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Language maps and sociolinguistic data—Developing linguistic cartography of Bantoid languages

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> *Linguistic mapping is permanently evolving because it must follow not only the progress of the linguists' analysis, but also the intervention of sociolinguists and scientists from other disciplines—geography, history, economics, politology, etc.—who, one after the other, are discovering the importance of language and the interaction between language and other phenomena.*
> *(Breton 1993: 47/68)*

Abstract
Drawing language maps is not normally considered an important part of linguists' work. Nonetheless, language maps influence their users' perceptions and understandings of the characteristics of the languages that they represent. Therefore, given their communicative power, wide accessibility, and generalized use for educational purposes, attention must be paid as to what messages language maps convey about the languages that they visualize since different cartographic styles can be suited to representing some language ecologies better than others. However, decisions at this level are not normally made explicit by cartographers, and the ways in which certain ideologies surface in language maps can escape the attention of both linguists and cartographers alike. This article clarifies why these issues are especially relevant in a domain such as that of the study of Bantoid languages and proposes some novel cartographic models that have been used for representing the languages of Lower Fungom in western Cameroon. These include some cartographic strategies for the representation of the language ideologies of speaker communities and of individual multilingualism. The latter is both a key and underresearched feature in Bantoid sociolinguistics and the article suggests how scholars who are not sociolinguists may nevertheless contribute to its exploration.

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Keywords: language ideologies, small-scale multilingualism, Cameroon, language maps

1 Introduction

Linguistic cartography is the branch of geography that aims to represent linguistic data in the geographical space through the production of maps—though, as one anonymous reviewer pointed out, it is mostly practiced by linguists rather than geographers.[1] At a general level, language maps differ from each other depending on two basic factors: i) their relationship with the topology of real-world locations and ii) their purposes.[2] Concerning the former aspect, maps in which linguistic data are positioned in accordance with the topology of the locations are called "topographically faithful", whereas "topographically unfaithful" are those maps that transcend the topology of the locations. As an example that can be relevant to Africanist linguists, all the language maps found in Heine and Nurse (2008) are topographically faithful—i.e. linguistic features are positioned on a base map aiming to topographic accuracy—except for the first one (Heine & Leyew 2008: 32), where isoglosses representing the number of typological properties shared among the languages spoken in northern Nigeria lack any connection with real-world topography.

Concerning their purposes, language maps can be used to, e.g. represent the spatial distribution of single or interconnected linguistic features across languages (see, e.g. the several maps in Clements & Rialland (2008) and in Güldemann (2008)) and to visualize processes in language history (e.g. Dimmendaal (2008: 286)) or the geography

1 The research reported on here has been supported by NSF Awards BCS-1360763 and BCS-1761639. I thank Penghang Liu for his early collaboration on some of the cartographic issues discussed here. Thanks also go to Ling Bian, Clayton Hamre, Yujia Pan, Ljuba Veselinova, and Colin H. Williams for their stimulating insights on several aspects of the topic presented here. I am also grateful to two anonymous reviewers for their constructive remarks. I am solely responsible for the content of this chapter.

2 Since the audience of this article is expected to be mainly linguists, I decided to only cite a limited number of items of linguistic geographic literature. The interested reader can refer to works such as Williams 1991, Williams & Ambrose 1992, Lameli et al. 2010, and Rabanus 2020—as well as Di Carlo 2022, where a contextualization of the cartography of multilingualism can be found.

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of languages (e.g. Kießling et al. (2008: 187) and figure 1). These purposes by no means exhaust the potential of language mapping but the state-of-the-art of linguistic cartography in Africa seems to be by and large limited to these types of language maps. A quick look at synoptic works about language mapping (e.g. Lameli et al. 2010 or Rabanus 2020) is telling of how little of its potential has been exploited for African settings. In areas as linguistically complex as the Nigeria-Cameroon borderland, the contrast is even more extreme since linguistic cartography work on Bantoid languages is presently mostly limited to maps that, like that in figure 1 below, show the geographic locations that have been associated with these languages, where locations are represented through polygons encompassing areas that are known (or assumed) to be occupied by speakers of these languages.[3]

One would argue that this simply reflects existing limits as to the kinds and amount of data that are available for Bantoid languages. After all, how can one draw complex maps visualizing, for instance, bundles of differential features across the languages spoken in a given region, let alone across the varieties of a language, if data coverage is partial, fragmentary or simply not there altogether in the first place?[4]

3 This state of affairs is not limited to language mapping in African contexts only but, rather, is quite generalized. This makes the issues discussed in this article relevant also beyond the limits of research focused on African languages.

4 In this article, I will focus on conventional, static maps only, i.e. the maps that can be printed on paper. This is due mainly to the fact that developments in GIS technology and in online resources has not yet made dynamic maps sufficiently common for the representation of sociolinguistic data, which instead feature prominently in this article. As a side note, it must also be realized that, except for long-term, well-funded projects (like, e.g. the World Atlas of Language Structures https://wals.info), many online resources cited in isolated articles are no longer accessible just a few years after publication (see, e.g. the several links cited in Dahl & Veselinova 2005, none of which seems to be currently working). Restricting the attention to static maps only may seem old-fashioned: in fact, it stems from a realistic view on the present time because, especially for scholars based in African countries, dynamic maps have not so far featured sufficiently commonly to be used for an introduction like this article is intended to be. The fact that this situation closely resembles the one faced by Fardon & Furniss (1993: 26), is telling of existing obstacles for the global circulation of technological and epistemological advances among practitioners of the sciences of language.

