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Finding cognates in “South Atlantic”

1 Introduction

1.1 Background of this study

PhD project:
- historical-comparative reconstruction of the nominal classification systems in the Mel languages[1]
- dissertation embedded in the project “Noun classification systems in Africa between gender and nominal declension” at Humboldt Universität zu Berlin, funded by the “Deutsche Forschungsgemeinschaft” and headed by Tom Güldemann (see Güldemann 2016)

1.2 The Mel languages within “South Atlantic”

1.2.1 “South Atlantic”

Countries: Sierra Leone, Guinea, Liberia (see Eberhard et al. 2021)
Traditional classification (adapted from Sapir 1971: 49):

Niger-Congo
    Atlantic
        South Atlantic
            A. Sua
            B. Mel (including Gola)
            C. Limba

Figure 1: External and internal classification of “South Atlantic”

[1] Funding of the dissertation project: ‘Elsa-Neumann-Stipendium des Landes Berlin’ and ‘Deutsche Universitätsstiftung (Gerda-Henkel-Stipendium)’

1.2.2 Mel

- internal classification of Mel: two Branches (Northern Mel and Southern Mel), excluding Gola (adapted from Hammarström et al. 2021)

Northern Mel

Baga Koba
Baga Manduri
Baga Sitemu
Landuma
Temne

Southern Mel

Bullom
Northern Bullom
Bom-Kim (with *Krim* as a dialect)
Bullom So (aka *Mani*, see Childs 2011)
Sherbro
Kisi
Northern Kisi
Southern Kisi

Figure 2: Internal classification of the Mel languages

1.3 Goals and methods of this talk

- The identification of cognate nouns in Mel is an important task to disentangle the complex developments of the nominal classification systems.
- recognition of cognates within each of the two branches mostly straightforward
- however: limited number of obvious cognates between Northern and Southern Mel
→ application of the classical historical-comparative method on the basis of regular sound correspondences
→ presentation of some complex sound correspondences between the two branches in this talk
→ through application of classical method detection of larger number of cognates possible
→ strict application of the method also leads to the identification of cognates between Mel and the two single languages of “South Atlantic” Limba and Gola, which have not been obvious at first sight
- What is presented in this talk is work in progress rather than sophisticated results. So, the reconstructions presented are preliminary and are intended to make clear what results can be expected in future work.

1.4 Language sample and data

1.4.1 Language sample:

- Northern Mel: Temne, Baga Koba, Baga Sitemu, Landuma
- Southern Mel: Mani, Krim, Sherbro, Kisi
- Gola
- Limba
- no data for Sua included

1.4.2 Data

- 80-word-lists of nouns (modified Leipzig-Jakarta list)
- data extracted from dictionaries and lexical lists, some from grammatical descriptions (see Table 1)
- data presented in the orthography used in the sources
- reconstructed forms presented in IPA

Branch	**Language**	**Data sources**
Northern Mel	Temne	Dalby 1966, Schlenker 1880, Bai-Sheka 1981, Kanu 2009, Kanu 2012, Kamarah 1994, Kamarah 2007, Wilson 2007, Wilson 1961, Yillah 1992
	Baga Koba	Relich 1973
	Baga Sitemu	Lamp 2016
	Landuma	Sumbatova 2012
Southern Mel	Krim	Pichl 1972, (Pichl 1976)
	Sherbro	Pichl 1964
	Mani	Childs 2012, (Childs 2011)
	Kisi	Childs 2000
	Gola	Westermann 1921
	Limba	Clarke 1922

Table 1: Data sources

1.5 Sapir's lexicostatistical study

- Sapir 1971: lexicostatistical study of Atlantic languages (based on Swadesh's 'First 100')
- results for "South Atlantic" (see Table 2):
    - high percentages within each branch of Mel (grey cells)
    - low percentages between Northern and Southern Mel (orange cells)
    - low percentages between Gola and Northern Mel, slightly higher percentages between Gola and Southern Mel (due to language contact?)
    - very low percentages between Limba and the other "South Atlantic" languages
    - very low percentages between Sua and the other "South Atlantic" languages (slightly higher between Sua and Northern Mel)

