AN HISTORICAL-COMPARATIVE STUDY OF SOME

WEST BAMILEKE DIALECTS

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Edward H. Ubels

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Toronto, Ontario, Canada

Table of Contents

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L.0. Introduction

This paper makes a comparative study of seven dialects which have been assigned to the Bamileke subgroup of Greenberg's Wide Bantu, which is a member of the Bantoid branch of Benue-Congo. The purpose of the study is to establish systematic sound correspondences based on cognate sets. The correspondences will be used as the basis for a preliminary reconstruction of the group as a whole. The dialects will be compared for possible subgroupings based on shared innovations.

1.1. Classification of the dialects

As already stated, the Bamileke dialects under study have been classified under Wide Bantu by Greenberg. The Wide Bantu group is broader than the group referred to as Bantu in the studies of Meinhof (1932) and Guthrie (1953). Their classification has come to be referred to as 'Narrow Bantu', in contrast to Greenberg's. Bamileke is excluded from Narrow Bantu.

Part of the problem of delimiting the boundary of the Bantu group is lack of study of the Bamileke group and other related languages along the northern Bantu border. While these languages meet what is generally accepted as one of the criteria for inclusion within Bantu--the possession of a noun class and gender con-

cord system marked by nominal prefixes, on the surface they fail the second criterion--the possession of a vocabulary which can be related to Proto-Bantu by systematic sound correspondences. But Williamson (1971:250) points out that the failure to establish regular correspondences is likely to be attributed to insufficient investigation of the northern languages. In these languages extensive contraction and assimilation have taken place, which explains why the correspondences are not obvious. Hyman (1972) substantiates Williamson's hypothesis in a recent phonological study of Fe'fe', a Bamileke dialect, in which he partially reconstructs Bamileke. While Bamileke manifests innovations not shared by Narrow Bantu, regular correspondences are established between Proto-Bantu and Proto-Bamileke. Both Williamson (1971), and Hyman and Voeltz (1971) had earlier postulated a Bamileke subgroup which is coordinate with Narrow Bantu in an extended Bantu language family.

Subsequent to the latter two studies, Voorhoeve (1971) proposed a new linguistic unit which he called Mbam-Nkam. He computed cognate percentages for a number of Bamileke languages as well as for closely related languages formerly classed as a coordinate branch with Bamileke in a larger group. On the basis of his percentages, Bamileke cannot be treated as a separate subgroup within a larger unit apart from several non-Bamileke languages.[1] All these together form the Mbam-Nkam group in south-central Cameroun, between the rivers Mbam to the east and Nkam to the southwest. The reclassification of Bamileke as Mbam-Nkam is followed by Hyman (1972) and Williamson (1973).

1. The term Bamileke is a political term for a government administrative district in former French Cameroun.

Hyman (1972) proposes a division between East and West Bamileke (he continues to use the term _Bamileke_ to refer to the Mbam-Nkam unit). The groups are delimited geographically, but he gives linguistic criteria for the division as well. The first criterion is grammatical--West Bamileke retains the Proto-Bantu noun class 5 and 6 prefixes *li and *mu, but East Bamileke has lost these and all other noun class prefixes except the nasal prefixes of classes 1, 3, 4, 6, 9, and 10. The second criterion is phonological--West Bamileke has a /z/ reflex of Proto-Bamileke initial *z, but East Bamileke has /d/ (Hyman 1972:7-9). West Bamileke is composed of all Bamileke dialects spoken in West Cameroun, and those spoken in the departments of Menoua and Bamboutos in East Cameroun. East Bamileke is made up of the Bamileke dialects spoken in the East Cameroun departments of Haut-Nkam, Mifi, Nde, and Bamoum. The pivotal dialect between West and East, both linguistically and geographically, is Bamendjou. Fe'fe, the dialect studied by Hyman, is East Bamileke.

Although Hyman bases his Bamileke reconstruction on a number of East and West dialects, he focuses on Fe?fe? and closely related dialects. Since his concern is a statement of Fe?fe? phonology, his account of historical developments is primarily an account of developments in Fe?fe?. He cites many fewer West than East Bamileke dialects for the reconstructed forms where he does offer a number of reflexes (primarily in Chapter VIII). Several times he states the need for more work on other Bamileke dialects, with more detailed work on sound shifts and reconstruction of subgroups.

The dialects compared in this paper all fall within West Bamileke. The data will be used to attempt to establish systematic

sound correspondences between the dialects. The correspondences will be used to make a preliminary reconstruction of at least some aspects of what I shall refer to as Proto-West Bamileke. It is hoped that eventually a reconstruction of East Bamileke can be carried out for the purpose of comparison with West Bamileke to test whether the East-West division has any other phonological basis than the innovation of *z → /d/ in East Bamileke.

The dialects studied are those listed in Williamson (1971: 278) under Bamileke, (a) - (c) as follows:

(a) 1. Ngwe
    2. Foto?
    3. Bafou
    4. Fongo-Ndeng
(b) Baloum
(c) Fomopea

The validity of group (a) is questioned by Voorhoeve (1971:10), since the group lacks isoglosses to set it apart. The correspondences established in this paper will be used to compare the dialects for shared innovations to see if there is any basis for the grouping of the (a) dialects.

1.2. Data

The data used for the paper is from <u>Benue - Congo Comparative Wordlists, Volumes I and II</u> (henceforth BCCW), edited by Dr. Kay Williamson, and compiled from contributions by the Benue-Congo Working Group of the West African Linguistic Society. The volumes list data from 210 languages for 118 words. Of these words, about eighty are useful in establishing cognate sets for the dialects under study. Of the words excluded, most lacked sufficient entries for West Bamileke to be of use. Information on the sources of the data for each dialect and the location of the dialect are given in

) 4 (

the introduction to both volumes. For reference the dialects studied are (20) Fomopea (Fom)[1], (27) Baloum (Balm), (28) Fongo-Ndeng (Fon), (29) Ngwe (Ngwe), (30) Foto? (Foto), (31) Bafou (Bafu), and (32) Bafou (Baf).[2] A complete listing of the data used in the paper may be found in the appendix.[3]

2.0. Sound Correspondences

The structure of nominal and verbal roots in Bamileke is CV(C(V)). Final vowels are quite rare. The final vowel is usually [a] or [ə]. BCCW usually identifies prefixes and suffixes, and the final vowel is sometimes treated as a suffix. Prefixes and suffixes are not studied in this paper because of the possibility of grammatical shifts, and final vowels are disregarded because of scant data and the possibility that they are suffixes. All Bamileke dialects are characterized by the tendency to drop final vowels and consonants when compared with Proto-Bantu **(Hyman and Voeltz 1971: 60), so that the general Proto-Bantu morpheme structure CVCV generally reconstructs in Bamileke as CV or CVC. Initial and final** root consonants will be studied for sets of correspondences, as well as the root vowel. Tone has not been considered simply for lack of time.

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1. The abbreviation in parenthesis is the form used to identify the dialect with the entries for each word. The same abbreviations will be used in this paper to refer to the dialects when listing cognates.

2. The two listings for Bafou are fairly distinct dialects from different locations. In the paper (31) will be referred to as Bafou(a) and (32) as Bafou(b). The abbreviations are distinct.

3. The numbers that appear with words cited in the text correspond to the entries in the appendix, and not to the entries in BCCW.

2.1. Initial and final stops

2.1.1. Initial voiced stops

The data for the correspondences for what is reconstructed as initial *b- are given in Table 1. Tables 2 and 3 are the data for *d- and *g-. The data illustrate the general process of spirantization of voiced stops except after nasal consonants. The same phenomenon occurs in Bantu (Hyman and Voeltz 1971:60), where /b/ → [β], /d/ → [l], and /g/ → [ɣ]. For West Bamileke, only Ngwe has the rule *b → [β]. All other dialects have *b → [p], except Fongo-Ndeng, where *b remains [b]. The processes *d → [l] and *g → [ɣ] occur in all the West Bamileke dialects.

2.1.1.1. *b-

Table 1. *b-

		Fom	Balm	Fon	Ngwe	Foto	Bafu	Baf
2.	arm/hand	(ə)-pu	əpu	a-bu	a-βo		pu	pu
7.	bạd	e-pə	a-pəg	m-bəg	(te-βɔŋ)		(te-pɔŋ)	a-pəg
25.	egg	e-pu	le-pu	le-buŋ	le-βuŋ	le-puŋ	le-poŋ	pʊ
27.	to be extinguished	pɛ	pi[x]	psia	b̥əə	m-bl̥	m-bl̥yə	pl̥ke
43.	to lick			bəŋə		pəŋa	pəŋɛ	pəŋə
44.	meat	m-bab	m-pap	m-bab	m-bap	m-bap	m-bap	m-bab
45.	to mould	pʊ	pʊ	m-bo	βɔɔ			mbɔtl̥
56.	to rot	phiɛ	api[x]	m-bl̥	b̥əə			mbl̥ɣ
72.	two	pəpia	ji-pə	me-bl̥a	βə-βl̥a		me-pl̥a	mə-pl̥a
71.	wiṇg	e-pabə	le-pap	le-pab	le-pap		le-pap	le-pap

) 6 (

The selection of the voiced *b- as the proto segment is motivated by the occurrence of [β] in Ngwe. By choosing *b, a shift of only one feature can account for the general situation in every dialect. Further motivation for the selection of the voiced stops *b-, *d-, *g- will be given in the discussion of final consonants.

Several forms in Table 1 are not accounted for. As stated above, *b→ [b] after [m] in every dialect except Baloum, where it always goes to [p]. Elsewhere *b → [p], except in Ngwe, where *b → [β], and Fongo-Ndeng, where *b → [b]. The exceptional forms occur in the entries for 'to be extinguished', where [ps] occurs in Fongo-Ndeng and [ɓ] in Ngwe; another exception is 'to rot', where [ph] occurs in Fomopea and [ɓ] occurs in Ngwe. These segments are likely to be accounted for in terms of the following vowel. A process of consonant tensing before high vowels occurs in other Bamileke dialects. Voiceless stops generally aspirate, and voiced stops may become affricates. There is little evidence for consistent tensing of consonants before high vowels in the West Bamileke dialects under study, except for *t → [th] in Baloum, but various dialects sporadically show some form of tensing preceding a high vowel. Vowel reconstruction in West Bamileke poses many problems which make it difficult to account for the tense consonants. A rule for the sound shifts for *b- in each dialect is given below which tentatively accounts for the tense consonants.

	Fom	Balm	Fon	Ngwe	Foto	Bafu	Baf
Rule: *b-	b/m	p	ps/_ia	b/m__	b/m__	b/m__	b/m__
	ph/__iɛ		b	ɓ/__əə	p	p	p
	p			β			

The only evidence for *p- is the word for 'wing', where Fongo-Ndeng and Ngwe have [p̓] where [b] and [β] would be expected for *b-. Hyman does not reconstruct *p for Proto-Bamileke, only *b. More data for a set with a [p] reflex in every dialect is needed before *p can be reconstructed for Proto-West Bamileke.

) 7 (

2.1.1.2.   *d-

Table 2.   *d-

	FOM	BALM	FON	NGWE	FOTO	BAFU	BAF
6. to ask	lu	lɪr			lo		lɔ
10. to bite	luŋ	lu	luŋ	luŋa	luŋl		ndu
43. to lick	lɛt	lɛt		ləŋa			
61. to smell	lam	ʒuʔlelɛm	ndəmle	n-dɛm		lɛmnɛ	
56. tongue	leŋ	ltx	alɨ	a-ll	a-lə	a-le	a-lə

The data for some of the dialects is incomplete in that there is no example
of *d following a nasal. In the dialects where that environment occurs,
*d- goes to [d]. In every other case it goes to [l]. Further motivation
for reconstruction of *d- rather than *l- will be given in the discussion
of final consonants. The reflexes of *d- are summarized below.