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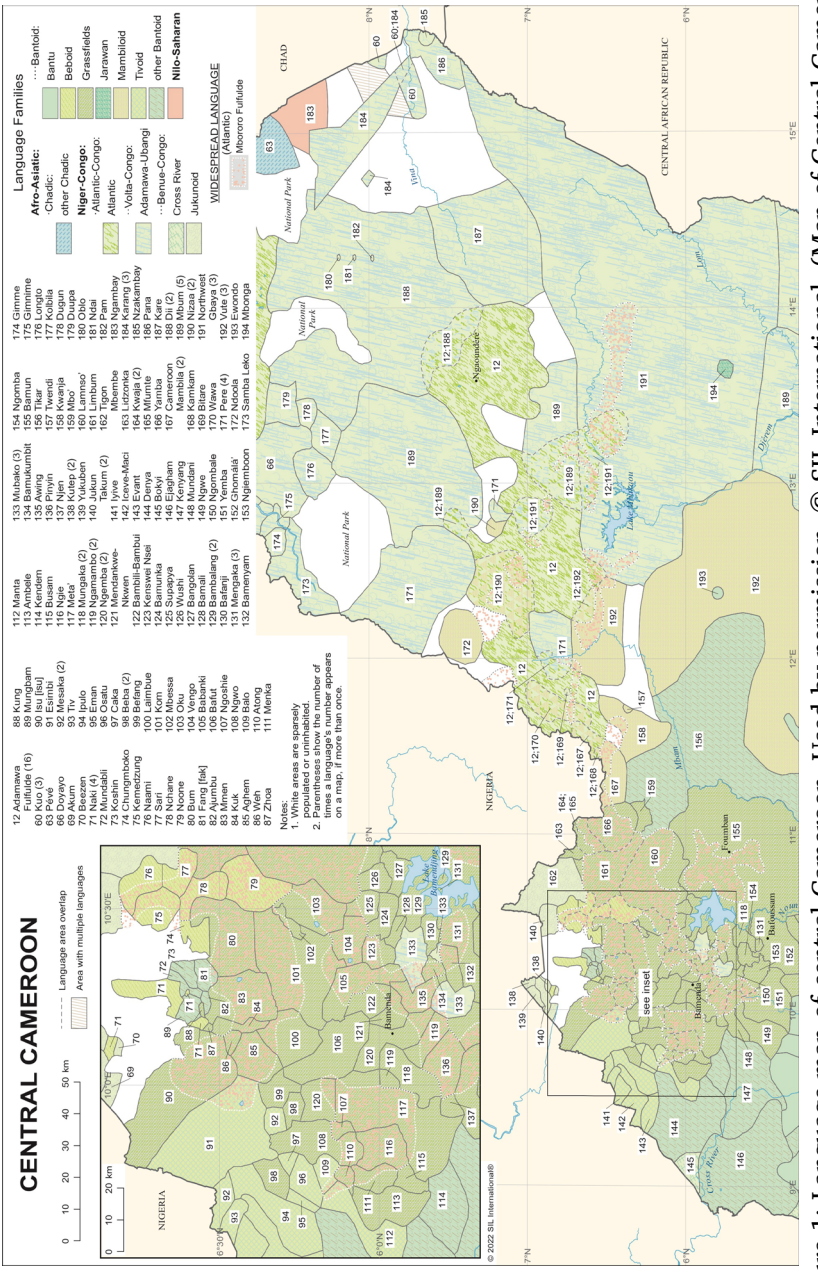

Figure 1: Language map of central Cameroon. Used by permission, © SIL International, (Map of Central Cameroon, 2021).

On the one hand, the relative lack of fine-grained linguistic data is clearly the main obstacle to the development of linguistic cartography on Bantoid languages. On the other hand, however, this *status quo* does not justify taking lightly the task of creating language maps of Bantoid languages. One should not forget that, given their wide accessibility and generalized use for educational purposes, language maps have important reverberations on what we might call the "linguistic imagination" of their users—crucially including young students as well as policy makers (see, e.g. Kay 1992). From this perspective, it is key that any linguists embarking in linguistic cartography be aware that language maps normally run the risk of disguising more about languages than they reveal, and that this risk is best mitigated by the existence of multiple, competing cartographic representations (cf. e.g. Luebbering 2011).

In a domain such as Bantoid linguistics—where between 150 and 200 languages (Blench 2014) are spoken mainly in hard-to-reach areas and specialists are relatively few—it is quite unlikely that a single language or area is studied so extensively that multiple competing cartographic representations are produced for it. In fact, the likelihood that a language or area is known through very few publications is quite high, also due to the fact that local communities are unlikely to produce language maps of their areas due to their relatively socioeconomically marginal status and so are local institutions. Bantoid linguists are thus more likely to become authorities in their particular fields, which is something that comes with its own share of responsibilities—not the least of which being that one's maps are likely to be uncritically cited or reproduced in subsequent publications.

In this short article, I would like to focus on two features of today's linguistic cartography of Bantoid languages that I find quite problematic. First, the systematic erasure of local perceptions of what counts as a language through the generalization of strategies of visualization that have been institutionalized throughout 19th-century Europe and essentially served the agendas of (then developing) nation-states. Second, the conspicuous absence of any information about patterns of multilingualism, individual multilingualism being not only among the most prominent sociolinguistic features of environments where Bantoid languages are spoken, but also an important factor shaping dynamics of language change that progressively more linguists are

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looking at with interest (e.g. Good 2023b). After providing a basic framework for the critical analysis of maps representing the geography of languages in the next section, I will address the two points above in section 3 and 4, respectively, and will conclude the article with a methodological section.

2 Visualizing the geography of languages: issues of accuracy, readability, and accountability

Working as a linguist-anthropologist in the field first in Pakistan (e.g. Di Carlo 2010) and then in the Lower Fungom region of western Cameroon (e.g. Di Carlo 2011, 2018), made me progressively aware of the depth of the hiatus that divides the reality on the ground from its cartographic representations. Being passionate about maps in general and relatively familiar with drawing maps of the areas of my research, I had first-hand experience of the fact that doing cartography is a selective act based on the creator's purposes and skills. Modern technological advances may make the results visually impressive for their feel of absolute precision, yet map users should keep in mind that accuracy or degree of detail does not make cartography any more "objective". Maps are representations of reality that must come to terms with a number of concrete factors, first and foremost their ease of readability. When they deal with languages, it becomes evident that "the extent of compromises that are made to depict the fluidity of language within the discrete confines of a map can result in a product that is far from reality not only in the location of features, but in the messages conveyed about the characteristics of language itself" (Luebbering 2011: 2). I will use the map in figure 1 in order to anchor the discussion on a concrete example, but the critical analysis I will outline in the following applies to any maps sharing the same cartographic style—especially those representing Bantoid languages.

In figure 1, we can see a map visualizing the spatial distribution of languages in central Cameroon. In this type of maps, the linguistic data that is represented amounts to language names, in their turn implying that professional linguists or speaker communities or both have sanctioned the scientific basis or political legitimacy or both of using particular labels for the identification of lexicogrammatical codes that are considered distinct from each other. Where these lan-

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guage names are placed and what kind of visual semiotics they are associated with—e.g. whether they are represented as polygons covering bounded territories or as point-related features—are decisions that a cartographer should normally make based on i) the availability of non-linguistic data justifying those decisions (such as, e.g. data gathered from censuses or surveys) and ii) the intended purposes of the map.

Looking at figure 1, we can see that language names are generalized to cover bounded land areas and that the resulting shapes are filled with different colors to reflect genealogical affiliations and juxtaposed to each other leaving out only the major tracts of uninhabited land. This is an extremely common type of map—which is why I will refer to the ensemble of these semiotic strategies as the "classical language map" in the following—and the only feature that breaks its otherwise perfect correspondence between discrete portions of land and discrete languages is that the symbol associated with one language, i.e. light-red dots for "Mbororo Fulfulde", is superposed to the others in order to allow to signal that the language is spoken by speaker communities scattered across the whole area.

If we compare this map with a language map of Europe (fig. 2) we can see that, along with important differences—first and foremost their scale since figure 1 covers an area of about 9,000 sq km whereas figure 2 covers an area of about 30,000,000 sq km if we include water surfaces—both follow the same representational logic: languages are represented as juxtaposed bounded territories and color fillings are used to signify their genealogical affiliations.

Historically, this mapping style was typical of 19th-century maps which, like the one in figure 3 below, aimed to represent the location and boundaries of nation states (see, e.g. Anderson 1991: 163–185). By reproducing this style, a map like the one in figure 1 also tacitly relies on its basic assumption—i.e. that there is a sort of "natural correlation" between a language, a people, and a territory. Among other critics, Auer (2004) recognizes this assumption as a fundamental ideological feature of nation-states instantiating linguists' "theoretical deficits" in dealing with the complex interplay between language and space (Auer 2004: 150).