	Sua	Sua								
NM	Temne	19	Temne							
	Baga Koba	19	79	Baga Koba						
SM	Mani	14	24	21	Mani					
	Sherbro	13	21	22	82	Sherbro				
	Krim	14	20	19	68	73	Krim			
	Kisi	14	22	23	57	52	50	Kisi		
	Gola	14	23	21	31	28	31	25	Gola	
	Limba	13	14	16	13	12	11	10	14	Limba

Table 2: Lexicostatistical study of "South Atlantic" (adapted from Sapir 1971: 47)

2 Cognate search based on regular sound correspondences

2.1 Coronal consonants

2.1.1 Two voiceless coronal plosives as a regional feature

- distinction of two t-sounds in Temne (Northern Mel), the Bullom (Southern Mel) languages Krim and Sherbro as well as in Limba
- absence of this distinction in non-Temne Northern Mel, but regular sound correspondences with each of the two sounds can be observed
- no such distinction in the remaining Southern Mel languages Mani (Bullom language closely related to Krim and Sherbro) and Kisi
- so far, no other languages (e.g., surrounding Mande languages) known to have this contrast
- possibly, the distinction first evolved in Temne and then spread to neighboring languages
- comparative study of the distinction in different Temne dialects desirable

Temne:

- Wilson (1961: 3): distinction of the sounds <t> and <th>, the latter being a voiceless interdental plosive (no information on phoneme status)
- Yillah (1992): phonemic distinction of two t-sounds:
    - /t/ with the allophones [t] and [tʃ][2]; both allophones in free variation before front vowel, only [t] before back vowel (Yillah 1992: 16-17); [t] is laminal and aspirated (Yillah 1992: 13)
    -/ʈ/[3] (written <th>) as an apical retroflex stop without allophones (Yillah 1992: 12-13, 18-19)
    - according to Yillah (1992: 18-19) difference in the manner of articulation of both sounds, possibly /ʈ/ bearing the feature [+RTR] with a "dampened" quality and lower pitch of the following vowel, whereas this feature is absent on /t/

Krim[4]

- <t> and <th> as distinct phonemes (Pichl 1972: 1)
- <t> articulated postdental to alveolar; in initial position hard to distinguish from <th>, main difference is a stronger aspiration of <t>; pronunciation varies between [t], [ts] and [c][5]; in final position nearly always [ts] or [t] with strong aspiration (Pichl 1972: 2-3)
- <th>always dental, in initial position slightly aspirated (Pichl 1972: 2)

Sherbro:

- <t>near to English <t>, with strong aspiration and near to <ch>(<ch> as in English 'chain') (Pichl 1964: IX-X)
- <th> like dental 't', but not English 'θ' or 'ð' (Pichl 1964: X)
- no information on phonemic status of the two sounds

Limba:

- voiceless alveolar plosive <t> distinguished from voiceless interdental plosive <th>; no information on phonemic status (Berry 1958: 169)
- no distinction of the two sounds in Clarke's dictionary (1922), invariably <t> is written

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[2] Yillah writes [č]

[3] Yillah writes /ṭ/

[4] Pichl's orthography used here, no IPA

[5] like English <ch>, but with the tongue higher up to the palate with no or only slight aspiration (Pichl 1972: 3)

2.1.2 Sound correspondences of coronal voiceless plosives in Northern Mel

2.1.2.1 Temne /t / as a reflex of Proto-Northern-Mel *C

-Temne /t/ reflex of Proto-Northern-Mel *C (plosive with possibly palatal or lamino-palato-alveolar articulation)

	blood				**sound correspondence**
Temne	mɛ̀-	t	ì	r	t
Baga Koba	ma-	ts	i	r	ts
Baga Sitemu	mə-	ts	i	r	ts
Landuma	mə-	c	i	r	c
Proto-NM	*ma-	C	i	r	*C

Table 3: Reflexes of Proto-Northern-Mel *C

- reflex can be [tʃ] in Baga Sitemu, e.g. a-tshen ‘dog’

2.1.2.2 Temne /t̪/ as a reflex of Proto-Northern-Mel *t

- Temne /t̪/ (Yillah 1992: /ţ/) reflex of Proto-Northern-Mel *t (plosive with apico-dental or apico-alveolar articulation)

	(fire)wood				**sound correspondence**
Temne	ɛ-	t̪	ɔ	k[6]	t̪
Baga Koba	e-	t	o	k	t
Baga Sitemu	ku-	t	ɔ	k	t
Landuma	kə-	t	ɔ	k	t
Proto-NM		*t	ɔ	k[7]	*t