Rule: *d-

Fom	Balm	Fon	Ngwe	Foto	Bafu	Baf
(no d/n_)	(no d/n_)	d/n_	d/n_	(no d/n_)	(no d/n_)	d/n_
l	l	l	l	l	l	l

2.1.1.3 *g-, *gw-

Table 3. *g-, *gw-

	FOM	BALM	FON	NGWE	FOTO	BAFU	BAF
3. armpit	e-ɣɑbe	ne-ɣamne	le-ɣapte	le-ɣaɣa	lə-ɣapti	lɛ-ɣapte	lə-ɣapti
19. crocodile	ŋ-ga	ŋ-ga	ŋ-ga			ŋ+ga-n	ŋ-ga-n
22. to divide	ɣabə	ɣabə	ŋ-gap	ɣaβa	ɣaβa	ɣəβa	ɣap-ti
31. fowl	ŋ-g+əb	ŋ-gap	ŋ-gab	ŋ-gɛp	ŋ-gəp	ŋ-gap	ŋ-gəp
33. to go	ɣ+ɔ	ɣɔ	ɣ+ʌ	ɣɔa	ɣə	ɣɔ	gɣ+ɔ
34. grasshopper	ŋgʲim		ŋgim			n-dʒim	ŋgiem
36. guinea fowl	ʃɔŋ-gaŋ	ŋgaŋt+		aɣaŋ	ŋ-gaŋa	a-ŋ-gaŋa	ŋgaŋa
60. skin	ŋ-gʷɔb	ŋ-gʷup	ŋgub	a-kʷəp	ŋ-gup	ŋ-gub	ŋgub
30. female	məŋ-gɥi	mɛn-dzɥi	mɛŋ-gɥi	n-ʒɥi	ŋ-gʷi	n-zɥi	mɛɲ-dʒʷi

Table 3 illustrates spirantization of *g- to [ɣ] except after a nasal in all
dialects. In Fomopea and Bafou(a) palatalization occurs before[i] ; in Fomopea,
Baloum, and Ngwe, labialization occurs before a back vowel (probably *u).[1] The
devoicing of [g] to [k] in Ngwe [a-kwəp] 'skin' is not accounted for. The oc-
currence of [gɣ] in the Bafou(b) form for 'to go' may be an example of consonant
tensing before a high vowel (probably *ɨ). The reflexes of *g- are summarized below.

	FOM	BALM	FON	NGWE	FOTO	BAFU	BAF
Rule: *g-	gj/ŋ_i	g/ŋ_	g/ŋ_	g/ŋ_	g/ŋ_	dʒ/_i	gɣ/_ɨ
	g/ŋ_	ɣ	ɣ	ɣ	ɣ	g/ŋ_	g/ŋ_
	ɣ					ɣ	ɣ

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1. The development of *gu to [gwɔ] or [gwu] can be regarded either as a
   change of *g to [gw] or of *u to [wu] or [wɔ]· The decision to regard
   it as a shift from *u is based on some cases of *ku, as discussed below.

The initial segment of the root for 'female' is reconstructed as *gw-.

Several reflexes show fronting before[i]. In cases where the primary point.

of articulation has shifted to palatal, the preceding nasal shows assimila-

tion, being either [n] or [ɲ]. The reflexes of *gw- are given below.

Rule: *gw-	FOM	BALM	FON	NGWE	FOTO	BAFU	BAF
	$g^4/\_i$	$dz^4/\_i$	$g^4/\_i$	$ʒ^4/\_i$	gw	$z^4/\_i$	$dʒw/\_i$

2.1.2. Initial voiceless stops

As stated earlier, more data is required to determine whether Proto-West

Bamileke has *p-. The evidence for *t-, *k-, and *kw- is given in Tables 4 and 5.

2.1.2.1. *t-

Evidence for consonant tensing before some high vowels occurs in the en-

tries for 'head' and 'tree' in Baloum, Fongo-Ndeng, and Bafou(b). Bafou(a) has

a tense [tx-] for 'tree'. Tensing also occurs in 'oil palm' in Baloum, Fongo-

Ndeng, and Foto?. Baloum has [th] before all high vowels except the form [tʋ]

'stone'. The source of [ ] may be *o, considering the correspondences in the

other cognates. The shift *o → [ʋ] must be ordered after the *t- →[th] shift

before high vowels. The source of [ə] in Baloum [thə] 'tree' is apparently dif-

ferent from its source in [ə-tə] 'calabash' and [təm] 'to sew' considering the

different sets of vowel correspondences. The vowel reconstructed for 'calabash',

although it appears to be high, does not have a tensing effect, since not one of

the dialects has aspiration or affrication. The shift of the reconstructed vowel

for 'tree' (tentatively *w) to [ə] in Baloum must be ordered after the shift *t-

→ [th] before a high vowel. The form [thəletə] 'oil palm' is problematic in

Baloum, since the cognate set shows tensing, and since the second [t] appears to

belong to the correspondence set rather than the initial[th].

Possibly the first syllable is a

Table 4. *t-

		FOM	BALM	FON	NGWE	FOTO	BAFU	BAF
12.	calabash	ə-tiŋ	ə-tə	a-tɨ	n-tu	a-tǿ	a-tyə	a-tɨɔ
15.	to come out	tuŋ	tʰu	tuŋɔ	tuɲa	tuŋɔ	tuɔ	tuɔ
37.	head	ə-tugʔ	tʰʊ	tᶠu	a-tu		a-tu	ə-tʰu
38.	heart	n-tɨŋə	tʰɨ-nɪ	n-ti	n-ti		a-te	a-tə
48.	oil palm	e-tɨ	thəletə	lethɨə	le-tyə	le-tɥə	le-tyə	letɨɔ
57.	to send	tuŋ	thu	tum	tuɲa		tuwɔ	tʊ
58.	to sew	tam	təm	tɛm				ətəm
64.	stone		tʊ	to		tɔ	-tɔ	ə-tɔ
68.	tree	ə-tɨg	thə	tɦɨ	a-tɯɯ	a-tɯx	a-txyə	a-thi
73.	three	pə-tɛt	mətɛt	metat	tat	e-tɛt	me-tɛt	mə-tɛt
75.	five	pə-ta	jɪ-ta	me-tɪa	βə-tɛɛ		me-taa	mə-ta

reduplication, and the final [t] has lost its aspiration in the presence
of another tense consonant in the same word. The Fongo-Ndeng form for
'calabash' also has the same vowel as the form for 'tree' and 'oil palm',
with no sign of tensing, again indicating a different source for the vowel
in 'calabash'. The Fongo-Ndeng forms [tuŋɔ] 'to come out' and [tum] 'to
send' show no tensing in contrast to [tfu] 'head'. One possibility is that
tensing only occurs in CV # syllables, which is true in the data for all
dialects. Fotoʔ [le-tɥə] 'oil palm' is accounted for in terms of a vowel
shift y ⇒ [ɥ] after *t. Contrast between [a-txyə] 'tree' and [le-tyə]
'oil palm' cannot be accounted for in Bafou(a), unless [a-txyə] is a case
of metathesis for [a-tyəx] (compare Fotoʔ and Fomopea), rather than conso-
nant tensing. Tensing only occurs before [u] and [ɨ] in Bafou(b). Lack of
tensing in [tuɔ] 'to come out', may be accounted for by positing an earlier
[tuŋɔ], which violates the syllable structure restriction for tensing.

The shift *t- → [th] before [u#] must be ordered before the loss of [ŋ].

A summary of the reflexes of *t- is now given.

Rule: *t-

	Fom	Balm	Fon	Ngwe	Foto	Bafu	Baf
	t	th/_hiV#	tf/_u#	t	t	t	th/_u̇#
		t	tɦ/_ɯ				t
			th/_i̇				
			t				

2.1.2.2. *k-, *kw-

Table 5. *k-, *kw-

		FOM	BALM	FON	NGWE	FOTO	BAFU	BAF
4.	arrow	e⁻kɔŋiŋ ⊦qɛt	le⁻kɔŋ ⊦kɛt	le-kɔŋ	-kiɛt	ŋ-kiɛ	lə-kɔŋ	lə-kɔŋ ⊦kiɛt
8.	bean	mə⁻ku	me⁻khu	me-kʷɔ	βə-kʷɔ	mə-kwɔ	mə-ko	mə-kʊ̄
13.	to carve		kuʲ	ko	kɔɔ		ŋ-kɔɔte	kɔ
18.	crab	kɔ	ka	ᵃkʌ	-ka	-ka	-ka⊦m	kambuŋ
46.	to mount	ko			kɔʔa		kɔʔɔ	kɔ
50.	pig	ku⊦na	kuɾna	ku⊦na	ku⊦na	ku⊦na	ku⊦na	khu┬na
51.	to squeeze out	ke	ke	ke	kee		kiɛ	
67.	tɒrtoise	maŋkɔʔ	məŋkʷɔʔ	məŋkɔʔ			pfaŋkɔʔ	pfaŋkɔʔ
70.	to want	kɔŋ	kɔŋ	kɔŋ	kɔŋa		kɔŋa	kɔŋ
74.	four	e⁻kuɔʔ	lekʷɔ	lekuɔ	lekʷɔ	lekʷɔ	lekuɑ	ləkua
21.	to die	kfuɔ	kfə	kᵁl	kʷɯɯ	le-kʷₒɯ	kʷɛ	kf⊦
41.	leg/foot	ə-khuɔ	kfɔ	kfu	akwᵁ	a-kʷu	a-kʷə	akhu

The reflexes of *k- show some evidence of tensing before high vowels, and of labialization before back round vowels. Generalization is extremely difficult, especially when the data are compared to that for *t- and *g-, *gw-. The initial root segment of 'to die' and 'leg/foot' is tentatively reconstructed as *kw-, whereas the [kw] occuring in some dialects in 'bean' and 'four' is treated as labialization of *k-. The vowel of 'four' recon- structs as a diphthong, possibly *ua, which shifts to [wɔ] before *k in Baloum, Ngwe, and Fotoʔ. The reconstructed vowel for 'bean' appears to be *u. The tensing of Baloum [me-khu] versus lack of tensing in [ku+na] 'pig' can be accounted for in terms of the CV# syllable structure tensing restriction. A similar restriction is needed to account for labialization of *k- for 'bean' in Fongo-Ndeng, Ngwe, and Fotoʔ, in contrast to 'pig'. The restriction may be on the environment for diphthongization of *u to [uo] to [wɔ] after *k in a CV# syllable. Labialization in Baloum [məŋkwɔʔ] 'tortoise' is unaccounted for. Voicing of *k- to [g] in Fomopea [kɔŋiŋ+gɛt] 'arrow' is unusual (compare [maŋkɔʔ] 'tortoise' from the same dialect). Aspiration of *k- in Bafou(b) [khu+na] 'pig' is unexpected since no other dialect shows tensing, and the dialect has [ləkua] 'four'. A tentative summary of the development of *k- and *kw- is given below.

	Fom	Balm	Fon	Ngwe	Foto	Bafu	Baf
Rule: *k-	k	kh/_u#	k	k	k	k	k
		k					
*kw-	kf/_ɯ	kf	kˠ/_ɯ	kw	kw/_ɯ	kw	kf/_ɯ
	kh/_u		kf/_u		kw/_u		kh/_u

2.1.3. Final stops

Tables 6-8 give the data for final *-b, *-d, and *-g. Whereas for the first root consonant the general development observed for voiced stops is spirantization, the stop set of the second root consonant generally de-

voices, although spirantization sometimes occurs when a vowel occurs after
the consonant. No voiceless stops are reconstructed for the second conson-
ant position for reasons given below.

