â-, á-</td>
<td></td>
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<td></td>
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<td>ni-, ndi-</td>
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</tr>
<tr>
<td>1n</td>
<td>Ø-</td>
<td>wù-, â-, á-</td>
<td></td>
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<td>ni-, ndi-</td>
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</tr>
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<td>bà-, à-</td>
<td>á-</td>
</tr>
<tr>
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<td></td>
</tr>
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<td>ni-, ndi-</td>
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<td>mvi-</td>
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<tr>
<td>5</td>
<td>è-, Ø-, zi-</td>
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<td>é-</td>
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<td>kl-, è-</td>
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</tr>
<tr>
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<td>Ø-</td>
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</tr>
<tr>
<td>15</td>
<td>ò-</td>
<td>x</td>
<td>x</td>
</tr>
</tbody>
</table>

According to my analysis, Ngungwel has twelve noun classes. Of the regular classes that were reconstructed for PB, classes 11, 12 and 13 are absent from Ngungwel. Class 11 merged with class 5. This evolution led to the 5/10 noun class pairing, which is a retention of the historical 11/10 pairing. PB pairing 12/13 was lost as both the singular and the plural class were lost. The PB 9/10 pairing is absent from Ngungwel. Part of the ancient class 9 nouns was reclassified as belonging to the subclass 1n, which forms a pairing with class 2. The remainder of the ancient class 9 nouns shifted its plural formation to class 6, which led to the innovative 9/6 pairing. The historical class 15 noun kúl ‘foot’ was
probably reclassified as a class 7 noun, but its plural class is not mentioned by Rurangwa (1982), nor was the noun for ‘hand’.

The locative classes 16, 17 and 18 only left remnants. Kò and mò are reflexes of the PB class 17 NP *kù- and the PB class 18 NP *mò- respectively. They function as prepositions or are used in combination with certain nouns to form locative expressions such as ‘behind’, ‘next to’, etc. For this latter use, i- is also used, which is a remnant of the PB class 24 NP *i- reconstructed by Meeussen (1967). Furthermore, there are two demonstratives njɔ́ and njà(bu), a substitutive njɔ́ and an interrogative kwɛ̀n (no translations are given) which show traces of erstwhile class 16 and class 17 PPs.

As in Mpini and Mbaama, practically all noun classes have one or more innovative NPs in Ngungwel. Classes 1, 2, 3, 4, 6, 7, 8, 14 and 15 have one or more variants that lost the initial consonant before consonant-initial noun stems. Class 5 has an innovative NP zì-, which evolved from the PB class 5 augment *dì- and occurs in the nouns zì-îl ‘eye’ and zì-în ‘tooth’. The innovative class 9 NP Ø- is a result of the reanalysis of the historical class 9 NP *N- as part of the simple noun stem.

4.3.2 Kukwa (B77a)

Table 20 presents the noun class system of Kukwa according to Paulian (1975). It includes the NP, NCP, DEM and VP paradigms. The prefixes that are included in the NCP paradigm are called ‘référent’, i.e. ‘referent’, by Paulian (1975). The demonstratives included in Table 20 are the proximate demonstratives.

<table>
<thead>
<tr>
<th>Cl.</th>
<th>NP</th>
<th>NCP</th>
<th>DEM</th>
<th>VP</th>
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</tr>
<tr>
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<td>mù-</td>
<td>mù-</td>
<td>wù</td>
<td>Ø-</td>
</tr>
<tr>
<td>4</td>
<td>mì-</td>
<td>mì-</td>
<td>mì</td>
<td>mi-</td>
</tr>
<tr>
<td>5</td>
<td>Ø-, lì-</td>
<td>lì-</td>
<td>lì</td>
<td>li-</td>
</tr>
<tr>
<td>6</td>
<td>mà-</td>
<td>mà-</td>
<td>mà</td>
<td>ma-</td>
</tr>
<tr>
<td>7</td>
<td>kì-</td>
<td>kì-</td>
<td>kì</td>
<td>ki-</td>
</tr>
<tr>
<td>8</td>
<td>bì-</td>
<td>bì-</td>
<td>bì-</td>
<td>bi-</td>
</tr>
<tr>
<td>9</td>
<td>N-</td>
<td>N-</td>
<td>yi</td>
<td>Ø-</td>
</tr>
<tr>
<td>10</td>
<td>N-</td>
<td>N-</td>
<td>yi</td>
<td>Ø-</td>
</tr>
<tr>
<td>14</td>
<td>bù-</td>
<td>bù-</td>
<td>bà</td>
<td>bu-</td>
</tr>
</tbody>
</table>
According to Paulian (1975), Kukwa has six regular noun class pairings, i.e. 1/2, 3/4, 5/6, 5/10, 7/8 and 9/6. There are also three pairings which do not often occur, i.e. 14/6, 14/2 and 7/4, and three pairings which contain only one noun each, i.e. 1/8, 5/2, 10/6. The examples that are used in the following pages to illustrate these pairings, were provided by Paulian (1975) in segmented form. I glossed the examples based on her analysis and added the English translation.

The 1/2 pairing is illustrated in (131).

(131) 1/2

a. mùtsúlfì bàtsúlfì
   mù-tsúlfì bà-tsúlfì
   NP₁-forgeron (Fr.) NP₂-forgeron (Fr.)
   ‘blacksmith’ ‘blacksmiths’

b. mùtéléké bàtéléké
   mù-téléké bà-téléké
   NP₁-petit.fils (Fr.) NP₂-petit.fils (Fr.)
   ‘grandson’ ‘grandsons’

Nouns with NPs Ø-/bàà- belong to two subclasses, i.e. 1a and 1n, which both form a pairing with plural class 2. 1a/2 nouns, which are illustrated in (132), do not begin with a nasal. On the other hand, 1n/2 nouns do begin with a nasal, as illustrated in (133). The latter are ancient class 9 nouns that were reclassified. Their initial nasal is the historical class 9 NP *N- that was reanalysed as part of the simple noun stem. Since the reanalysed nasal was not lost before voiceless consonants, as shown in (133)b, the distinction between two subclasses 1a and 1n can be made. According to Paulian (1975), who does not make this distinction, half of the nouns belonging to these subclasses designate animals. The other half consists of nouns designating persons, plant names and miscellaneous terms.

(132) 1a/2

tàatá bàtàatá
Ø-tàatá bàà-tàatá
NP₁-père (Fr.) NP₂-père (Fr.)
‘father’ ‘fathers’

(133) 1n/2

a. ngò bààngò
   Ø-ngò bàà-ngò
   NP₁-panthère (Fr.) NP₂-panthère (Fr.)
   ‘panther’ ‘panthers’
b. *nkélé*  
   Ø-nkélé  
   NP₁-frère/sœur (Fr.)  
   ‘sibling’

   *baànkélé*  
   bàà-nkélé  
   NP₂-frère/sœur (Fr.)  
   ‘siblings’

c. *mvulà*  
   Ø-mvulà  
   NP₁-pluie/année (Fr.)  
   ‘rain, year’

   *baàmvulà*  
   bàà-mvulà  
   NP₂-pluie/année (Fr.)  
   ‘rains, years’

Paulian (1975) recognises one noun as belonging to a 1/8 pairing (see (134)). The noun is not glossed because Paulian (1975) does not provide a definite segmentation. Since Paulian (1975) does not provide agreement either, the noun’s class can only be deduced from its NPs. In my view, it is just as possible, if not more, that *bvhìipì* ‘thieves’ has a class 2 NP *bà* instead of a class 8 NP *bì-, and thus belongs to the 1/2 pairing.

**(134)**  

<table>
<thead>
<tr>
<th>1/8 (≈1/2)</th>
</tr>
</thead>
</table>
| *mhìipì*   | *bvhìipì*  
| ‘thief’ (*voleur* (Fr.)) | ‘thieves’ (*voleurs* (Fr.)) |

The examples in (135) illustrate the 3/4 noun class pairing. Since classes 1 and 3 have identical NPs and agreement patterns in Table 20, one could suggest that a 1 = 3 merger took place in Ngungwel. However, the connectives (*joncteur* in Paulian’s (1975) terminology) of classes 1 and 3 are distinct. The class 1 connective is -àà, followed by a floating low tone, as illustrated in (136)a. The class 3 connective has an opposite tonal pattern, i.e. -áá followed by a floating high tone, as illustrated in (136)b. The connective is written conjunctively with the noun.

**(135)**  

<table>
<thead>
<tr>
<th>3/4</th>
</tr>
</thead>
</table>
| a. *mùdzà* | *mìdzà*  
| mù-dzà | mi-dzà  
| NP₂-racine (Fr.) | NP₄-racine (Fr.)  
| ‘root’ | ‘roots’ |

| b. *mùlùmá* | *mìlùmá*  
| mù-lùmá | mi-lùmá  
| NP₄-semaine (Fr.) | NP₄-semaine (Fr.)  
| ‘week’ | ‘weeks’ |
Class 5 in Ngungwel is the result of a 5 = 11 merger. It forms a pairing with tree classes, i.e. 2, 6 and 10. There is only one 5/2 noun, i.e. ‘man’ (see (137)). Even though its NPs Ø- bà- are very similar to those of pairing 1a/2, there is no example of agreement available to verify the 5/2 belonging of bàlàkà ‘man’. However, the analysis is supported by comparative evidence, as the noun designating ‘man’ also belongs to 5/2 in Nzebi (B52) and Tsange (B53).

Examples of the 5/6 pairing are shown in (138). 5/6 nouns have a NP lì- when the noun stem begins with a NC-combination, and a NP Ø- when the noun stem begins with a consonant. Example (138)c illustrates the agreement of a 5/6 noun with a NP Ø-. The 5/6 nouns džìì/ mìì ‘eye(s)’ and džìiínì/ mìiínì ‘tooth/teeth’, of which the noun stems begin with a consonant, appear to have a NP džì- in the singular. Paulian (1975) does not segment these nouns, hence why they are not glossed. She does not provide examples of agreement either.
The 5/10 pairing, which is a retention of the PB 11/10 pairing, is illustrated in (139). The singular NP of class 5/10 nouns is always lì-.