Table 4: Reflexes of Proto-Northern-Mel *t

2.1.3 Reflexes of Proto-NM *C and *t in Southern Mel

- Proto-Northern-Mel *C can be traced back to two different Proto-Mel consonants; in the first series, it corresponds to Proto-Southern-Mel *t (see Table 5), in the second to Proto-SM *s (see Table 6)
- unclear, which Proto-Mel consonants have to be reconstructed in these cases
- Proto-Northern-Mel *t originates in Proto-Mel *t (see Table 7)

[6] Schlenker’s (1880: 398) original orthography: e̲-to̲k ‘firewood’

[7] Where possible, prefixes are also reconstructed.

2.1.3.1 Proto-NM *C – Proto-SM *t

	dog					sound correspondence	Kisi citation form[8]
Temne	à-	t	ə̀	n		t	
Baga Koba	a-	ts	i	n		ts	
Baga Sitemu	a-	tsh	e	n		tʃ	
Landuma	a-	c	e	n		c	
Proto-NM		*C	V	n		*C	
Mani	˚ù-	t	ù	m	è	t	
Krim		th	u	n	gbayɛ	t̪	
Sherbro	ø-	th	u	m	ɔɛ	t̪	
Proto-Bullom		t̪	u	m		*t̪	
Kisi	√	t	ù	ŋ		t	tùŋ = ndó
Proto-SM		*t	u	N		*t	
Proto-Mel		?				?	

Table 5: Proto-NM *C vs. Proto-SM *t

- Proto-Northern Mel *C could have originally been an allophone of *t before high vowels, so that *t would have to be reconstructed

2.1.3.2 Proto-NM *C – Proto SM *s

	dog					sound correspondence	Kisi citation form
Temne	à-	t	ɔ́	↓k	ɔ́	t	
Baga Koba	ta-	ts	o	k	o	ts	
Baga Sitemu	a-	ts	ɔ	k	ɔ	ts	
Landuma	a-	c	ɔ	g	ɔ	c	
Proto-NM		*C	ɔ	k	ɔ	*C	
Mani	˚ì-	s	ɔ̀	k		s	
Krim		s	ɔ	g		s	
Sherbro	ø-	s	ɔ	k		s	
Proto-Bullom		*s	ɔ	k		*s	
Kisi	√	s	ɔ̀ɔ́			s	sɔ̀ɔ́
Proto-SM		*s	ɔ	(k)		*s	
Proto-Mel		?				?	

Table 6: Proto-NM *C – Proto SM *s

[8] = root + class-speficific enclitic

- a reconstruction of *s for Proto-Mel is not probable because there is already a clear correspondence of Proto-Northern Mel *s and Proto-Southern-Mel *s (see Table 8); possibly, the sound to be reconstructed here is a Proto-Mel *ʃ

2.1.3.3 Proto NM *t – Proto-SM *t – Proto-Mel *t

- series in Table 7 is the only one which has been found for this correspondence
- therefore, these reconstructions are weak, also because a Temne reflex has not been found so far

	termite/flying ant			**sound correspondence**	**Kisi citation form**
Temne	-/-				
Baga Koba	a-	t	e	t̪	
Baga Sitemu	a-	t	e	t	
Landuma	a-	t	e	t	
Proto-NM	*a	t	e	*t	
Mani	-/-				
Krim	i-	th	ɛ	t̪	
Sherbro	˚ø-	th	ɛ	t̪	
Proto-Bullom		*t̪	ɛ	*t̪	
Kisi	√	t	ɛ̀	t	tìɔ́
Proto-SM		*t	ɛ	*t	
Proto-Mel		*t	ɛ	*t	

Table 7: Proto NM *t – Proto-SM *t – Proto-Mel *t

2.1.2 Sibilants in Mel

- Mel has only voiceless sibilants, voiced sibilants are absent
- an /ʃ/ phoneme is absent in all Mel languages
- in Temne, the /s/ phoneme has the allophones [s] and [ʃ] (Yillah 1992: 15-16); they appear in free variation before front vowels, before back vowels, only [s] is possible
- in Temne, an affricate phoneme /ʧ/ is absent (see Wilson 1961: 3 and Yillah 1992: 15)
- in other Northern Mel languages, /ʦ/ or /ʧ/ exist as a sound correspondence of Temne /t/ (see 2.1.2.1)
- in Southern Mel, /ʧ/ is present in all languages considered in this study