2.1.3.1. *-b

Table 6. *-b

		Fom	Balm	Fon	Ngwe	Foto	Bafu	Baf
3.	armpit	e-ɣabə	ne-ɣamne	le-ɣapte		lə-ɣaptí	lɛ-ɣapte	lə-ɣaptí
22.	to divide	ɣabə	ɣabə	ŋ-gap	ɣaβa	ɣaβa	ɣəβa	ɣap-tí
31.	fowl	ŋ-gɨəb	ŋ-gap	ŋ-gab	ŋ-gɛb	ŋ-gap	ŋ-gap	ŋgap
44.	meat	m-bab	m-pap	m-bab	mbap	mbap	m-bap	m-bab
60.	skin	ŋ-gʷɔb	ŋgwup	ŋgub	a-kʷəp	ŋ-gupⁿna	ŋ-gub⁺nɛt	ŋgub
71ᵃˢ	wing	e-pabə	le-pap	le-pab	le-pap		le-pap	lə-pap

Spirantization of *-b to [β] occurs between vowels in Ngwe, Foto?, and
Bafou(a). There is no data for intervocalic *-b in Fongo-Ndeng and Bafou(b).
In the other dialects, it is realized as [b] in that environment. *-b is
always realized by [b] in Fomopea. Baloum has partial assimilation of *-b
to [m] before [n] in [ne-ɣamne] 'armpit'. Devoicing of *-b to [p] occurs
before voiceless [t] in Fongo-Ndeng [le-ɣapte] 'armpit', but finally it gen-
erally has [b], except for [ŋ-gap] 'to divide'. Perhaps the form has a suf-
fix not given in the data (compare the Bafou(b) form [ɣap-tí]). Bafou(a)
has [β] between vowels and [p] finally, but [b] before [⁺n] in [ŋ-gub⁺nɛt]
'skin'. Bafou(b) has [p] before [t], but both [p] and [b] occur finally in
two cases, with no good basis for accounting for the alternation. The re-
flexes of *-b are given below.

		Fom	Balm	Fon	Ngwe	Foto	Bafu	Baf
Rule:	*-b	b	b/_V	(nob/_V)	β/_V	β/ V	β/_V	(no b/_V)
			m/_n	p/_t	p	p	b/_n	p/_t
			p/_#	b/_#			p	p~b/_#

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2.1.3.2 *-d

Table 7. *-d

		Fom	Balm	Fon	Ngwe	Foto	Bafu	Baf
4.	arrow	kɔŋíŋ +gɛt	le-kɔŋ +kɛt		ŋ-kíɛt	ŋ-kíɛrə		lə-kɔŋ+kíɛt
6.	to demand	nzɛt	zɛtə		tʃwɔrə		n-zɛte	zətə
24.	to eat	pfɛt	pfɛt	pfat	fɛla	pfɛrə	pfɛ	pfɛt
29.	fat/oil	mvɛt	me-vɛt	me-vɛt	βə-vɛt	mə-vɛt	mə-vɛt	ma-vɛt
39.	heavy	nzɛt	nzɛt	ndít	n-dɛt	n-zɛt	azɛt	ndzɛt
73.	three	pətɛt	mətɛt	me-tat	tat	e-tɛt	me-tɛt	mə-tɛt

Devoicing of *-d to [t] occurs finally in all dialects and intervocalically in Baloum, Bafou(a), and Bafou(b) (there is no intervocalic data for Fomopea and Fongo-Ndeng). Ngwe has spirantization to [l] or [r] intervocalically; Foto? has [r]. Bafou(a) has lost final *-d in [pfɛ] 'to eat'. The reflexes are given below.

		Fom	Balm	Fon	Ngwe	Foto	Bafu	Baf
Rule:	*-d	(no d/_V)	t	(no d/_V)	l~r/_V	r/_V	t	t
		t		t	t/_#	t/_#		

2.1.3.3. *-g

Spirantization occurs between vowels in Baloum, Foto?, and Bafou(a) 'spit'. Finally, devoicing to [k] is less common than devoicing of *-b or *-d, but occurs in Foto? and Bafou(a). Fomopea and Ngwe have lost *-g finally except for Fomopea [m-faɦ] 'twin', where spirantization occurs.

Table 8. *-g

		Fom	Balm	Fon	Ngwe	Foto	Bafu	Baf
7.	bad	e-pə	a-pəg	m-bəg				a-pəg
28.	eye	e-zə	le-zeg		le-rə	le-sə̌k	le-sək	lə-zəg
63.	spit	tso	cɔʁɔ	tseg?	trɔga	tseγo	tsoγo	tsᵛg
69.	twin	m-faɦ	me-fag	le-fag	le-fɛ	le-fak	le-fak	mə-fag

Glottalization in Fongo-Ndeng [tseg?] 'spit' is unaccounted for.

	Fom	Balm	Fon	Ngwe	Foto	Bafu	Baf
Rule: *-g	(no g/_V)	ʙ/_V	(no g/_V)	g/_V	γ/_V	γ/_V	(no g/_V)
	∅(~ɦ)	g/_#	g/_#	∅/_#	k/_#	k/_#	g/_#

2.1.4.   Summary of initial and final stops

   Devoicing of final stops in an environment before silence is a more
natural explanation than if voiceless stops had been reconstructed.   In
that case, an unnatural shift from voiceless to voiced stop occurs in sev-
eral dialects before silence.   Final voiced stops are also a better choice
when the spirantized segments are considered, since in every case they are
voiced.   Reconstruction of the stops overagainst the various spirantized
segments is motivated by the frequency of the occurrence of stops in the
second root consonant position, and especially by the occurrence of voice-
less stops in that position, where a shift from, for example, *-g to [k]
is more natural than a shift from *-γ to [k].   Since voiced stops are re-
constructed for the second root consonant position, and since basically
the same alternations between [b~p], [d~l], and [g~γ] occur in the initial
consonant position, the voiced stops are reconstructed for initial position
as well; the rules for initial and final stops will subsequently be com-
bined.   An explanation of the fact that no final voiceless stops are re-
constructed, whereas *t- and *k- need to be posited initially, is given by
Hyman (1972:56).   He posits an earlier CVCV morpheme structure, correspond-
ing to Proto-Bantu.   Only voiced consonants occurred intervocalically.   Most
Proto-Bamileke roots reconstruct as CVC, showing loss of the final vowel.
But the evidence favors reconstruction of final voiced consonants, which
is consistent with a former CVCV structure.

2.2 Nasals

2.2.1. Initial nasals

The data for initial *m-, *n-, *ɲ-, and *ŋ- are given in Table 9.

Table 9. *m-, *n-, *ɲ-, and *ŋ-

	Fom	Balm	Fon	Ngwe	Foto	Bafu	Baf
14. child	mu	mu	mʊ	(ŋ-ŋ^{w}ɔ)	-mu	-mɔ	mɔ
11. buffalo	nə-nɛt	na-nɛt	nʌ-nɛt	n-nat			na-nɛt
42. to lie down	nɔŋ	nɔŋsi	nɔŋsi	nɔŋa se	nɔŋ	nɔŋ+ a-si	nɔŋə
51. to press	nɔʔɔ	nɔʔɔ	nɔ			nɔ	nɔʔɔ
1. animal	nɔ	na	nʌ	ɲa	na	na	na
62. snake	nɯ	nʊ	nʊ	^{n}+ɲo	-nu	-nu	nu
49. person	ŋen	ni	ŋwɔ	ŋ-ŋ^{w}ɔ	ni		ɲiŋnɔ

2.2.1.1. *m-

Only one set of cognates has data for *m-, where every dialect has
[m]. The Ngwe form is not cognate. Additional evidence for *m- can be
obtained from prefixes beginning with [m] followed by a vowel. Nasal pre-
fixes can not be used, since the nasal assimilates in point of articulation
to that of the following consonant. Unfortunately Ngwe has [βə-] where all
other dialects use the prefix [me-] ~ [mə-], e.g. 'bean'. But the shift is
more likely a shift of prefixes than a shift of sound segments. In 'road',
Ngwe has a plural form [mɛ-n-zə+mo], where the prefix corresponds to singular
[mɛn]~[mən] in most other dialects. More data on root correspondences
are obviously needed, but *m- likely has an [m] reflex in Ngwe.

	Fom	Balm	Fon	Ngwe	Foto	Bafu	Baf
Rule: *m-	m	m	m	(m)	m	m	m

2.2.1.2. *n-, *ɲ-

Very little variation for the correspondence sets with [n] occurs. Only

Ngwe has [ɲ] corresponding to [n] in all other dialects for 'animal' and 'snake'.

.But the occurrence of the [ɲ] is difficult to account for. Palatalization is un-

expected before the non-high front vowels. Proto-Bantu has a reconstructed *ɲ-

for these words. Several other both East and West Bamileke dialects show [ɲ].

Ekoid Bantu, a branch closely related to Bamileke in Wide Bantu (Hyman and Voeltz

1971:63), also has [ɲ]. Apparently, Ngwe has retained *ɲ-, whereas in all the

other dialects under study it goes to [n]. Only Bafou(b) has [ɲ] even occuring

in its phonetic inventory (besides Ngwe), where it occurs before [i], a likely

case of palatalization.

	Fom	Balm	Fon	Ngwe	Foto	Bafu	Baf
Rule: *n-	n	n	n	n	n	n	n
*ɲ-	n	n	n	ɲ	n	n	n

2.2.1.3. (*ŋ-)

The data for *ŋ- is very scant for making a hypothesis about its develop-

ment. The prefix form[ŋ-] only occurs before velar consonants and must be dis-

regarded. It is doubtful whether Fomopea [ŋen] 'person' is cognate with Ngwe

and Foto? [ŋwɔ]. *ŋ- may have fronted before [i] in Baloum, Foto? and Bafou(b),

but no rule is constructed for *ŋ- because of insufficient evidence.

2.2.2. Final nasals

The data for final *-m, *-n, and *-ŋ are given in Tables 10 and 11.

2.2.2.1. $*$-m

Table 10. $*$-m

		FOM	BALM	FON	NGWE	FOTO	BAFU	BAF
9.	belly	ᵉ-vəmə	le-vəm	le-vəm	le-βɛm		lə-vəm	lə-vəm
34.	grasshopper	ŋgʲim		ŋgim			n-dʒim	ŋgiem
58.	to sew	təm	təm	tem				ᵊtəm
61.	smell	lam	ʒuʔlelɛm	ndəmle	ndɛm		lɛmnɛ	

No data for $*$-m occurs in the data from Foto?. All other dialects have [m].