(139) 5/10

a. liyālā nzālā
   li-yālā N-yālā
   NP₇-ongle (Fr.) NP₁₀-ongle (Fr.)
   ’fingernail’ ’fingernails’

b. lisāā nsāā
   li-sāā N-sāā
   NP₇-graine/perle (Fr.) NP₁₀-graine/perle (Fr.)
   ’seed, pearl’ ’seeds, pearls’

The regular 7/8 pairing is illustrated in (140).

(140) 7/8

a. kibūkū bibūkū
   ki-būkū bi-būkū
   NP₇-mortier (Fr.) NP₈-mortier (Fr.)
   ’mortar’ ’mortars’

b. kisāānī bisāānī
   ki-sāānī bi-sāānī
   NP₇-orphelin NP₈-orphelin (Fr.)
   ’orphan’ ’orphans’

Paulian (1975) identifies two nouns as belonging to the 7/4 pairing (see (141)). The 7/4 nouns are only translated, as Paulian (1975) did not give a definite segmentation. She does state that she considers their singular NP as the class 7 kì-. Paulian (1975) does not provide agreement either, even though this
could have demonstrated the 7/4 belonging of these nouns. Going by the form of the singular nouns *khóokò* ‘arm, hand’ and *khùulú* ‘leg, foot’, I interpret them as belonging to class 15 instead of class 7. I would analyse their NP as *kò-* or *kù-* instead of *kì-*.

(141) 7/4

a. *khóokò*  
   myáakà  
   ‘arm, hand’ (*bras, main* (Fr.))  
   ‘arms, hands’ (*bras, mains* (Fr.))

b. *khùulú*  
   mhìilí  
   ‘leg, foot’ (*jambe, pied* (Fr.))  
   ‘legs, feet’ (*jambes, pieds* (Fr.))

The infinitives also have a class 7 NP *kì-* in Kukwa, as illustrated in (142).

(142) *kitsúlà*

*kì-tsúlà*  
NP₇-forger (Fr.)  
‘to forge’

Class 9 forms a pairing with class 6, as illustrated in (143). Paulian (1975) considers the class 9 NP to have a structural form *N*-. In my view, this *N*-, which is at the beginning of each class 9 noun, is the historical class 9 NP *N-* that was reanalysed as part of the simple noun stem. The synchronic class 9 NP is Ø-. Since 9/6 nouns have the same set of NPs as some 5/6 nouns, i.e. Ø-/mà-, (143)c demonstrates the agreement of a class 9 nouns.

(143) 9/6

a. *ndòkò*  
   màndòkò  
   Ø-ndòkò  
   mà-ndòkò  
   NP₉-malchance (Fr.)  
   NP₆-malchance (Fr.)  
   ‘misfortune’  
   ‘misfortunes’

b. *ngwàalí*  
   màngwàalí  
   Ø-ngwàalí  
   mà-ngwàalí  
   NP₉-matin (Fr.)  
   NP₆-matin (Fr.)  
   ‘morning’  
   ‘mornings’

c. *nzó*  
   yi  
   Ø-nzó  
   yi  
   NP₉-maison (Fr.)  
   DEM₉  
   ‘this house’
Paulian (1975) identifies one noun as belonging to a 10/6 pairing (see (144)). She claims ɲútù ‘body’ is the only noun for which class 10 is used as a singular class, but she gives no explanation as to why she identifies it as such. As is shown in Table 20, the NPs and the agreement patterns of classes 9 and 10 are identical according to Paulian (1975). As such, there is no apparent reason why she analyses ɲútù ‘body’ as belonging to class 10 instead of class 9. However, since it is the only 10/6 noun, I assume Paulian (1975) did have one and I follow her analysis.

(144) 10/6

<table>
<thead>
<tr>
<th>ɲútù</th>
<th>màɲútù</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ø-ɲútù</td>
<td>mà-ɲútù</td>
</tr>
<tr>
<td>NP₁₀-corps (Fr.)</td>
<td>NP₆-corps (Fr.)</td>
</tr>
<tr>
<td>‘body’</td>
<td>‘bodies’</td>
</tr>
</tbody>
</table>

Class 14 pairs with class 6, as illustrated in (145).

(145) 14/6

a. bùlá       màlá
   bù-lá       mà-lá
   NP₁₄-village (Fr.) NP₆-village (Fr.)
   ‘village’    ‘villages’

b. bùtúlù  màtúlù
   bù-túlù  mà-túlù
   NP₁₄-poitrine (Fr.) NP₆-poitrine (Fr.)
   ‘chest’    ‘chests’

Paulian (1975) identifies one noun as belonging to a 14/2 pairing (see (146)).

(146) 14/2

<table>
<thead>
<tr>
<th>bùkó</th>
</tr>
</thead>
<tbody>
<tr>
<td>bù-kó</td>
</tr>
<tr>
<td>NP₁₄-parent.par.alliance.à.qui.on.doit.le.respect (Fr.)</td>
</tr>
<tr>
<td>‘step parent’</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>bàkó</th>
</tr>
</thead>
<tbody>
<tr>
<td>bà-kó</td>
</tr>
<tr>
<td>NP₂-parent.par.alliance.à.qui.on.doit.le.respect (Fr.)</td>
</tr>
<tr>
<td>‘step parent’</td>
</tr>
</tbody>
</table>
Paulian (1975) states that the locative classes 16, 17 and 18 are represented in Kukwa by the morphemes ŋà, kù and mù, which I consider to be reflexes of the PB locative noun class prefixes *pà-, *kù- and *mù-. Paulian (1975) does not consider ŋà, kù and mù to be noun class prefixes because they are not used in the same way as the nominal prefixes of regular noun classes, i.e. they do not combine with a simple noun stem to form a noun. In my view, ŋà, kù and mù are locative prepositions. They occur before a complete noun, e.g. mù mùsùtù ‘in the forest’ (‘dans la forêt’ (Fr.)) and ŋà ngwàài ‘in the morning’ (‘le matin’ (Fr.)).

Furthermore, there are three sets of demonstratives that correspond to the erstwhile locative classes. Each set consists of a deictic proximate demonstrative (DEM 1), a deictic distal demonstrative (DEM 2) and an anaphoric demonstrative (DEM 3). In my view, each demonstrative consists of two constituents, i.e. a preposition and a demonstrative element. This analysis is illustrated in Table 21. Paulian (1975) considers the two elements together to form the demonstrative and does not name the distinct elements.

An example of a proximate locative demonstrative is given in (147).

(147) mù nzó mù
mù Ø-nzó mù
dem NP maison (Fr.) DEM 1

‘in this house’ (‘dans cette maison’ (Fr.))

Table 21 - Kukwa (B77a) locative demonstratives (Paulian 1975: 169)

<table>
<thead>
<tr>
<th>Prep.</th>
<th>DEM 1</th>
<th>DEM 2</th>
<th>DEM 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>ŋà</td>
<td>ŋà</td>
<td>ŋàätà</td>
<td>ŋàà</td>
</tr>
<tr>
<td>kù</td>
<td>kù</td>
<td>kùütà</td>
<td>khùà</td>
</tr>
<tr>
<td>mù</td>
<td>mù</td>
<td>mùütà</td>
<td>mhùà</td>
</tr>
</tbody>
</table>

Table 22 presents the amended noun class system of Kukwa. With regard to Table 20, I added the subclasses 1a and 1n, and I edited the NPs of class 5, 7 and 9.
Table 22 - Kukwa (B77a) amended noun class system

<table>
<thead>
<tr>
<th>Cl.</th>
<th>NP</th>
<th>NCP</th>
<th>DEM</th>
<th>VP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>mù-</td>
<td>mù-</td>
<td>wù</td>
<td>Ø-</td>
</tr>
<tr>
<td>1a</td>
<td>Ø-</td>
<td>mù-</td>
<td>wù</td>
<td>Ø-</td>
</tr>
<tr>
<td>1n</td>
<td>Ø-</td>
<td>mù-</td>
<td>wù</td>
<td>Ø-</td>
</tr>
<tr>
<td>2</td>
<td>bà-</td>
<td>bà-</td>
<td>bà</td>
<td>ba-</td>
</tr>
<tr>
<td>3</td>
<td>mù-</td>
<td>mù-</td>
<td>wù</td>
<td>Ø-</td>
</tr>
<tr>
<td>4</td>
<td>mi-</td>
<td>mi-</td>
<td>mì</td>
<td>mi-</td>
</tr>
<tr>
<td>5</td>
<td>li-</td>
<td>Ø-</td>
<td>lì</td>
<td>li-</td>
</tr>
<tr>
<td>6</td>
<td>mà-</td>
<td>mà-</td>
<td>mà</td>
<td>ma-</td>
</tr>
<tr>
<td>7</td>
<td>ki-</td>
<td>kò-/kù-</td>
<td>kì</td>
<td>kì</td>
</tr>
<tr>
<td>8</td>
<td>bi-</td>
<td>bi-</td>
<td>bì</td>
<td>bi-</td>
</tr>
<tr>
<td>9</td>
<td>Ø-</td>
<td>N-</td>
<td>yi</td>
<td>Ø-</td>
</tr>
<tr>
<td>10</td>
<td>N-</td>
<td>N-</td>
<td>yi</td>
<td>Ø-</td>
</tr>
<tr>
<td>14</td>
<td>bù-</td>
<td>bù-</td>
<td>bà</td>
<td>bu-</td>
</tr>
</tbody>
</table>

According to my analysis, Kukwa has eleven noun classes. PB classes 11, 12, 13 and 15 are absent. Class 11 merged with class 5. The 5/10 pairing is thus a retention of the PB 11/10 pairing. Class 15 appears to have merged with class 7, as both the infinitives and the nouns *khóokò/myáakà ‘arm(s), hand(s)’* and *khùulú/mhíilì ‘leg(s), foot/feet’* belong to class 7 in Kukwa according to Paulian (1975). Classes 12 and 13, which formed the PB pairing 12/13, were lost.