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Figure 2: Language map of Europe. (User-generated map based on Garry & Rubino 2001: 435–439. From Wikimedia Commons, CC BY SA 4.0). Shades of green represent Slavic languages, shades of blue Romance languages, shades of red Germanic languages.

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At this point, one could argue that these criticisms are quite abstract, that the map in figure 1 is perfectly readable—although it lacks spatial reference allowing readers to quickly locate the area under analysis on the earth surface—and that having it available is surely better than having no maps of the languages of central Cameroon. I couldn't agree more. At the same time, however, there are a number of problems that must be acknowledged.

First, the sources that were consulted and on whose basis the map was drawn are not cited. If this was done, users would learn that language boundaries are not just putative but are in fact best viewed as a sort of by-product of the mapping style that was used, according to which languages must border one another except for the wider expanses of uninhabited land. As we will see, this is just one out of many styles that can be used to visualize languages in the geographic space. Given the evident lack of supporting information justifying on scientific grounds the very representation of language boundaries, let alone their position, one can conclude that the main source determining the location of boundaries (as well as their very existence) is the cartographer's own language ideology—i.e. what they consider a language to be, especially in terms of what relationship it has with space. I believe this is important information that should be made accessible to map users.[5]

Related to this point is a second problem concerning issues of social justice. We can summarize them in the following questions: at what stage of the creation of this map were communities of speakers of these languages involved? Has the cartographer collected any feedback from the communities about how their own languages are represented in publications meant to be used by people the world over? It is clear that these are rhetorical questions as communities in this part of the world normally have no voice in matters of this kind, which is unfortunate and unjust.

5 In the Ethnologue website, there is one page (https://www.ethnologue.com/methodology/#maps) that briefly deals with some general characteristics of the language maps it contains. There one reads that "[m]ost of the maps make use of polygons to show the approximate boundaries of the language groups. No claim is made for precision in the placement of these boundaries, which in many instances overlap with those of other languages." Ideally, individual maps should include information of this kind.

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Figure 3: Political map of Europe drawn by Samuel Augustus Mitchell in 1863. From The New York Public Library, retrieved from https://digitalcollections.nypl.org/items/510d47e2-087a-a3d9-e040-e00a18064a99

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Finally, a crucial corollary to the nation-state ideologeme, to use Auer's (2004) term, is that communities are inevitably represented as monolingual, which is exactly what one would gather from looking at both figures 1 and 2. We all know that in today's superdiverse Europe (Blommaert & Rampton 2011) most people (though by no means all) have some multilingual competence but this is a feature that is normally deemed irrelevant for the geography of languages also because, provided that a semiotic strategy is found that can aptly represent it, it would jeopardize the readability of a large-scale map such as the one in figure 2.

However, available evidence about patterns of multilingualism in areas of central Cameroon (see, e.g. many of the chapters in Di Carlo & Good 2020 for case studies from several areas in the Cameroonian Grassfields) points to sociolinguistic configurations that are of a completely different nature as compared to those commonly encountered in regions such as Europe because most speakers of a local language are not only proficient in one or more translocal languages (be they lingua francas or official languages or both), but also have varying degrees of competence in one or more neighboring local languages. I think this is not at all irrelevant to understanding the geography of languages spoken in hotspots of linguistic diversity such as the Nigeria-Cameroon borderland.

Having access to this information would enable map users to realize that, especially in some areas, notions such as "speaker community" and "language boundary" can be more problematic than one would be led to assume based on the state-based cartographic models. One salutary consequence would be an increased awareness that the map in figure 1, while appreciable for its overall readability, should be taken *cum grano salis*, as an oversimplified representation of the complex geography of these languages lacking certain important details that one should look for elsewhere in order to get a more complete view—ideally, in accompanying maps focused on what is known of local forms of multilingualism.

3 Competing cartographic models

In order to provide examples of how diverse cartographic outputs on Bantoid languages can be, in this section I will present and discuss some language maps that I and my collaborators created within the

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KPAAM-CAM project (https://kpaam-cam.org), a long-term project focused on the study of traditional patterns of multilingualism in rural areas of Cameroon.

3.1 Lower Fungom at a glance

So far, most of the work of KPAAM-CAM has focused on the languages and societies of Lower Fungom, an area of about 240 sq. km located at the northern fringes of the Cameroonian Grassfields. In 2017, Lower Fungom was inhabited by about 15,000 people distributed in thirteen villages, although at present most of the population left the area due to prolonged conflicts between Ambazonian separatists and the Cameroonian army (see, e.g. Pommerolle & Heungoup 2017). Traditionally, each of these villages is considered a politically independent chiefdom (Di Carlo 2011) but state institutions can now overrule the chief's authority. Linguists consider the speech varieties of this area to be manifestations of seven (or eight) distinct non-Bantu Bantoid languages (Good et al. 2011: 102). This characterization is at odds with the local conception of linguistic distinctiveness which views each of the thirteen village-chiefdoms as having its own *talk*. In the local context, the presence of a socially meaningful lect is a prerequisite for a village to claim political independence, which results in the local ideological equation "one village-chiefdom = one language" (Di Carlo & Good 2014: 233; Di Carlo 2018).

In this context of impressive linguistic diversity and geographical proximity between villages associated with different lects, individual multilingualism and multilectalism—i.e. proficiency in lects that, for their degree of similarity, are normally considered as varieties of the same language—is the norm. Sociolinguistic surveys based on the use of an ethnographically-informed structured interview guide carried out throughout the area between 2012 and 2018 (n = 300+; see, e.g. Esene Agwara 2020, Di Carlo 2023) could not identify a single monolingual speaker, the minimal repertoire including at least one local lect plus Cameroon Pidgin English (CPE). On average, individuals from Lower Fungom speak four local lects plus CPE, with only slight differences between men and women, the latter showing somewhat lower values. This data comes from self-reports but work on the assessment of speakers' competences in the local lects (Nsen Tem (2022) and Mba & Nsen Tem (2020)) substantially confirmed this picture.