Rule: $*$-m

FOM	BALM	FON	NGWE	FOTO	BAFU	BAF
m	m	m	m	(m)	m	m

2.2.2.2. ($*$-n), $*$-ŋ

Whereas data for reconstruction of initial $*$ŋ- scarcely exists, only the forms for 'name' show any evidence for final $*$n, and that evidence is poor. Ngwe [le-lendo] could have assimilation of the nasal to the point of articulation of the following [d]. That leaves only Fomopea [e-zin]. Generally, only [ŋ] occurs finally. while only [n] occurs initially, with possible evidence

Table 11. ($*$-n), $*$-ŋ

		Fom	Balm	Fon	Ngwe	Foto	Bafu	Baf
47.	name	e-zin	lezi	leliŋ	le-lɛndo	lezəŋ	lezəŋ	lezəŋ
10.	to bite	luŋ	lu	luŋ	luŋa	luŋi		ndu
15.	to come out	tuŋ	thu	tuŋɔ	tuŋa	tuŋɔ	tuɔ	tuɔ
17.	to count		saŋ	saŋ	saŋe	saŋa	saŋa	saŋa
25.	egg	e-puŋ gɨb	le-puŋ gub	le-buŋ	le-βuŋ	le-puŋ	le-poŋ	puŋ-gap
36.	guinea fowl	ʃɔŋgaŋ	ŋgaŋtɨ		a-ɣaŋ	ŋ-gaŋa	a-ŋ-gaŋa	ŋgaŋa
42.	to lie down	nɔŋ	nɔŋsi	nɔŋɔ	nɔŋa	nɔŋ	nɔŋ+a-si	nɔŋa
57.	to send	tuŋ	thu	tum	tuŋa		tuwɔ	tʊ
66.	tooth	e-sɔŋ	le-sɔŋ	le-sɔŋ	le-sɔŋ	le-sɔŋ	le-sɔŋ	lə-sɔŋ
70.	to want	kɔŋ	kɔŋ	kɔŋ	kɔŋa		kɔŋa	kɔŋ-

) 19 (

from a few forms for an earlier situation in which both sounds occur initially and finally. A subsequent shift of initial $^*\eta$- to [n] and of final *-n to [ŋ] may have occurred. Another possibility is that final *-n has been lost. No final *-n is reconstructed for Proto-West Bamileke at present.

Baloum apparently loses *-ŋ after [u] unless followed by [g]. Fongo-Ndeng [tum] 'to send' is unaccounted for. Bafou(a) and Bafou(b) have the same rule as Baloum for loss of *-ŋ.

Rule: *-ŋ

	FOM	BALM	FON	NGWE	FOTO	BAFU	BAF
	ŋ	Ø/u_≠g	ŋ	ŋ	ŋ	Ø/u_≠g	Ø/u_≠g
		ŋ				ŋ	ŋ

2.2.3. Summary of nasals

The rules for initial and final *m can be combined. Tentatively, initial *n- and final *-ŋ complement each other, so that they can be combined under *n. Proto-West Bamileke has in general lost *ɲ.

2.3. Glottal stop

Table 12. *ʔ

		Fom	Balm	Fon	Ngwe	Foto	Bafu	Baf
35.	grow	saʔ	saʔ					ᵊsaʔ
40.	to hoe	ʒɨʔ	ʒɭʔ	liʔa	lɛʔa	ʒɣʔa	ʒɣʔə	ʒəʔə
46.	to mount	ko			kɔʔa		kɔʔɔ	kɔ
51.	to press	nɔʔɔ	nɔʔɔ	nɔ			nɔ	nɔʔɔ
67.	tortoise	khla maŋkɔʔ	tswə məŋkʷɔ	pfə məŋkɔʔ			pfa-ŋ-kɔʔ	pfaŋkɔʔ

Glottal stop only occurs in the second root consonant position. Proto-Bantu has no glottal stop, and Hyman (1972:226) regards it as a Bamileke innovation. He hypothesizes its derivation from former voiceless consonants, which, except glottal stop, are not reconstructed finally in Bamileke, as discussed earlier. All such consonants have merged to glottal stop at an earlier stage than Proto-Bamileke. Fongo-Ndeng and Bafou(a) show loss of *ʔ in [nɔ] 'to press', but it is retained in the forms for 'tortoise', where the environment is the same. Fomopea and Bafou(b), on the other hand, show loss of *ʔ in 'to mount'. Loss of *ʔ seems to depend on the history of individual words rather than a generalized process at this point.

Rule: *ʔ	Fom	Balm	Fon	Ngwe	Foto	Bafu	Baf
	ʔ	ʔ	ʔ	ʔ	ʔ	ʔ	ʔ
	(~∅/_#)		(~∅/_#)			(~∅/_#)	(~∅/_#)

2.4. Summary of final consonants

All the consonants have now been treated for which there is good evidence for reconstruction in final root position. The reconstructed final consonants are *b, *d, *g, *m, *n, and *ʔ. No fricatives or affricates are reconstructed finally. As noted earlier, Bamileke shows a tendancy toward loss of final consonants. Many words in Bamileke with a CV structure show a final consonant in Proto-Bantu. Other words show a final consonant in only some of the dialects. Some cases have been noted for the dialects under study where a dialect shows final consonant loss. A tentative rule has been formulated to account for loss when the process appears to have generalized beyond individual words in a given dialect. A few cognate sets occur where only one or two dialects have a final consonant. In almost every case the final consonant is a velar stop or fricative after a high front or central vowel. In that environment it is possible that the consonant is epenthetic. Examples are Fomopea [ə-tɨg] 'tree'; Baloum [pɪ^x] 'to be extinguished' and [lɨ^x] 'tongue'; Fotoʔ [a-tʉx] 'tree'; Bafou(a) [ndyx] 'to rot'; and Bafou(b) [mblɣ] 'to rot'.

2.5. Initial fricatives and affricates

2.5.1. Labials

The data for labial fricatives and affricates are given in Table 13. Evidence for reconstructed *pf is based on the cognate set for 'to eat'. Only Ngwe has a shift of *pf to [f]. Every dialect shows [f] as a reflex of *f in 'twin', and [v] as a reflex of *v in 'fat/oil'. The problem is in reconstructing the initial consonants of 'belly' and 'ashes'. One possibility is to treat the correspondences in 'ashes' as a reflex of *v. Devoicing occurs in Fomopea and Fongo-Ndeng, and *v goes to [b̥] before [ə] in Ngwe. But the contrast between the Fongo-Ndeng and Ngwe forms for 'belly' and 'fat/oil' prevents treating the initial consonants of 'belly' as *v. The solution followed at present is to reconstruct *bv for 'belly', since all reflexes can be simply derived from it and reconstruction of a voiced affricate gives symmetry to the labial set. The reflexes of the labial set are summarized below.

Rule:	*pf	Fom	Balm	Fon	Ngwe	Foto	Bafu	Baf
	*pf	pf	pf	pf	f	pf	pf	pf
	*f	f	f	f	f	f	f	f
	*v	f/ə__	v	f/#__	b̥/_ə	v	v	v
		v/m__		v	v			
	*bv	v	v	b	β	(v)	v	v

Table 13. *pf, *f, *v, *bv

		Fom	Balm	Fon	Ngwe	Foto	Bafu	Baf
24.	to eat	pfɛt	pfɛt	pfat	fɛla	pfɛrə	pfɛ	pfɛt
59.	to be light	fə	fɔg	fɔg				fɔg?
69.	twin	mfaɦ	me⁻fag	le⁻fag	le⁻fɛ	le⁻fak	le⁻fak	mə⁻fag
5.	ashes	əfo	vo	fə	a⁻b̥ə		a⁻vo	avɔ
29.	fat/oil	mvɛt	me⁻vɛt	me⁻vɛt	βə⁻vɛt	mə⁻vɛt	mə⁻vɛt	mə⁻vɛt
9.	belly	e⁻vəmə	le⁻vəm	le⁻bəm	le⁻βəm		lə⁻vəm	lə⁻vəm

2.5.2. Alveolars and palatals

The data for alvelar and palatal fricatives and affricates are given in Tables 14 and 15. No velar fricatives or affricates are reconstructed.

2.5.2.1. *s, *ts, (*ʃ)

Table 14. *s, *ts, (*ʃ)

		Fom	Balm	Fon	Ngwe	Foto	Bafu	Baf
17.	to count		saŋ	saŋ	saŋe	saŋə	saŋa	saŋ(a)
20.	depth		le sə		le⁻sɛ		a-si	ə-sɛ
35.	to grow	sa?	sa?	(kɥiə)	(tsɔɔ)	(ŋ-kɥi)	(tsyɛ)	əsa?
66.	tooth	e⁻sɔŋ	le⁻sɔŋ	le⁻sɔŋ	le⁻sɔŋ	le-sɔŋ	le-sɔŋ	lə-sɔŋ
28.	eye	e⁻zə	le⁻zeg	le⁻ti	le⁻rə	le-sək	le-sək	lə-zəg
54.	road	menze	mɛnzə	sɛ	n⁻zə	men⁻sə	n⁻sə	nzə
19.	water	ŋ⁻kxə	ntse	n⁻tse	ntsə	n⁻tsi	ntsi	n⁻tsi
63.	to spit	tso	cɔʁɔ	tseg?	trɔga	tseɣo	tsoɣo	n⁻tsʊg
26.	elephant	əʃɨ	ʃə	ʃɨə	eʃuə	e⁻ʃɨə	eʃuə	əʃɨɔ

The correspondences for 'to count' and 'tooth', which have [s] in every dialect, are good evidence for reconstructed *s. The entries for 'road' have [s] in three dialects, but [z] in the other four; the [z] always occurs after [n]. The supposition that *s voices to [z] after [n] is easier than the converse, since some dialects retain voiceless [s] after [n] in 'road', but show [z] after [n] in several other sets which likely reconstruct as *z. The problem is to account for the correspondences for 'eye', which are almost the same as 'road', but without a prefixed [n-]. The occurrence of [t] in Fongo-Ndeng is especially difficult. Ngwe appears to show rhoticization. No solution is given at present for reconstruction of the initial consonant of 'eye'; and re-

construction of *s for 'road' is in question. The forms given in parenthesis in 'to grow' are not considered to be cognate with the forms which show [s], especially because of the vowel, but also because they lack final glottal stop.

The reflexes for 'water' and 'to spit' are reconstructed as *ts. [kx] in Fomopea 'water' is possibly a relic of an earlier velar affricate which has palatalized in Proto-West Bamileke except Fomopea. [c] occurs nowhere else in the data except in Baloum [cɔˇʃɔ] 'to spit'. The question is whether *ts has gone to [c], or whether the symbol is incorrect in BCCW, since many linguists use [c] for [ts] in their transcription, and the editors might have failed to make the conversion. Ngwe again shows rhoticization in 'to spit', but the condition under which it occurs is not accounted for.

It is possible from the data to regard [ʃ] as the palatalized reflex of *s that occurs before *ɨ or *ʉ in all dialects, as seen in the entries for 'elephant'. This solution is especially supported by the entry in BCCW for Ngwe, where both a phonetic and phonemic entry are given, and [ʃ] is phonemicized to /s/. The only counter-evidence is from Fomopea, which has [ʃɔŋ gaŋ] 'guinea fowl', where [ʃ] occurs before a low back vowel and palatalization is not expected. Tentatively, however, no *ʃ is reconstructed for Proto-West Bamileke.

