Possessive Tone in Tswefap (Bamileke): Paradigmatic or Derivational?

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Abstract

In this paper, I consider two analyses of the possessive pronoun tonal paradigm in Tswefap, a Bamileke language spoken in Batoufam, Cameroon. As in the case of related languages that have been previously described, Tswefap has a rather complex tone system that involves multiple tone heights, tonal contours, and tone alternations. Although simplified, it also maintains several of the inherited noun class distinctions. In this study attention is on the tones of possessive pronouns and their effects on a preceding modified noun. I first present a paradigmatic account as one might find in a descriptive or pedagogical grammar indicating which possessive pronouns receive which tones. I then turn to a more traditional Bamileke and Grassfields Bantu analysis in terms of underlying representations and floating tones. It is argued that all possessive pronouns are preceded by a floating L tone which affects the mid tone of a preceding noun in one of two ways, depending on the syllable shape of the pronoun: (i) if the pronoun begins with a consonant, the mid of the noun becomes a mid to low contour tone; (ii) if the pronoun consists solely of a vowel, the mid of the noun is raised to a high tone. Although I argue for the latter analysis, I conclude by demonstrating that alternate tonal variations indicate on-going change which may ultimately undermine the more abstract phonological analysis in favor of a considerably simplified paradigmatic tone assignment.

1. Introduction

In a number of studies in the 1970s, abstract tonal analyses have been proposed of several Bamileke (Eastern Grassfields Bantu) languages, including Medumba [Bangangte] (Voorhoeve 1971), Fe'fe' [Bafang] (Hyman 1972), Ghomala [Bandjoun] (Nissim 1981), and Yemba [Dschang] (Tadadjeu 1974, Hyman & Tadadjeu 1976). In each case floating tones were posited to capture morphotonemic alternations, which could be quite complex, particularly as followed up in the case of Yemba (cf. Pulleyblank 1986, Hyman 1985, Stewart 1992, Clark 1992, Snider 1999). As Hyman & Tadadjeu (1976) pointed out, these floating tones could be traced back to either lexical or grammatical historical syllables in Proto Eastern Grassfields Bantu (PEGB) whose vowels had dropped out, but could still be posited in abstract synchronic representations. Tadadjeu's (1974:284) minimal quadruplet in Yemba illustrates:[1]

(1)	lə̀-tə́ŋ		*Underlying*	*PEGB*	
'feather'	lə̀-tə́ŋ	L-H	/lə̀-tə́ŋ/	*-tə́ŋə́	*H.H
'to call'	lə̀-tə̀ŋ˚	L-H	/lə̀-tə́ŋ-ˋ/	*-tə́ŋ-ə̀	*H.L
'tooth'	lə̀-tə̀ŋ	L-L˚	/lə̀-tə̀ŋˊ/	*-tə̀ŋə́	*L.H
'to reimburse'		L-L	/lə̀-tə̀ŋ-ˋ/	*-tə̀ŋ-ə̀	*L.L

In these examples the L tone prefix /lə̀-/ marks noun class 5 on nouns as well as verb infinitives. As indicated, bisyllabic *H.H and *L.L transparently yield monosyllabic H and L stems, while *L.H and *H.L result in new surface tonal contrasts: *L.H is realized as a level L pitch syllable, symbolized L˚, which contrasts with the falling pitch of L before pause. As shown, the historical *H remains as a floating tone that blocks the automatic "downgliding" of L before pause. The fate of *H.L is even more interesting: In this case the floating L causes the preceding H to become downstepped, thereby creating the unusual contrast between L-H and L-$^{\downarrow}$H. To produce the downstep, Pulleyblank (1986:41) proposed a metathesis of the floating L, while Hyman (1985:72) and Snider (1999, ch.7) present different models which place the L on a second (register) tier. Other Bamileke languages produce still other tonal contrasts. Thus, with a simple /H, L/ contrast, floating tones have been assumed to be the correct mechanism to derive M tones, level L˚ vs. falling L, rising and falling tonal contours, and contrastively downstepped$^{\downarrow}$H and $^{\downarrow}$L (even double-downstepped$^{\downarrow\downarrow}$H and $^{\downarrow\downarrow}$L in Yemba). Although there are alternatives to abstract floating tones, including less desirable arbitrary diacritics (Hyman 2003), the great achievement was to derive the diverse Bamileke tone systems from a simple binary /H, L/ contrast which, in the generative tradition, was appreciated for its generality and its elegance. The question of course is whether the surface facts justify such abstract analyses, or whether the floating tones are simply a mirror of history.

