

The Relative Clause and its Tones in Tswana¹

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The morpho-syntax of relative clauses in Sotho-Tswana is relatively well-described in the literature. Prosodic characteristics, such as tone, have received far less attention in the existing descriptions. After reviewing the basic morpho-syntactic and semantic features of relative clauses in Tswana, the current paper sets out to present and discuss prosodic aspects. These comprise tone specifications of relative clause markers such as the demonstrative pronoun that acts as the relative pronoun, relative agreement concords and the relative suffix. Further prosodic aspects dealt with in the current article are tone alternations at the juncture of relative pronoun and head noun, and finally the tone patterns of the finite verbs in the relative clause. The article aims at providing the descriptive basis from which to arrive at generalizations concerning the prosodic phrasing of relative clauses in Tswana.

1 Introduction

The morphological, morpho-syntactic and syntactic characteristics of the relative clause in Tswana (and in the Sotho-Tswana group S30 in general) are well-described in reference grammars of the languages, such as Cole (1955: 171ff) for Tswana or Ziervogel et al. (1969: 105ff) for Northern Sotho. This is due to the fact that relative clauses in Sotho-Tswana are clearly marked morphologically and morpho-syntactically by a relative suffix and a relative pronoun, as will be illustrated in section 2. Phonological and tonal characteristics of the relative clause and its prosodic embedding into the phrase

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are considerably less well-described for two reasons, namely the lack of a comprehensive tonal grammar of any of the Sotho languages and the disjunctive orthography. First, no complete tonal grammar of the Sotho-Tswana languages exists as yet. Reference grammars in general do not mark tone, thus although they provide a thorough description of the morpho-syntax, they do not cover phonological aspects such as phrasing or tone. Specialized studies on different aspects of the tonal system and phrasing in the Sotho-Tswana languages are available (Chebanne et al. 1997, Mmusi 1992, Khoali 1991, Monareng 1992, Lombard 1976). But given their place at the intersection of syntax, verb morphology and phrasal phonology hardly any phonological and tonal aspects of the relative clause have been covered in these treatments. Second, the disjunctive writing system, which is used in Tswana and which treats verbal prefixes as independent orthographic words, obscures the prosodic constituency in the verb complex.

The aim of this article is therefore to provide an outline of the morphological, morpho-syntactic and phonological properties of the relative clause in Tswana. It concentrates on phonological and tonal aspects in order to fill a gap in the descriptive literature of this language. Although reference to other languages of the Sotho-Tswana group will be made at times, especially to Northern Sotho, it cannot be claimed that this article makes an independent investigation into the other Sotho-Tswana varieties obsolete.

The article is structured as follows: Section 2 provides a brief review of the morpho-syntactic and morphological characteristics of the relative clause in Tswana. Section 3 provides examples of relative clauses which exemplify the general points made in section 2 in several different syntactic constellations. Section 4 briefly addresses the linguistic uses of the relative clause in Tswana, which correspond to uses in other Bantu languages. Section 5 and 6 address phonological characteristics of the relative clause. Section 5 discusses the phrasing of the relative clause with respect to its head noun as well as with respect to following constituents. Section 6 discusses the tones of the verbal tenses in the relative clause. Section 7 summarizes the observations made and points out areas for further research.

2 Morpho-syntactic characteristics of the relative clause in Tswana

The phrase in (1) shows a head noun followed by a relative clause by means of which the morphological and morpho-syntactic characteristics of the relative clause in Tswana will be exemplified. In all examples, high tones are marked by acute accent and underlying tones are underlined. **The circumflex does not**

indicate tone but refers to vowel quality and differentiates the mid vowels *e* and *o*.²

- (1) mo-ńna y^ó- ó- bú^á- ńg...
 1-man DEM1 SC1 speak REL
 ‘the man who is talking’

Relative clauses in Tswana show an obligatory relative pronoun (Zeller 2004) – in the example in (1) y^ó- – which is identical in form and tone to the demonstrative pronoun; however, it has lost its demonstrative significance (Cole 1955). In Northern and Southern Sotho, the relative pronoun occasionally merges with the following subject marker in direct relative clauses (Mischke 1998; see Doke 1954, Cole 1955 for terminology and example (2) for an exemplification of a direct relative). The use of the relative pronoun is similar to relative clause formation in the eastern neighbor Tsonga but different from the pattern found in the southern neighbor Zulu (cf. Zeller 2004).

The obligatory subject concord (SC in the glosses, for a list of abbreviations see footnote 3) in relative clauses is formally and tonally identical to the one in subordinate tenses but with ó (instead of á) in noun class 1, at least as an alternative (Chebanne et al. 1997 list it as free variation, Cole 1955: 173 lists it as dialectal variation).