2.1.2.1 Proto-NM *s – Proto-SM *s – Proto-Mel *s

- /s/ phoneme can be clearly reconstructed for Proto-Mel, having the reflex *s both in Proto-Northern-Mel and Proto-Southern Mel

	sand					**sound correspondence**	**Kisi citation form**
Temne	kə-	s	ə	n	t	s	
Baga Koba							
Baga Sitemu	kə-	s	ə	n	tsh	s	
Landuma	kə-	s	ə	n	c	s	
Proto-NM	*kə-	s	ə	n	C	*s	
Mani	˚ù-	s	ú	n		s	
Krim							
Sherbro	i-	s	û	ng		s	
Proto-Bullom		*s	u	N		*s	
Kisi	√	s	ìò	ŋ		s	sìòŋ = ndé
Proto-SM		*s	V	N		*s	
Proto-Mel		*s	V	N		*s	

Table 8: /s/ as a reflex of Proto-Mel *s throughout Mel

- concluding from its absence in Proto-Southern-Mel, *C is most probably a frozen suffix in Proto-Northern-Mel; if this frozen suffix aligns with the prefix *kə-, in this case, *C can could be traced back to a *k which underwent palatalization

2.1.2.2 Proto-NM *s – Proto-SM *ʧ

- Proto-Northern-Mel *s may correspond to Proto-Southern-Mel *ʧ (see Table 9, only this example found so far)
- reconstruction for Proto-Mel unclear, possibly *ʧ
- note that the reflexes of Northern-Mel in Table 9 all contain mid or high front vowels; thus, at least in Temne the phonetic realization can be [s] or [ʃ] (free variation according to Yillah (1992: 15))

	tooth				**sound correspondence**	**Kisi citation form**
Temne	rə-	s	é	k	s	
Baga Koba	da-	s	i	k	s	
Baga Sitemu	de-	s	e	k	s	
Landuma	da-	s	e	g	s	
Proto-NM	*da-	s	e	k	*s	
Mani	ì-	c	á	ŋ	ʧ	
Krim		c	a	ng	ʧ	
Sherbro	ø-	c	a	ŋ	ʧ	
Proto-Bullom		*ʧ	a	ŋ	*ʧ	
Kisi	√	c	ì	ŋ	ʧ	cìŋ-ndé
Proto-SM		*ʧ	V	ŋ	*ʧ	
Proto-Mel		?			?	

Table 9: Proto-NM *s – Proto-SM */ʧ/

2.1.2.3 Proto-NM syllable-final *s – Proto-SM *l

- interestingly, syllable-final *s in Proto-Northern Mel patterns with *l in Proto- Southern Mel
- in Table 10, *l is tentatively reconstructed for Proto-Mel, considering that distantly related Limba has the cognate form *fēli* 'egg'
- on the other hand, both in Mel and in Limba a voiced sibilant /z/ is absent so that it cannot be excluded that indeed a form *fez has to be reconstructed
- Tables 11 and 12 show that the Northern Mel forms (if really cognate in these cases) can be the result of the loss of a final vowel
- in Table 12, the Kisi correspondence /d/ gives a hint, that *d rather than *l has to be reconstructed
- sound shift *l > *s in Northern Mel obscures the cognacy of the respective lexemes between the two branches of Mel so that a lexicostatistic study may fail to detect such cognates (indeed, Sapir (1971) did not recognize the case presented in Table 10)

	egg					sound correspondence	Kisi citation form
Temne	rə̀-	m	ɛ̀	s		s	
Baga Koba	da-	m	e	s		s	
Baga Sitemu	a-	m	ɛ	s		s	
Landuma	da-	m	ə	s		s	
Proto-NM	*da-	m	E	s		*s	
Mani	˚ù-	p	è	l		l	
Krim		p	ui	n	-tha	n	
Sherbro	ø-	p	e	l		l	
Proto-Bullom		p	e	l		*l	
Kisi	√	p	è	l		l	pèl＝téŋ
Proto-SM		*p	e	l		*l	
Proto-Mel		*p	e	l		*l	