In the current study I contrast two different tonal analyses of the possessive pronoun paradigm in Tswefap, a member of the Nda?nda? cluster of dialects spoken in Batoufam.[2] Like Fe'fe', these dialects have developed a M tone which I will take as underlying, hence a three-height contrast between H, M, L/.[3] The question I will raise is whether the tones of possessive pronouns should be analyzed with floating tones or through a direct

[1]Standard abbrevations and tonal accent marks are adopted in this study as follows: H(igh) is marked by an acute (ˊ) accent, L(ow) by a grave (ˋ) accent, M(id) by a macron (ˉ), downsteps by ($^{\downarrow}$), and contours by combinations of the above accents, e.g. ML (ˇ). L˚ (ˋ˚) indicates a level L which contrasts with a falling L before pause.

[2]Research on Tswefap is based on materials collected in a 2015-16 field methods class at the University of California, Berkeley, with Guy Tchatchouang as consultant. I would like to thank Guy and the members of the course for their contributions and insights in studying Tswefap: Geoff Bacon, Andrew Cheng, Emily Clem, Ginny Dawson, Erik Maier, and Alice Shen. Other consulted work on Tswefap includes Ngantchui (1989, 2002), Gueche Fotso (2013) and my own notes collected in the field in 1974.

[3]As in Fe'fe', M and L are lexical tones in Tswefap, while H tones either occur on grammatical morphemes or result from grammatical processes, e.g. M to H raising of a noun tone in certain possessives (see Tables 5 and 6 below).

paradigmatic assignment of tones to pronouns according to noun class, person, and number. In §2 I first present the data and then the paradigmatic analysis. In §3 I show that an analysis recognizing a floating L neatly captures the same facts. In §4 I consider current variation and direction for future changes in the system, concluding in §5 with consideration of a few additional facts that may affect the analysis.

2. The possessive paradigm in Tswefap

In this section I will present the different realizations of tone on possessive pronouns in Tswefap. Forms representing all of the relevant combinations of noun + possessive pronouns are given in Table 1 (cl = "noun class").