The finite verb of the relative clause is in the participial tense (Cole 1955, Chebanne et al. 1997), as will be discussed in section 6 in more detail. The most important marker of the participial tense in comparison to the principal tense is tone.

Tswana has the relative clause affix *-ng* (in Northern Sotho also *-go*) which is obligatorily suffixed to the finite verb of the relative clause and thus consistently marks the relative clause formally. This is again similar to Tsonga *-ko*, but in contrast to Zulu where a relative suffix *-yo* is only found in some tenses and only if the verb is final in the relative clause (Zeller 2004).

² The glosses used in this paper are the following:

<i>number</i>	referring to noun class or person	SG	singular
DEM	demonstrative	PL	plural
SC	subject concord	PROP	proper name
REL	relative suffix	PERF	perfect
POSS	possessive concord	PASS	passive
OC	object concord	NEG	negation
ABS	absolute pronoun	FUT	future
REFL	Reflexive pronoun	PR	pronoun

3 Examples of relative clauses in Tswana

This section provides examples that illustrate the morpho-syntactic and morphological characteristics presented in section 2. As a rule of thumb the head noun of the relative clause, i.e. the antecedent for the relative pronoun, is always represented twice in the relative clause in Tswana and is marked in bold in examples (2)-(11) for ease of reference. For the same reason, the relative clause is delineated by square brackets. The terminology for (2) and (3) has been introduced by Doke (1954) and Cole (1955).

- (2) *Subject relative – ‘direct relative’*
 mo-**ńna** [y**ó**- **ó**- bú**á**- **ńg**]
 1-man DEM1 SC1 speak REL
 ‘the man who is talking’

In object relative clauses, as in (3), an object concord (OC) on the relative verb is obligatory, although object marking might otherwise be considered pronominal in Tswana, just as it is in Chichewa (Bresnan & Mchombo 1987). Also note that in contrast to e.g. Luganda (Hyman & Katamba, this volume) or Shona (Demuth & Harford 1999), subject inversion is not possible in relative clauses in Tswana.

- (3) *Object relative – ‘indirect relative’* (Cole 1955, §10.13)
 di-lô [ts**é**- k**é**- d**í**- rá**ta**- **ńg**]
 10-thing DEM10 SC1SG OC10 like REL
 ‘the things that I like’

Note that in all relative clauses the resumption of the head noun in the relative clause is obligatory (marked in bold).

- (4) *Subjectival possessive* (Cole 1955, §10.14)
 mo-s**ádi** [y**ó**- ngwan**á** w**á**- **gágwé** **ó**- lw**ála**- **ńg**]
 1-woman DEM1 1.child POSS1 POSSPR1 SC1 be.sick REL
 ‘the woman whose child is sick’

- (5) *Objectival Possessive* (Cole 1955, §10.15)
 di-thaba [ts**é**- ma-f**ika** **á**- **tsôná**
 10-mountain DEM10 6-stone POSS6 ABS10
 r**é**- b**óna**- **ńg** k**ájênó**]
 SC1PL see REL today
 ‘the mountain whose rocks we see today’

- (6) *Associative adverbial* (Cole 1955, §10.17)
 ba-ńna [**ba**- ré- dúmélána- ńg lé- **bôn**é]
 2-man DEM2 SC1PL agree REL with ABS2
 ‘the men with who we agree’
- (7) *Instrumental adverbial* (Cole 1955, §10.18)
 thipá [é- ré- séga- ńg nama ká- **yôn**é]
 9.knife DEM9 SC1PL cut REL 9.meat with ABS9
 ‘the knife with which we cut the meat’
- (8) *Locative adverbial* (Cole 1955, §10.21)
 Tshwane [**kwá**- ké- ńna- ńg **téń**g³]
 PROP DEM18 SC1SG live REL there
 ‘Tshwane where I live’ (Tshwane= Pretoria)

In some dialects of Haya (Riedel, this volume) the relative marker and the subject marker match even in the first and second person. In Tswana, this kind of agreement pattern is not possible as no demonstrative pronoun exists for first or second person. If a first or second person pronoun is relativized, the relative pronoun of classes 1 (SG) or 2 (PL) is used, as exemplified in (9).