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3.2 Linguistic cartography of the Lower Fungom languages

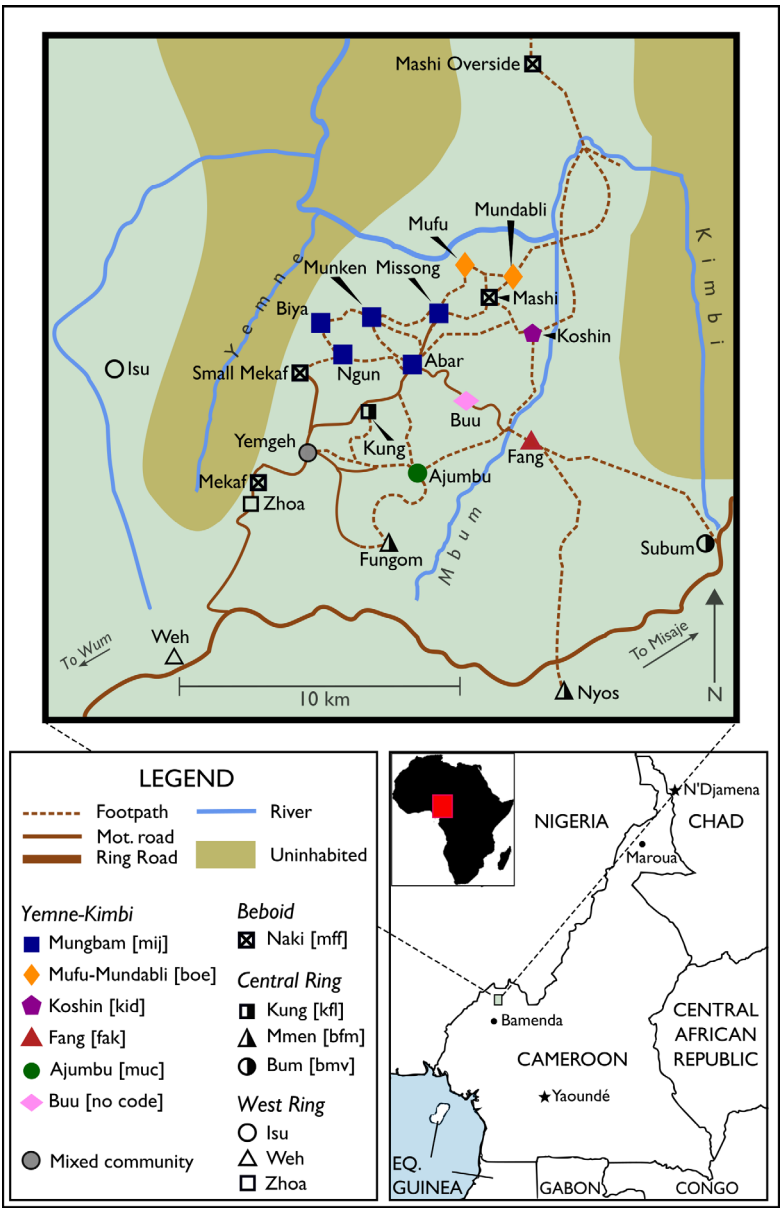

Figure 4a: Language map of Lower Fungom according to Di Carlo et al. 2019.

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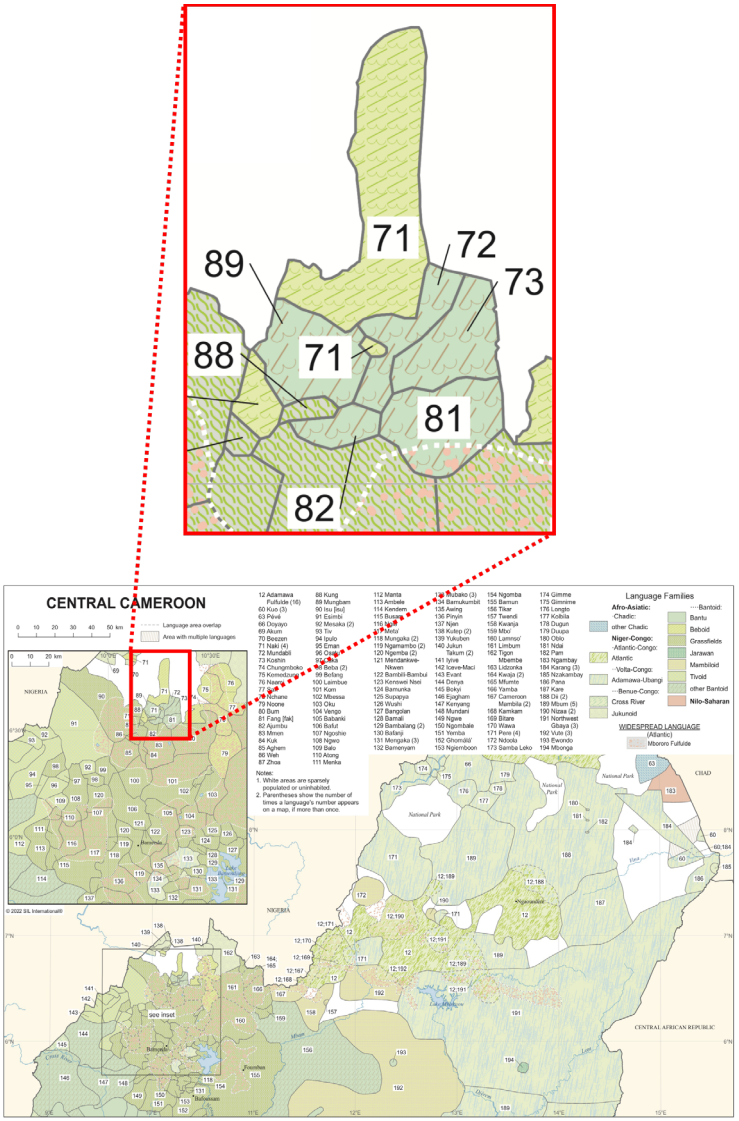

Figure 4b: Detail of language map of central Cameroon (Eberhard et al. 2021, see fig. 1 above) showing the languages of Lower Fungom. Used by permission, © SIL International, (Map of Central Cameroon, 2021), further redistribution prohibited without permission.[6]

6 Naki is n.71, Mungbam is n.89, Mufu-Mundabli (including also Buu) is n.72, Fang is n.81, Ajumbu is n.88, Koshin is n.73, and Kung is n.82.

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Figures 4a and 4b are two clearly different ways to represent the languages spoken in Lower Fungom. Figure 4b is an extract from figure 1, i.e. it is a classical language map where language data are generalized to cover land areas and the resulting polygons/shapes are juxtaposed, leaving out only the major expanses of uninhabited land. The map in figure 4a, by contrast, uses a point-symbol semiotic strategy: each symbol is anchored to the location of a village and represents the language that is associated with it. There are a number of reasons why I believe a cartographic model such as the one adopted in the map in figure 4a should be more common in language maps of Bantoid languages than is currently the case—a point made by Dahl & Veselinova (2005) for any languages "with several thousand speakers or less".

First, it avoids generalizing language information to land areas whose boundaries, in the absence of a census and official land registry, are de facto arbitrary. Second, by using point-symbols rather than juxtaposed shapes to locate languages, it gives visibility to an important trait of the local understandings of linguistic differentiation that is centered around the notion of village as a politically autonomous unit headed by a chief and speaking a distinct lect (see section 3.1). The map does not represent the local language ideologies entirely, though, because symbols are differentiated following the scholarly understanding of what are to be considered separate languages: e.g. Abar and Munken have the same symbol since for a linguist they are two varieties of Mungbam, while locals would consider them as two distinct (though similar) languages, each requiring a separate symbol of its own. The point-symbol representation is an attempt at a semiotic compromise between etic (i.e. community-external) and emic (i.e. community-internal) perspectives on local linguistic diversity. Native speakers of these languages have had access to this map, and my understanding is that they find it overall acceptable, though the map in figure 5 would perhaps be closer to their desiderata as it represents each village-chiefdom as having a distinct language—i.e. the closest possible approximation to their hyperlocalist stance of what counts as a language (see section 3.1).