Rule:	Fom	Balm	Fon	Ngwe	Foto	Bafu	Baf
*s	z/n_	z/n_	(no s/n_)	z/n_	ʃ/_ʉ	ʃ/_ʉ	z/n_
	ʃ/_ʉ	ʃ/_ʉ	ʃ/_ʉ	ʃ/_ʉ	s	s	ʃ/_ʉ
	s	s	s	s			s
*ts	ts	ts	ts	ts	ts	ts	ts
	(~kx)	(~c)		(~tr)			

Table 15. *z, *dz, *ʒ

		Fom	Balm	Fon	Ngwe	Foto	Bafu	Baf
6.	to demand	n-zɛt	zɛtə		tʃwə-re		n-zɛte	zətə
23.	to become dry	ja	za-nɛ	(m-ba)	zuŋa		n-zote	n-zagnì
33.	to go/walk	jin	zl		.			ziŋə
39.	to be heavy·	nzɛt	nzɛt	ndit	n-dɛt	n-zɛt	a-zɛt	n-dzɛt
40.	to hoe	ʒɨʔ	ʒɨʔ	lìʔa	lɛʔa	ʒyʔa	ʒyʔə	ʒəʔə
47.	name	e-zin	lezi	leliŋ	lelɛn	le-zəŋ	le-zəŋ	le-zəŋ
61.	to smell		ʒuʔlelɛm			n-ʒuʔ +n-zi		juʔzigə

It is almost possible to reconstruct one segment, *z, to account for all the data in Table 15. But whereas, Ngwe shows a [d] or [l] reflex for 'to be heavy', 'name', and 'to hoe', it has [z] in· [zuŋa] 'to become dry'. Fomopea has [j] for 'to become dry', but [z] or [ʒ] in the other cases. For the present *dz is reconstructed for 'to be heavy', 'name', and 'to hoe'; and *z for 'to become dry', 'to go/walk', and 'to demand'. Reconstruction of *dz gives ·. symmetry to the set of affricates for Proto-West Bamileke, since *ts, *pf, and *bv have been reconstructed, although the evidence for *bv is weak. Fongo-Ndeng and Ngwe show merger between *dz and *d in the reflexes that occur. This parallels the merger between *bv and *b in these two dialects. The [ʒ] which occurs in all other dialects in 'to hoe' is considered to be a palatalized reflex of *dz rather than *z because of the occurrence of [l] in Fongo-Ndeng and Ngwe. Evidence for *ʒ is weak, but stronger than that for *ʃ. The three entries for 'to smell' show a possible reflex of *ʒ before *u, a less likely environment for palatalization than the *ɨ or *y of 'to hoe'. At present, the [ʒ] which occurs in 'to hoe' is regarded as a palatal reflex of *dz which merges with the reflexes of *ʒ in Baloum and Foto? 'to smell'. Ngwe shows palatalization of *z

to [tʃ] before [ɯ] in [tʃuə-re] 'to demand'.

Rule:	Fom	Bamm	Fon	Ngwe	Foto	Bafu	Baf
*z	j/#_ z/n_	z		tʃ/_ɯ z		z	z
*dz	ʒ/_ɨ z	ʒ/_ɨ z	d/n_ l	d/n_ l	ʒ/_ɨ z	ʒ/_ɨ z	dz/n_ ʒ/_ɨ z
*ʒ		ʒ			ʒ		j

2.6 Vowels

A main reason for the difficulty in classifying the Bamileke dialects within a broader Bantu group on the basis of systematic correspondences be-tween lexical items is the vowel situation in Bamileke, where the vowel shifts are very extensive. Most Narrow Bantu languages have a five or seven vowel system; Proto-Bantu is reconstructed as a seven vowel system. Fe?fe?, an East Bamileke dialect, on the other hand, has eighteen phonetic vowels and six glides. In accounting for the development of Fe?fe? vowels, Hyman (1972) posits an almost total rearrangement of the vowel system of Fe?fe? compared to Proto-Bamileke. He accounts for the shifts in terms of both push and drag chains, which he uses to explain vowel lowering, laxing, fronting, diphthongization, and compensatory lengthening.

The development in Fe?fe? appears to be very different than that for West Bamileke and also for other East Bamileke dialects. Within the West Bamileke dialects under study, the situation is very complicated. In general, the dia-lects show a close relationship between the root vowels of cognates. For a given set, the vowel of every dialect is of approximately the same type; that is, all the vowels of a correspondence set will be back rounded or, for another set, high central, etc. The difficulty comes in trying to make generalizations about the development in each dialect. It is practically true that every cog-nate set has its own set of vowels. Given that this is the situation, recon-struction of the vowels cannot be done with much certainty.

Table 16. *a

		Fom	Balm	Fon	Ngwe	Foto	Bafu	Baf
1.	animal	nɔ	na	nʌ	ɲa	na	na	ˇna
3.	armpit	e-ɣabə	ne-ɣamne	le-ɣapte	le-ɣaɣa	lə-ɣapti	lɛ-ɣapte	lə-ɣapti
17.	to count		saŋ	saŋ	saɲe	saŋa	saŋa	saŋ(a)
18.	crab	kɔ	ka	ᵃkʌ	ka	-ka	-ka+m-bu	kambuŋ
19.	crocodile	ŋ-ga +ŋ-kxə	ŋ-ga +n-tse	ŋ-ga +n-tse			ŋ-ga -n-tsi	ŋ-ga -n-tsi
22.	to divide	ɣabə	ɣabə	ŋ-gəp	ɣaβa	ɣaβa	ɣəβa	ɣap-ti
23.	to become dry	ja	za-nɛ	(m-ba)				n-zag-ni
31.	fowl	ŋ-gɨəb	ŋ-gap	ŋ-gab	ŋ-gɛp	ŋ-gap	ŋ-gap	ŋ-gap
35.	to grow	sa?	sa?					əsa?
36.	guinea fowl	ʃɔŋ gaŋ	ŋgaŋtɨ		a-ɣaŋ	ŋ-gaŋa	a-ŋ-gaŋa	ŋgaŋa
44.	meat	ᵐbab	m-pap	m-bab	m-bap	m-bap	m-bap	m-bab
69.	twin	m-faɦ	me-fag	le-fag	le-fɛ	le-fak	le-fak	mə-fag
71.	wing	e-pabə	le-pap	le-pab	le-pap		le-pap	lə-pap
11.	buffalo	nə-nɛt	na-nɛt	nʌ-nɛt	n-nat			na-nɛt
24.	to eat	pfɛt	pfɛt	pfa(t)	fɛla	pfɛrə	pfɛ	pfɛt
29.	fat/oil	mvɛt	me-vɛt	me-vɛt	βa-vɛt	mə-vɛt	mə-vɛt	mə-vɛt
73.	three	pətɛt	mətɛt	metɛt	metat	tat	e-tɛt	me-tɛt

Almost every generalization which can be made for the correspondences recon-structed as *a has an exception. It should be noted that in every dialect [ɛ] is the vowel which generally occurs before a reflex of final *d, but occasionally [a] occurs in that environment; [ɛ] is infrequent except before *d. It is suspected that several vowels may have merged to [ɛ] before *d, one of which is likely *a. If any dialect shows [a] in this context, *a is reconstructed. In the case of 'oil/fat', where every dialect has [ɛ] *a has also been reconstructed. The cases where a dialect has [a] where other dialects have [ɛ] are Ngwe [n-nat] 'buffalo'

and [metat]'three'; Fongo-Ndeng [pfa(t)] 'to eat'; and Foto? [tat] 'three'.

In other environments, most correspondence sets have [a] in every dialect.
Fomopea has [ɔ] in an open syllable except for [ja]'to become dry', which has
probably lost a final *g (cf. Bafou(b) [n-zag-ni];the loss of *-g would be or-
dered after the shift *a → [ɔ] in an open syllable. Fongo-Ndeng has [ʌ] in an
open syllable, except [m-ba] 'to become dry'. Ngwe has [ɛ] in [le-fɛ] 'twin'
and [ŋ-gɛp] 'fowl, where other dialects have [a] (except Fomopea [ŋ-giəb] 'fowl',
which is unaccounted for); these cases in Ngwe cannot presently be handled by a
general rule. Bafou(a) has reduction of *a to [ə] in [ɣəβə] 'to divide', but not
in [saŋa] 'to count'. The shift *a → [ɛ] before *d in Bafou(a) must be ordered
before loss of *-d to account for [pfɛ] 'to eat'.

Rule *a	Fom	Balm	Fon	Ngwe	Foto	Bafu	Baf
	ɔ/_#		ʌ/_#				
	ɛ/_d	ɛ/_d	ɛ/_d	ɛ/_d	ɛ/_d	ɛ/_d	ɛ/_d
	a	a	a	a	a	a	a

2.6.2 *u, *o

Although [u, ʊ, o, ɔ] all occur in sets of back rounded vowels, there is
great variation as to which ones occur, so that the correspondences for a
given set of cognates is frequently unique to that set. Consequently, it is
difficult to determine how many and which back round vowels to reconstruct, or
to establish general patterns. At present, at least *u and *o are reconstructed,
but no rules are given because nothing satisfactory was worked out for the data.
Every solution has many exceptions.

A general tendency may be noted, namely, that [ʊ] generally occurs only in
open syllables (except Bafou(b) [n-tsʊg] 'to spit' and [pʊ-ŋ] 'egg'). Quite
likely [ʊ] is to be regarded as a reflex in some cases of *u and in others of
*o, and *ʊ does not need to be reconstructed. Hyman (1972:208) notes a tendancy

Table 17. *u

		Fom	Balm	Fou	Ngwe	Foto	Bafu	Baf
2.	arm/hand	(ə)-pu	əpu	a-bu	a-βo		a-pu	pu
8.	bean	mə-ku	me-khu	me-kʷɔ	βə-kʷɔ	mə-kʷɔ	mə-kɔ	mə-kʊ
10.	to bite	luŋ	lu	luŋ	luŋa	luŋi		n-du
14.	child	mu	mu	mʊ		-mu	mɔ	mɔ
15.	to come out	tuŋ	thu	tuŋɔ	tuŋa	tuŋɔ	tuɔ	tuɔ
25.	egg	e-pu+ŋ	le-pu+ŋ	le-buŋ	le-βuŋ	le-puŋ	le-poŋ	pʊ-ŋ
37.	head	ə-tug?	thʊ	tfu	a-tu		a-tu	a-thu
41.	leg/foot	ə-khuɔ	kfu	kfu	akʷu	akʷu	akʷe	akhu
57.	to send	tuŋ	thu	tum	tuŋa		tuwɔ	tʊ
60.	skin	ŋ-gwɔb	ŋgwup	ŋgub		ŋgup	ŋ-gub	ŋgub
62.	make	nɰ	nʊ	nʊ	ɲo	nu	nu	nu

in Bamileke for *o → [uo] → [u]. This may account for the correspondence between [u] and [o] in some cognates, such as 'arm/hand', 'to ask', 'bean', 'egg', and 'snake'. But there is no case of [uo] in the data, and the dialects in which [u] or [o] occurs vary. Another possibility is that *u has sporadically lowered to [o]. Another tendency is for [ɔ] to occur primarily in closed syllables. [ɔ] probably can be considered a reflex of *o. In a few cases, [ə] occurs where other dialects have [o] or [ɔ] (cf. 'ashes' and 'to be light'). In 'to spit', fronting to [e] has occurred in Fongo-Ndeng and Foto?. After *k, *g and *kw in 'bean', 'skin', and 'leg/foot', [u] often corresponds to [uɔ], [wɔ], or [wu]. The evidence favors diphthongization of *u rather than *o, since cognates with *k before [o] or [ɔ] without any evidence of diphthongization occur for 'to carve', 'tortoise', and 'to want' (except Baloum [məŋkwɔʔ] 'tortoise'). This discussion indicates that with more study, and especially with more data, a rule for back round vowels could probably be worked out, since several patterns emerge, however irregular.