Table 1: Possessive Pronouns in Tswefap

cl	gloss	noun	1sg	2sg	3sg	1pl	2pl	3pl
Y	*'chief'*	fɔ̄	fɔ̀ à	fɔ̀ ò	fɔ̀ è	fɔ̀ yɔ̀	fɔ̀ zhɨ̀ gə̀	fɔ̀ zhùb
P	*pl.*	fɔ̄	fɔ̀ pɛ́	fɔ̀ pú	fɔ̀ pə̀	fɔ̀ pɔ̀	fɔ̀ pɨ̄gə̀	fɔ̀ pūb
	'child'	ŋwə̄	ŋwə̀ à	ŋwó ò	ŋwè è	ŋwə̀ yɔ̀	ŋwə̀ zhɨ̀ gə̀	ŋwə̀ zhùb
	pl.	pfwɔ̄	pfwɔ̀ pɛ́	pfwɔ̀ pú	pfwɔ̀ pə̀	pfwɔ̀ pɔ̀	pfwɔ̀ pɨ̄gə̀	pfwɔ̀ pūb
	'animal'	nòb	nòb à	nòb ò	nòb è	nòb yɔ̀	nòb zhɨ̀ gə̀	nòb zhùb
	pl.	nòb	nòb pɛ́	nòb pú	nòb pə̀	nòb pɔ̀	nòb pɨ̄gə̀	nòb pūb
	'dog'	mbvɨ̄g	mbvɨ̄g à	mbvɨ̄g ò	mbvɨ̄g è	mbvɨ̀ g yɔ̀	mbvɨ̀ g zhɨ̀ gə̀	mbvɨ̀ g zhùb
	pl.	mbvɨ̄g	mbvɨ̀ g pɛ́	mbvɨ̀ g pú	mbvɨ̀ g pə̀	mbvɨ̀ g pɔ̀	mbvɨ̀ g pɨ̄gə̀	mbvɨ̀ g pūb
Ym	*'egg'*	pòb	pòb à	pòb ò	pòb è	pòb yɔ̀	pòb zhɨ̄gə̀	pòb zhūb
	pl.	mbòb	mbòb mɛ́	mbòb mù	mbòb mə̀	mbòb mɔ̀	mbòb mɨ̄gə̀	mbòb mūb
	'foot'	khwə̀	khwà à	khwò ò	khwè è	khwə̀ yɔ̀	khwə̀ zhɨ̄gə̀	khwə̀ zhūb
	pl.		nkhwə̀ mɛ́	nkhwə̀ mù	nkhwə̀ mə̀	nkhwə̀ mɔ̀	nkhwə̀ m ɨ̄gə̀	nkhwə̀ mūb
	'ear'	tɔ̄g	tɔ̀ g à	tɔ̀ g ò	tɔ̀ g è	tɔ̀ g yɔ̀	tɔ̀ g zhɨ̄gə̀	tɔ̀ g zhūb
	pl.	ntɔ̄g	ntɔ̀ g mɛ́	ntɔ̀ g mù	ntɔ̀ g mə̀	ntɔ̀ g mɔ̀	ntɔ̀ g mɨ̄gə̀	ntɔ̀ g mūb
	'tree'	tsə̄	tsə̀ à	tsó ò	tsé è	tsə̀ yɔ̀	tsə̀ zhɨ̄gə̀	tsə̀ zhūb
	pl.	ntsə̄	ntsə̀ mɛ́	ntsə̀ mù	ntsə̀ mə̀	ntsə̀ mɔ̀	ntsə̀ mɨ̄gə̀	ntsə̀ mūb
	'hand'	pfū	pfú à	pfú ò	pfu è	pfū yɔ̀	pfū zhɨ̄gə̀	pfū zhùb
	pl.	mbvū	mbvū mɛ́	mbvū mù	mbvū mə̀	mbvū mɔ̀	mbvū mɨ̄gə̀	mbvū mūb
Tsm	*'tooth'*	swɔ̀g	swɔ̀ g tsɛ́	swɔ̀ g tsù	swɔ̀ g tsə̀	swɔ̀ g tsɔ̀	swɔ̀ g tsɨ̄gə̀	swɔ̀ g tsūb
	pl.	nswɔ̀g	nswɔ̀ g mɛ́	nswɔ̀ g mù	nswɔ̀ g mə̀	nswɔ̀ g mɔ̀	nswɔ̀ g mɨ̄gə̀	nswɔ̀ g mūb
	'name'	tsɨ̄g	tsɨ̀ g tsɛ́	tsɨ̀ g tsù	tsɨ̀ g tsə̀	tsɨ̀ g tsɔ̀	tsɨ̀ g tsɨ̄gə̀	tsɨ̀ g tsūb
	pl.	ndzɨ̄g	ndzɨ̀ g mɛ́	ndzɨ̀ g mù	ndzɨ̀ g mə̀	ndzɨ̀ g mɔ̀	ndzɨ̀ g mɨ̄gə̀	ndzɨ̀ g mūb
	'leaf'	hwə̀	hwə̀ tsɛ́	hwə̀ tsù	hwə̀ tsə̀	hwə̀ tsɔ̀	hwə̀ tsɨ̄gə̀	hwə̀ tsūb
	pl.	hwə̀	hwə̀ mɛ́	hwə̀ mù	hwə̀ mə̀	hwə̀ mɔ̀	hwə̀ mɨ̄gə̀	hwə̀ mūb
	'eye'	tsɔ̄	tsɔ̀ tsɛ́	tsɔ̀ tsù	tsɔ̀ tsə̀	tsɔ̀ tsɔ̀	tsɔ̀ tsɨ̄gə̀	tsɔ̀ tsūb
	pl.	nɔ̄	nɔ̀ mɛ́	nɔ̀ mù	nɔ̀ mə̀	nɔ̀ mɔ̀	nɔ̀ mɨ̄gə̀	nɔ̀ mūb
Y	*'thing'*	zhwə̄	zhwá à	zhwó ò	zhwé è	zhwə̀ yɔ̀	zhwə̀ zhɨ̄gə̀	zhwə̀ zhùb
Ts	*pl.*	tswə̄	tswə̀ tsɛ́	tswə̀ tsù	tswə̀ tsə̀	tswə̀ tsɔ̀	tswə̀ tsɨ̄gə̀	tswə̀ tsūb

As can be seen in these forms, the tones on possessive pronouns depend on the noun class, as well as on the syllable structure of both the noun and the possessive pronoun. As in the case of neighboring Bamileke languages, the vast majority of nouns are monosyllabic of the shape CV or CVC and carry M

or L tone, e.g. *ŋwē* 'child', *fɔ̀* 'chief', *tɔ̄g* 'ear', *pòb* 'egg'. They may also have a non-syllabic nasal preceding the initial consonant, e.g. *ŋkɔ̀* 'nest', *nzhwī* 'wife', *njòb* 'axe', *mbvɨ̄g* 'dog'.[4] Possessive pronouns can have the shape V, CV, CVC or CVCV. The presence vs. absence of an initial C, as well as the identity of the initial C depend on noun class.