Table 10: Syllable-final *s in Proto-NM – *l in Proto SM (1)

	star			sound correspondence	Kisi citation form
Temne	k-ɔ̀	s		s	
Baga Koba	k-o	s		s	
Baga Sitemu	k-ɔ	s		s	
Landuma	k-ɔ	s		s	
Proto-NM	*k-ɔ	s		*s	
Mani	˚ù-	l	è	l	
Krim		l	ê	l	
Sherbro	ø-	l	e	l	
Proto-Bullom		*l	e	*l	
Kisi	?√	l	ò	l	lùé
Proto-SM		*l	V	*l	
Proto-Mel		*l	V	*l	

Table 11: Syllable-final *s in Proto-NM – *l in Proto SM (2)

	name					sound correspondence	Kisi citation form
Temne	ŋ-é	s				s	
Baga Koba							
Baga Sitemu							
Landuma							
Proto-NM							
Mani	˚ì-	l	é	l	ì	l	
Krim	i-	l	e	n		l	
Sherbro	i-	l	e	l		l	
Proto-Bullom		*l	e	l		*l	
Kisi	√	d	ìò			d	dìò＝láŋ
Proto-SM		*l	V			*l or *d	
Proto-Mel		*l	V			*l or *d	

Table 12: Syllable-final *s in Proto-NM – k *l in Proto-SM (3)

2.2 Non-coronal consonants

2.2.1 Labial obstruents

2.2.1.1 Reconstruction of Proto-Mel *b and *f

- Proto-Mel *b and *f can be reconstructed straightforwardly for some nouns (Tables 13 and 14)

	head					sound correspondence	Kisi citation form
Temne	rə-	b	ó	ŋ	p	b	
Baga Koba	da-	b	u	m	p	b	
Baga Sitemu	do-	b	o	m	p	b	
Landuma	da		u	m	p		
Proto-NM	*da-	b	U	m	p	*b	
Mani	˚ù-	b	ó	l		b	
Krim		b	u	n		b	
Sherbro	ø-	b	o̩	l		b	
Proto-Bullom		*b	o	l		*b	
Kisi	√	b	ò	l		b	bòl＝léŋ
Proto-SM		*b	o	l		*b	
Proto-Mel		*b	o	l		*b	

Table 13: Proto-NM *b – Proto-SM *b – Proto-Mel *b

- Limba *hu-ya* ‘head’ and Gola *má-dî* ‘head’ are probably cognate and support the reconstruction of the final /l/ in Proto-Mel *bol; moreover, they point out, that *bo may be a frozen prefix in Proto-Mel
- final /p/ in Proto-Northern Mel is most probably a frozen suffix which possibly aligns with the frozen prefix *bo of Proto-Mel

	tooth				**sound correspondence**	**Kisi citation form**
Temne	rə̀-	f	ɔ̀	r	f	
Baga Koba	da-	f	o	r	f	
Baga Sitemu	dɔ-	f	ɔ	r	f	
Landuma	da-	f	ɔ	r	f	
Proto-NM	*da-	f	ɔ	r	*f	
Mani	˚dì-	f	ɔ̀	l	f	
Krim	tha	h	u	n	h	
Sherbro	ø-	h	ɔ	l	h	
Proto-Bullom		*f	ɔ	l	*f	
Kisi	√	h	ɔ̀	l	h	hɔ̀l = téŋ
Proto-SM		*f	ɔ	l	*f	
Proto-Mel		*f	ɔ	r	*f	

Table 14: Proto-NM *f – Proto-SM *f – Proto-Mel *f

- unclear, whether in Proto-Mel final *r or *l has to be reconstructed
- if Proto-Mel has *l, the question arises, why there is no final /s/ in Northern Mel, as it is the case in the examples in 2.1.2.3; maybe the quality of a former final vowel (e.g., high vs. non-high) plays a role
- Limba *fo-ya* ‘eye’ and Gola *é-fè̱* ‘eye’ support the reconstruction of the above series

2.2.1.2 Proto-NM *f – Proto-SM *p – Proto-Mel *p

- if Proto-Northern-Mel *f corresponds to Proto-Southern-Mel *p, *p is reconstructed for Proto-Mel
- not completely sure whether the Kisi form in Table 15 belongs to this series

	person/child					**sound correspondence**	**Kisi citation form and semantic remarks**
Temne	à-	f	ə̂	m		f	‘person' (PL)
Baga Koba	i-	f	o	m		f	‘person'
Baga Sitemu	ø-	f	u	m		f	‘person'
Landuma	ø-	f	u	m		f	‘person'
Proto-NM		*f	u	m		*f	
Mani	˚ù-	p	ɔ̀	m		p	'child'
Krim	ka-	p	u	m	a	p	'son'
Sherbro	ø-	p	u	m	ɔ	p	'child (boy or girl)'
Proto-Bullom		*p	u	m	V	*p	
Kisi	√	p	ìà	nd	ù	p	pìàndòó 'male'
Proto-SM		*p	u	m	V	*p	
Proto-Mel		*p	u	m	V	*p	

