

Trees, waves, and magnets?

Language change in small-scale multilingual societies

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1 The forces involved in language change

The tree and wave models of linguistic diversification represent the most longstanding approaches for understanding the ways in which linguistic subgroups develop. The tree model is most readily associated with a historical scenario involving the dispersal of an ancestral population sharing a common language into multiple descendent communities which have limited contact with each other, with the result that their speech varieties develop into distinct languages. The wave model is most readily associated with an ancestral population where contact among its members is maintained as it becomes geographically dispersed, resulting in a dialect continuum (see, e.g., Heggarty et al. 2010: 3829–30).¹ Such schematic scenarios, however, lack the sociolinguistic grounding that is needed to fully understand the range of historical processes that trigger the formation of new subgroups and languages.

Partly in response to such concerns, Garrett (2000; 2006) proposes a sociohistorically elaborated approach to the development of Indo-European subgroups. A striking feature of his analysis is the treatment of the branching structure of the Indo-European family as resulting from a process other than dispersal and lack of contact. Rather, he suggests that certain Indo-European subgroups emerged from a more complex scenario involving: (i) the development of a large-scale dialect continuum via wave-like change followed by (ii) loss or “pruning” of intermediate dialects and (iii) localized convergence among dialects in specific regions, leveling out dialect variation. He links the latter two steps to historical events reconstructed from archaeological evidence that point to a period of large-scale social disruption leading to the

¹I would like to thank two anonymous reviewers for feedback on an earlier version of this chapter. Many of the arguments made in this chapter were developed in the context of a longstanding collaboration with Pierpaolo Di Carlo.

formation of new, localized identities that we now associate with subgroups such as Greek, Italic, and Celtic (Garrett 2006: 142–3).

What this analysis suggests is that tree-like comparative linguistic data may be associated with radically different underlying sociohistories, which raises the question of what other pathways there may be to the development of such patterns of diversification. The goal of this chapter is to propose the possibility of an additional historical path to their development. This is through changes initiated and reinforced by what will be termed *magnetic* sociolinguistic dynamics. The choice of this term is intended to reflect the fact that these dynamics involve simultaneous pressure for linguistic convergence (i.e., attraction) among some varieties and divergence (i.e., repulsion) among other varieties. Its use here draws on the cultural analysis of the dynamics of Sub-Saharan African societies of Kopytoff (1987: 6–7), and, as will be clear from the discussion below, magnetic linguistic dynamics are viewed as deeply intertwined with magnetic social dynamics. The languages of focus are Bantoid languages of the Lower Fungom region of Cameroon (see Good et al. 2011). All of them are associated with small-scale societies that are characterized by high degrees of individual-level multilingualism where language is not closely tied to ethnic identity (Di Carlo et al. 2014: 251–2), a sociolinguistic context which has not received significant attention in the literature on linguistic diversification, even though it is likely historically typical for many parts of Africa and beyond (see, e.g., Di Carlo et al. 2019).

The notion of magnetic dynamics should be distinguished from particular mechanisms of change (e.g., sound change, borrowing, analogy, etc.). Whether or not these mechanisms are actually instantiated in the history of a given language is assumed to be tied to specific sociohistorical forces, such as those associated with magnetic dynamics. The proposals here can thus be seen as an attempt to address the “actuation problem” of Weinreich et al. (1968: 102), i.e., the problem of understanding why specific changes take place. This is one of the most difficult questions in historical linguistics, and it would hardly be possible to definitively establish magnetic dynamics as a significant force in linguistic diversification within the scope of a chapter like this one. Nevertheless, it is hoped that the arguments below will establish that

looking at linguistic change from the perspective of magnetic dynamics is a promising direction for further research and has clear advantages over explanations that appeal to vaguer and less socially embedded notions such as language contact or “drift”.

In Section 2, relevant aspects of the linguistic and cultural background of Lower Fungom are introduced alongside three cases studies of linguistic differentiation in the region. The link between magnetic dynamics and multilingualism as well as their significance for understanding linguistic diversification in the Bantu area are briefly discussed in the conclusion of the chapter in Section 3.

2 Three cases of linguistic differentiation in Lower Fungom

2.1 The linguistic and cultural context of Lower Fungom

Lower Fungom and its surrounding region within the Cameroonian Grassfields are presented in Figure 1. Its core inhabited area is encircled. Around eight distinct languages are associated with the region, all of which can be classified within the Bantoid subgroup of Niger-Congo, placing them among the closest relatives to the Bantu languages. However, the genealogical connections between most languages of Lower Fungom and the rest of Bantoid remain unclear. More detailed discussion can be found in Good et al. (2011). With the exception of Mashi, Small Mekaf, and Yemgeh, each village is associated with a distinct linguistic variety, and these varieties are categorized as separate languages in local terms. Lower Fungom is also relatively culturally diverse as discussed in Di Carlo (2011), and its villages are each politically autonomous.