In Table 1 the nouns have first been grouped by noun class, identified by the initial consonant of the first person plural possessive *yɔ̀/yɔ̄,pɔ̄,mɔ̄*, or *tsɔ̄*, These in turn have been grouped into singular/plural pairs (or genders), of which there are four: *y/p, y/m,ts/m* and *y/ts*, the last being quite marginal. These are compared in Table 2 to other studies of Tswefap and with Proto-Eastern Grassfields Bantu and Proto-Bantu (PB) noun class numberings.

Table 2: Tswefap Noun Classes

	This study	*Ngantchui (1989)*	*Gueche Fotso (2013)*	*Hyman (1974)*	*PEGB/PB*
				w(`)	1
sg	y(`)	y ~ w	W	y(`)	9
pl	p	p	P	p	2
sg	y	y	Y	y	3, 7
pl	m	m	M	m	4, 6
sg	ts	Ts	Ts	ts	5
pl	ts	Ts	Ts	ts	8, 10

As indicated, there are some differences between the present and previous studies. Ngantchui (1989:137) mostly recognized a *y* class (as our speaker for this study also has) with a restricted *w* variant, while Gueche Fotso (2013:52) has *w*. Historically the situation was as indicated in the Hyman (1974) column: There was originally a distinction between class 1 *w*(`) vs. class 9 *y*(`), which merge as *y*(`) in the speech of our consultant, but apparently as *w*(`) in Gueche Fotso (2013).[5] The L (`) tone indicates a different possessive tonal pattern from the other classes (see below).[6]

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[4]Transcriptions generally follow IPA except that *y* is used for [j], and *zh* is used for [ʒ], the realization of /y/ before a high vowel. Note that while there is an extensive set of onset consonants, the only coda consonants are /b, g, m, ŋ,ʔ/, where /b, g/ are realized voiceless and unreleased in final position.

[5]Interestingly, the initial *w*also appears in the plural object pronouns *wɔ, wigə, wub*, whose tones vary in context between H and M.

[6]Unfortunately Gueche Fotso (2013:44, 76) indicates all possessive tones as L. Since all of his examples in the *w* class are animates, it is not clear if inanimate class 9 nouns also moved into the *w* class or whether they merged with the *y* class. Ngantchui (1989:139) marks both *y*(`) and its plural *p* class with L,the *y* class with H, and the others with M (independent of person and number). Finally, in my 1974 notes, based on two hours of elicitation, I did not consistently distinguish H vs. M (except in a H-M sequence). However, I indicated plural pronouns as L in the *w* (`) and *y*(`) classes and wrote *sú* `*wɔ̀*'our friend'

Focusing on the data in Table 1, we first note that except for the *y*(`) class, which has L tone throughout (in green), the plural person pronouns 'our', 'your pl.' and 'their' have M tone throughout (yellow). These latter are thus analyzed as /-ɔ̄/, /-ɨ̄gē/ and /-ūb/, respectively. All that needs to be added is that M nouns become ML, e.g. *pfwɔ̄* 'children', *pfɔ̂ pɔ̄* 'our children'. This leaves predicting the tones of singular person ponouns. In the *y*(`) class (plural *p*), the singular person ponouns all have the shape V with a L tone, /à/, /ò/, /è/, while the plural person pronouns begin with a consonant: /y-ɔ̀/, /y-ɨ̀gə̀/, /y-ùb/. In the y class (plural *m*), the singular person pronouns also have the shape V, this time with M tone (yellow). In addition, a preceding M tone noun becomes H: *tɔ̄g* 'ear', *tɔ́gā* 'my ear'. The other singular person pronouns are all CV, also with predictable tone: First and second person pronouns have L˚ (level L) tone (in pink), while third person singular pronouns are M (yellow). As in the case of plural person pronouns, if the preceding noun is M, it becomes ML: *tsɨ̄g* 'name', *tsɨ̂ gtsɛ̀˚* 'my name', *tsɨ̂ gtsù˚* 'your (sg.) name', *tsɨ̂ gtsə̄* 'his/her name'. This completes the summary of the tonal data in the possessive pronoun paradigm.[7]

The above constitutes a "paradigmatic" approach to accounting for the tones of possessive pronouns (and their effects on preceding M tone nouns), i.e. as one might find in a descriptive or pedagogical grammar dealing with tone. The ordered "rules" can be stated as follows:

(2) a. if the possessive pronoun is in the *y*(`) class, assign a L
b. if the possessive pronoun is plural, assign a M
c. if the possessive pronoun is singular:
  i. assign M to the V in the *y* class
  ii. assign L˚ to second person singular CV pronouns
  iii. assign M to third person singular CV pronouns
c. concerning a preceding M noun
  i. raise it to H before a M tone V possessive pronoun (*y* class singulars)
  ii. change it to ML before a CV possessive pronoun

As seen, in order to account for all of the patterns, the above descriptive rules have to refer to noun class, person and number, as well as syllable structure. The question is whether an analysis in terms of underlying representations can do better. This is taken up in the next section.