There are several innovative noun class pairings in Kukwa, i.e. 1n/2, 1/8, 5/2, 7/4, 9/6, 10/6 and 14/2. 1n/2 consists of ancient class 9 that were reclassified. It contains animals but also some natural phenomena and miscellaneous terms. There is only one 1/8 noun according to Paulian (1975), i.e. *mhìípì/bvhìípì ‘thief/thieves’. This noun may be analysed as a 1/2 noun instead. The innovative 5/2 pairing also contains only one noun, i.e. *bàlàkà ‘man’. The innovative 7/4 pairing contains two nouns according to Paulian (1975), i.e. *khóokò/myáakà ‘arm(s), hand(s)’ and khùulú/mhíilì ‘leg(s), foot/feet’*. While Paulian (1975) does not illustrate the agreement of these nouns, their 7/4 belonging would be in line with other sample languages. Pairing 14/2 also contains only one noun, *bùkó/bàkó ‘step parent(s)’.*

The innovative 9/6 pairing resulted from a shift in the plural formation of ancient 9/10 nouns. Paulian (1975) also posits 10/6 as a noun class pairing in Kukwa, though she gives no explanation as to why she analyses *jurejú/màŋnjú ‘body/bodies’* as such. According to Maho (1999: 174), the existence of a singular class 10 may be explained by a merger of classes 9 and 10. However, if this merger had taken in place in Kukwa, *jurejú/màŋnjú ‘body/bodies’ could be analysed as 9/6. Thus, the singular class 10 in
Kukwa does not appear to be a result of a 9=10 merger. Maho (1999: 174) states that there are at least five languages where class 10 is used as a singular class without any accompanying 9=10 merger. These languages are found in the lower north-west and the central south-west of the Bantu area.

The PB locative noun classes are no longer present as noun classes in Kukwa, i.e. there is no agreement triggered by locative nominal prefixes. However, there are remnants of the locative classes in the form of the particles ŋà, kù and mù, which I consider to be reflexes of the PB locative NPs *pà-, *kù- and *mù-. They function as prepositions, i.e. they occur before a noun to express a locative meaning. Furthermore, there are three sets of locative demonstratives corresponding to the three erstwhile locative classes. Each set contains a proximate and a distal demonstrative, as well as an anaphoric demonstrative.

The number of innovative NPs is limited in Kukwa. The innovative class 5 NP lì-, which occurs when the noun stem begins with a NC-cluster, and dʒì-, which occurs before vowel-initial noun stems, are reflexes of the PB class 5 augment *dì-. The class 5 NP was lost before noun stems beginning with a consonant. The innovative class 7 NP kù- or kò- is a reflex of the PB class 15 NP *kù- and resulted from the reclassification of ‘arm’ and ‘leg’ as class 7 nouns. The innovative class 9 NP Ø- is the result of the reanalysis of the historical class 9 NP *N- as part of the simple noun stem.

4.3.3 B70: A historical-comparative summary

The 5=11 merger took place in Ngungwel and Kukwa. The 5/10 pairing is thus a retention of the PB 11/10 pairing in both languages. Classes 12 and 13 were lost. Ngungwel and Kukwa share the innovative 1n/2 noun class pairing, which consists of ancient class 9 nouns that were reclassified. Part of the nouns was reclassified on grounds of animacy, but there are also nouns that designate natural phenomena. The ancient 9/10 nouns which were not reclassified shifted their plural formation to class 6, an evolution that led to the innovative 9/6 pairing in Ngungwel and Kukwa.

Kukwa has several innovative noun class pairings which are absent from Ngungwel. As in Nzebi and Tsaangi, the Kukwa 5/2 pairing contains the noun designating ‘man’. The 7/4 pairing contains the nouns designating ‘arm’ and ‘leg’, which historically belonged to class 15. Infinitives also belong to class 7 in Kukwa. There is a possibility that the nouns designating ‘arm’ and ‘leg’ also belong to class 7 in Ngungwel. However, Rurangwa (1982) only indicates that ‘leg’ belongs to class 7. He does not specify its plural, nor to which class ‘arm’ belongs. Infinitives belong to class 15 in Ngungwel. The Kukwa 14/2 pairing contains one noun designating ‘step-parent’. Kukwa shares this innovative noun class pairing with Tiene.

The PB locative classes 16, 17 and 18 no longer function as classes in the B70 sample languages. In Kukwa there remain three locative particles which are reflexes of the PB class 16, 17 and 18 NPs *pà-,
*kù- and *mù-. These function as prepositions. In Ngungwel, the locative particles that function as prepositions are remnants of the PB class 17 and 18 NPs *kù- and *mù-. The locative particles are also used with a set of noun stems to form more specific locative expressions in Ngungwel, but not in Kukwa. As in Duma, a reflex of the PB class 24 NP *ì- is also used in this context in Ngungwel. Kukwa also has three sets of locative demonstratives corresponding to the erstwhile locative noun classes, while in Ngungwel one interrogative and two demonstratives show traces of PPs of PB locative classes.

With regard to innovative NPs, Ngungwel and Kukwa show great dissimilarity. In Ngungwel, classes 1, 2, 3, 4, 6, 7, 8, 14 and 15 have an innovative NP of a V-structure. The PB NPs lost their initial consonant when occurring before a consonant-initial noun stem. Ngungwel has this evolution in common with B60 languages Mpini and Mbaama. With Kukwa, it only shares an innovative class 5 NP that is a reflex of the PB class 5 augment *dì-, and an innovative class 9 NP that is the result of the reanalysis of the historical class 9 NP *N- as part of the simple noun stem.

4.4 The noun class systems in B80

4.4.1 Tiene (B81)

Table 23 presents the noun class system of Tiene (B81) according to Ellington (1977). It contains the NP, NCP, DEM, CON and VP paradigms. Ellington (1977) uses the term ‘adjective concord’ to refer to the prefixes included in the NCP paradigm. The demonstratives in Table 23 are what Ellington (1977) calls ‘first degree demonstratives’. They correspond to the proximate demonstratives in other languages. The morphemes classified under ‘VP’ are the subject prefixes.
Table 23 - Tiene (B81) noun class system (Ellington 1977)

<table>
<thead>
<tr>
<th>Cl.</th>
<th>NP</th>
<th>NCP</th>
<th>DEM</th>
<th>CON</th>
<th>VP</th>
</tr>
</thead>
</table>
| 1   | mò-, mù- | mò- | yò  | yó  | ́-,́-
| 1a  | Ø- | mò- | yò  | yó  | ́-,́-
| 2   | bà- | bà- | bà  | bà  | bá-
| 3   | mò-, mù- | mò- | mó  | mó  | mó-
| 4   | mè-, mi- | mè- | mé  | mé  | mé-
| 5   | Ø-, è-, di- | lè- | lè  | lé  | lé-
|     | lè-, lò-, dù- |   |     |     |    |
|     | kù-, kò- |   |     |     |    |
| 6   | mà-, mi- | mà- | mà  | mà  | mà-
| 7   | kè-, ki- | kè- | kè  | kè  | kè-
| 8   | bè-, bi- | bè- | bè  | bè  | bè-
| 9   | N- | èN- | yè, yì | é, yí | é-
| 10  | N- | àN- | yà  | á, yá | á-
| 14  | vù-, bò-, | bò- | bò  | bò  | bò-
|     | bò-, wà- |   |     |     |    |

Ellington (1977) recognises eight noun class pairings in Tiene, i.e. 1/2, 3/4, 5/6, 5/4, 5/10, 7/8, 9/10 and 14/6. To this, I would add the pairings 5/8 and 14/2. The language data used to illustrate the noun class pairings below are taken from Ellington (1977). I segmented and glossed the examples based on his analyses.

The 1/2 pairing is illustrated in (148). Ellington (1977) mentions the subclass 1a, which contains nouns with a zero-prefix that pair with class 2. Unlike in other sample languages, Tiene class 1a does not contain ancient class 9 nouns that were reclassified (see discussion on the 9/10 pairing below). The 1a/2 pairing is not illustrated with examples because I was unable to find any in Ellington (1977).

(148) **1/2**

a. mòkáátè  bòkáátè
   mò-káátè  bò-káátè
   NP₁-woman  NP₂-woman
   ‘woman’  ‘women’
b. mùánà bàånà
mù-ánà bà-ánà
NP₁-child NP₂-child
‘child’ ‘children’

The examples in (149) illustrate the 3/4 pairing.

(149) 3/4

a. mòté mèté
mò-té mè-té
NP₃-tree NP₄-tree
‘tree’ ‘trees’

b. mùùlè mülè müu-lè mü-ùlè
NP₃-head.of.family NP₄-head.of.family
‘head of family’ ‘heads of families’

Ellington (1977) states that the historical classes 5, 11 and 15 merged into a single class 5. I would say that the merger is limited to classes 5 and 11, but two historical class 15 nouns were indeed reclassified as class 5 nouns.

Class 5 forms a regular pairing with plural classes 6 and 10. The 5/6 pairing is illustrated in (150). The NP dù- only appears to occur before vowel-initial noun stems. Ellington (1977) recognises two distinct class 6 NPs, i.e. mà- and mì-. He indicates that mì- is the result of a morphophonological change whereby [a] becomes [i] when occurring before [i], as in müínè ‘teeth’. Unlike Ellington (1977), I would not recognise mì- as a distinct class 6 NP, hence why I do not use it in the glosses in (150)b. I did not find examples to illustrate the agreement of müinè ‘teeth’.

(150) 5/6

a. èkùlá màkùlá
è-kùlá mà-kùlá
NP₅-arrow NP₆-arrow
‘arrow’ ‘arrow’

b. diínè müínè
di-inè mà-inè
NP₅-tooth NP₆-tooth
‘tooth’ ‘teeth’
The 5/10 pairing, which is the second regular pairing that features the singular class 5, is illustrated in (151). It is a retention of the historical 11/10 pairing.