Table 18. $^*o$

	Fom	Balm	Fon	Ngwe	Foto	Bafu	Baf
4. arrow	e-kɔŋĩŋ	le-kɔŋ	le-kɔŋ			lə-kɔŋ	lə-kɔŋ
5. ashes	əfo	vo	a-fə	a-b̥ə		av̥o	a-vɔ
42. to lie down	nɔŋ	nɔŋsĩ	nɔŋɔ	nɔŋase	nɔŋ	nɔŋ+u	nɔŋə
46. to mount	ko			kɔ?a		kɔ?ɔ	kɔ
51. to press	nɔ?ɔ	nɔ?ɔ	nɔ			nɔ	nɔ?ɔ
55. to roast	n-to		to	tuɔ	to-muk		
59. to be light	fə	fɔg	fɔg				fog?
63. to spit	tso	cɔɤɔ	tseg?	trɔga	tseɤo	tsoɤo	n-tsʊɡ
66. tooth	e-sɔŋ	le-sɔŋ	le-sɔŋ	le-sɔŋ	le-sɔŋ	le-sɔŋ	lə-sɔŋ
67 tortoise	maŋkɔ?	məŋkʷɔ?	məŋkɔ?			ŋ-kɔ?	pfaŋ-kɔ?
70. to want	kɔŋ	kɔŋ	kɔŋ	kɔŋa		kɔŋa	kɔŋ
6. to ask	lu	lʊ			lo		
13. to carve		kʊj	ko	kɔɔ		ŋ-kɔɔte	kɔ
45. to mould	pʊ	pʊ	m-bo	bɔɔ			mbɔti
64. stone		tʊ	to	-rɔ	to	tɔ	ə-to

2.6.3. $^*e$, $^*i$, $^*ə$

The data for reconstructed $^*e$ as a root vowel is especially weak. But [e]
occurs frequently in prefixes and suffixes (e.g. 'name', 'twin', 'armpit'), where
some alternation with [ə] and [ɪ] occurs. Hyman (1972:208) hypothesizes the devel-
opment of $^*e$ → [ɪe] → [ɪ] in Bamileke, which parallels the development $^*o$ → [uo] →
[u]. A few cases of diphthongization occur in the data, such as Bafou(b) [ŋgɪem]
'grasshopper' and Fomopea [phɪɛ] 'to rot', indicating a possible earlier $^*e$ as the
source of what has been reconstructed as $^*i$ in Proto-West Bamileke. The vowel of
'to be heavy' is reconstructed as $^*i$ on the basis of Fongo-Ndeng [ndɪt], indicating
another possible source for [ɛ] before $^*d$ beside $^*a$. $^*ə$ is reconstructed especially
on the basis of the correspondences of 'belly' and 'road'. The correspondences of
'name' may indicate an earlier $^*i$ as the source of reduced $^*ə$ prior to Proto-West

Table 19. *e

	Fom	Balm	Fon	Ngwe	Foto	Bafu	Baf
19 (water)	+ŋ-kxə	n-tse	n-tse	ntsə	n-tsi	n-tsi	n-tsi
51. to squeeze out	ke	ke	ke	kee		kiɛ	

Table 20. *i

	Fom	Balm	Fon	Ngwe	Foto	Bafu	Baf
27. to be extin-guished	pɛ	pix	psia	bəə	m-bi	m-biyɛ	pikɛ
30. female	ŋ-gцi	n-dzцi	ŋ-gцi	n-zцi	ŋ-g^wi	n-zцi	ɲ-dʒwi
33. to walk	jin	zi		yina			ziŋə
34. grasshopper	ŋg^jim		ŋgim			n-dʒim	ŋgiem
39. to be heavy	n-zɛt	nzɛt	ndit	ndɛt	nzɛt	azɛt	ndzɛt
47. name	e-zin	lezi	leliŋ	le-lɛndo / le-zəŋ		le-zəŋ	le-zəŋ
49. person	ŋen	ni			ni		ɲiŋnɔ
56. to rot	phiɛ	apix	m-bi	bəə			mbiy

Table 21. *ə

	Fom	Balm	Fon	Ngwe	Foto	Bafu	Baf
7. bad	^e-pə	apəg	mbəg				a-pəg
9. belly	vəmə	le-vəm	le-bəm	le-βɛm		le-vam	lə-vəm
28. eye	^ezə	le-zeg		le-rə	le-sək	le-sək	lə-zəg
54. road	mɛnzə	nɛnzə	sɛ	n-zə	mɛn-sə	n-sə	(amə)nzə
58. to sew	tam	təm	tɛm				^ətem
61. to smell	lam	lɛm	ndəmle	ndɛm		lɛmnɛ	

) 31 (

Bamileke. In several instances [ɛ] occurs before [m] where other dialects have [ə]. A number of forms are not accounted for in the rules below and are circled in the tables.

Rule:		FOM	BALM	FON	NGWE	FOTO	BAFU	BAF
	*i	ε/_d	ε/_d		ε/_d	ε/_d	ε/_d	ε/_d
		i	i	i	i	i	i	i
	*e	e	e	e	ee	i	i	i
		(~ə)			(~ə)		(~iε)	
	*ə	ə	ə	ə	ε/_m	ə	ə	ə
					ə			

2.6.4. *ɯ, *ɨ, *y

The data shows the need for reconstruction of several high vowels besides *u and *i. Again, whatever solution is chosen has exceptions, since the correspondences are not completely regular. Most dialects have lost some of the high vowel contrasts reconstructed for Proto-West Bamileke through sound merger. The vowel of 'to die' and 'tree' has been reconstructed as *ɯ. In Fomopea, Baloum, Fongo-Ndeng, and Bafou(b) it laxes to [ɨ] or [ə]. Circled forms in Table 22 are anomalous according to the rules below.

The vowel of 'heart', 'to hoe', and 'tongue' is reconstructed as *ɨ. The set of vowels for 'calabash' is quite variant from any other set and has been reconstructed as *y.

Rule:		FOM	BALM	FON	NGWE	FOTO	BAFU	BAF
	*ɯ	ɨ	ə	ɨ	ɯɯ	ɯ	yə	ɨ
	*ɨ	ɨ	ɨ	ɨ	ε/_?	y/_?	y/_?	ə
					ɨ/_#	ə/_#	e/_#	
	*y	ɨ	ə	ɨ	u	∅	yə	ɨɔ

Table 22. *ɯ, *ɨ, *y

		FOM	BALM	FON	NGWE	FOTO	BAFU	BAF
21.	to die	kfuɔ	kfɛ	kyɨ	kʷɯɯ	k_o^wɯ	kwɛ	kfɨ
68.	tree	ə-tɨg	thə	tɦɨ	ə-tɯɯ	ətɯx	ətxyə	ə-thɨ
38.	heart	n-tɨŋə	thɨ-nɨ	n-tɨ	-n-tɪ		ə-te	ə-te
40.	to hoe	ʒɨʔ	ʒɨʔ	lɪʔə	lɛʔə	ʒyʔə	ʒyʔə	ʒəʔə
65.	tongue	leŋ	lɨx	əlɨ	əlɪ	alə	ale	a-lə
12.	calabash	ə-tɪŋ	ᵊtə	(ə)-tɨ	n-tu	e-tø	ətyə	a-tɨɔ

Table 23. *ia, *ua, *ɨa, *ɯa

		FOM	BALM	FON	NGWE	FOTO	BAFU	BAF
4.	arrow	ŋɨgɛt	ŋᵗkɛt		ŋ-kɪɛt	ŋ-kɪɛre		ŋɨkɪɛt
32.	to give	hə		fɪəɦ	flə	lə	jiə	jə
72.	two	pəpɪə	jɪ-pə	me-bɪə	βə-βɪə		me-pɪə	mə-pɪə
74.	four	ᵊ-kuɔʔ	le-kʷɔ	le-kuɔ	le-kʷɔ	le-kʷɔ	lekuə	lekuə
33.	to go	ɣɨɔ	ɣɔ	ɣɨʌ	ɣɔə	ɣə	ɣɔ	gɣɨɔ
16.	to demand	n-zɛt	zɛtə		tʃɯəre		n-zɛte	zətə
26.	elephant	ᵊʃɨ	ʃə	ʃɨə	e-ʃɯə	e-ʃiə	eʃɯə	ᵊʃɨɔ
48.	oil palm	e-tɨ	thəletə	lethɨə	le-tyə	le-tɥə	le-tyə	lə-tɨɔ

2.6.5. Diphthongs

Several diphthongs are reconstructed for Proto-West Bamileke. Evidence for *ia is quite strong in 'to give' and 'two'. In 'arrow' it is postulated that the shift of *ia to [Iɛ] or [ɛ] before *d parallels the rule for *a before *d. *ua is reconstructed for 'four', with assimilatory rounding of the second vowel to [ɔ] in most dialects. *ɨa is reconstructed for 'to go', and *ua for 'elephant' and 'oil palm'. Ngwe [le-ꞏtɥə] 'oil palm' is written phonemically as /de-twə/, indicating a rule which fronts [w] following [t]. The rule is adopted historically, permitting the two sets to be considered as reflexes of the same proto-vowel. The occurrence of [wə] in Ngwe [twə-re] 'to demand' is taken as possible evidence for another source of [ɛ] before *d.
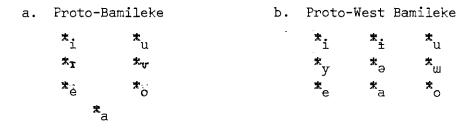
Rule:	FOM	BALM	FON	NGWE	FOTO	BAFU	BAF
*ia	ɛ/_d	ɛ/_d	(no ia/_d)	iɛ/_d	iɛ/_d	(no ia/_d)	iɛ/_d
	ha/#_	ə	ia	ia	ia	jia/#_	ja/#_
	ia					ia	ia
*ua	uɔ	wɔ	uɔ	wɔ	wɔ	ua	ua
*ɨa	ɨɔ	ɔ	ɨʌ	ɔa	ə	ɔ	ɨɔ
*ua	ɛ/_d	ɛ/_d	(no ua/_d)	yə/t_	(no ua/_d)	ɛ/_d	ə/_d
	ɨ	ə	ɨə	wə	ɥə/t_	yə/t_	ɨɔ
					iə	wə	

2.6.6. Summary of vowels

Judging from the great amount of variation among sets of vowel correspondences compared to initial and final consonants, it is the root vowel that has undergone the greatest development in Proto-West Bamileke. The problems of reconstruction are therefore greater, and a great deal of work will need to be done in this area. It is suspected that vowel development will be of special importance in a comparison between East and West Bamileke. Hyman's data from the East Bamileke dialect Feʔfeʔ show a great deal of divergence from the West

dialects studied.

A comparison is made below between the vowels reconstructed by Hyman (1972:226) for Proto-Bamileke and those just reconstructed for Proto-West Bamileke.

a. Proto-Bamileke   b. Proto-West Bamileke

$*i$ $*u$ $*i$ $*ɨ$ $*u$

$*ɪ$ $*ʊ$ $*y$ $*ə$ $*ɯ$

$*e$ $*o$ $*e$ $*a$ $*o$

$*a$

The diphthongs $*ia$, $*ua$, $*ɨa$, and $*ɯa$ are also reconstructed for Proto-West Bamileke. As noted earlier, Bamileke dialects have much larger vowel inventories than Narrow Bantu dialects. Hyman's Proto-Bamileke vowel system is identical with Proto-Bantu. Proto-West Bamileke shows considerable development, with the addition of two central vowels and four glides.

3.0. Comparison of dialects

As stated in the first section of this paper, one immediate goal of the study is to test Williamson's subclassification of the dialects which have been compared to see if it has any support from sound correspondences. At this point the correspondences established in the second section are restated to facilitate comparison. The correspondences for initial and final root consonants are combined into single rules.