The notion of magnetic dynamics rests on the idea that certain sociolinguistic contexts simultaneously foster processes of linguistic convergence and divergence. In his discussion of the Bantu-speaking area, which shares many commonalities with the Bantoid area where Lower Fungom is found, Schadeberg (2003: 158–9) characterizes the situation relatively clearly: “In sociolinguistic terms, Bantu speakers have long lived in a multilingual continuum, where many speakers master not just their own variety of speech but also those of their neighbors. Linguistic

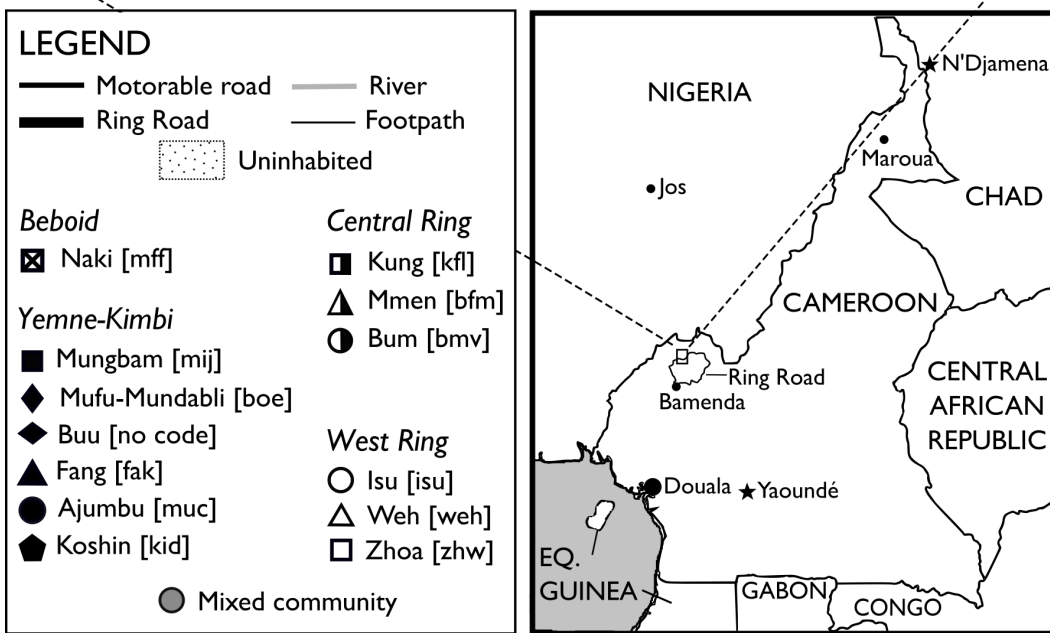
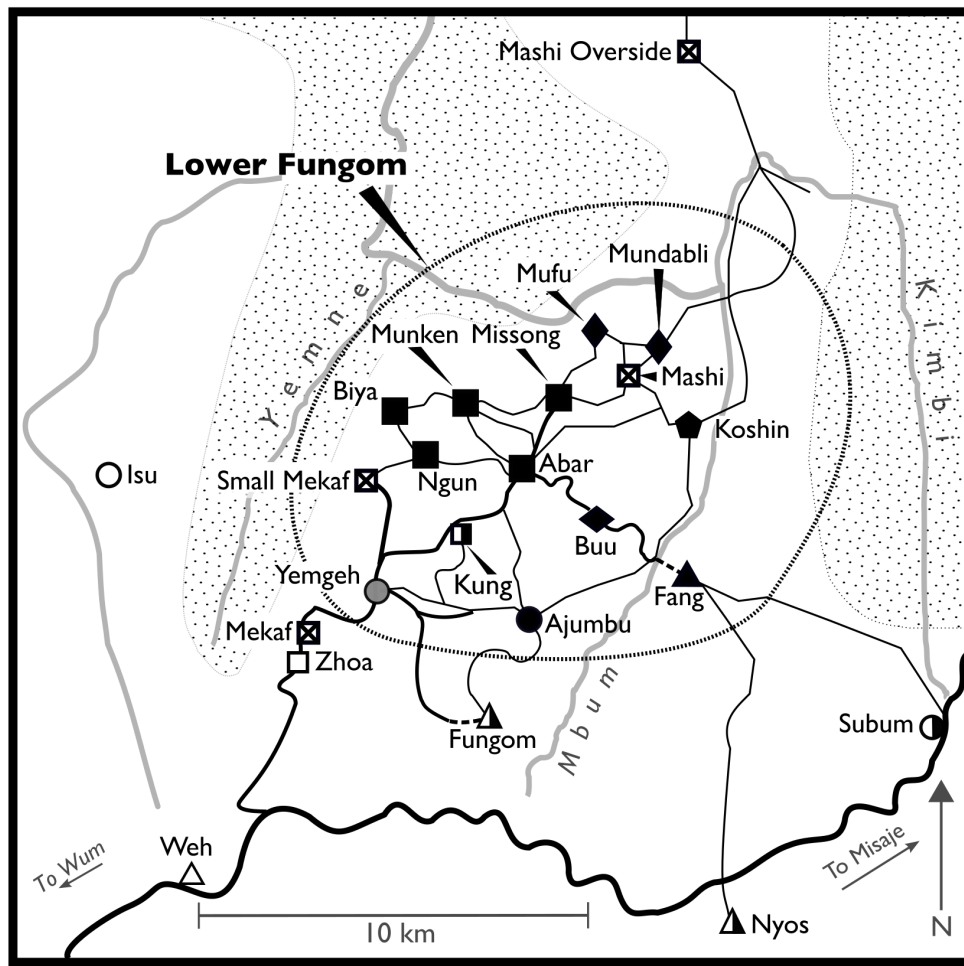