(151) 5/10

a.  lěfú
   lè-fú
   NP₁₅-hair
   'hair'

b.  lètúkù
   lè-túkù
   NP₁₅-spoon
   'spoon'

c.  dúɛ̀
   Ø-dú
   NP₁₅-plate
   'plate'

The historical class 15 nouns designating 'arm' and 'leg' (see (152)) were reclassified as class 5 nouns and form their plural in class 4. (152)c demonstrates the agreement of kò̄ɔ̀ɔ́ kɔ̀ ɛ̀ 'arm'. The examples are not glossed since it is not clear to me what their noun stems are.

(152) 5/4

a.  kɔ̀ɔ̃kɔ̀
   mìɛ̌kè
   'arm'

b.  kùòlò
   miɛ̌lè
   'leg'

c.  kɔ̀ɔ̃kɔ̀ lè yìê
   'your arm'

Kò̄ɔ̀ɔ́ 'arm' and kùòlò 'leg' are likely the reason for Ellington (1977) claiming that class 15 merged with class 5. The infinitives stop me from going along with this suggestion. Infinitives have a NP ɗ-, which
is a reflex of the NP class 15 NP ‘kù-. However, they do not trigger class 5 agreement. The few examples demonstrating the agreement of the infinitive show that it triggers class 15 agreement when it is used to describe the action of a particular person, as shown in (153)a-(153)b. The infinitive triggers an alternative agreement pattern when it is used for general statements (see (153)c-(153)d), but this noun class is not clear to me. Since the infinitives do not trigger class 5 agreement, I recognise class 15 as a distinct class.

(153)

a. óyókà kó mǜnë ndé kàólè kòwè kɔ́  
   ‘his child’s hearing is not good’

b. òláámà kó mòkàálé mè ólè kòwè  
   ‘my wife’s cooking is good’

c. òkènà élè bòwè  
   ‘dancing is good’

d. ònwà èkáá élè bòbé  
   ‘smoking is bad’

The class 5 noun dúú ‘day’ appears to form its plural in class 8 (see (154)). Ellington (1977) does not segment these nouns, nor does he illustrate the agreement of either form or assign a noun class to the plural form bíí. He only considers dúú to have a class 5 NP dú-. Therefore, I analyse the plural NP as the class 8 bì- and thus suggest the existence of a 5/8 pairing in Tiene.

(154) 5/8

a. dúú                     bíí  
   ‘day’                    ‘days’

Furthermore, Ellington (1977) posits lò- as a class 5 NP. I found only one noun which could be analysed to have this NP, i.e. lòòlè ‘beard’. However, the plural is màlòòlè with a class 6 NP mà-, which means that lòòlè has a zero-prefix. Without further examples to verify to existence of a class 5 NP lò-, I do not recognise it.

The examples in (155) illustrate the 7/8 pairing.

(155) 7/8

a. kèkò                     bèkò  
   kè-kò                     bè-kò  
   NP₇-cloth                 NP₈-cloth
Class 9 forms a pairing with class 10 in Tiene. The 5/10 examples in (151) show that the synchronic class 10 NP is *N-. The 9/10 nouns in (156) show that the class 9 NP is identical to that of class 10. As such, the historical class 9 NP *N- was not reanalysed as part of simple noun stem in Tiene. Furthermore, the reclassification of a part of the class 9 nouns did not take place in Tiene. Animate nouns are still present in the 9/10 pairing. 9/10 nouns designating animals also agree in 9/10 (see (156)c). On the other hand, 9/10 nouns designating persons trigger 1/2 agreement (see (156)e). If the subject of a sentence consists of two members that are both animate, it triggers class 2 agreement, no matter the noun class of the distinct nouns. This is illustrated in (157), where the nouns nsósó ‘chicken’ and kènkùtì ‘owl’ belong to class 9 and class 7 respectively.

(156) 9/10

a. ndóbò
   N-dóbò
   NP₉-fishhook
   ‘fishhook’

b. nsú
   N-sú
   NP₉-fish
   ‘fish’

c. nkémà yì ŋkànù
   ‘clever monkey’

d. nkùmè
   N-kùmè
   NP₉-chief
   ‘chief’

e. Nkùmè ŋbèlá.
   ‘The chief is speaking.’
The 14/6 pairing is illustrated in (158). The class 14 NPs bɔ́- and vù- included in Table 23 seem to only occur in single-class nouns, e.g. bɔ́-kɔ̀ ‘fear’ and vù-ùtè ‘dust’. I would not recognise bɔ́- as a distinct NP, but as a variant of bò-. On the other hand, I recognise Ø- as a distinct class 14 NP, since the plural class 6 NP is additive for some nouns (see (158)b).

(158) 14/6

a. bɔ́tá        mǎtá
   bò-tá        mà-tá
   NP₁₄-gun     NP₆-gun
   ‘gun’        ‘guns’

b. wààmà        màwààmà
   Ø-wààmà      mà-wààmà
   NP₁₄-chain   NP₆-chain
   ‘chain’      ‘chains’

c. wàátè        màátè
   wà-átè       mà-átè
   NP₁₄-canoe   NP₆-canoe
   ‘canoe’      canoes’

d. wàátè bɔ́tyá
   ‘the canoe is drifting’

There is one class 14 nouns, bɔ́kùé ‘relative by marriage’ (see (159)) which appears to form its plural in class 2. However, there is no agreement to verify the singular class nor the plural class.

(159) 14/2

bɔ́kùé          bàkùé
   bò-kùé        bà-kùé
   NP₁₄-relative.by.marriage NP₂-relative.by.marriage
   ‘relative by marriage’ ‘relatives by marriage’

Tiene has three locative prepositions, i.e. ò, kò and mò, which are reflexes of the PB locative noun class prefixes *pà-, *kò- and *mù-. Ellington (1977) interprets them as prepositions instead of as noun class prefixes since they do not trigger agreement. Additionally, there are three sets of locative adverbs. Both
the locative prepositions and adverbs may express definite location, general/approximate location and surface location. Table 24 provides an overview of the locative system in Tiene.

Table 24 - Tiene (B81) locative system (Ellington 1977: 132-133)

<table>
<thead>
<tr>
<th></th>
<th>Prepositions</th>
<th>Adverbs</th>
</tr>
</thead>
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<tr>
<td></td>
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<td>Approximate</td>
<td>kò/ò</td>
<td>-</td>
</tr>
<tr>
<td>Surface</td>
<td>mò</td>
<td>-</td>
</tr>
</tbody>
</table>

The locative preposition ò expresses specific spatial location. It may occur alone, as illustrated in (160)a. It may also be followed by another term which specifies the location, such as nsì ‘inside’, nsà ‘outside’ or nkilè ‘under’, as illustrated in (160)b. The locative adverbs wàwà (see (160)c), wànê, awś/wàwś also express definite location.

(160)

a. *Námómänè ò mbi̱i.*

‘I saw him on the path.’

b. Ólè ò nsì nzò.

‘She is in the house.’

c. *Kàlà nsì wàwà.*

‘Sit down here.’

General or approximate location is expressed in Tiene by the preposition kò, which may be translated with ‘at’, ‘around’, ‘toward’, ‘in the area of’ (see (161)a). As shown in (161)b, the allomorph ò occurs before a NC-combination. The locative adverbs expressing approximate location are kònê, kòɔkò (see (161)c) and òkó.

(161)

a. kò èyó

‘at the market’

19 The examples illustrating the locative prepositions and adverbs are not glossed since Ellington (1977) provided neither segmentation nor glossing.
b. ̀mpélà
   ‘at the water’

c. Kòòkɔ̀ kàèlɔ̀ nɔ̀ kɔ̀.
   ‘There are no fish over there.’

The third locative preposition mò, illustrated in (162), signifies ‘on the surface of’ or ‘attached to’. Mònè, móòm and óm are the locative adverbs expressing surface location. However, these are used much less frequently than the other locative adverbs. Ellington (1977) does not provide examples to illustrate them. According to Ellington (1977), compound forms such as ̀ngè ‘on top of’ are replacing mònè, móòm and óm.

   (162)
   a. Àtiì nɔ̀ mò ngré∧nè.
      ‘He sat on the chair.’

   b. Mòsòmè nɔ̀lè mò kètwɔ̀.
      ‘The pen is attached to the pocket.’

In addition to the locative prepositions and adverbs, several other locative words exist in Tiene which are commonly used. Ôlè ‘at the home of, at the place of’ is very common. Other examples are bëlëlè ‘near’ and ìbòl ‘far, distant’. Tiene also has a locative interrogative adverb, i.e. kònè ‘where?’.

PB → Tiene (B81)

Table 25 presents the amended noun class system of Tiene. With regard to Table 23, I added a class 14 NP Ø-, as well as the class 15 with NP ̀-.
According to my analysis, Tiene has twelve noun classes. Of the regular noun classes that were reconstructed for PB, classes 11, 12 and 13 are not present in Tiene. Class 11 merged with class 5, which resulted in the 5/10 pairing, which is a retention of the PB 11/10 pairing. Classes 12 and 13 were lost and with them the PB pairing 12/13. The innovative pairings in Tiene are 5/4, 5/8 and 14/2. The 5/4 pairing contains kɔ̀ɔ́ kɔ̀ ‘arm’ and kùòlò ‘leg’, which are both ancient class 15 nouns that were reclassified. The 5/8 and 14/2 pairings are suggestions by me. I found only one noun for each, i.e. dúú/bíí ‘day(s)’ and bòkúɛ́/bàkúɛ́ ‘relative(s) by marriage’ respectively. The 9/10 pairing was retained in Tiene. There was no reclassification of ancient 9/10 nouns designating animals or natural phenomena.

Of the PB locative noun classes, there are only remnants. The particles ò, kò and mò are reflexes of the PB locative noun class prefixes *pà-, *kù- and *mù-. They are used as prepositions. Ò may also be followed by another term specifying the location. Furthermore, there are three sets of adverbs, indicating specific, approximate and surface location respectively.