(class 1), *njɔ̀p `yʌ̀* 'our axe' (class 9). The two classes merge as *y*(`) in the speech of our consultant, who however also has a variant with M tone, e.g. *sʊ̀ŋɔ̀ ~ sʊ̀ŋɔ̄* 'our friend', *njɔ̀pyɔ̀ ~ njɔ̀pyɔ̄* 'our axe'. See also §4.

[7]Since our goal is only to predict the tones, we will not be concerned with predicting the different syllable shapes, the *y ~ zh* alternation in the *y* classes, and the different vowels in V vs. CV singular possessive pronouns: *a* vs. *C-ɛ, o* vs. *C-u*, e vs. *C-ə*.

3. A representational analysis of the possessive paradigm

As mentioned in the introduction, the tradition in Bamileke (and Grassfields Bantu) studies has been to posit abstract underlying forms with /H/ and /L/, which may be linked or float. The question is whether such an approach can be helpful here. Can we reduce the number of "rules" in (2) and replace them with a more unified representation of possessive tone? Since the four tone patterns in Yemba in (1) have merged to a simple M vs. L contrast on monosyllabic nouns, we can assume that the historical *H-H, *H-L, *L-H and *L-L stem tones have been restructured, with two possible nominal tones, /M/ vs. /L/. As we have seen, M and L also contrast on possessive pronouns, although a L˚ tone is also observed. I shall now consider a derivational analysis with a floating L preceding all possessive pronouns. My proposal is that possessive pronouns can have one of three underlying tones:

(3) a. *y*(`) class possessive pronouns are /L/
b. CV first and second person singular possessive pronouns are /LM/
c. remaining possessive pronouns are /M/, i.e.
  i. all plural person possessive pronouns
  ii. third person singular possessive pronouns

In this interpretation, /M/ is the default and all pronouns are preceded by a floating L. In the case of the y(`) class, all of the possessive pronouns are L, so nothing more need be said about these (other than the variation that will be pointed out in §4). I suggest that the L˚ of the CV first and second person singular possessive pronouns derives from the simplification of an underlying /LM/ contour, e.g. /nɔ̀b `p-ɛ̌ / →*nɔ̀bpɛ̀˚* 'my animals', /tsɨ̄g `ts-ɛ̌ / →*tsɨ̀gtsɛ̀˚* 'my name'.[8] While the floating L has no effect in the first example, it is responsible for the ML falling tone of *tsɨ̀g*, which also occurs before M and L CV possessors: /tsɨ̄g `ts-ə̄/ → *tsɨ̀gtsə̄* 'his/her name', /ŋwə̄ `y-ɔ̀/ →*ŋwə̀yɔ̀* 'our child'. I suggest that the floating L is also responsible for the raising of M to H before a M tone V possessor, as when /tɔ̄g `ā/is realized *tɔ́g* āmy ear'. This is attributable to the fact that the expected output **tɔ̂ g* ā is ill-formed: the language doesn't permit a ML falling tone when the input is CVC+V. (It does however allow it when the input is CV+CV, e.g. /pfwɔ̄ `p-ə̄/ →*pfwɔ̀pə̄* 'his/her children'.) Instead, the L causes a M to raise. What this means is that the floating L has two different realizations on a preceding M noun: (4) a. it converts M to ML before a CV possessive pronoun
b. it converts M to H before a M tone V possessive pronoun (y class)

[8]In an equivalent analysis the M of the possessive could be floating: /`p-ɛ̄ /, /`ts-ɛ̄ /. I assume that the second tone is M rather than H since, as mentioned, H tone is restricted to grammatical morphemes and derived environments, e.g. the M → H raising rule before M tone V possessors.

When the preceding noun is L, the floating L has no effect: /pòb `y-ɔ̄/ →*pòbyɔ̄* 'our egg'. While one could argue that the derivational analysis in (3) does not have a great advantage over the paradigmatic analysis in (2), the fact that it is possible to derive the alternations by positing three different underlying pronominal tones, /L/, /M/, /LM/ and a floating L tone at least maintains a link with the historical source and relation to other dialects. However, in the next section we will see that on-going changes are undermining this link.