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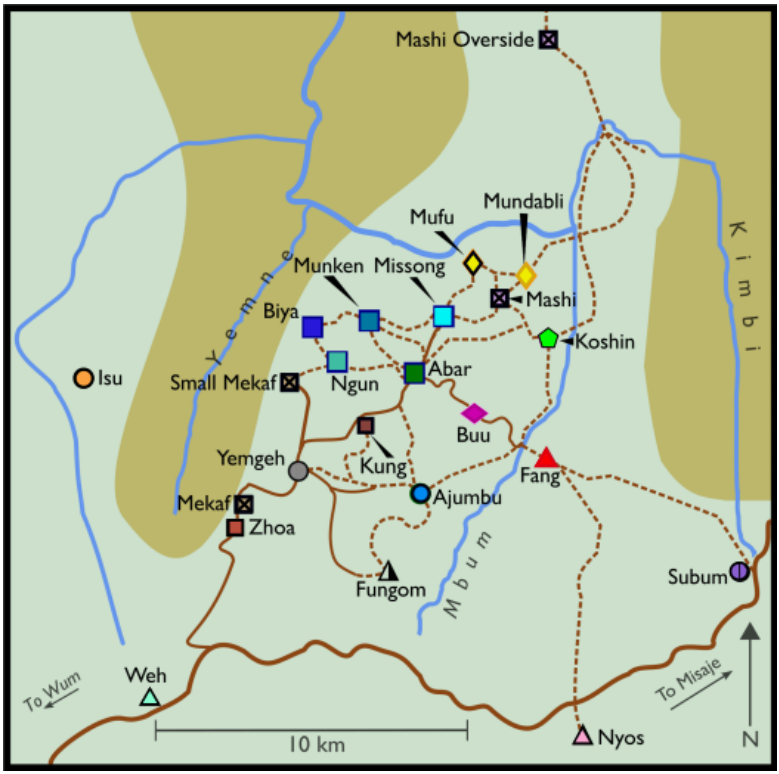

Figure 5: language map of Lower Fungom languages reflecting the localist language ideologies of their speakers.

The three maps presented in this section differ from each other at the level of the language ideologies they reproduce.

- As I said in section 1, the map in figure 4b is an instance of the state-based ideology, according to which there exists an exclusive relationship between a language, a (monolingual) community, and a territory.
- The map in figure 4a approximates local views by acknowledging the fact that each chiefdom should be considered individually in terms of the language it is associated with, while at the same time representing the scholarly view on the relationships among these lects.
- The map in figure 5 reflects local ideologies more clearly than does figure 4a as it symbolizes a one-to-one relationship between chiefdoms, on the one hand, and languages, on the other.

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4 Towards a cartography of multilingualism in Lower Fungom

It must be noted that, regardless of their degree of adherence to local language ideologies, the three maps we have just analyzed converge in portraying the region as being populated by monolingual communities. This is at odds with a real-world, tangible feature of the local language ecology, i.e. that nearly everyone is competent in multiple local linguistic codes (see section 3.1 for citations). This fact can be showcased through maps such as those found in figure 6.[7]

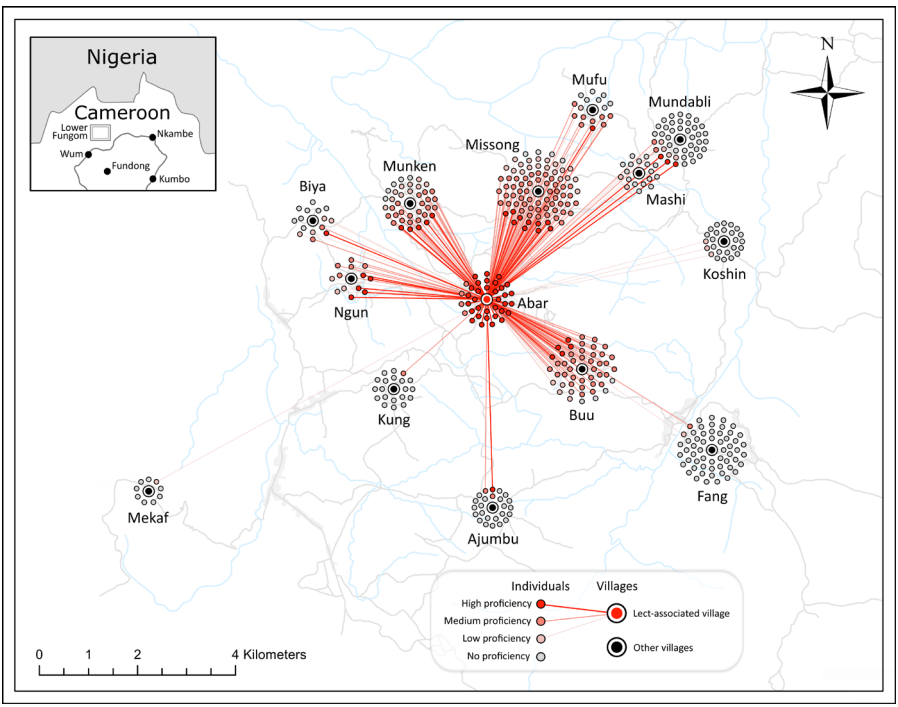

Figure 6a: Visualization of language networks of Abar.

7 Maps in figures 6a–d are visualizations of survey data. Lects are chosen in order to exemplify different types of spatial distributions. Each circle represents an individual survey respondent and different colors represent different degrees of proficiency. Edges connect respondents with language/village centers, where thicker edges = native proficiency reported. (Visualizations by Clayton Hamre)

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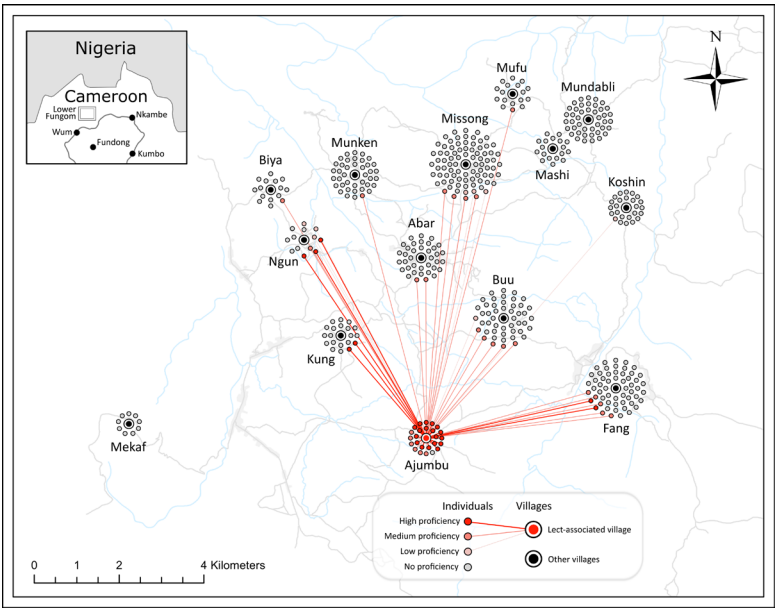

Figure 6b: Visualization of language networks of Ajumbu.