Table 15: Proto-NM *f – Proto-SM *p – Proto-Mel *p (1)

- in the series shown in Tables 16 and 17, in Northern Mel the /f/ is word-final, whereas in Southern-Mel the /p/ is followed by VC (VCV in Kisi)
- the cognacy becomes visible through reconstruction, but is not immediately apparent in a lexicostatistic comparison
- the Southern Mel, the VC sequence can be possibly traced back to a sequence of a final root vowel and a following petrified or still productive suffix

	earth, soil, country				**sound correspondence**
Temne	à-thɔ̂	f			f
Baga Koba					
Baga Sitemu	a-tɔ	f			f
Landuma	a-tɔ	f			f
Proto-NM	a-tɔ	*f			*f
Mani					
Krim	˚ù-	p	ɔ̀	k	p
Sherbro	ku-	p	ɔ	g	p
Proto-Bullom	ø-	*p	ɔ	k	*p
Kisi					
Proto-SM					
Proto-Mel		*p	V	C	*p

Table 16: Proto-NM *f – Proto-SM *p – Proto-Mel *p (2)

	moon, month					**sound correspondence**	**Kisi citation + prefixed form**
Temne	ŋ-ó	f				f	
Baga Koba	n-wo	f				f	
Baga Sitemu	ŋ-o	f				f	
Landuma	ŋ-o	f				f	
Proto-NM	*ŋ-o	f				*f	
Mani	˚ì-	p	à	n		p	
Krim	i-	p	a	ŋ		p	
Sherbro	i-	p	a	ŋ		p	
Proto-Bullom	*i-	p	a	ŋ		*p	
Kisi	√	p	à	ŋ	ù	p	pàŋ́éí; prefixed form: ì-pàŋù
Proto-SM		*p	a	ŋ	(V)	*p	
Proto-Mel		*p	V	C	(V)	*p	

Table 17: Proto-NM *f – Proto-SM *p – Proto-Mel *p (3)

- probably cognate form in Limba: *seṅkele* ‘moon’; *seṅ* could be petrified prefix material, *kele* the part of the word form which is cognate to Proto-Mel *pVC(V)
- if this conclusion is correct, Proto-Mel *p corresponds to Limba /k/
- another hint at the correspondence p – k is the probable cognacy of Proto-Southern-Mel *di-pal ‘sun’ and Limba *kaṅ* ‘sun’
- the corresponding Gola lexemes are *ó-wàla* ‘moon’ and *é-gwe̱é̱* ‘sun’, both appear to be cognate with the Mel and Limba lexemes

2.2.1.3 Proto-NM *b – Proto-SM *p

- clear evidence of a correspondence Proto-Northern-Mel *b and Proto-Southern-Mel *p
- unclear which plosive has to be reconstructed
- the probably cognate Gola form *ké-gòa* (or *ké-gwà*) 'bone' points out that the plosive to be reconstructed for Proto-Mel may be a labiovelar, possibly *gb or *g^{w}
- the origin of final *t of Proto-Northern-Mel is unclear; the preceding nasal of Proto-NM and the final *k of Proto-Bullom look like petrified suffixes

	bone					**sound correspondence**	**Kisi citation form**
Temne	kà-	b	á	ŋ	th	b	
Baga Koba	kə-	b	a	n	t	b	
Baga Sitemu	kə-	b	ɛ	n	t	b	
Landuma	kə-	b	a	n	t	b	
Proto-NM	*kə-	*b	V	N	t	*b	
Mani	˚ù-	p	á	k		p	
Krim		p	a	g		p	
Sherbro	ø-	p	a	k		p	
Proto-Bullom		*p	a	k		*p	
Kisi	√	p	àá			p	pàá
Proto-SM		*p	a	(k)		*p	
Proto-Mel		?				?	