Classes 5, 14 and 15 have one or more innovative NPs. Class 5 dì- and lè- are reflexes of the PB class 5 augment *dì-. Dì- occurs before vowel-initial noun stems, and lè- before consonant-initial noun stems. Dù- is a reflex of the PB class 11 NP *dù-. Class 5 kù- and kɔ̀- occur in the nouns designating ‘arm’ and

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<table>
<thead>
<tr>
<th>Cl.</th>
<th>NP</th>
<th>NCP</th>
<th>DEM</th>
<th>CON</th>
<th>VP</th>
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<td>yó</td>
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<td>mò-</td>
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<td>é, yí</td>
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<td>yà</td>
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<td>bò</td>
<td>bò-</td>
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<td>ò-</td>
<td>?</td>
<td>?</td>
<td>kó</td>
<td>?</td>
</tr>
</tbody>
</table>

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Table 25 - Tiene (B81) amended noun class system
‘leg’ and are reflexes of the PB class 15 *kʊ̀-. While class 14 vʊ- is a reflex of the PB class 14 *bʊ-, I suspect wʊ- is a result of a morphophonological process whereby the vowel of a NP beginning with [w] assimilated to the initial vowel of the noun stem. As such, it would also be a reflex of the PB class 14 *bʊ-. Finally, the innovative class 15 NP ḍʊ-, which is used on infinitives, is a reflex of the PB class 15 NP *kʊ̀-.

4.4.2 North Boma (B82)

Table 26 presents the noun class system of North Boma according to Stappers (1986). It contains the NP, PP I, PP II, DEM and VP paradigms. I followed Stappers’ (1986) example in including two PP paradigms. The PP from the first and the second paradigm occur in different contexts. The PP and the VP are presented without tone, since the construction in which they appear determines the tone they carry. The VP included in Table 26 are the SP. The morphemes included in the DEM paradigm are the proximate demonstratives.

Table 26 - North Boma (B82) noun class system (Stappers 1986)

<table>
<thead>
<tr>
<th>Cl</th>
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<th>PP II</th>
<th>DEM</th>
<th>VP</th>
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<td>ba-</td>
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<td>mu-</td>
<td>mù</td>
<td>mu-</td>
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<td>li-</td>
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<td>č-, li-</td>
</tr>
<tr>
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<td>li-</td>
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<td>kɔ-</td>
<td>ku-</td>
<td>×</td>
<td>kɔ-</td>
</tr>
</tbody>
</table>

According to Stappers (1986), North Boma has ten noun class pairings, seven of which are regular, i.e. 1/2, 3/4, 5a/6, 5b/10, 7/8, 9/10 and 14/6. The remaining pairings 5a/4, 5/8 and 7/4 are uncommon. The examples that are used to illustrate the North Boma noun class pairings are taken from Stappers

The examples in (163) illustrate the 1/2 pairing.

(163) 1/2

a. mùkârù    bàkârù
   mù-kârù    bà-kârù
   NP₁-Frau (Ger.)    NP₂-Frau (Ger.)
   'woman'    'women'

b. mwɔ̀rò    bàrù
   mw-ɔ̀rò    bà-rù
   NP₁-Person (Ger.)    NP₂-Person (Ger.)
   'person'    'persons'

The 3/4 pairing is illustrated in (164).

(164) 3/4

a. mùlâlì    milâlì
   mù-lâlì    mî-lâlì
   NP₁-Wurzel (Ger.)    NP₄-Wurzel (Ger.)
   'root'    'roots'

b. mùtfú    mîtfú
   mù-tfú    mî-tfú
   NP₂-Kopf (Ger.)    NP₄-Kopf (Ger.)
   'head'    'heads'

Stappers (1986) makes a distinction between two subclasses 5a and 5b. I follow this distinction, since the 5a and 5b agreement patterns are identical, but the form of their NPs and their plural classes are different. Class 5a forms a pairing with class 6 and class 4. The 5/6 pairing is illustrated in (165). The NPs associated with class 5a are ᵐ-, which occurs before consonant-initial noun stems (see (165)), and zᵢ- and zy-, which occur before vowel-initial noun stems (see (166)).

(165) 5/6

a. itómù    màtómù
   i-tómù    mà-tómù
   NP⁶ₐ-Hacke (Ger.)    NP⁶₋ₐ-Hacke (Ger.)
   'hoe'    'hoes'
b. idvúè mèdvúè
   i-dvúè mè-dvúè
   NP₅a-Stimme (Ger.) NP₆-Stimme (Ger.)
   ‘voice’ ‘voices’

The 5/4 pairing, which contains only two nouns, is illustrated in (166). Stappers (1986) does not provide examples of agreement to demonstrate the noun classes of these nouns.

(166) 5/4

a. zyáɲà myáɲà
   zy-áɲà my-áɲà
   NP₅a-Name (Ger.) NP₄-Name (Ger.)
   ‘name’ ‘names’

b. zyíɲù myíɲù
   zy-úɲù my-úɲù
   NP₅a-Zahn (Ger.) NP₄-Zahn (Ger.)
   ‘tooth’ ‘teeth’

Class 5b, which is the historical class 11, pairs with class 10, as illustrated in (167). It has one NP ɛ̀.

(167) 5/10

a. ɛ̀bùè mbùè
   ɛ̀-bùè ñ-bùè
   NP₅b-Frucht (Ger.) NP₁₀-Frucht
   ‘fruit’ ‘fruits’

b. ɛ̀bá: mbá:
   ɛ̀-bá: ñ-bá:
   NP₅b-Kinn (Ger.) NP₆-Kinn (Ger.)
   ‘chin’ ‘chins’

c. ɛ̀bá: límúkárù
   ɛ̀-bá: lí-mù-kárù
   NP₅b-Kinn PP₅b-NP₁-Frau (Ger.)
   ‘the woman’s chin’
(168) shows a noun that agrees in class 5, but which does not have any of the NPs associated with subclasses 5a and 5b. Its plural is formed in class 8. I follow Stappers’ (1986) analysis and consider it as a class 5/8 noun. I do not gloss this noun, as I do not know its correct segmentation.

(168) 5/8
a. lúː bítú
   ‘day’ ‘days’

b. lúː éncɔŋɔ nɔdì mɒːː
   ‘on a free day I went to the water’ (‘An einem freien Tag war ich zum Wasser gegangen.’
   (Ger.))

Class 7 forms a regular noun class pairing with class 8, as illustrated in (169).

(169) 7/8
a. kɛ̀sàʁà bɛ̀sàʁà
   kɛ̀-sàʁà bɛ̀-sàʁà
   NP₇-Korb (Ger.) NP₈-Korb (Ger.)
   ‘basket’ ‘baskets’

b. kyèːlí byèːlí
   ky-èːlí by-èːlí
   NP₇-Kehle (Ger.) NP₈-Kehle (Ger.)
   ‘throat’ ‘throats’

There are two class 7 nouns that form their plural in class 4, as shown in (170). They are historical class 15 nouns that were reclassified. Stappers (1986) does not provide examples that demonstrate their agreement. Kɔ́ːʁɔ́/mỳɔ́ ‘arm(s)’ is not glossed since Stappers (1986) does not segment it. However, I suspect the NP is kɔ̀-, in accordance with the infinitives, which belong to class 15 and have a NP kɔ̀-(see (174)).

(170) 7/4
a. kɔ́ːʁɔ́ myɔ́ɔː
   kɔ̀-ɔ́ mi-ɔ́
   ‘arm’ (‘Arm’ (Ger.)) ‘arms’ (‘Arme’ (Ger.))

b. kùò mìò
   kù-ò mì-ò
   NP₇-Bein (Ger.) NP₈-Bein (Ger.)
   ‘leg’ ‘legs’
The regular 9/10 pairing is illustrated in (171). The NP Ń- was not reanalysed as part of the simple noun stem.

(171) 9/10

a. ǹpúso
   Ń-púso
   NP₉-Mauer (Ger.)  NP₁₀-Mauer (Ger.)
   ‘wall’  ‘walls’

b. ǹkòrì
   Ń-kòrì
   NP₉-Löwe (Ger.)  NP₁₀-Löwe (Ger.)
   ‘lion’  ‘lions’

Stappers (1986) discusses the existence of a class 9a. Nouns belonging to this class designate persons and have either Ø- or Ń- as NP, e.g. Ø-tàrd ‘father’ (‘Vater’ (Ger.)), Ø-nàndì ‘mother’ (‘Mutter’ (Ger.)), Ń-bènjì ‘friend’ (‘Freund’ (Ger.)), Ń-gó ‘mother’ (‘Mutter’ (Ger.)) and Ń-kfùmú ‘chief’ (‘Häuptling’ (Ger.)). According to Stappers (1986), these nouns trigger a class 9 PP but a class 1 VP. The class 9 agreement is demonstrated for only one class 9a noun (see (172)). Stappers (1986) does not indicate in which class the so-called class 9a nouns form their plural. As such, my interpretation of them is solely based on the singular forms.

(172) ngó ìkó  ‘your mother’

The North Boma ‘9a’ nouns with a NP Ø- would belong to the subclass 1a in most of the other sample languages, as well as in many Bantu languages in general. They would normally pair with class 2 and trigger 1/2 agreement. Since Stappers (1986) does not provide agreement nor plural forms, I interpret the ‘9a’ nouns with NP Ø- as 1a/2 nouns for now. On the other hand, I recognise Stappers’ (1986) ‘9a’ nouns with a NP Ń- as belonging to class 9. The fact that they trigger a class 1 VP is an indication that they might be in the process of being reclassified on the basis of animacy.