4. Reconstruction and change in progress

In the preceding section we saw that there are two reasonable analyses of the possessive tonal paradigm in Tswefap. The relation to PEG and class 1/2 forms from other Eastern Grassfields languages and dialects can be compared in Table 3 below from Hyman (2018).[9]The PEGB forms at the bottom of the table show that the first and second singular pronominal roots reconstruct with *L tone, while the remaining pronouns reconstruct with *H(-H). In addition, the class 1 prefix reconstructs with *L, while class 2 reconstructs with *H. In principle this would produce four possibilities: *L+L, *L+H(-H), *H+L, *H+H(-H). This is reflected in the first three languages, whose pronouns are L, LH, HL and H. However, we have only three possibilities in Tswefap: L, M, L˚, which correspond to the proto tones as in (5).

(5)	PEGB	*L+L	*L+H(-H)	*H+L	*H+H(-H)
	Tswefap	L	L(-L)	M ~ L˚	M

As indicated, both *L+L and *L+H(-H) correspond to L, while *H+H(-H) corresponds to M. The merger of *L-L and *L-H as L is quite general in Tswefap, e.g. PEGB **m-fɔ̀nə̀>fɔ̀* 'chief', **lì-sɔ̀ŋə́>swɔ̀g* 'tooth'. This leaves *H+L, which corresponds to M if V (e.g. *tɔ́gā* 'my ear'), but L˚ if CV (e.g. *tsɨ̄gtsɛ̀˚* 'my name'). Both *H-L and *H-H normally merge, e.g. on nouns: **síŋə̀>tsɔ̄g* 'bird', **ŋ-gwáŋə̀>ŋgwāg* 'salt'. However, PEGB *H+L somehow yields L˚ on first and second person singular CV pronouns (which we analyzed as /LM/). Historically, it is a *LHL combination that yields L˚ in Tswefap, where the initial L is the floating L that we have posited to precede all possessive pronouns. This L in turn likely had a vowel, a schwa that occurs in independent pronouns in certain Grassfields dialects (see Table 4in §5).

[9]I provide both my 1974 Batoufam *w(`)/p* transcriptions, where I mistranscribed L˚ as M, and M as H, as well as the *y(`)/p* agreements with correct tones on the next line.

Table 3: Eastern Grassfields Bantu class 1/2 possessive pronouns

	*class 1 *gù–*						*class 2 *bə́–*					
	1sg	*2sg*	*3sg*	*1pl*	*2pl*	*3pl*	*1sg*	*2sg*	*3sg*	*1pl*	*2pl*	*3pl*
Mankon	ɣə̀	ɣò	yiɛ́	wəɣɔ́	wəŋɔ́	wàá	bə̀	bô	byé	bəɣɔ́	bəŋɔ́	báá
Bamenyan	wiɛ̀	ɣò	ɣɛ̌	wʉ̄	wɔ̌	wɔ̌	pɨɛ̀	pô	pé	pʉ́	pɔ́	pɔ́
Babadjou	ɣà	ɣò	yɛ˚	wɔ˚	wèi˚	ɣàp˚	pâ	pô	pé	pɔ́	péí	páp
Mbui	wà	ɣò	wi˚	wìi˚	wɔ˚	wʌ˚	bá	búó	bí	bíí	bɔ́	bʌ́
Dschang	ɣà	wù	yi˚	wɔk˚	wɛ˚	wɔp˚	pá	pú	pí	pək	pɛ́	pɔ́p
Ngwe	ɣà	ɣò	gyè˚	wɔk˚	wʌ˚	wʌp˚	bá	bó	bé	bək	bʌ́	bʌ́p
Babete	à	ò	è˚	wɔk˚	wʉ̀˚	wɔp˚	pá	pú	pé	pək	pʉ́	pɔ́p
Bati	à	ù	ì	pɔ̀	yì	yàp	pá	pú	pí	pɔ̀	yí	yáp
Bagam	à	ò	è˚	wíŋì	wùŋ˚	wɔp˚	pá	pó	pé	píŋì	púŋ	pɔ́p
Bangang	à	ò	ì˚	wɔk˚	ɥì˚	wɔp˚	pá	pú	pé	pɔk	pí	pɔ́p
Baloum	à	ò	ì˚	wʰʉ̀˚	wè˚	wɔp˚	pá	pú	pí	pʰʉ́	pé	pɔ́p
Fomopea	à	ò	ì˚	wɔk˚	wè˚	wɔp˚	pá	pú	pí	pɔk	pé	pɔ́p
Bamendjou	à	ò	ì˚	wɔk˚	wʉ̀˚	wɔp˚	pá	pó	pí	pɔk	pʉ́	pɔ́p
Baleng	à	ò	è˚	wɔk˚	wè˚	wùp˚	pá	pú	pɣɛ́	pɔk	pé	púp
Bandjoun	à	ò	è˚	yɔk˚	yɔ˚	yàp˚	pă	pŭ	pyɔ́	pɔk	pɔ́	páp
Batie	à	ò	È	yɔk˚	yèè˚	yàp˚	pɛ́	pó	pé	pɔk	péé	páp
Bangou	à	ù	ì	yɔh	yʉ̀	yòp	pɛ̄	pō	pó	pɔh	pʉ́	póp
Bangwa	è~à	ù~ò	ì~è	yɔ̀	ʒyə̀	ʒùp	pɛ́	pú	pí	pɔ́	pyɔ́	púp
Batoufam1	à	ù	ì	wɔ̀	wʉ̀ɣə̀	wùp	pɛ̄	pū	pə́	pɔ́	pʉ́ɣə̄	púp
Batoufam2	à	ò	È	yɔ̀	ʒɨ̄yə̀	ʒùb	pɛ˚	pù˚	pə̄	pɔ̄	pɨ̄ɣə̄	pūb
Fotouni	à	ɔ̀	ì	yɔ˚	yè˚	yàp˚	βá	βɔ́	βí	βɔ́	βé	βáp
Fondanti	à	ò	ì	yɔ̀	yì	yàp	bá	bó	bí	yɔ́	yí	yáp
Fe'fe'	à	ò	ì˚	yɔh˚	yìì˚	yàà˚	bă	bŏ	bī	bɔ̄h	bīī	bāā
Bali	à	ù	ì	yʉ̀ʔ	yìn	yàp	bá	bú	bí	bʉ́ʔ	bín	báp
Bamun	à	ù	ì	ù	ùn	àp	pá	pú	pí	pʉ́	pʉ́n	páp
Bapi	á	ú	í	yúʔ	yʉ́n	yɔ́p	pá	pú	pí	púʔ	pʉ́n	pɔ́p
Bangangte	àm	ò	è˚	yàg˚	zìn˚	yòb˚	cám	có	tsó	cághò˚	tsínò˚	cóbò˚
Limbum	yà	yò	yì	yèr	yèè	yàb	wá	wó	ví	˙Wér	wéé	wáb
Adere	wàm	wɔ̀	wi˚	-wùt˚	-wùn˚	-wɔ̄	bám	bɔ́	bí	-wùt˚	-wùn˚	-wɔ̄
PEGB:	**gù-àmə̀*	**gù-ò*	**gù-í*	**gù-ítə̀*	**gù-ínə̀*	**gù-ábə̀*	**bə́-àmə̀*	**bə́-ò*	**bə́-í*	**bə́-ítə̀*	**bə́-ínə́*	**bə́-ábə̀*