Figure 1: Lower Fungom and the surrounding region (map created by Pierpaolo Di Carlo)

differentiation and convergence are actively pursued, one serving to establish group identities, the other to forge alliances and to foster good friendship.”

Lower Fungom’s high level of linguistic and cultural diversity and compact geography allows for the high-level patterns described by Schadeberg (2003) to be examined at a comparatively granular level to help make clearer the particular dynamics involved, and three specific case studies from the region will be considered in the following sections. In Section 2.2, the formation of the Missong variety of the Mungbam language will be discussed as providing the strongest case for magnetic dynamics that has been reported in the region to date. In Section 2.3, the role of esoterogeny in the development of the Fang language will be introduced as an apparent instance of the repulsive aspect of magnetic dynamics. In Section 2.4, the relatively closely related varieties of Buu and Mundabli will be contrasted with each other to demonstrate how magnetic dynamics can pull genealogically connected varieties in different directions.

2.2 The formation of a new political and linguistic identity in Missong

Di Carlo et al. (2014: 243–6) discuss the history of the Missong variety of Mungbam in the context of a general consideration of the development of linguistic diversity in Lower Fungom. The Mungbam language cluster is comprised of five varieties associated with each of the five Mungbam-speaking villages, seen in Figure 1. Missong is clearly the most distinctive of these varieties, in both lexical and grammatical terms. For instance, while the other four Mungbam varieties show around ninety-percent lexicostatistical correspondence with each other in a basic wordlist, the figures for Missong are only around seventy-five percent (see Good 2020: 52, citing data provided by Jesse Lovegren).

Similarly, while all Mungbam varieties show alternations that code a perfective/imperfective alternation in verb stems under specific phonological conditions, Missong exhibits idiosyncratic alternation patterns not found in the other varieties. For instance, it uniquely has monosyllabic Perfective stems with a vocalic nucleus of *oa* which changes to *eŋ* in the Imperfective forms, as seen in stem pairs such as *foa* vs. *feŋ* ‘sell’, *toa* vs. *teŋ* ‘jump’, and *boa* vs. *beŋ* ‘climb’ (Lovegren

Table 1: Independent pronouns across the five Mungbam varieties

	Abar	Biya	Munken	Ngun	Missong
1s	<i>m̀</i>	<i>m̄</i>	<i>m̀</i>	<i>m̄</i>	<i>m̀</i>
2s	<i>ẁ</i>	<i>̀</i>	<i>ẁ</i>	<i>ẁ</i>	<i>b̀</i>
3s	<i>ẁ</i>	<i>ẁ</i>	<i>ẁ</i>	<i>ẁ</i>	<i>ẁ</i>
1p	<i>s̀</i>	<i>s̄</i>	<i>s̀</i>	<i>s̄</i>	<i>s̀</i>
2p	<i>bān</i>	<i>b̄n</i>	<i>b̀</i>	<i>b̄n</i>	<i>bā</i>
3p	<i>bw̄</i>	<i>bw̄</i>	<i>b̄</i>	<i>bw̄</i>	<i>b̀</i>

2013: 191). In the other Mungbam varieties, this distinction is marked solely via vowel alternations where the Perfective form is associated with a front vowel and the Imperfective form is associated with a non-front vowel, as seen, for instance, in the Munken verb stem pairs *ti* vs. *to* ‘come’, *gbe* vs. *gbo* ‘fall’, and *fɛ* vs. *fa* ‘give’. While Missong also shows Perfective/Imperfective verb stem pairs whose only formal difference involves a vowel change, their patterning is less predictable and can even reverse the front vowel vs. back vowel pattern, as seen in the verb forms *to* vs. *ti* ‘come’, which “flips” the general pattern (Good 2020: 52).