The regular noun class pairing 14/6 is illustrated in (173). Bù- seems to be the only class 14 NP recognised by Stappers (1986) that is used for 14/6 nouns. However, I suggest to also recognise Ø- as a class 14 NP. The examples in (173)c-(173)d show that the plural NP is added to the singular form, which means that the original NP bù- was reanalysed as part of the simple noun stem. There is no agreement to demonstrate the class 14 belonging of these nouns. The NPs vw- and v- appear to only be used on single class nouns, e.g. vw-àŋà ‘sun’ (‘Sonne’ (Ger.)) and v-àrù ‘boat’ (‘Boot’ (Ger.)).
Infinitives take a class 15 NP kɔ- in North Boma, as shown in (174). I did not find examples of agreement.

(174)

a. kɔpa
 kɔ-pa
 NP₁₅-geben (Ger.)
 'to give'

b. kɔsè:
 kɔ-sè:
 NP₁₅-arbeiten (Ger.)
 'to work'
There are three locative particles in North Boma, i.e. và, kɔ̀/kù and mù, which are reflexes of the PB locative noun class prefixes *pà-, *kʊ̀- and *mʊ̀-. Và indicates surface, kɔ̀/kù indicates direction and mù refers to an interior location. They may be used as prepositions, as illustrated in (175).

(175)

a. ibàyà élè và mpæː
    ‘the board lies on the water’

b. kɛ̀ kélè kɔ́ njɔ́
    ‘the axe is in the house’

c. bàːrù bálè mù njɔ́
    ‘the people are in the house’

When used independently, the locative particles are used as ‘quasidemonstratives’ (Stappers’s (1986) terminology) or interrogatives, designating ‘here’ or ‘there’ and ‘where?’ respectively. Table 27 provides the North Boma terms.

Table 27 - North Boma (B82) locatives (Stappers 1986: 29)

<table>
<thead>
<tr>
<th></th>
<th>'here'</th>
<th>'there'</th>
<th>'where'</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface</td>
<td>và</td>
<td>vंnjęː</td>
<td>vánį</td>
</tr>
<tr>
<td>Direction</td>
<td>kù</td>
<td>kंnjęː</td>
<td>kúńį</td>
</tr>
<tr>
<td>Interiority</td>
<td>mù</td>
<td>mंnjęː</td>
<td>múńį</td>
</tr>
</tbody>
</table>

Furthermore, there exist several words in North Boma which include a locative particle and which designate a specific location, e.g. vàkɛ̀t, kʊ̀kɛ̀t, mʊ́kɛ̀t ‘within, inside’ (‘innerhalb, im Innen’ (Ger.)), væbɔ́c, kʊ̀bɔ́c, mʊ́bɔ́c ‘opposite, in front of’ (‘gegenüber, vor’ (Ger.)), vàŋɛ́, kɔ̀ŋɛ́ ‘over, on’ (‘über’ (Ger.)), etc. This construction is found in many other sample languages. There are also three locative suffixes, i.e. -ví, -kí and -mí, which are illustrated in (176).
Locatives do not trigger agreement anywhere but in relative constructions, as illustrated in (177).

(177)  
\[ \text{và mpæː vålë várù} \]

‘on the water where there is a boat’

PB → North Boma (B82)

Table 28 presents the amended noun class system of North Boma. With regard to Table 26, I added the subclass 1a and I edited the NPs of classes 4, 7 and 14.

Table 28 - North Boma (B82) amended noun class system

<table>
<thead>
<tr>
<th>Cl.</th>
<th>NP</th>
<th>PP I</th>
<th>PP II</th>
<th>DEM</th>
<th>VP</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>mù-, mw-</td>
<td>ø-</td>
<td>i-, jù-</td>
<td>jù</td>
<td>ø-, a-</td>
</tr>
<tr>
<td>1a</td>
<td>Ø-</td>
<td>?</td>
<td>?</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>2</td>
<td>bà-</td>
<td>ba-</td>
<td>ba-</td>
<td>bà</td>
<td>ba-</td>
</tr>
<tr>
<td>3</td>
<td>mù-, mw-</td>
<td>mu-</td>
<td>mu-</td>
<td>mù</td>
<td>mu-</td>
</tr>
<tr>
<td>4</td>
<td>mì-, my-</td>
<td>mi-</td>
<td>mi-</td>
<td>mì</td>
<td>mi-</td>
</tr>
<tr>
<td>5a</td>
<td>i-, zi-, zy-</td>
<td>e-</td>
<td>li-</td>
<td>lì</td>
<td>e-, li-</td>
</tr>
<tr>
<td>5b</td>
<td>ë-</td>
<td>e-</td>
<td>li-</td>
<td>lì</td>
<td>e-, li-</td>
</tr>
<tr>
<td>6</td>
<td>mà-</td>
<td>ma-</td>
<td>ma-</td>
<td>mà</td>
<td>ma-</td>
</tr>
<tr>
<td>7</td>
<td>kë-, ki-, ke-</td>
<td>ki-</td>
<td>ki-</td>
<td>ke-</td>
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</tr>
<tr>
<td></td>
<td>ky-, kù-, kò</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>bè-, bi-, by-</td>
<td>bè-</td>
<td>bi-</td>
<td>bi</td>
<td>bè-</td>
</tr>
<tr>
<td>9</td>
<td>Ñ-</td>
<td>i-</td>
<td>zì-</td>
<td>zì</td>
<td>i-</td>
</tr>
<tr>
<td>10</td>
<td>Ñ-</td>
<td>a-</td>
<td>za-</td>
<td>zà</td>
<td>a-</td>
</tr>
<tr>
<td>14</td>
<td>bò-, Ø-</td>
<td>bo-</td>
<td>bu-</td>
<td>bù</td>
<td>bo-</td>
</tr>
<tr>
<td></td>
<td>vw-, v-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>kò-</td>
<td>kò-</td>
<td>ku-</td>
<td>×</td>
<td>kò-</td>
</tr>
</tbody>
</table>
According to my analysis, there are twelve noun classes in North Boma. Of the regular noun classes that were reconstructed for PB, classes 11, 12 are 13 are absent. Class 11 merged with class 5. The pairing 5b/10 is thus a retention of the PB 11/10 pairing. Classes 12 and 13 were lost and thus the PB pairing 12/13 as well. North Boma has three innovative pairings, i.e. 5a/4, 5/8 and 7/4. The nouns designating ‘tooth’ and ‘name’ belong to 5/4. Those designating ‘arm’ and ‘leg’ belong to 7/4. ‘Arm’ and ‘leg’ are historical class 15 nouns that were reclassified. There is only one 5/8 noun, i.e. ‘day’. In Tiene, this noun also belongs to the innovative 5/8 pairing. As in Tiene, the 9/10 was retained in North Boma and no reclassification of 9/10 nouns designating animals and/or natural phenomena took place.

PB locative classes 16, 17 and 18 are no longer present in North Boma, but there are remnants in the form of the locative particles và, kɔ̀/kù and mù, which are reflexes of the PB locative noun class prefixes *pà-, *kʊ̀- and *mʊ̀-. These function as prepositions and are found in words expressing specific locations, such as ‘within, inside’. Furthermore, the adverbs ‘here’, ‘there’ and ‘where?’ are expressed by three forms each, corresponding to the three erstwhile locative classes. There also exist three locative suffixes and the locatives appear to trigger agreement in relative constructions.

Class 5 has the innovative NPs zì- and zy-, which both occur before vowel-initial noun stems. They are reflexes of the PB class 5 augment *dɪ́-. The innovative class 7 NPs kù- and kɔ̀- are reflexes of the PB class 15 NP *kʊ̀-. They are the result of the reclassification of the nouns kɔ́ːʁɔ̀ ‘arm’ and kùò ‘leg’ which historically belonged to class 15. Finally, I consider Ø- to be an innovative class 14 NP, while vw- and v- are reflexes of the PB class 14 NP *bʊ̀-.

4.4.3 B80: A historical-comparative summary

The 5=11 merger took place in Tiene and North Boma. The 5/10 pairing is thus a retention of the PB 11/10 pairing in both languages. Classes 12 and 13 were lost. Tiene and North Boma share the innovative 5/8 pairing, which only contains the noun meaning ‘day’. Furthermore, Tiene and North Boma share the innovative 5/4 pairing, but it does not contain the same nouns in both languages. In Tiene, the historical class 15 nouns meaning ‘arm’ and ‘leg’ were reclassified as belonging to 5/4. In North Boma, ‘arm’ and ‘leg’ belong to the innovative 7/4 pairing. The 5/4 pairing contains the nouns ‘tooth’ and ‘name’ in North Boma. In Tiene, these nouns belong to the regular 5/6 pairing. Furthermore, Tiene has the innovative 14/2 pairing, which contains the noun ‘relative by marriage’. Tiene shares this pairing with Kukwa. Infinitives are formed in class 15 in both languages.

The content of the 1a/2 pairing was not innovated in either Tiene or North Boma. Historical 9/10 nouns designating animates and natural phenomena remained in 9/10. In Tiene, nouns designating persons agree in 1/2. Furthermore, if a subject consists of two animate nouns, it triggers class 2 agreement, regardless of the noun class of both nouns. In North Boma, class 9 nouns designating persons trigger a class 9 NP but a class 1 VP.
In both Tiene and North Boma, there are three locative particles which are reflexes of the PB class 16, 17 and 18 NPs *pà-, *kù- and *mù-. These are used as prepositions. In North Boma all locative particles are used in combination with a set of noun stems to express more specific locations, while in Tiene only the reflex of the PB class 16 NP is used in this context. In both B80 languages, there are also three sets of adverbs corresponding to the erstwhile locative classes.

Tiene and North Boma share an innovative class 5 NP which is a reflex of the PB class 5 augment *dì-. It occurs before vowel-initial noun stems. In both languages, the innovative class 14 zero-prefix is a result of the reanalysis of the original class 14 NP as part of the simple noun stem. While the reclassification of the historical class 15 nouns ‘arm’ and ‘leg’ resulted in innovative NPs for both B80 languages, they do not belong to the same class. In Tiene, the reflex of the PB class 15 *kù- is a synchronic class 5 NP, while in North Boma it is a class 7 NP.