3.1. Restatement of correspondence rules[1]

	FOM	BALM	FON	NGWE	FOTO	BAFU	BAF
*b	b/+CV_(V)+ b/m_ ph/_iɛ p	b/+CV_V+ (m/_n) p	(no b/+CV_V+) p/_t ps/#_ia b	b/m_ b̥/_əə p/_#	β/+CV_V+ b/m_ p	β/+CV_V+ b/m_ b/_n p	(no b/+CV_V+) b/m_ p~b/_# p
*d	(no d/+CV_V+) (no d/n_) t/_# 1	(no d/n_) t/+CV_(V)+ 1	(no d/+CV_V+) d/n_ t/_# 1	l~r/+CV_V+ d/n_ t/_# 1	r/+CV_V+ (no d/n_) t/_# 1	(no d/n_) t/+CV_(V)+ 1	d/n_ t/+CV_(V)+ 1
*g	(no g/+CV_V+) g/ŋ_ ∅/_# ɣ	/+CV_V+ g/ŋ_ g/_# ɣ	(no g/+CV_V+) g/ŋ_ g/_# ɣ	g/+CV_V+ g/ŋ_ ∅/_# ɣ	g/ŋ_ k/_# ɣ	dʒ/_i g/ŋ_ k/_# ɣ	(no g/+CV_V+) gɣ/_ɨ g/ŋ_ g/_# ɣ
*gw	g^4/_i	dz^4/_i	g^4/_i	$ʒ^4$/_i	gw/_i	z^4/_i	dʒw/_i
*t	t	th/_hiV# t	tf/_u# tɦ/_ɨ# th/_# t	t	t	t	th/_ɨu# t
*k	k	kh/_u# k	k	k	k	k	k

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1. The symbol '+' is used in these rules to stand for the morpheme boundary on either side of the root. In the data tables, '+' stands for word boundary, and '-' for morpheme boundary, but the use of '-' in the rules would lead to confusion with '_'. The symbol '#' stands for the extreme initial or final boundary of the utterance as entered in the data. If no environment is given for the occurrence of a reflex, it means 'occurs elsewhere'. The reflexes are ordered so that the environment for a higher reflex outranks that for a lower. For example, given a rule *b - b/m_   [b] would occur if the nasal pre-
   ph/_i
   fix occurs, even if the root
   vowel were [ɨ].

	FOM	BALM	FON	NGWE	FOTO	BAFU	BAF
*kw	kf/_ɯ kh/_u	kf	kᶣ/_ɯ kf/_u	kw	kw/_ɯ kw/_u	kw	kf/_ɯ kh/_u
*m	m	m	m	m	m	m	m
*n	n/+_ ŋ/_+	n/+_ ∅/u_≠g ŋ/_+	n/+_ ŋ/_(V)+	n/+_ ŋ/_(V)+	n/+_ ŋ/_(V)+	n/+_ ∅/u_≠g ŋ/_(V)+	n/+_ ∅/u_≠g ŋ/_(V)+
(*ɲ)	n	n	n	ɲ	n	n	n
*ʔ	ʔ (~∅)	ʔ	ʔ (~∅)	ʔ	ʔ	ʔ (~∅)	ʔ (~∅)
*pf	pf	pf	pf	f	pf	pf	pf
*f	f	f	f	f	f	f	f
*v	f/ə_ v(/m_)	v	f/#_ v	b/_ə v	v	v	v
*bv	v	v	b	β	(v)	v	v
*s	z/n_ ʃ/_ɯ s	z/n_ ʃ/_ɯ s	(no s/n_) ʃ/_ɯ s	z/n_ ʃ/_ɯ s	ʃ/_ɯ s	ʃ/_ɯ s	z/n_ ʃ/_ɯ s
*ts	ts (~kx)	ts (~c)	ts	ts (~tr)	ts	ts	ts
*z	j/#_ z/n_	z	(no data)	tʃ/_ɯ z	(no data)	z	z
*dz	ʒ/_ɨ z	ʒ/_ɨ z	d/n_ l	d/n_ l	ʒ/_ɨ z	ʒ/_ɨ z	ʒ/_ɨ dz/n_ z
*ʒ		ʒ			ʒ		j

) 37 (

	FOM	BALM	FON	NGWE	FOTO	BAFU	BAF
*a	ɔ/_# ɛ/_d a	ɛ/_d a	ʌ/_# ɛ/_d a	ɛ/_d a	ɛ/_d a	ɛ/_d a	ɛ/_d a
*u							
*o							
*i	ɛ/_d i	ɛ/_d i	i	ɛ/_d i	ɛ/_d i	ɛ/_d i	ɛ/_d i
*e	e (~a)	e	e	ee (~a)	i	i (~iɛ)	i
*ə	ə	ə	ə	ɛ/_m ə	ə	ə	ə
*ɯ	ɨ	ə	ɨ	ɯɯ	ɯ	yə	ɨ
*ɨ	ɨ	ɨ	i	ɛ/_ʔ i/_#	y/_ʔ a/_#	y/_ʔ e/_#	a
*y	i	ə	ɨ	u	ø	ya	ɨɔ
*ia	ɛ/_d ha/#_ ia	ɛ/_d ə	(no ia/_d) ia	iɛ/_d ia	iɛ/_d ia	(no ia/_d) jia/#_ ia	iɛ/_d ja/#_ ia
*ua	uɔ	wɔ	uɔ	wɔ	wɔ	ua	ua
*ɨa	ɨɔ	ɔ	ɨʌ	ɔa	ə	ɔ	ɨɔ
*ɯa	ɛ/_d ɨ	ɛ/_d a	(no ɯa/_d) ɨa	yə/t_ ɯə	(no ɯa/_d) ɥa/t_ ia	ɛ/_d ya/t_ ɯə	a/_d ɨɔ

3.2. Dialect subgrouping

The subgrouping of the dialects by Williamson given earlier was:

(1)1. Ngwe
  2. Foto?
  3. Bafou
  4. Fongo-Ndeng
(b) Baloum
(c) Fomopea

Data are given in BCCW for two dialects of Bafou. It would be expected that both would fall within (a), and that they might show special similarity to each other. The type of similarity looked for in this study is shared reflexes of proto-segments, in particular reflexes that look to be innovate and occur in a limited number of dialects. Evidence in support of subgroup (a) would be for that group to share a common reflex not shared by Baloum or Fomopea, especially if the reflex can be considered a new development. Stronger evidence would be for the group to share a number of innovate reflexes.

A study of the correspondences just constructed reveals that there is only one instance where a single reflex might occur in every dialect of (a) and no-where else. This is the case of ^{w}b between vowels in the second root consonant position, where [β] occurs in Ngwe, Foto?, and Bafou(a); Fomopea and Baloum have [b]; and there is no data for Fongo-Ndeng and the Bafou(b). But Fongo-Ndeng could very likely have [b] in this environment rather than [β], since it is the only dialect that has [b] in the initial consonant position when not preceded by a nasal, and it has [b] in final position before pause. The conclusion concerning Williamson's subgroup (a) is that there is no evidence from sound correspondences to support such a group.

The question has to be immediately raised, of course, whether there is evidence to support any other subgrouping of the dialects. Table 24 tabulates the cases where a reflex is shared by more than one dialect, but not by all. The situation exemplified by these results is fascinating. No clear pattern emerges that will set apart any of the dialects as a subgroup. Rather, every case where a shared reflex can be used as evidence for a certain subgrouping can be countered

Table 24. Shared reflexes

	FOM	BALM	FON	NGWE	FOTO	BAFU	BAF
$*b$	b/m_ p/#_ ^{V} b/CV_V b/_#	p/#_ ^{V} b/CV_V p/_#	b/m_ p/_t ? ? b/_#	b/m_ β/CV_V p/_#	b/m_ p/#_ ^{V} β/CV_V p/_#	b/m_ p/#_ ^{V} β/CV_V p/_#	b/m_ p/#_ ^{V} p/_t ? ? b/_# p/_#
$*d$	? ?	t/CV_V	? ?	r/CV_V	r/CV_V	t/CV_V	t/CV_V
$*g$	? 0/_#	g/_#	? g/_#	0/_#	γ/CV_V k/_#	γ/CV_V k/_#	? g/_#
$*gw$	g^ɥ		g^ɥ		(gw)		
$*t$		th/_hi V					th/_^i_u
$*kw$	kf/_ ɰ kh/_u	kf/_ ɰ kf/_u	kf/_u	k^w	k^w	k^w	kf/_ ɰ kh/_u

) 40(

Table 24 continued

	FOM	BALM	FON	NGWE	FOTO	BAFU	BAF
*n		∅/u_				∅/u_	∅/u
*ʔ	∅						∅
			∅			∅	
*v	f/ə_		f/#_				
*bv			b	β			
*s	z/n_	z/n_	?	z/n_			z/n_
			?		s/n_	s/n_	
*dz	ʒ/_ɨ	ʒ/_ɨ			ʒ/_ɨ	ʒ/_ɨ	ʒ/_ɨ
			l/_ɨ	l/_ɨ			
	z/n	z/n_			z/n_	?	(dz)
			d/n_	d/n		?	
	z/V_	z/V_			z/V_	z/V_	z/V_
			l/V_	l/V_			
*ʒ	?	ʒ	?	?	?	ʒ	(j)
*i	ɛ/_d	ɛ/_d		ɛ/_d	ɛ/_d	ɛ/_d	ɛ/_d
*e	e	e	e	(ee)			
					i	i	i
	ə			ə			

Table 24 concluded

	FOM	BALM	FON	NGWE	FOTO	BAFU	BAF
*ɯ	ɨ		ɨ	ɯɯ	ɯ		ɨ
*ɨ	ɨ/_? ? ?	ɨ/_? ? ?	i/_#	i/_#	y/_? ə/_#	y/_? (e)	ə/_#
*ia	ɛ/_d ia	ɛ/_d	? ? ia	iɛ/_d ia	iɛ/_d ia	? ? ia	iɛ/_d ia
*ua	uɔ	ɔw	uɔ	ɔw	ɔw	ua	ua
*ia	ɨɔ	ɔ				ɔ	ɨ
*ua	ɛ/_d	ɛ/_d	? (ɨə/ʃ_)	yə/t_ wə/ʃ_	? ɥə/t_	/_d yə/t_ wə/ʃ_	

by another case where the same dialects are split. For instance, only Fongo-Ndeng and Ngwe have [d] and [l] where all the other dialects have [z], [ʒ], or [dz] for *dz. But Ngwe is grouped with Baloum, Foto?, and Bafou(a) for devoicing of final *b to [p], over against Fongo-Ndeng and Fomopea, which have [b] (Bafou(b) is ambiguous since it has both [p] and [b]). Conflicting evidence of this sort forces one to raise the issue of the validity of the assumptions upon which the use of the methodology is based. This topic will be taken up in the final section.

One last observation concerning dialect subgroups might be made. It is that Ngwe exhibits a few striking cases of unique reflexes. Only Ngwe has [ɲ] where all other dialects have [n]; it is the only dialect that has [f] where all others have [pf]; and it alone has [β] where all other dialects have [p] except Fongo-Ndeng, which has [b]. Both [ɲ] and [β] have correspondences in Narrow Bantu dialects. Two explanations are possible: either that Ngwe has been influenced by a Bantu dialect, or that Ngwe is a more conservative dialect, in which case it would be set apart from the other dialects.

4.0. Conclusion

The use of systematic sound correspondences as a method for setting up dialect subgroups in a language family depends to a degree upon the assumption of a tree model in which dialects of separate branches are not in contact. But what happens when the dialects remain in close geographic proximity with open lines of communication and ongoing interaction? And suppose that a dialect continuum exists so that a given dialect interacts with a number of closely related dialects. In this case it is possible for an innovation which originates in Language A, for example. to extend to B, but not as far as C. An innovation in C, conversely, extends to B but not A. The result of setting up correspondences in order to use shared innovations as a basis for establishing subgroups is con-

flicting evidence. In one case A and B are grouped against C, and in the other B and C against A.

A situation something like this would account for the results of the study of shared reflexes in West Bamileke. Conflicting patterns arise from sound shifts with diverse origins and extents. It is almost impossible to establish subgroups among the dialects on the basis of comparative methodology when this occurs, since the same dialect shows relationships to different dialects in different cases. In still other cases, the mutual dialect may be the one that diverges.