A final notable point of difference worth mentioning here involves the Missong pronominal system. Independent person pronouns across the five Mungbam varieties are provided in Table 1 (Lovegren 2013: 152). The systems are, on the whole, relatively similar, with the exception of the Missong second person singular pronoun, which has a form *b̀* that clearly contrasts with the other four languages. Babaev (2010: 35) reconstructs the form *(à)ue for the emphatic second person pronoun in Bantoid, which is clearly in line with the forms found in the other four varieties but not easily relatable to the Missong form *b̀*.

Given the idiosyncratic nature of these differences, it is difficult to see them as having developed due to regular processes of change. Moreover, Missong has been, and continues to be, in close contact with the other Mungbam varieties within the geographically compact and socially interconnected Lower Fungom region, which means that its distinctiveness also cannot be accounted for via a notion like historical drift resulting from partial isolation from the other Mungbam communities. The grammatical distinctiveness of Missong is paralleled by noteworthy aspects of cultural distinctiveness that suggest that (i) it formed as a distinct village more recently

than other Mungbam-speaking villages and (ii) it is less politically cohesive than they are. For instance, many kin groups that comprise the village claim to have independent provenances from outside of Misson, and, unusually for Lower Fungom, its quarters (the primary village-level subdivisions) are composed of two exogamous moieties. In the other villages, quarters are themselves exogamous units (see Di Carlo 2011: 84–5 for more detailed discussion). This suggests that the kin groups comprising the village of Misson have undergone a relatively recent process of small-scale synoecism. This is a notion originally used to characterize the formation of Greek city states, but which has also been applied in the African context (Fleisher 2010: 266), to characterize situations where a new settlement develops through the coming together of previously separate groups (as opposed to, for instance, purely internal growth).

The historical interpretation of the development of the Misson variety assumed here, presented in fuller detail in Di Carlo et al. (2014: 243–6), relies both on the assumption that the village was relatively recently formed and on the observation that local language ideologies stress that a key feature of a politically independent village is its association with a single lexicogrammatical code that is distinct enough to be classified as a separate language in the local space.² This implies that the formation of the village involved two opposing linguistic forces. On the one hand, the diverse kin groups who would come to form the Misson village needed to adopt a common code to signal their participation in a new political alliance (i.e., magnetic attraction). On the other hand, their common code needed to be unambiguously distinct from those of the other villages of the region. This appears to have been achieved through the choice of some Mungbam variety as a lexicogrammatical “base” for the new code alongside the initiation of changes within that code to produce a variety with salient lexical and grammatical differences (i.e., magnetic repulsion). The precise historical mechanisms through which these changes were introduced are not entirely clear, but they likely involved deliberate change (Thomason 2007), which would have involved the mixture of elements from some of the other

²Proposing the existence of this ideological pattern is not solely based on abstract analysis. It is also overtly expressed by residents of Lower Fungom (Di Carlo et al. 2014: 245).

languages of the village's founding kin groups, in particular lexical items, given Missong's noteworthy divergence from other Mungbam varieties in this domain.

2.3 Esoterogeny and linguistic divergence in Fang

Fang is a language associated with a single village in the southeast of Lower Fungom. As discussed in Mve et al. (2019), aspects of Fang morphology suggest that the language has been affected by esoterogeny. That is, it has undergone deliberate change to make it more difficult for outsiders to learn, for instance via a lack of morphological transparency (e.g., due to phonological processes or the presence of suppletion) (see Thurston 1987:38). In the present context, esoterogeny can be seen as a mechanism through which the repulsive aspect of magnetic diversification can be manifested. Available information on Fang grammar is still somewhat limited, and the data discussed in this section illustrates morphological patterns that are relatively straightforward to detect. It remains to be seen just how widespread esoterogenic patterns are in the language's grammar and which domains may have been targeted by this process.

The contrast between the noun class agreement forms for demonstratives and possessive pronouns in Table 2 and Table 3 are illustrative of the esoterogenic patterns found in Fang. The data in Table 2 is drawn from another Lower Fungom language, Mundabli (Voll 2017: 108, 111), which shows a relatively typical system of agreement for the area. The class numbering in Table 2 and Table 3 represents an attempt to link these noun classes to various reconstructed noun classes for Proto-Bantu (see Van de Velde 2019: 238–41), many of which lack reflexes in Mundabli and Fang, which is why the classes are not numbered consecutively. Nouns are lexically assigned either to a singular/plural class pair (e.g., Class 1/2) or, for nouns lacking a singular/plural distinction, a single class, and the forms in the table reflect the shape that the relevant form takes on when modifying a noun of that class. The classes are ordered in the tables to place common singular/plural pairings together. The Fang data in Table 3 includes an example noun for each class.