**4.5 A historical-comparative analysis of noun class systems in B50-80 languages**

The comparative Table 29 presents the noun classes and nominal prefixes of all ten sample languages. It also indicates the number of noun classes in each language.
### Table 29 - Comparative table of noun classes in B50-80 languages

<table>
<thead>
<tr>
<th>Cl.</th>
<th>Duma (B51)</th>
<th>Nzebi (B52)</th>
<th>Tsangni (B53)</th>
<th>Mpini (B601)</th>
<th>Mbaama (B62)</th>
<th>Bwala (B70z)</th>
<th>Ngungwel (B72a)</th>
<th>Kukwa (B77a)</th>
<th>Tiene (B81)</th>
<th>North Boma (B82)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>mù-</td>
<td>mù-</td>
<td>mù-</td>
<td>o-, mw-, (mv-)</td>
<td>mù-</td>
<td>ō-, mü-</td>
<td>mü-</td>
<td>mü-</td>
<td>mü-</td>
<td>mü-, mw-</td>
</tr>
<tr>
<td>1a</td>
<td>Ø-</td>
<td>Ø-</td>
<td>Ø-</td>
<td>Ø-</td>
<td>Ø-</td>
<td>Ø-</td>
<td>Ø-</td>
<td>Ø-</td>
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<td>×</td>
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<td>×</td>
<td>×</td>
</tr>
<tr>
<td>2</td>
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<td>bà-</td>
<td>bà-</td>
<td>a-, ba-</td>
<td>bà-</td>
<td>bà-, à-</td>
<td>bà-</td>
<td>bà-</td>
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<td>bà-</td>
</tr>
<tr>
<td>3</td>
<td>mù-</td>
<td>mù-</td>
<td>×</td>
<td>×</td>
<td>mü-</td>
<td>ō-, ù-</td>
<td>mü-</td>
<td>mü-</td>
<td>mü-</td>
<td>mù-, mw-</td>
</tr>
<tr>
<td>4</td>
<td>mí-</td>
<td>mí-</td>
<td>mí-</td>
<td>e, my, ny-</td>
<td>mí-</td>
<td>ū-</td>
<td>mí-</td>
<td>mí-</td>
<td>mí-</td>
<td>my-</td>
</tr>
<tr>
<td>5</td>
<td>lí-, dí-</td>
<td>lí-, dí-</td>
<td>lí-, Ø-, dí-</td>
<td>le-, Ý-</td>
<td>dʒí- (5a),</td>
<td>lí-, Ø- (5a),</td>
<td>ë-, Ø-, zí-</td>
<td>lí-, Ø-, dʒí-</td>
<td>Ø-, ë-, dí-</td>
<td>lì, zí, zy- (5a),</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>le-, Ø- (5b)</td>
<td>dí-, ký- (5b)</td>
<td></td>
<td></td>
<td></td>
<td>dí-, ký- (5b)</td>
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<td>dí-, ký, kò-</td>
</tr>
<tr>
<td>6</td>
<td>mà-</td>
<td>mà-</td>
<td>mà-</td>
<td>a-, ma-</td>
<td>mà-</td>
<td>à-, mà-</td>
<td>mà-</td>
<td>mà-</td>
<td>mà-</td>
<td>mà-</td>
</tr>
<tr>
<td>8</td>
<td>bi-</td>
<td>bi-</td>
<td>bi-</td>
<td>e, by-</td>
<td>×</td>
<td>ë-, ë-</td>
<td>bi-</td>
<td>bi-</td>
<td>bè-, bi-</td>
<td>bè-, bi-, by-</td>
</tr>
<tr>
<td>9</td>
<td>Ø-</td>
<td>Ø-, yi-</td>
<td>Ø-</td>
<td>Ø-</td>
<td>Ø-</td>
<td>Ø-</td>
<td>Ø-</td>
<td>N-</td>
<td>N-</td>
<td>N-</td>
</tr>
<tr>
<td>10</td>
<td>Ñ-, Ø-</td>
<td>N-, yi-</td>
<td>Ñ-</td>
<td>N-</td>
<td>Ñ-</td>
<td>Ñ-</td>
<td>N-</td>
<td>N-</td>
<td>N-</td>
<td>N-</td>
</tr>
<tr>
<td>14</td>
<td>bú-, Ø-</td>
<td>bú-</td>
<td>bú-</td>
<td>o-, bw-,</td>
<td>ó-</td>
<td>bú-, Ò-</td>
<td>bú-</td>
<td>bù-</td>
<td>bù-</td>
<td>bù-, Ø-, bò-</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(bv-)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>vù-, bò-, bò-</td>
</tr>
<tr>
<td>15</td>
<td>×</td>
<td>ù-</td>
<td>ù-, hù-</td>
<td>×</td>
<td>ò-, kù-</td>
<td>ò-</td>
<td>ò-</td>
<td>×</td>
<td>ò-</td>
<td>kò-</td>
</tr>
<tr>
<td># of cl.</td>
<td>11</td>
<td>12</td>
<td>11</td>
<td>10</td>
<td>10</td>
<td>12</td>
<td>12</td>
<td>11</td>
<td>12</td>
<td>12</td>
</tr>
</tbody>
</table>
When all languages of a sample share a particular innovation of the PB noun class system, one may assume that this innovation had already taken place in their most recent common ancestor. As such, I assume that the most recent common ancestor of the ten sample languages included in this thesis had a class 5 which resulted from a 5=11 merger, a 15/4 pairing which contained the nouns designating ‘arm’ and ‘leg’, and two class 5 NPs that were reflexes of the PB class 5 augment *dǐ. One occurred before vowel-initial noun stems, while the other occurred before consonant-initial noun stems.

A clear distinction between the sample languages can be made on the basis of the evolution of the 9/10 pairing, which I believe was present in the most common ancestor of all sample languages. Tiene (B81) and North Boma (B82) are the only languages that fully retained the 9/10 pairing. In these languages, class 9 only pairs with class 10 and it contains animate as well as inanimate nouns. Animate agreement occurs in some contexts. In the B50-70 sample languages, a semantic split of the ancient class 9 occurred, which led to several innovations. Part of the ancient 9/10 nouns were reclassified as 1a/2 (or 1n/2) nouns on the grounds of animacy. In the B60 and B70 sample languages this set also contains some noun designating natural phenomena such as ‘rain’ or ‘star’. In Nzebi (B52), Mpini (B601), Ngungwel (B72a), Kukwa (B77a) and Bwala (B70z), the remaining 9/10 nouns shifted their plural formation to class 6. The innovation of the 9/6 pairing also took place in Duma (B51), Tsaangi (B53) and Mbaama (B62). However, in Duma (B51) and Tsaangi (B53) some nouns also shifted their plural formation to class 2, while they also shifted it to class 4 in Mbaama (B62). Furthermore, in Duma, there remain some 9/10 nouns.

The semantic split of the ancient class 9 is thus a shared innovation in all B50-70 languages, including Bwala (B70z). This is potentially not in line with Pacchiarotti et al.’s (forthcoming) lexicon-based phylogenetic classification. In their tree, reproduced in Figure 3, Bwala (B70z) split off before any of the other sample languages. However, the occurrence of the semantic split of the ancient class 9 in Bwala (B70z) and the B50-70 languages, but not in the B80 sample languages, suggests that Bwala (B70z) split off only after the splitting off of the clade containing Tiene (B81) and North Boma (B82) (Kwa-Kasai North in Figure 3).

A further distinction may then be suggested on the grounds of a morphophonological process. In the B50-70 languages, the historical class 9 NP *N- was reanalysed as part of the simple noun stem, an evolution which did not occur in Tiene (B81) and North Boma (B82). In the B70 languages, this reanalysed nasal was retained in every context. However, in the B50 languages and probably the B60 languages, the reanalysed nasal was lost when it occurred before a voiceless consonant.
Further shared innovations I discuss are meant to illustrate potential relatedness of the sample languages. Class 15, which contained the infinitives and the nouns designating ‘arm’ and ‘leg’ in the most recent common ancestor, is in different stages of evolution across the languages. In Tsaangi (B53) and Mbaama (B62), both the infinitives and ‘arm’ and ‘leg’ belong to class 15. In Nzebi (B52), Ngungwel (B72a) and North Boma (B82), the infinitives belong to class 15, but ‘arm’ and ‘leg’ were reclassified as class 7 nouns. In Duma (B51) and Kukwa (B77a), both the infinitives and ‘arm’ and ‘leg’ belong to class 7, which means that a full 7=15 merger took place. This merger also took place in Mpini (B601), but the noun class of ‘arm’ and ‘leg’ is not specified for this language. Bwala (B70z) and Tiene (B81) are distinct from the other sample languages when it comes to the evolution of class 15. In these languages, class 15 still contains the infinitives, but ‘arm’ and ‘leg’ were reclassified as class 5 nouns. In all languages, ‘arm’ and ‘leg’ form their plural in class 4.

In Mpini (B601), Mbaama (B62) and Ngungwel (B72a), a big part of the NPs lost their initial consonant when the NP occurs before a consonant-initial noun stem. This morphophonological change did not occur to this degree in the other sample languages. A full 1=3 merger appears to have taken place in Tsaangi (B53) and Mpini (B601). Mpini (B601) and Mbaama (B601) both appear to have lost the 14/6 pairing. Nzebi (B52), Tsaangi (B53) and Kukwa (B77a) share the innovative 5/2 pairing containing one noun which designates ‘man’. In Mpini (B601), this noun is the only one belonging to the innovative
9/2 pairing. In Bwala (B70z) and North Boma (B82), the innovative 5/4 pairing contains the noun for ‘tooth’. ‘Eye’ also belongs to 5/4 in Bwala (B70z), while ‘name’ is also a 5/4 noun in North Boma (B82). Tiene (B81) and North Boma (B82) share the innovative 5/8 pairing, which contains the noun for ‘day’. Kukwa (B77a) and Tiene (B81) share the innovative 14/2 pairing, which contains the similar terms ‘step parent’ and ‘relative by marriage’ respectively.