Table 18: Proto-NM *b – Proto-SM *p

2.2.1.3 Proto-NM *b – Proto-SM *w

	bird					**sound correspondence**	**Kisi citation form**
Temne	ù-	b	û	ŋ	p	b	
Baga Koba	a-	b	a	m	p	b	
Baga Sitemu	a-	b	ɛ	m	p	b	
Landuma	a-	b	a	m	p	b	
Proto-NM		*b	V	N	p	*b	
Mani	˚ù-	w	é			w	
Krim		v	ɨ		p	v	
Sherbro	ø-	v	ê			v	
Proto-Bullom		*w	V		p	*w	
Kisi	√	y	ò		ù	y	yòù = wó
Proto-SM		*w	V		p	*w	
Proto-Mel		?				?	

Table 19: Proto-NM *b – Proto-SM *w

- possibly, *w has to be reconstructed or Proto-Mel, but with uncertainty
- the obviously cognate Gola form *ó-wê* ‘bird’ supports this reconstruction, but the possibly cognate Limba form is *bec* ‘bird’

2.2.2 Velar and labiovelar consonants

- all Mel languages have labiovelar plosives
- in the 80-word-lists, only few words with initial labiovelar plosives are attested, so that for reconstructional work more data has to be included
- the labiovelars attested in the present database are found in Southern Mel (see especially Table 22); Northern Mel labiovelars are not attested

2.2.2.1 Proto-NM *k – Proto-SM *k – Proto-Mel *k

- in Temne, the /k/ is part of a prefix, this could also be the case for the Proto-Mel form
- the final k(V) sequence reconstructed for Proto-Mel could be a petrified or still productive suffix
- possibly, in Proto Mel the root was *lu, marked by a circumfix *kV…k(V)

	seed							sound correspondence	Kisi citation form
Temne		˚k	ɨ-	l	ù	k	à	k	
Baga Koba									
Baga Sitemu									
Landuma									
Proto-NM									
Mani									
Krim									
Sherbro		k	ɔ	l	u	ng		k	
Proto-Bullom									
Kisi	√	k	ú	l	ú			k	kúlóó
Proto-SM		*k	V	l	u	(ŋ)		*k	
Proto-Mel		*k	V	l	u	k	(V)	*k	

Table 20: Proto-NM *k – Proto-SM *k – Proto-Mel *k (1)

- the following series shows some similarity with the previous one, but Krim (unattested in Table 20) has labiovelar /gb/, while Kisi has palatal /c/
- the labiovelar in Krim and the palatal in Kisi probably go back to Proto-Southern-Mel *k, the Kisi reflex being the result of palatalization before a high front vowel
- *ki in Proto-Southern Mel and Proto-Mel is possibly a petrified or still productive prefix

	house					sound correspondence	Kisi citation form
Temne							
Baga Koba							
Baga Sitemu		k	ə-	l	ɔ	k	
Landuma		k	ə-	l	ɔ	k	
Proto-NM		*k	ə-	l	ɔ	*k	
Mani	˚ù-	k	ì	l		k	
Krim		gb	â	l	ɛ	gb	
Sherbro	ø-	k	ī	l		k	
Proto-Bullom		*k	i	l	V	*k	
Kisi	√	c	ìɛ̀	ì		c	cìɛ̀ì = yó
Proto-SM		*k	i	l	V	*k	
Proto-Mel		*k	i	l	V	*k	

Table 21: Proto-NM *k – Proto-SM *k – Proto-Mel *k (2)

2.2.2.1 Proto-NM *k – labiovelar plosive in Proto-SM

- Proto-Northern-Mel has *k, at least for Proto-Bullom and Proto-Southern-Mel, possibly also for Proto-Mel, a labiovelar plosive *KP is tentatively reconstructed, but it is hard to determine, whether it is *gb, *kp, *k^{w} or even *g^{w}
- Gola has the cognate form *ké-kombò* ‘smoke’
- considering the Gola form and the series shown in Table 20, it is well possible, that Proto-Mel had *k in this series rather than a labiovelar plosive
- prefixal initial /k/ of Northern Mel could be due to the reanalysis of a part of the root

	smoke (of fire)								sound correspondence	Kisi citation form
Temne		k-	i			m	ä		k	
Baga Koba		k-	i			m	a		k	
Baga Sitemu		k	i-	n	i	m	ɛ		k	
Landuma		k-	i			m	a	n	k	
Proto-NM		*k	i			m	V		k	
Mani		gb	ì			m	í		gb	
Krim	yi-	kw	ɔ			m			kw	
Sherbro	i-	gb	ĩ			m	i		gb	
Proto-Bullom		*KP	V			m	(V)		*KP	
Kisi	√	k	ŭ			m			k	kŭm-ndé
Proto-SM		*KP	V			m	(V)		*KP	
Proto-Mel		*KP	V			m	V		*KP	