Table 2: Mundabli possessive pronouns and determiners

CL	DEMONSTRATIVES		POSSESSIVES					
	PROX	DIST	1s	2s	3s	1p	2p	3p
1	<i>wēn</i>	<i>wō</i>	<i>ŋgī</i>	<i>wā</i>	<i>wū</i>	<i>wī</i>	<i>wēn</i>	<i>bǒ</i>
2	<i>bén</i>	<i>bó</i>	<i>mīŋ</i>	<i>bǎ</i>	<i>bǒ</i>	<i>bī</i>	<i>bēn</i>	<i>bǒ</i>
3	<i>wén</i>	<i>wó</i>	<i>ŋgī</i>	<i>wǎ</i>	<i>wū</i>	<i>wī</i>	<i>wēn</i>	<i>bǒ</i>
7, 7a	<i>kén</i>	<i>kó</i>	<i>ŋkīŋ</i>	<i>kǎ</i>	<i>kī</i>	<i>kī</i>	<i>kēn</i>	<i>bǒ</i>
8, 8a	<i>bén</i>	<i>bó</i>	<i>mīŋ</i>	<i>bǎ</i>	<i>bī</i>	<i>bī</i>	<i>bēn</i>	<i>bǒ</i>
9	<i>yēn</i>	<i>yō</i>	<i>ŋgī</i>	<i>yā</i>	<i>yī</i>	<i>yī</i>	<i>yēn</i>	<i>bǒ</i>
10	<i>yén</i>	<i>yó</i>	<i>ŋgī</i>	<i>yǎ</i>	<i>yī</i>	<i>yī</i>	<i>yēn</i>	<i>bǒ</i>
19	<i>fén</i>	<i>fó</i>	<i>mfīŋ</i>	<i>fǎ</i>	<i>fī</i>	<i>fī</i>	<i>fēn</i>	<i>bǒ</i>
18a, 6	<i>mén</i>	<i>mó</i>	<i>mīŋ</i>	<i>mǎ</i>	<i>mū</i>	<i>mī</i>	<i>mēn</i>	<i>bǒ</i>

While the Mundabli forms in Table 2 exhibit some irregularities, in particular in the first person singular possessive forms and the third person plural possessive forms (which lack agreement entirely), the system on the whole follows a relatively predictable pattern where each noun class is associated with a specific initial consonant in agreeing forms (e.g., a *w* for Class 1 and a *b* for Class 2). In that sense, the system does not show evidence of having been specifically influenced by esoterogeny, especially from the perspective of a multilingual individual who already speaks a language with a comparable system.

As seen in Table 3, the Fang demonstrative system follows a pattern comparable to what is seen for Mundabli. Agreement is coded on demonstratives, and each demonstrative within a class begins with the same consonant. The possessive agreement system, by contrast, is not nearly as transparent. While the possessive agreement patterns in some classes, such as Classes 7, 9, and 13, show regularity with respect to their initial consonants, the other classes do not show the same degree of consistency, and they also pattern distinctly from their demonstrative counterparts. For example, while Class 9 demonstratives begin with a *y*, this consonant is not found at the beginning of any of possessive forms, unlike what is seen for Mundabli Class 9 forms in Table 2, where a *y* is found in all demonstratives and most possessive forms.

A particularly striking feature of the Fang possessive system are those forms which begin with labial-velar sequences, such as what is seen in some of the forms in Classes 2, 8, and 18a.