- (9) *1st and 2nd person* (Mascher, Conv 46E III)
 [**Bá**- **ló**- ráta- ńg di-kúkú]
 DEM2 SC2PL love REL 10-biscuit
 lo- tlaa- sényégél-wa ké-mênó.
 SC2PL FUT damage-PASS by-teeth
 ‘You (pl.) who like biscuits will get the teeth damaged.’
 (cf. Cole 1955: 171)

In Tswana there also exists a shortened form of the relative clause in which the auxiliary verb can optionally be dropped, as exemplified in (10). However, this is only possible in the present positive tense.

³ Note that this *-ng* does not mark a relative form nor does it mark a locative, which has a low-toned *-ng* suffix.

- (10) *Short form* (Mascher, Conv 46C III)
 Re-ítshwáréla [bá- bá- mélató lé-roná].
 SC1PL-forgive DEM2 SC2 5.problem with-ABS1PL
 < bá- bá- le-ńg
 DEM2 SC2 be.with-REL
 ‘We forgive those who owe us’

With compound verb tenses, the relative suffix *-ng* only suffixes onto the first verb stem, as exemplified in (11).

- (11) *With compound verb tense*
 Ma-gôdu [á- á- nê- ńg á- tšhwér-wé málôba] á-golóts-wé.
 6-thief DEM6 SC6 be REL SC6 arrest-PASS recently SC6-release-PASS
 ‘The thieves who had been arrested the other day have been released.’

4 Use of relative clauses

Relative clauses are used for noun modification as shown in the examples in section 3. Given that in general Bantu languages only have a very small class of genuine adjectives (Cole 1955: 138), relative clauses in Tswana are frequently used for nominal modification that would be expressed through adjectives in languages such as English. An example is given in (12).

- (12) *Short relative clauses as “adjectives”* (Cole 1955: 175)
 ba-ná bá- bá- maaka
 2-child DEM2 SC2 lie
 ‘untruthful children’

Relative clauses are also used for clefting. Also here, an increased frequency of occurrence might be observed due to the fact that one way of focusing or questioning logical subjects is by use of a cleft sentence, as illustrated in (13).

- (13) *Relative clauses in clefts*
 Ké máng yó- á- fihla- ńg?
 COP who DEM1 SC1 arrive REL
 Lit. ‘It is who that arrives?’ = ‘Who arrives?’

Diachronically, Creissels derives the last mentioned use of clefts, namely for focusing, from the primary use as modifiers by stating that “les formes relatives du verbe tswana s’emploient typiquement comme noyau prédicatif de relatives restrictives, et il semble raisonnable de penser que leurs autres emplois

(notamment dans les phrases clivées exprimant une focalisation) sont historiquement dérivés de leur emploi dans la relativisation” (2002:106).

Although there is generally a semantic distinction between restrictive and non-restrictive relative clauses, this distinction does not seem to have prosodic consequences in Tswana. This is in contrast to Bemba where tonal marking can only occur on restrictive relative clauses (Cheng & Kula 2005 for Bemba). Likewise, the grammaticalization of clefts as focus constructions for subjects could have resulted in prosodic consequences. This is the case in Zulu where there are differences in prosody concerning cleft and restrictive/non-restrictive relative clause in that clefts and non-restrictive relative clauses but not restrictive relative clauses show a prosodic phrase break between head noun and relative clause (Cheng & Downing 2007, to appear). Again, this does not seem to be the case in Tswana.

In Tswana it seems as if the prosody of modified nouns, relative clauses, and clefts is purely syntactically determined, without prosodic modifications due to semantics of the kind mentioned above for Bemba or Zulu. The prosody will be spelt out in the following section in more detail. A reason why the prosodic embedding of a relative clause resembles modification so closely in Tswana might lie in the diachronic development of the relative clause from a demonstrative pronoun which is still clearly evident synchronically (cf. Zeller 2004) even though the demonstrative has lost its meaning and might even be merged phonologically with the following verb word in some Sotho-Tswana varieties (cf. Mischke 1998).

5 Tonal embedding of the relative clause

Tonal modifications can be observed when a relative clause is embedded in a phrase, again exemplified with the sentence in (1), here repeated as (14).

- (14) mo-**ń**na [y**ó**- ó- bú**á**- **ń**g...]
1-man DEM1 SC1 speak REL
‘the man who is talking’

The final syllable of the head noun, if low-toned, is exempt as a target of high tone spread (cf. Creissels 1998: 187). High tone spread (HTS) is a tonal rule which spreads an (underlying) high tone onto right-adjacent syllables (the number of syllables which act as target for HTS differs, cf. Creissels 1998, 1999, 2000). In Tswana this is possible within and across words, as exemplified in (15a+b) respectively (marked in bold).