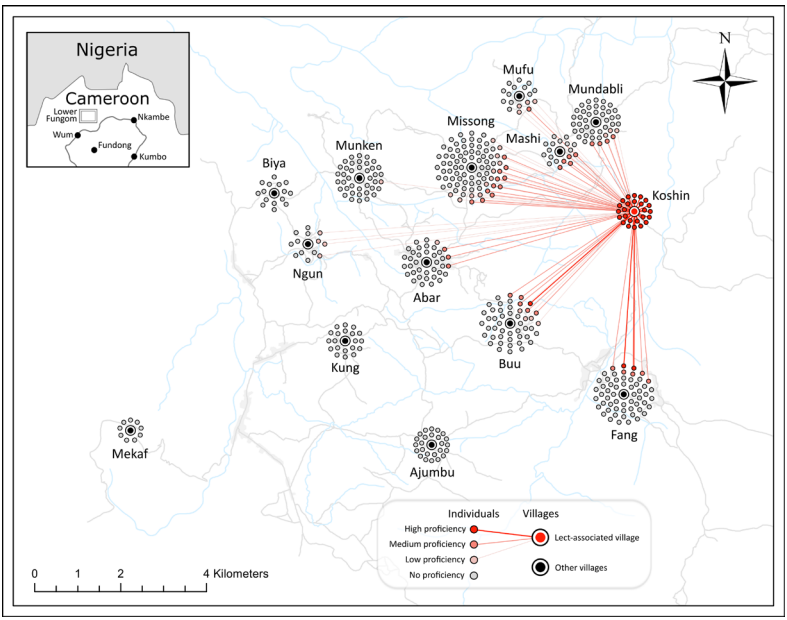

Figure 6c: Visualization of language networks of Koshin.

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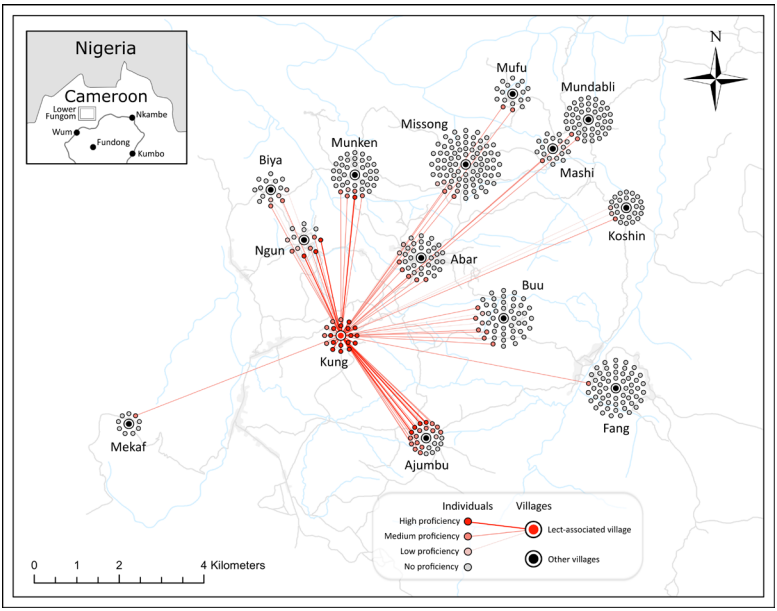

Figure 6d: Visualization of language networks of Kung.

Maps in figure 6 project in the space data about self-reported multilingual competences obtained from individual respondents through the use of the KPAAM-CAM sociolinguistic interview guide (see Di Carlo 2023). They are representations of "language-based networks" in the geographical space of Lower Fungom, i.e. networks where nodes (i.e. circles) are individuals who are able to communicate using a given language and edges (i.e. lines) are weighted according to the individual's reported degree of proficiency: the thicker the line the higher the proficiency. Language-based networks are point-symbol maps displaying survey data, and one of their goals is to show how diffuse the knowledge of a given language is among people residing in a given area.[8] To the best of my knowledge, maps of this kind have not

8 As one of the anonymous reviewers pointed out, these maps exemplify two different types of anchoring of the data to the space. On the one hand, individual respondents (i.e. circles) are placed around the village where they reside—i.e. a relatively objective anchoring—on the other hand, each language is anchored to its associated village-chiefdom—i.e. an ideological feature as we saw in section 3.1 and 3.2. Rather than being a choice intended to be meaningful, this is a by-product of the style that was chosen and which, ultimately, stemmed from the approach to language of the geographers that collaborated in KPAAM-CAM (primarily Ling Bian).

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been employed in previous linguistic cartographic work in general, let alone the cartography of Bantoid languages.

Since Lower Fungom languages are spatially focused in ideological terms (i.e. they are associated with individual village-chiefdoms, as displayed in figures 4a and 5), each language network is centered on the relevant village-chiefdom, and all the speakers of that language are connected to it. Individual speakers are spatially represented in their village of residence at the time of the interview (2012–2017). By representing all survey respondents on the map and distinguishing those who are part of the language-specific network (colored in orange) from those who are not (colored in gray), the representation makes use of two semiotic strategies that aim to provide information regarding diffusion of linguistic knowledge across each village.[9] I think that visualizing languages in this way sheds light on some important real-world phenomena that the other maps necessarily disguise.

While some maps appear to fit the particular realities of Lower Fungom better than others, the point is not to pick which map model is best since each of the models presented so far contributes to understanding certain aspects of the complex interplay between languages and space, as I try to summarize in Table 1 below. Rather, it is by using all of them that one can actually exploit the scientific potential that language maps have for linguistic research.

9 Sample size and distribution are obviously critical for the map to be considered more or less reliable as an accurate representation of the presented patterns. In our case, the sample is relatively large (n = 206, i.e. close to 1.5% of the total population) but its distribution is skewed as it reflects an intermediate stage in a longer data gathering process. One example is given by the oversampling of the village of Buu: it makes up no more than 5% of the total population of Lower Fungom but nearly 15% of the survey respondents are from Buu. So, while actual patterns may not be generalized on the basis of the maps in figure 6, it would be difficult to deny that visualizing survey data in this way helps recognize the limits of the maps in figure 4 and raises awareness that they represent abstractions rather than tangible, real-world phenomena.

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Table 1: Summary of the main dimensions of encoding of language-related information in select maps found in this article.[10]

Dimensions	**Figures 1 & 4b**	**Figure 4a**	**Figure 5**	**Figures 6a–d**
Language associated with land surfaces	yes	no	no	no
Language associated with settlements	no	yes	yes	yes
Speakers' own ideologies	no	(yes)	yes	(yes)
Individual speakers	no	no	no	yes
Degree of fluency (self-reported)	no	no	no	yes
Individual non-speakers	no	no	no	yes

5 Conclusions: which data for which maps?

The study of Bantoid languages has contributed significantly to enhancing linguistic theory and analysis—for example, the study of tones in the languages of the Cameroonian Grassfields has provided impetus for the advancement of tonology as a whole (see, e.g. Hyman 2014). Likewise, the study of the complex sociolinguistic situations characterizing most of the Bantoid languages, which are largely spoken by small communities of multilingual individuals who are competent in neighboring as well as translocal languages, has been consequential in reshaping the sociolinguistics of multilingualism in non-urbanized African settings (see, e.g. Lüpke 2016). This short article hints that the complex nature of the sociolinguistic, real-world settings where Bantoid languages are spoken requires innovations also at the level of linguistic cartography that will likely bring about important advances whose reach will go well beyond the Bantoid domain (see also Di Carlo 2022 for a fuller view of the linguistic cartographic options made possible by the study of a Bantoid setting).