Table 3: Sample Fang noun class agreement patterns

CL	NOUN	GLOSS	DEMONSTRATIVES			POSSESSIVES					
			PROX	MED	DIST	1s	2s	3s	1p	2p	3p
1	<i>ηκόη</i>	‘chief’	<i>wân</i>	<i>wòηâ</i>	<i>yīā</i>	<i>vù</i>	<i>ηγε̄</i>	<i>ηγῑ</i>	<i>ηγàsá</i>	<i>ηγàná</i>	<i>bún</i>
2	<i>bàηκόη</i>	‘chiefs’	<i>bún</i>	<i>bóηâ</i>	<i>byā</i>	<i>kpú</i>	<i>kpé</i>	<i>pí</i>	<i>kpásá</i>	<i>kpáná</i>	<i>bàbún</i>
3	<i>kpún</i>	‘tree’	<i>wân</i>	<i>wóηâ</i>	<i>yíà</i>	<i>vù</i>	<i>ηγε̄</i>	<i>ηγῑ</i>	<i>ηγàsá</i>	<i>ηγānā</i>	<i>bún</i>
4	<i>kwún</i>	‘trees’	<i>yēn</i>	<i>yóηâ</i>	<i>yíà</i>	<i>vú</i>	<i>ηγε̄</i>	<i>ηγῑ</i>	<i>ηγàsá</i>	<i>ηγáná</i>	<i>būn</i>
5	<i>finā</i>	‘rib’	<i>wân</i>	<i>wóηâ</i>	<i>vyā</i>	<i>vú</i>	<i>wē</i>	<i>ví</i>	<i>wásā</i>	<i>wánā</i>	<i>bún</i>
13	<i>tàfinà</i>	‘ribs’	<i>tân</i>	<i>tóηâ</i>	<i>tyā</i>	<i>tú</i>	<i>tē</i>	<i>tí</i>	<i>tásā</i>	<i>tánā</i>	<i>tàbún</i>
7	<i>kàmbàη</i>	‘jaw’	<i>kân</i>	<i>kòηâ</i>	<i>kyā</i>	<i>kfī</i>	<i>kē</i>	<i>kí</i>	<i>kásá</i>	<i>káná</i>	<i>kàbún</i>
8	<i>bàmbàη</i>	‘jaws’	<i>bân</i>	<i>bòηâ</i>	<i>byē</i>	<i>kpú</i>	<i>kpé</i>	<i>pí</i>	<i>kpásá</i>	<i>kpáná</i>	<i>bàbún</i>
9	<i>sōη</i>	‘sheep’	<i>yân</i>	<i>yóηâ</i>	<i>yíà</i>	<i>vú</i>	<i>ηγε̄</i>	<i>ηγῑ</i>	<i>ηγāsā</i>	<i>ηγānā</i>	<i>bún</i>
10	<i>sôη</i>	‘sheep’	<i>yân</i>	<i>yóηâ</i>	<i>yíā</i>	<i>vú</i>	<i>ηγε̄</i>	<i>ηγῑ</i>	<i>ηγāsā</i>	<i>ηγánā</i>	<i>bún</i>
19	<i>fānā̄n</i>	‘bird’	<i>fân</i>	<i>fóηâ</i>	<i>fyē</i>	<i>fú</i>	<i>fē</i>	<i>fí</i>	<i>fásá</i>	<i>fáná</i>	<i>fàbún</i>
18a	<i>mānā̄n</i>	‘birds’	<i>mân</i>	<i>mòηâ</i>	<i>myē</i>	<i>ηmú</i>	<i>ημέ</i>	<i>mí</i>	<i>ηmàsá</i>	<i>ηmáná</i>	<i>màbún</i>

Labial-velars in pronouns have not otherwise been found in the languages of Lower Fungom, and are quite unusual in Africa in general. Idiatov et al. (2021: 80) found that, in a sample of 178 African languages with labial-velars, only one of the 438 pronouns surveyed contained a labial-velar (though their study did not specifically look at possessive pronouns). Thus, these forms are not only unpredictable from the other parts of the Fang agreement paradigm (e.g., the demonstrative forms) but also begin with a consonant that would be unexpected in comparison with other local languages. Overall, what is noteworthy about this paradigm in the local context is the extent to which the possessive forms must be independently learned and cannot be guessed on the basis of other forms, such as the demonstrative, or knowledge of other local languages. In a region characterized by high degrees of individual multilingualism, this would prevent a clear barrier for an outsider who knows related languages to speak Fang fully proficiently and be recognized as a native Fang speaker.

Esoterogenic linguistic patterns in Fang correlate with a pronounced social pattern of separation (Mve et al. 2019: 174–5). For instance, the core settled area of the village is spatially separated from the other villages of Lower Fungom due to the fact that it is surrounded by forest, which is atypical of the region. More striking is the system of handling matrimonial rights. The

economic costs associated with a man (either from Fang or from another village) marrying a woman from Fang are very high. In addition to the payment of a bride price to the woman's family, which is typical of the region, the man must make additional payments to attain rights to female children born through the marriage. He also has much stronger obligations to his father-in-law than in other villages. Taken together, these obligations discourage men from outside of Fang from marrying women from Fang. A man from Fang who marries a Fang woman will have the opportunity to gain from the marriages of his own daughters or other female relatives. A man who is from outside of Fang will have significant obligations to his wife's family, without any opportunity to gain from the Fang system of matrimonial rights himself.

The Fang case illustrates the potential of magnetic repulsion as an explanatory force in language change. Both spatially and in terms of its social structure, the village is organized in a way which separates it from the other Lower Fungom villages. The language has also developed in a way that signals separation from other Lower Fungom languages and inhibits outsiders from fully acquiring it. This also produces the kind of distinctive patterns of divergence associated with tree-like change. Further work on Fang looking for other patterns of esoterogeny and exploring the language ideologies held by members of its community would help strengthen the case that it has been influenced by magnetic repulsion, as would being able to compare Fang grammar to the grammars of its closest Bantoid relatives, though, unfortunately, its precise genealogical relationships within Bantoid have yet to be determined, in part because it appears to be a recent entrant to Lower Fungom from a location that is not completely clear (Di Carlo 2011: 79–81).