The comparative method has been used in this paper to establish that a dialect continuum exists in West Bamileke in which the pattern is for sound innovations to emanate from diverse origins and to extend over diverse ranges. Actually, the terms West Bamileke and Proto-West Bamileke are misnomers if applied only to the dialects surveyed in this study. A considerable number of additional dialects in which data are available in BCCW are in close geographic proximity to those studied and show close lexical correspondences. If the scope of the comparison is expanded to include these dialects, the comparative method could be used to attempt to pinpoint the origin and range of specific innovations.

With extension of the scope of the survey to a still wider domain, it may be possible to delineate the outer boundaries of the group. If, as discussed earlier, the divergence noted for Ngwe is evidence of conservatism, Ngwe may be on the fringe outside of some spheres of influence. The boundary would be crossed if it were established that a number of common divergences occur for a dialect group with a minimum of conflicting evidence. Hyman argues for such a boundary between Bamileke and Ekoid Bantu, and for a less rigid boundary between East and West Bamileke. Considerable work remains before it can be determined if a boundary really occurs between East and West which would justify the establishment of separate branches in Bamileke.

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Appendix-Table of Data

	FOMOPEA	BALOUM	FONGO-NDENG	NGWE	FOTO	BAFOU(a)	BAFOU(b)
1. animal	cu	na	nʌ	▪na	na	na	na
2. arm/hand	(e-) pu	ə⁻pu	a⁻bu	a-βo/m-bo		a-pu/m-bu	pu
3. armpit	e-ɣabe	ne-ɣamne	le-ɣapte	le-ɣaɣa	le-ɣapti	lɛ-ɣapte	le-ɣapti
4. arrow (of war)	e-kɔnin +gɛt	le-kɔn +kɛt	le-kɔŋ	ŋ-kiɛt	ŋ-kiɛre	le-kɔŋ	le-kɔŋ+kiɛt
5. ashes	ə⁻fə	vo	a-fə	a-βə		a-vo	a-vɔ
6. to ask	lu	lʋ	tuŋ-te	tɔŋ-te	lo		
to demand	n-zɛt	zɛtə		tʃuəre		n-zete	zete
7. bad/	e⁻pə	a-ɓeg	m-beg				a-ɓe-a
not good			a ka pɔŋ	te-βɔŋ		te-pɔŋ	
8. bean	mᵉ-ku	me-kʰʊ	me-kwɔ	βe-kwɔ	me-kwɔ	me-ko	me-kʋ
9. belly	e⁻veme	le-vem	le-bem	le-βɛm/m-bɛm		le-vem	le-vem
10. to bite	luŋ	lu	luŋ	luŋa	luŋi	na-n-dʒa	n-du
11. buffalo	ne-net	na-nɛt	nʌ-nɛt	n-nat	-naŋgaŋ	naŋgap	na-net
12. calabash	e-tlŋ +ŋkxe	e⁻te	(a-)tɨ	-n-tu	a-tɸ	a-tye	tlɔ
13. to carve	ven	kʋɟ	ko	kɔɔ		ŋ-kɔɔte	ko
14. child	mu	mu	mʋ	cɵʊ̃-ʊ̃	mu	mu	mu
15. to come out	tuŋ	tʰʊ	cʊnt	cʊ̃nt	cʊnt	tuɔ	cut
16. to be cool	fie	tʃiʔafi ;	ŋwete	fe-te		kɔŋa	ŋʷɛ
		ɣafi~ɣ+afi					

BAFOU(b)

	FOMOPEA	BALOUM	FONGO-NDENG	NGWE	FOTO	BAFOU(a)	BAFOU(b)
17. to count		saŋ	saŋ	saŋe~saŋre	saŋa	saŋa	saŋ(a)
18. crab	kɔ	ka	akʌ	-ka	-ka	-ka +m-bu	kambuŋ
19. crocodile (of water)	ŋ-ga +ŋ-kxə	ŋ-ga +n-tse	ŋ-ga +n-tse	ŋɔŋ		ŋ-ga-n-tsi	ŋ-ga-n-tsi
20. depth (of water)	nzamʃi	le-sə		le-sɛ +ntsa		a-sɪ+n-tsi	a-sɛ
21. to die	kfuɔ	kfə	kɥɨ	kʷɯɯ	le-kɤɯ	kwɛ	kfɨ
22. to divide	γabe	yabe	ŋ-gap	yaβa	γaβa	yeβa	yap-ti
23. to become dry	ja	za-nɛ	m-ba	zuŋa		n-zote	n-zag-nɨ
24. to eat	pfɛt	pfɛt	pfa(t)	fɛla	pfɛrə	pfɛ	pfɛt
25. egg (of fowl)	e-pu ŋgɔb	le-pu ŋgab	le-buŋ	le-βuŋ	le-puŋ/ m-buŋ	le-poŋ/ m-boŋ	pʊ ŋ-gap
26. elephant	əʃɨ	ʃə	ʃɨə	emʃe	e-ʃɪe	emʃe	cʃe
27. be extinguished	pɛ	piˣ	psɪa	beθ	m-bi	m-bɪγe	pɪkɛ
28. eye	e-zə	le-zeg	le-ti	le-ra	le-sek	le-sek	θez-eɪ
29. fat/oil	mvet	me-vɛt	me-vɛt	βə-vɛt	me-vɛt	mə-vɛt	mə-vɛt
30. female	meŋ-gɥɨ	mɛn-dzɥɨ	mɛŋ-gɥɨ	n-zɥɨ	ŋ-gwi	n-zɥi	mɛn-dzwi
31. fowl(chicken)	ŋ-gɨəb	ŋ-gap	ŋ-gab	ŋ-gɛp	ŋ-gap	ŋ-gap	ŋ-gap
32. to give	ha	cɣ	fɪaɣ	fia	ia	jia	ja
33. to go	γɨɨ	cɣ	γɨv	əcɣ	əγ	cɣ	cɨɣβ
to walk	jɪn	zɨ		γina			eŋz
34. grasshopper	ŋ gɥɪm	ma kam te kxə ŋgɪm	ŋgɪm		n-dʒɪm	ŋgiem	

	FOMOPEA	BALOUM	FONGO-NDENG	NGWE	FOTO	BAFOU(a)	BAFOU(b)
35. to grow	sa?	sa?	kᵘfe	tsɔɔ	ŋ-kɥ̀	tsyɛ	ᵊsa?
36. guinea fowl	ʃɔŋ gaŋ	ŋganti	tsɔ?	a-yaŋ	ŋ-gaŋa	a-ŋ-gaŋa	ŋgaŋa
37. head	ᵊ-tug?	tʰʊ	tfu	a-tu		a-tu	a-tʰu
38. heart	m-baŋ n-tɨŋ ᵉ	tʰɨ-ni	n-tɨ	-n-tɨ		a-te	ᵊ-te
39. heavy	n zet	nzɛt	ndɨt	n-dɛt	n-zɛt	a-zɛt	n dzɛt
40. hoe/cultivate	ʒɨ?	ʒɨ?	lɨ?a	lɛ?a	ʒɣ?e	ʒɣ?e	ʒe?e
41. leg/foot	ᵊ-kʰuɔ	kfɔ	kfu	a-kwu	a-kwu	a-kwe	a-kʰu
42. to lie down	nɔu	nɔŋsɨ	nɔŋ~nɔŋsi	nɔŋase	nɔu	nɔŋ+a-si	ᵊnɔu
43. to lick	lɛt	lɛt	baŋe	leŋa	peŋa	peŋe	peŋe
44. meat	mᵇbab	m-pap	m-bab⁻	n bab zo	m-bap	m-bap	m-bab
45. to mould	pʊ	pʊ	m-bo	ɔɔq		n-gɔ	mbɔtɨ
46. to mount	ko		kɥɨ	kɔ?a	puɣe	kɔ?ɔ	ko
47. name	e-zin	lezi	lelɨŋ	le-lɛŋ do	le-zeŋ	le-zeŋ	lezeŋ
				~le-sɔŋ do			
48. oil palm	e-tɨ	tʰᵊlete ~lete	le tʰɨe	le-tɣe	le-tᵓe	le-tye	le tɨɔ
49. person	ŋeŋ	nɨ	cmʊ	cmʊ-ʊ	nɨ	pɨŋ	cuŋuŋ
50. pig (+ animal)	kuna	kuna	ku+na	ku na	-ku+na	-ku+na	kʰu+na
51. to press	nɔ?ɔ	nɔ?ɔ	nɔ			nɔ	nɔ?ɔ
to squeeze out	ke	ke	ke	kee		kiɛ	

	FOMOPEA	BALOUM	FONGO-NDENG	NGWE	FOTO	BAFOU(a)	BAFOU(b)
52. to refuse	kai	kəŋe	fi	kəŋe	lyʔe	lyʔ-e	lɨʔə
to retain	toʔɔ	tsɛt	tatte	guŋa			
53. to resemble		auʈe	file	fule	feli	ɛ-syɛne	ʃɥini
54. road	mɛnze	mɛnze	sɛ	-nʈzə	mɛ-n-sə	n-sə	(amə)nzə
55. to roast	n-to	kaŋ	to	tuŋ	to-muk	kaŋa	kaŋa
56. to rot	phiɛ	a piˣ	m-bi	ɓee		n-dɣx	mbiɣ
57. to send	tuŋ	thu	tum	tuŋa		cwnɨ	tʊ
58. to sew	tam	tem	tɛm	zca		m-fo	ə tem
59. to be light	fe	fɔg	fɔg				fogʔ
to shine	dtuŋ	ʃɛn		gaŋle	ŋ-waŋle	a-ŋwaŋni	ŋwaŋni
60. skin	ŋ-gwɔb	ŋgwup	ŋ gub	a-kwəβazo	ŋ-gupɨna	ŋ-gubɨnɛt	ŋgub
61. smell	lam	ʒuʔlelɛm	ndɛmle	n-dɛm	n-ʒuʔɨn-zi	lɛmnɛ	juʔzige
62. snake	nu	nʊ	nʊ	nɨŋp zo	-nu	-nu	nu
63. to spit	tso	cʀcɔ	tsegʔ	tʀɔga	tseɣo	tsoɣo	n-tsʊg
64. stone	luɔŋ	tʊ	ɔʒcɔ-ʊ	a-dudl	ɨo	cɨ-	cɨ-e
			~to	cɹ-~			
65. tongue	lɛŋ	lɨˣ	alɨ	a-lɨ	a-le	a-le	a-lə
66. tooth	e-ɔcs	le-sɔɔ	le-ɔcs	ɔcs-el	le-ɔcs	le-ɔcs	ɔcs-el
67. tortoise	kʰla maŋkɔʔ	tswe maŋkʷɔʔ	pfe (maŋkɔʔ)	le-vɛn	-pfe	-pfa-ŋ-kɔʔ	pfaŋkɔʔ

	FOMOPEA	BALOUM	FONGO-NDENG	NGWE	FOTO	BAFOU(a)	BAFOU(b)
68. tree	ə-tɨg	tʰə	tɦɨ	a-tɯɯ	a-tɯx	a-txyə	a-tʰɨ
69. twin	m-faɦ	me-fag	le-fag	le-fɛ	le-fak	le-fak	me-fag
70. to want	kɔŋ	kɔŋ	kɔŋ	kɔŋa		kɔŋa	kɔŋ
71. wing	e-pabe	le-pap	le-pab	le-pap		le-pap/ m-bap	le-pap
72. two	pe pla	ɟl-pe	me-bia	βe-βia		me-pia	me-pia
73. three	pe tɛt	me tɛt	me tat	tat	e-tɛt	me-tɛt	me tɛt
74. four	ᵉkuɔʔ	le kwɔ	le kɔⁿ	le-kwɔ	le-kwɔ	le-kua	lekua
75. five	pe-ta	ɟl-ta	(me-)-tia	βe-tɛɛ		me-taa	me-ta