10 Value "(yes)" means that the map does not have the goal of representing speakers' ideologies but, rather, that the data it represents are framed in ways that reflect speakers' ideologies—e.g. by representing speakers of Abar, the map in figure 6a is implicitly based on the locals' ideologies since Abar is a variety of Mungbam and a map based on the linguists' ideologies would instead aim to represent the distribution of speakers of Mungbam rather than of Abar only.

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More in general, the main goal of this article is to make readers aware that outputs of linguistic cartographic work are far from being objective as they invariably reflect both a particular viewpoint on what should be represented—e.g. linguists' as opposed to speakers' views of what counts as a language—and a choice of the semiotic means to be used—e.g. whether languages should be symbolized through polygons or point-like symbols. Cartographers should ideally make it clear what sources they used that support their decisions because this information will allow map users to realize the significance (and limitations) of the map content. Not doing so risks misleading users, a claim I tried to corroborate by showing that a single group of Bantoid languages can be represented in radically different ways, each of which sheds light on different aspects of their geography. Moreover, I showed how data about speakers' multilingual competences can be visualized in a map, and this is a crucial point that maps of Bantoid languages should try to address given how widespread multilingualism in neighboring languages still is throughout the regions where these languages are spoken (e.g. Warnier 1980).

The main obstacle for applying elsewhere the cartographic models I proposed here is not technical since all the figures I presented have been produced using relatively easy-to-use software. Rather, the obstacle is epistemological. Still today, linguists working on Bantoid languages rarely address issues related with speakers' multilingualism and this determines a generalized lack of data about it, which in its turn makes it impossible, amongst other things, to enrich the cartography of Bantoid languages and raise it from the current status of ancillary, dispensable work to that of a valid complement to linguistic research. In response to this situation, I would like to conclude this article by stressing the importance of collecting even basic information about the multilingual repertoires of speakers of Bantoid languages. When doing so, one should pay attention not to filter self-reports through the linguists' professional ideology, which not only distinguishes between languages and dialects but also tends to consider multilingualism to be real only when it involves the former. To the contrary, the goal should be that of collecting information that contributes to understanding "the totality of linguistic forms regularly employed in the course of socially significant interaction" (Gumperz 1964: 137). In practical terms, this means suspending judgments as to the language vs. dialect status of the codes in which respondents

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report that they can communicate, as well as to their actual degree of proficiency in any of these named codes. This can be valuable information which other specialists can further exploit, especially sociolinguists focusing on the study of multilingualism in rural Africa or "small-scale multilingualism" as it is currently often referred to in the literature.[11] Moreover, this information will contribute not only to a more comprehensive view of the spatial distribution of the communities speaking these languages, but also to an improved understanding of the dynamics of language change in a challenging and fascinating domain such as that of the Bantoid languages.

References

Ambrose, John E. & Colin H. Williams. 1991. Language made visible: Representation in geolinguistics. In Colin H. Williams (ed.), *Linguistic minorities, society, and territory*. Clevedon: Multilingual Matters. 298–314.

Anderson, Benedict. 1991. *Imagined communities: Reflections on the origin and spread of nationalism* (revised edition). London: Verso.

Auer, Peter. 1984. *Bilingual conversation*. Amsterdam & Philadelphia: John Benjamins.

Auer, Peter. 2004. Sprache, Grenze, Raum. *Zeitschrift für Sprachwissenschaft* 23. 149–179.

Blench, Roger. 2014. The Bantoid languages. In *Oxford handbook topics in linguistics* (online edition, Oxford Academic, 5 Dec. 2014), https://doi.org/10.1093/oxfordhb/9780199935345.013.17.

Blommaert, Jan & Ben Rampton. 2011. Language and superdiversity. *Diversities* 13(2). 1–22.

Breton, Roland J. 1993. 'Easy geolinguistics' and cartographers. In Yvo J.D. Peeters & Colin H. Williams (eds.), *The cartographic representation of linguistic data. Discussion papers in geolinguistics Nos. 19-21. Selected papers from a geolinguistic seminar (Le Paily, France, September 10–13, 1992)*. Stoke-on-Trent: Staffordshire Polytechnic. 47–49.

Calhoun, Craig. 1998. *Nationalism*. Minneapolis: University of Minnesota Press.

11 For an overview on small-scale multilingualism, a good starting point is Lüpke 2016. A number of case studies from the Cameroonian Grassfields can be found in Di Carlo & Good 2020. The interested reader can refer to Di Carlo et al. 2021, Di Carlo (2023), and Good (2023a) for more detailed discussions about methods and tools designed specifically for the study of small-scale multilingualism.

DOI 10.15460/auue.2024.97.1.307

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

Dahl, Östen & Ljuba Veselinova. 2005. Language map server. In ESRI (ed.), *Proceedings of the 25th ESRI International User Conference, San Diego, July 25–29 2005*. https://proceedings.esri.com/library/userconf/proc05/papers/pap2425.pdf.

Di Carlo, Pierpaolo. 2010. *I Kalasha del Hindu-Kush. Ricerche linguistiche e antropologiche*. Florence: Firenze University Press.

Di Carlo, Pierpaolo. 2011. Lower Fungom linguistic diversity and its historical development: Proposals from a multidisciplinary perspective. *Africana Linguistica* 17. 53–100.

Di Carlo, Pierpaolo. 2018. Towards an understanding of African endogenous multilingualism: Ethnography, language ideologies, and the supernatural. *International Journal of the Sociology of Language* 254. 139–163.

Di Carlo, Pierpaolo. 2022. The geographic sides of small-scale multilingualism: New Challenges in linguistic cartography. In: Greg Niedt (ed.), *New directions in linguistic geography*. Singapore: Palgrave Macmillan. 49–85. https://doi.org/10.1007/978-981-19-3663-0_3.

Di Carlo, Pierpaolo. 2023. Reappraising survey tools in the study of multilingualism. Lessons from contexts of small-scale multilingualism. *Journal of Language Contact* 15(2). 376–403.

Di Carlo, Pierpaolo, Angiachi D. Esene Agwara & Rachel A. Ojong Diba. 2020. Multilingualism and the heteroglossia of ideologies in Lower Fungom (Cameroon): Use and attitudes. *Sociolinguistic Studies* 14(3). 321–345.

Di Carlo, Pierpaolo & Jeff Good (eds.). 2020. *African multilingualisms: Rural linguistic and cultural diversity*. Lanham, MD: Lexington Books.