2.4 Convergence and divergence in Buu and Mundabli

The final case to be discussed here are the contrasting grammatical trajectories of Buu and Mundabli. The varieties of Mufu, Mundabli, and Buu form a small genealogical cluster. Mufu and Mundabli are very linguistically close to each other, and Buu is relatively distant from the other two (see, e.g., Voll 2017: 5–7). Buu is also spatially distant from Mufu and Mundabli and is

more centrally located within Lower Fungom (see Figure 1). The data to be considered here are the noun class systems of Mundabli (see also Section 2.2), Buu, and a Mungbam variety, Abar, that Buu is in close contact with.

A summary presentation of the Mundabli noun class system, based on Voll (2017: 81–96, 106), is provided in Table 4, the Buu noun class system, combining information presented in Ngako Yonga (2013: 21–15) and Hombert (1980: 87–8), is provided in Table 5, and the Abar system, based on the presentation in Good et al. (2017), with additional data drawn from Lovegren (2013), is provided in Table 6. In each table, the form of the class markers that appear on nouns is provided (including an indication of variation), along with additional information regarding the typical shape of agreeing forms (with pronominal forms used for Mundabli and the initial consonant of agreeing forms used for Buu and Abar). Some classes are coded via lower/higher stem tone alternations, as indicated with “floating” grave and acute accents. Classes appearing in the same row represent common singular/plural class pairings. Further discussion of the conventions for presenting noun class systems in this chapter can be found in Section 2.2.

Table 4: Mundabli noun class system

CL	PFX	PRON	CL	PFX	PRON	EXAMPLE	GLOSS
1	Ø-	wù	2	Ø-, bà-	bɔ̃	ɲkɔ̃ŋ/(bà)ɲkɔ̃ŋ	‘chief’/‘chiefs’
3	Ø-	wū	7a	Ø-	kī	yɛ̃n	‘tooth’ or ‘teeth’
7	Ø-, kī-	kī	8	Ø-, bī-	bī	bɔ̃	‘bag’ or ‘bag’
9	̀-	yì	10	´-	yī	ywɔ̃ŋ/ywɔ̃ŋ	‘snake’/‘snakes’
19	Ø-, fī-	fī	18a	Ø-, mù(N)-	mū	ntsī fintsī/mùntsī	‘louse’ or ‘lice’ ‘little louse’/‘little lice’
6a	N-	mū				ɲgī	‘water’

Table 5: Buu noun class system

CL	PFX	AGR	CL	PFX	AGR	EXAMPLE	GLOSS
1	Ø-	ẁ-	2	bà	bʷ-	tá/bàtá	‘father’/‘fathers’
3	Ø-	w´-	7a	kà-...-tà	k´-	nú/kànútà	‘knee’/‘knees’
7	kà-	k´-	8	bà-	bʷ-	kàkàŋ/bàkàŋ	‘bowl’/‘bowls’
9	̀-	ỳ-	10	´-	y´-	dziḽdzi	‘dog’/‘dogs’
19	fàN-	f´-	18a	màN-	m´-	fàntfàŋ/màntfàŋ	‘sweet banana’/‘sweet bananas’
6a	N-	m´-				ɲgīn	‘water’

Table 6: Abar noun class system

CL	PFX	AGR	CL	PFX	AGR	EXAMPLE	GLOSS
1	ù-/Ø-	ẁ-	2	bwe-/bə-/a-	bw' -	m̀bòŋ/b̀àmbòŋ	'cow'/'cows'
3	ú-	w' -	4	í-	y' -	úťm/ígóho	'village'/'fires'
5	i-	y-	6	mwe-/mən-/a-	mw' -	ídě/mándě	'bean'/'beans'
5H	í-	y' -	13	i-/ki...(-lɔ)	ky' -	ìyì/kìyì	'bee'/'bees'
12	kə-/a-	k' -	8	bi-/i-	by' -	áŋú/íŋú	'thing'/'things'
9	ì-	ỳ-	10	í-	y' -	ìbwē/ìbwě	'goat'/'goats'
19	ɛi-/i-	ɛ' -	18a	m̄N-	mw' -	ɛíɛá/m̄unteán	'knife'/'plantains'
6a	mən-/aN-	mw' -				áŋkwó	'oil'
14	bu-/u-	bw' -				útu	'day'

For present purposes, the critical point of comparison between Mundabli, Buu, and Abar is the contrast between the presence and absence of class prefixes on nouns themselves. While Mundabli has a relatively robust system of agreement, nouns themselves mostly lack class prefixes. Even where the presence of prefixes on the nouns is indicated in Table 4, they are not necessarily common. Class 2 nouns can take the prefix *bə-*, but it is optional. Class 7 *kí-* is only found on one word, and Class 8 *bí-* is only found on two words, and these are optional as well. The only prefixes that are ever not optional on nouns are Class 19/18a *fí-/m̄(N)-*, but this is only when they are used to derive diminutive nouns. All Class 6a nouns begin with a nasal, suggesting a possible nasal consonant prefix, as indicated in Table 4. However, since this class consists solely of mass nouns lacking plural forms, there are no contexts where its prefixal status can be verified (Voll 2017: 86–94).