While the link to PEGB possessive tones is clear, there are some on-going changes that will ultimately obscure the tonal connections. These involve the *y*(`) class, which we have already seen to be a merger of earlier classes 1*w*(`) and 9 *y*(`). The direction of change is away from L tone possessive pronouns towards M. Interestingly, the change is proceeding differently with singular vs. plural pronouns. When the pronouns are plural, M tone is becoming an alternative independent of the tone of the noun, e.g. after L tone *nòb* 'animal' and M tone *mbvɨ̄g* 'dog':

(6) *'our'*	*'your pl.'*	*'their'*			
nòbyɔ̀	nòbzhɨ̄gə̀	nòbzhùb	~ nòb yɔ̄	nòbzhɨ̄gə̄	nòbzhūb
mbvɨ̄g yɔ̀	mbvɨ̄g zhɨ̄gə̀	mbvɨ̄g zhùb	~ mbvɨ̄gyɔ̄	mbvɨ̄g zhɨ̄gə̄	mbvɨ̄g zhūb

When the pronouns are singular, M is an alternative to L only if the noun is L, hence after *nòb*, but not after *mbvɨ̄g*:

(7) *'my'*	*'your sg.'*	*'his/her'*				
nòb à	nòb ò	nòb è	~	nòbā	nòbō	nòbē
mbvɨ̄g à	mbvɨ̄g ò	mbvɨ̄g è	*vs.*	*mbvɨ̄g̃ ā	*mbvɨ̄g̃ ō	*mbvɨ̄g̃ ē

If continuing to play out in this way, classes *y*(`) and *y* would of course merge, a process that has been taking place over some time in the area. However, while most of the diachronic studies of noun class merger and loss in the Grassfields area have focused on segmental marking (e.g. Hyman 1972, Good 2012), this last change in progress is strictly tonal. It is not surprising that the direction should be towards the majority pattern, pronouns with M tone.[10] The ultimate endpoint is of course loss of noun classes altogether, thereby greatly simplifying the paradigm.