Information about the locative system is available for all sample languages except Mpini (B601) and Bwala (B70z). In each of the remaining languages, the PB locative classes left several remnants. In Tsaangi (B53), Kukwa (B77a), Tiene (B81) and North Boma (B82) the three locative particles, which are prefixes of the PB class 16, 17 and 18 NPs *pà-, *kût- and *mù-, function as prepositions. In Duma (B51) and Ngungwel (B72a), the locative particles used as prepositions are reflexes of the PB class 17 and 18 NPs. Duma (B51) and Ngungwel (B72a) also share a locative particle that is a reflex of the PB class 24 NP *ì-. This particle is used in combination with a limited set of noun stems to form locative expressions which are more specific than the prepositions. In Nzebi (B52), Tsaangi (B53), Mbaama (B62), Ngungwel (B72a), Tiene (B81) and North Boma (B82), the erstwhile class 16, 17 and/or 18 NPs are used in this context. Furthermore, Tsaangi (B53) Kukwa (B77a), Tiene (B81) and North Boma (B82) have three sets of demonstratives which correspond to the erstwhile locative classes 16, 17 and 18. In Nzebi (B52) and Ngungwel (B72a) there remain only a few demonstratives and interrogatives that show traces of a locative particle.
6 Conclusion

In this dissertation I made a historical-comparative analysis of the noun class systems of ten Bantu languages: Duma (B51), Nzebi (B52), Tsaangi (B53), Mpini (B601), Mbaama (B62), Bwala (B70z), Ngungwel (B72a), Kukwa (B77a), Tiene (B81) and North Boma (B82). According to Pacchiarotti et al.’s (forthcoming) lexicon-based phylogenetic classification, these languages belong to the Kasai-Ngounie (Extended) subclade of West-Coastal Bantu, one of the major branches of the Bantu language family. The Kasai-Ngounie (Extended) languages are spoken in Gabon, Congo-Brazzaville and the DRC.

This dissertation offers a first description of the synchronic phonology and of the noun class system of Bwala, a formerly undocumented and undescribed Bantu language. The analysis is based on new linguistic data I collected in Bankana, a town located approximately 150 km east of Kinshasa. I identified seven vowel phonemes and twenty-one consonant phonemes for Bwala. Bwala has twelve noun classes which pair into nine singular/plural noun class pairings. The most relevant evolutions the Bwala noun class system underwent with regard to PB concern the PB classes 9 and 11 and the nouns designating ‘arm’ and ‘leg’. A semantic split of the ancient class 9 occurred whereby nouns designating animates and natural phenomena were reclassified as 1n/2 nouns in Bwala. The remaining ancient class 9 nouns shifted their plural formation from class 10 in PB to class 6 in Bwala, resulting in the innovative 9/6 pairing. The historical class 11 merged with class 5. The 5/10 pairing in Bwala is thus a retention of the PB 11/10 pairing. The nouns designating ‘arm’ and ‘leg’ which historically belonged to class 15, were reclassified as class 5 nouns. They belong to the innovative 5/4 noun class pairing in Bwala.

The remaining sample languages were selected based on the availability of in-depth descriptions of their noun class systems. The comparison of the noun class systems of the ten sample languages led to the following conclusions. I suggest that the most recent common ancestor of the ten sample languages had a class 5 which resulted from a 5=11 merger, a 15/4 pairing which contained the nouns designating ‘arm’ and ‘leg’, and two class 5 NPs which were reflexes of the PB class 5 augment *dɪ́-. One occurred before vowel-initial noun stems, while the other occurred before consonant-initial noun stems. Furthermore, the semantic split of the ancient class 9 took place in all B50-70 sample languages. The B80 sample languages did not undergo this evolution. This finding is potentially not in line with Pacchiarotti et al.’s (forthcoming) lexicon-based phylogenetic classification, which suggests that Bwala split off before any of the other sample languages. The occurrence of the semantic split in Bwala and the B50-70 languages but not in the B80 languages suggests that Bwala split off after the B80 languages did.

Several issues were touched upon only briefly in this dissertation or were outside the scope of this study. When it comes to Bwala, this pertains to the phonology and tonology. Furthermore, information should be gathered on the locative system of Bwala in order to further complete the comparative study.
With regard to the comparative analysis of the sample languages, it may be interesting to involve processes of nominal derivation, such as the formation of diminutives and augmentatives. Furthermore, the morphophonological processes that affected the noun class prefixes should be looked into. While this dissertation offers a contribution to the research into the Kasai-Ngounie (Extended) languages, the road to further research is wide open.
7 References


Jacquot, A. 1983. *Les classes nominales dans les langues bantoues des groups B10, B20, B30 (Gabon, Congo)*. Paris: ORSTOM.


Memorial University of Newfoundland. s.d. [Concepts of monophyly, polyphyly and paraphyly]. https://www.mun.ca/biology/scarr/Taxon_types.htm (07.05.2019).


Appendix

A  Word list: Bwala – English

The wordlist contains 214 items. The words are ordered alphabetically by their lexical root, i.e. without NP. Zero-prefixes are not indicated with Ø. The tonal patterns on the words are based on elicitation in isolation. Where applicable, the noun class is indicated for each singular and plural noun. If I am uncertain about a noun’s class due to a lack of agreement in the data, I put a question mark. In this case, the supposed NP is not split off from the noun stem. An approximate English translation is provided for each word. The part of speech is listed for each item as follows: ‘n’ for ‘noun’, ‘v’ for ‘verb’, ‘adj’ for ‘adjective’, ‘pron’ for ‘pronoun’, and ‘num’ for ‘numeral’.

<table>
<thead>
<tr>
<th>Singular</th>
<th>NC sg.</th>
<th>Plural</th>
<th>NC pl.</th>
<th>Translation</th>
<th>PoS</th>
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<td>8</td>
<td>part (of a tree)</td>
<td>n</td>
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<td>v</td>
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151
ú-lúù 15 to fill v
bú-lúùmù 14 major river n
lúúrù 5a má-lúúrù 6 tire n
mú-lyém 3 mí-lyém 4 finger n
máànà 6 earth, soil n
mbáà 9 fire n
mbéi 9 má-mbéi 6 town n
mbíli 1n bá-mbíli 2 fish n
mbúámõ 9 má-mbúámõ 6 nose n
mbwà 1n bá-mbwà 2 dog n
méëli 6 fat, oil n
míér 3 míér 4 trap n
miú 3 miú 4 pestle n
-mõ one num
máŋkwénè 3? fist n
ú-mónõ 15 to see v
mpárá múíli 1n bá-mpárá múíli 2 star n
mpíi bi 9 night n
mpíyé 1n or 9? blowing wind n
mpúámõ 1n or 9? eight num
lí-mpyõõ 5a má-mpyõõ 6 branch n
múíli 3? day, light n
múngwà 3? salt n
músùù tomorrow adv
mútei 3? height n
múwili 3? throat n
mòvõõ 1n rain, year n
mwélè 1n bámwélè 2 river n
nám 1n bá-nám 2 animal n
ndê they (sg.) pron
<p>| ńdọ́ | 9 | má-ńdọ́ | 6 | problem, speech | n |
| ńdọ́ù | 9 | | | pancreas | n |
| -ńn̂én | | | | big | adj |
| ŋgù | 1n | | | mother | n |
| níńù | 1n | bá-níńù | 2 | bee | n |
| ŋkè | 9 | má-ŋkè | 6 | paddle | n |
| ŋkí | | | | what, which (thing) | pron |
| ŋkíí | 9 | má-ŋkíí | 6 | neck | n |
| ŋkíř | 1n | bá-ŋkíř | 2 | fetish | n |
| lí-ŋkó | 5a | má-ŋkó | 6 | banana | n |
| ŋkóó | 1n | má-ŋkóó | 6 | grandparent | n |
| má-ŋkù | 6 | eyelashes | n |
| má-ŋkùù | 6 | path | n |
| má-ŋkùùmù | 6 | name | n |
| máŋkwánù | 6 | stone | n |
| -nnà | | | | four | num |
| ŋnà | | | | who, which (person) | pron |
| nníńi | 1n | bá-níńi | 2 | bird | n |
| níńí | 1n | má-ńńí | 6 | bed | n |
| mú-ńtáńdōbù | 1 | bá-ńtáńdōbù | 2 | fisherman | n |
| ntéíli | 1n | bá-ńtéíli | 2 | snake | n |
| mú-ńtō | 3 | má-ńtō | 4 | basket | n |
| ntōō | 9 | má-ńtōō | 6 | torso | n |
| ntsiá́má | | | | seven | num |
| ntsíńi | 1n | bá-ńtsíńi | 2 | louse | n |
| lí-ńtsiá | 5a | má-ńtsiá | 6 | liver | n |
| íńtswi | 1n | bá-ńtswi | 2 | moon | n |
| ntjó | 9? | | | bush | n |
| íńńtù | 7 | bá-ńńtù | 8 | banana | n |
| í-ńtyáà | 7 | bá-ńtyáà | 8 | mirror | n |</p>
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<th>Part of Speech</th>
<th>Definition</th>
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<td>ú-yú</td>
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<td>to hear, to listen</td>
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B Identification sheet language consultant

Language: Bwala (B70z)

a) Date of the interview:

19/8/2018

b) Place of the interview:

Geo-coordinates: S 04.45125°, E 016.19585°

Village: Bankana

Municipality: Maluku

District: Tshangu

c) Name of the consultant:

Joseph Lambert Emboto Mbumu

d) Gender of the consultant:

Male

e) Date of birth of the consultant:

1958 or 1959

f) Birthplace of the consultant:

Gombe Matadi

g) Geo-temporal track of the consultant (i.e. places they have lived):

Bankana, Gana, Dumi, Yuo, Yoso, Masi-Manimba, among others not specified

h) First language of the consultant:

Bwala

i) Other languages spoken by the consultant:

Lingala, French, some Kituba

j) First language of both consultant’s parents:

Bwala

k) Language(s) spoken at home:

Bwala