By contrast, as seen in Table 5, the presence of class prefixes on nouns is more robust in Buu. The prefixes are dropped under certain conditions, such as when the noun is immediately followed by an agreeing element like a demonstrative or a possessive pronoun. Thus, for instance, the word for 'chief', which appears as *b̀àŋkǒŋ* in isolation, loses its prefix in the phrase *ŋkǒŋ b̀à* 'these chiefs' where *b̀à* is a Class 2 demonstrative form. Nevertheless, prefix marking on nouns plays a much greater role in Buu than in Mundabli.

This difference between Buu and Mundabli is almost certainly connected to the close contact that inhabitants of Buu village have with inhabitants of the socioeconomically central village of

Abar. As can be seen in Table 6, like all of the Mungbam varieties, Abar has an extensive system of class prefix marking on nouns. Except for some Class 1 nouns, all nouns show a class prefix. From the perspective of the notion of magnetic dynamics of change, the fact that Buu grammar parallels Abar grammar relatively closely in this domain suggests that it has been influenced by magnetic attraction. The Buu system may have changed to be more in line with the Abar system, or pre-existing Abar-like features may have been stabilized by contact with Abar.

Admittedly, the outcome in this case is not obviously distinctive from what is associated with “classic” language contact phenomena of the sort expected from the wave model, but the notion of magnetic dynamics can help explain why this contact effect is actually observed in this language given that the linguistic patterns are, again, in line with the sociocultural ones. Despite their linguistic similarity, Buu and Mundabli speakers do not share a social identity and are associated with distinct oral traditions, with the Buu, like the Abar, reportedly being “indigenous” to Lower Fungom and the Mundabli reportedly having entered from elsewhere. While we have no reason to believe that Mundabli’s development was influenced by magnetic repulsion specifically with reference to Mungbam varieties like Abar, its closest linguistic and cultural connections are to the village of Mufu, and it otherwise shows cultural links to groups outside of Lower Fungom (Di Carlo 2011: 86–7). Magnetic dynamics would, as a result, predict some degree of grammatical divergence between a variety like Mundabli and the variety of a spatially, culturally, and economically central Lower Fungom village like Abar as a means of signalling social distance from the Lower Fungom “center”. Overall, the contrast between Buu and Mundabli, therefore, illustrates how the notion of magnetic dynamics can be seen as a potential explanatory force for understanding why two related varieties may develop in markedly different directions and for why a particular change may take place within a contact situation.

3 Magnetic dynamics and linguistic diversification

Each of the above case studies has only been presented in relatively schematic terms. However, taken together, they point to the presence of magnetic dynamics as a significant force for

linguistic diversification in Lower Fungom. While these case studies are at a relatively small geographic and historical scale, all of the changes described have the effect of creating tree-like patterns of diversification, whether this involves the creation of a clearly lexicogrammatically distinct variety of Mungbam (Section 2.2), striking morphological divergence in Fang (Section 2.3), or a salient split in the noun class systems of two closely related varieties (Section 2.4). A significant feature of each case study is the extent to which the linguistic patterns of attraction and repulsion are paralleled by social patterns of affinity and separation, lending support to the idea that the specific changes were, at least in part, triggered by society-level forces where linguistic convergence is used as a means for communities to express sociopolitical alliance and linguistic divergence to express sociopolitical distance.

Proposing such a tight link between sociopolitical structures and linguistic structures represents a fairly different way of looking at language change from what is traditionally associated with the tree and wave models. However, it is important to emphasize that this is being made in a context where high levels of individual-level multilingualism are an important part of social life (see Esene Agwara 2020: 191–3). Widespread individual-level knowledge of many local languages provides the conditions under which linguistic change can be targeted specifically to achieve linguistic convergence and divergence in the regional space, for instance through processes associated with deliberate change and esoterogeny.

As mentioned in the introduction, the limited scope of the present work means that its results can only be taken as suggestive of the possibility of magnetic dynamics as a significant force in language change, rather than offering definitive proof of this. An important open question is how such dynamics might play out over larger geographic spaces and greater time depths. It seems unlikely that they would produce “clean” tree or wave patterns, but, rather something more complex, especially given that, as sociopolitical alliances shift across communities for non-linguistic reasons, patterns of linguistic attraction and repulsion will shift as well. In this regard, it is striking that, despite extensive comparative research, it has proven quite difficult to produce a standard family tree for the Bantu languages, which are genealogically close to the

languages of Lower Fungom and whose speakers are culturally similar. This indicates that the magnetic dynamics that can be observed at a small-scale in Lower Fungom may also be relevant for understanding the “the bewildering mosaic of isoglosses and linguistic networks we encounter today” among the Bantu languages (Schadeberg 2003: 159), highlighting a potential further application in examining patterns of change from this perspective.

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