5. Conclusion

In the preceding sections I have presented both the segmental and tonal properties of the Tswefap possessive pronoun paradigm. I've suggested that a representational analysis is still possible even though the historical origins have been considerably obscured. While the floating L + M configuration works quite well for noun classes other than *y*(`), the one perhaps unexpected effect is the raising of M to H before when a noun precedes a M tone possessive pronoun of the shape V. This was attributed to the floating L analysis, something which is confirmed in the independent possessive pronoun forms in Table 4 (where the *y*(`) class shows evidence of earlier *w* concord). If we assume that the initial marker is /ə̄ `/, we can predict the H tone that appears before M in the *p* class third person forms.

Table 4: Independent Possessive Pronouns

y(`) class:	əw̄ɛ̀	'mine'	əȳɔ̄	'ours'
	əw̄ò	'yours (sg.)'	əz̄hɨ̄gə̄	'yours (pl.)'
	əz̄hɨ̀	'his/hers'	əz̄hūb	'theirs'
p class	əp̄ɛ̀	'mine'	ə́pū	'ours'
	əp̄ù	'yours (sg.)'	ə́pɨ̄gə̄	'yours (pl.)'
	ə́pū	'his/hers'	ə́pūb	'theirs'

[10]The alternative is to merge towards the marking of a "prominent" class. This has happened in the Ewo dialect of Teke (Republic of the Congo) where segmentally identical classes 1 and 3 have merged with the L tone agreement pattern of class 1, since this class includes animate beings and also tends to be where borrowings are found (Hyman, Lionnet & Ngolele 2019).

Although I have suggested that M raising occurs because of the following floating L, there is a potential problem in generalizing this account. As seen in the following examples, a similar M to H raising process occurs in the 'noun1 of noun2' possessive construction when noun1belongs to any but the *y*(`) noun class:

Table 5: M Tone Raising of Noun1 before a M tone Noun2

	class	*noun*		*noun1*	*noun2*	
	p	pfwɔ̄	'children'	pfwɔ́	mbvɨ̄g	'children of dog'
	y	tɔ̄g	'ear'	tɔ́g	mbvɨ̄g	'ear of dog'
	m	ntɔ̄g	'ears'	ntɔ́g	mbvɨ̄g	'ears of dog'
	ts	tsɨ̄g	'name'	tsɨ́g	mbvɨ̄g	'name of dog'
But:	y(`)	ŋwə̄	'child'	ŋwə́	mbvɨ̄g	'child of dog'

As seen in the last row, if noun1 belongs to the *y*(`) class, its M does not raise to H, rather it becomes a ML falling tone (as in possessive pronoun paradigm). Since the fall in *ŋwəmbvɨ̄g* 'child of dog' is clearly attributable a floating L, something else is needed to produce the M to H raising in *pfwɔ́mbvɨ̄g* 'children of dog'. The most straightforward analysis would be a floating H tone, which also affects M tone nouns when the possessor noun2 is L tone, as in Table 6 below. Again, there is no M raising when noun1 belong to the *y*(`) class.[11] Because of this, whenever a *y*(`) noun does not have a distinct plural, the only difference between a singular and plural noun1 input will be tonal: *mbvɨ̄g̃ ŋwə̄* 'dog of child' vs. *mbvɨ́gŋwə̄* 'dogs of child', *mbvɨ̄g fɔ̀* 'dog of chief' vs. *mbvɨ́g fɔ̀* 'dogs of chief'. It would appear that a floating H is required or perhaps a sequence of floating tones.[12]Since M to H raising occurs elsewhere in the language, including in the verbal paradigm, more research is needed to determine a full and comprehensive analysis.[13]

[11]The floating L does not appear on *ŋwə̄*, rather is "absorbed" before L tone *fɔ̀*.

[12]Similar problems arise in Fe'fe', which also has M to H raising (Hyman 1976).

[13]One such construction worthy of further study is the presentative, marked by *ə̄* before a L tone, HM before a M: *ə̄nòp* 'it's an animal', *əŋwə̄* 'it's a child'. The HM appears to occur only before nouns. Thus compare: *ə̄pɔ̀*'it's us', *ə́wūb*'it's them'. Presentative *ə̄* is likely related to the initial marker of the independent possessive pronouns in Table 4.

Table 6: M Tone Raising of Noun1 before a L tone Noun 2

	Class	*noun*		*noun1*	*noun2*	
	P	pfwə̄	'children'	pfwɔ́	fə̀	'children of chief'
	Y	tə̄g	'ear'	tɔ́g	fə̀	'ear of chief'
	M	ntə̄g	'ears'	ntɔ́g	fə̀	'ears of chief'
	Ts	tsɨ̄g	'name'	tsɨ́g	fə̀	'name of chief'
But:	y(ˋ)	ŋwə̄	'child'	ŋwə́	fə̀	'child of chief'

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