Table 22: Proto-NM *k – labiovelar in Proto-SM

2.2.2.2 Proto-NM *k – Proto-SM *p – Proto-Mel *KP

- series shown in Table 23 most probably goes back to a labiovelar plosive *KP (voiceless or voiced) in Proto-Mel
- *KP developed into *k in Proto-Northern-Mel and *p in Proto-Southern-Mel
- Limba *ku-tagba* 'skin, hide, paper' is possibly cognate and confirms the above reconstruction

	skin, hide, paper					**sound correspondence**	**Kisi citation form and semantic remarks**
Temne	ä-	r	e	k	a	k	'skin, hide'
Baga Koba	a-	r	e	k	a	k	'skin'
Baga Sitemu	a-	r	e	k	a	k	'skin, paper'
Landuma	a-	r	e	g	a	g	'skin, hide'
Proto-NM	*a-	r	e	k	a	*k	
Mani	˚ù-	r	à				'1) skin (animal) 2) cardboard'
Krim		y	a	p		p	'paper, book, letter'
Sherbro	ø-	r	æ				'book, paper'
Proto-Bullom		*r	a	p		*p	
Kisi	√	y	à	ú		u	yàú = wó 'skin, hide, paper, letter, book'
Proto-SM		*r	a	p		*p	
Proto-Mel		*r	a	KP	(V)	*KP	

Table 23: Proto-NM *k – Proto-SM *p – Proto-Mel *KP

3 Conclusions and outlook

3.1 Conclusions

- The two voiceless coronal plosives /t/ and /t̪/ of Temne can be traced back to *C and *t in Proto-Northern Mel respectively, the former proto-sound most probably having been a palato-alveolar affricate /tʃ/ or a palatal plosive /c/.
- This clearly shows that the distinction of /t/ and /t̪/ originated in Temne and spread through language contact to the neighboring languages Limba, Krim and Sherbro.
- While Proto-Northern-Mel *t patterns with Proto-Southern-Mel *t and can thus be traced back to Proto-Mel *t, Proto-Northern-Mel *C obviously goes back to two different sounds in Proto-Mel which have to be determined yet.
- The situation with sibilants is complex as well. The existence of palato-alveolar sibilants besides *s, possibly even *z, in Proto-Mel is probable.
- Quite radical changes in Proto-Northern-Mel are responsible for the fact, that a number of cognates between Northern and Southern are hard to detect at first sight. The changes in Proto-Northern-Mel are:
    - Proto-Mel word-final *l(V) → Proto-NM word-final *s
    - Proto-Mel word-final CV(CV) → Proto-NM word-final C
- It is possible that Proto-Mel had in both cases a monosyllabic CV stem which ended up as a word-final consonant in Proto-Northern-Mel.
- This clearly shows the importance of the establishment of regular sound correspondences within the framework of the classical historical method. Otherwise, the identification of cognates that have undergone complex sound changes is hardly possible. The same can be said for many cognates between Mel and Limba or Mel and Gola which are difficult to recognize at first sight. Some examples have been given in this talk.

3.2 Outlook

- Sound correspondences will be put on a more solid base by using a more extensive wordlist
- A revision of Sapir's lexicostatistic study (1971) including the cognates yielded by historical-comparative reconstruction would be interesting.
- In the course of the historical-comparative reconstruction work, petrified affixes have been found in both branches of Mel. While both prefixes and suffixes are present in all Southern Mel languages, Northern Mel languages are strictly prefixing. So, petrified suffixes in Northern Mel are an especially interesting finding. It is my present hypothesis that Proto-Mel was strictly prefixing, the suffixes and circumfixes being an innovation in Southern Mel. If it can be shown that the suffixes which are nowadays petrified in Northern Mel were still active in Proto-Mel, this hypothesis has to be completely revised.

Abbreviations

NM	Northern Mel
SM	Southern Mel

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