Di Carlo, Pierpaolo, Jeff Good & Rachel A. Ojong Diba. 2019. Multilingualism in Rural Africa. In *Oxford research encyclopedia of linguistics*. Oxford: Oxford University Press. https://doi.org/10.1093/acrefore/9780199384655.013.227.

Di Carlo, Pierpaolo, Rachel A. Ojong Diba & Jeff Good. 2021. Towards a coherent methodology for the documentation of small-scale multilingualism: Dealing with speech data. *International Journal of Bilingualism* 25. 860–877.

Dimmendaal, Gerritt J. 2008. Africa's verb-final languages. In Bernd Heine & Derek Nurse (eds.), *A linguistic geography of Africa*. Cambridge: Cambridge University Press. 272–308.

DOI 10.15460/auue.2024.97.1.307

Eberhard, David M., Gary F. Simons & Charles D. Fennig (eds.). 2021. *Ethnologue: Languages of the world. Twenty-fourth edition*. Dallas: SIL International. Online version: http://www.ethnologue.com.

Esene Agwara, Angiachi D. 2020. What an ethnographically informed questionnaire can contribute to the understanding of traditional multilingualism research: Lessons from Lower Fungom. In Pierpaolo Di Carlo & Jeff Good (eds.), *African multilingualisms: Rural linguistic and cultural diversity*. Lanham: Lexington Books. 183–206.

Esene Agwara, Angiachi D. 2021. Language ideologies in contexts of small-scale multilingualism: Repertoires, attitudes, and language use in Lower Fungom (Cameroon). Bayreuth: University of Bayreuth PhD Dissertation.

Garry, Jane & Carl Rubino. 2001. Facts about the World's languages: an encyclopedia of the world's major languages, past and present. New York: Holt Publ. 435–439.

Good, Jeff. 2023a. Adapting methods of language documentation to multilingual settings. *Journal of Language Contact* 15(2). 341–375.

Good, Jeff. 2023b. Language change in small-scale multilingual societies: Trees, waves, and magnets. In Darya Kavitskaya & Alan C. L. Yu (eds.), *Life cycle of language: Past, present, and future*. Oxford: Oxford University Press. 386–398 https://doi.org/10.1093/oso/9780192845818.003.0024

Good, Jeff, Jesse Lovegren, Jean-Patrick Mve, Caroline Nganguep, Rebecca Voll & Pierpaolo Di Carlo. 2011. The languages of the Lower Fungom region of Cameroon: Grammatical overview. *Africana Linguistica* 17. 101–164.

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

Heine, Bernd & Derek Nurse (eds.). 2008. *A linguistic geography of Africa*. Cambridge: Cambridge University Press.

Heine, Bernd & Zelealem Leyew. 2008. Is Africa a linguistic area? In Bernd Heine & Derek Nurse (eds.), *A linguistic geography of Africa*. Cambridge: Cambridge University Press. 15–35.

Hill, Jane H. 2001. Languages on the land: Toward an anthropological dialectology. In John E. Terrell (ed.), *Archaeology, language, and history: Essays on culture and ethnicity*. South Hadley: Bergin and Garvey. 257–282.

DOI 10.15460/auue.2024.97.1.307

Hyman, Larry, 2014. How to study a tone Language, with exemplification from Oku (Grassfields Bantu, Cameroon). *Language Documentation & Conservation* 8. 525–562. http://hdl.handle.net/10125/24624.

Kay, George. 1992. *Population mapping in Central Africa: From descriptive statements to analytical schemes and inputs to policy-making*. (Occasional Papers in Geography 17). Stoke-on-Trent: Staffordshire University.

Kießling, Roland, Maarten Mous & Derek Nurse. 2008. The Tanzanian Rift Valley area. In Bernd Heine & Derek Nurse (eds.), *A linguistic geography of Africa*. Cambridge: Cambridge University Press. 186–227.

Lameli, Alfred, Roland Kehrein & Stefan Rabanus (eds.). 2010. *Language and space. An international handbook of linguistic variation. Volume 2: Language mapping*. Berlin & New York: De Gruyter Mouton.

Luebbering, Candice R. 2013. Displaying the geography of language: The cartography of language maps. *The Linguistics Journal* 7(1). 39–67.

Lüpke, Friederike. 2016. Uncovering small-scale multilingualism. *Critical Multilingualism Studies* 4(2). 35–74.

Lüpke, Friederike. 2018. Multiple choice: Language use and cultural practice in rural Casamance between convergence and divergence. In Jacqueline Knörr & Wilson T. Filho (eds.), *Creolization and pidginization in contexts of postcolonial diversity: language, culture, identity*. Leiden: Brill. 181–208.

Lüpke, Friederike. 2021. Patterns and perspectives shape perceptions: Epistemological and methodological reflections on the study of small-scale multilingualism. *International Journal of Bilingualism* 25(4). 878–900.

Mackey, William F. 1988. Geolinguistics: Its scope and principles. In Colin H. Williams (ed.), *Language in geographic context*. Philadelphia: Multilingual Matters. 20–46.

Mba, Gabriel & Angela Nsen Tem. 2020. Ways to assess multilingual competence in small, unwritten languages: The case of Lower Fungom. In Pierpaolo Di Carlo & Jeff Good (eds.), *African multilingualisms: Rural linguistic and cultural diversity*. Lanham: Lexington Books. 205–224.

Nsen Tem, Angela. 2022. Assessing individual multilingual competences: the case of Lower Fungom (North-West Region of Cameroon). Yaoundé: University of Yaoundé 1 PhD Dissertation.

Pakendorf, Brigitte, Nina Dobrushina & Olesya Khanina. 2021. A typology of small-scale multilingualism. *International Journal of Bilingualism* 25(4). 835–859.

DOI 10.15460/auue.2024.97.1.307

Pommerolle, Marie-Emmanuelle & Hans De Marie Heungoup. 2017. The "Anglophone crisis": A tale of the Cameroonian postcolony. *African Affairs* 116(464). 526–538.

Rabanus, Stefan. 2020. Language mapping worldwide: Methods and traditions. In Stanley D. Brunn & Roland Kehrein (eds.), *Handbook of the changing world language map*. Cham: Springer Nature. 103–129.

Ring, James A. 1981. Ewe as a second language: A sociolinguistic survey of Ghana's central Volta Region. *Research Review* 12(2–3). 1–49.

Warnier, Jean-Pierre. 1980. Des précurseurs de l'Ecole Berlitz: le multilinguisme dans les Grassfields du Cameroun au 19 siècle. In Luc Bouquiaux (ed.), *L'expansion bantoue: Actes du colloque international du CNRS, Viviers (France) 4–16 avril 1977. Volume III.* Paris: SELAF. 827–844.

Williams, Colin H. (ed.). 1991. *Linguistic minorities, society, and territory*. Clevedon: Multilingual Matters.

Williams, Colin H. & John E. Ambrose. 1992. Geolinguistic developments and cartographic problems. *Discussion papers in geolinguistics* 19–21. 11–32.

Zeitlyn, David & Bruce Connell. 2003. Ethnogenesis and fractal history on an African frontier: Mambila-Njerep-Mandulu. *Journal of African History* 44(1). 117–138.

DOI 10.15460/auue.2024.97.1.307