(15) examples from Cole & Mokaila (1962: 7)

- a. Ó-ápayá di-j[́]ó.
 SC1-cook 10-food
 ‘She is cooking food.’
- b. Ó-dí-sá dí-kgômó.
 SC1-herd 10-cow
 ‘He herds the cattle.’

If the targeted syllable is word-final and a word which starts with a high tone follows the targeted syllable, HTS is only possible at the juncture of subject and verb, (16a), and verb and object, (16b), as marked in bold.

(16) examples from Cole & Mokaila (1962: 7)

- a. Mo-sá**dí** ó-ápayá di-j[́]ó.
 1-woman SC1-cook 10-food
 ‘The woman is cooking food.’
- b. Ke-tla-r[́]e**ká** p[́]ódi.
 1SG-FUT-buy 9.goat
 ‘I will buy a goat.’

High tone spread onto the final syllable of word when it is followed by a high-tone initial word is not possible in modification structures, such as object-locative sequences, (17a), instrumental modification, (17b), modal modification, (17c), noun-modifier sequences, (17d), or head noun-relative clause sequences, (17e).

(17) examples from Cole & Mokaila (1962: 30, 26, 10, 24, 47)

- a. Ngwêd[́]i ó-ts[́]én-ye m[́]ó-má-ru-ng.
 9.moon 1-enter-PERF LOC-6-cloud-LOC
 ‘The moon has gone into the clouds.’
- b. A o-tshá**méka** ká-mó-gomá?
 Q 2SG-play with-3-plough
 ‘Are you playing with the plough?’
- c. Ba-sétsána bá-b[́]ú**a** tháta.
 2-girl SC2-talk much
 ‘Girls talk a lot.’

- d. Mo-rúti wá-ba-ná ó-gôróg-ilê léng?
 1-teacher POSS1-2-child SC1-arrive-PERF when
 ‘When has the school teacher arrived?’
- e. Ke-rákán-ye lé-mo-ńna yó-ó-ségô.
 1SG-meet-PERF with-1-man DEM1-SC1-luck
 ‘I met a lucky man.’

The asymmetry between (16) and (17) calls for an analysis in terms of prosodic phrasing. However, a possible analysis is not straightforward. Given the occurrence of HTS in sequences of verb-object, a first hypothesis would be that the blocking of HTS in (17) occurs at phrase boundaries and is thus indicative of them. This approach would assume a phrase boundary after the head noun of the relative clause in (14) and more generally after every modified head noun. Though not implausible, this is contrary to what has been found in other Bantu languages, such as Chichewa (Kanerva 1990) and Xhosa (Jokweni 1995), and therefore needs careful investigation. For now, we take note of this observation only and leave the detailed analysis a topic for future research.

As for the demonstrative pronoun which acts as a relative pronoun, it is procliticized to what follows (either verb or noun, Cole in press: §172). It is always high-toned. Subject concords in the relative clauses are also always high-toned (see section 5). If a high-toned verb stem follows the subject concord, as in (14), a sequence of three adjacent underlying high tones occur. This is rare in the verbal grammar of Tswana. If, for example, three consecutive high tones occur in other structures, as in (18), the middle high tone is regularly lowered.

(18) examples from Cole & Mokaila (1962: 38, 40)

- a. Ga-bá-**bo**-rát-e.
 NEG-SC2-OC14-like-NEG
 ‘They don’t like it, e.g. beer.’
- b. Ke-batla go-sé-**i**-thékéla.
 1SG-want 15-OC7-REFL-buy.for
 ‘I want to buy it for myself.’

Again, the observation that three high tones can occur consecutively in verbs in the relative clause is telling for the prosodic constituency in this construction, although details of an analysis must remain a topic for future research.

Another observation is that the suffixation of the relative marker *-ng* prevents the preceding syllable from acting as a target for high tone spread, i.e. *

mo-ńna yó -ó-búá-ńg. It thus regularly enforces a low tone on the verbstem-final, new penultimate syllable (Chebanne et al. 1997: 199; with the common restrictions, i.e. LH-*ng* → *LL-*ng*). This word-internal phenomenon is parallel to the phrase-level phenomenon illustrated in (17).

Finally, one can observe high tone spread from the high-toned relative suffix *-ng* onto a following low-toned noun prefix, as illustrated in (19).

- (19) HTS (Cole & Mokaila 1962: 66f)
- | | | | | | |
|------------------------------|----------------|--------------|-----------------|------------|----------------------------|
| Di-ta <u>ú</u> | [ts <u>é</u> - | d <u>í</u> - | j- <u>é</u> lê- | <u>ń</u> g | dí -kgô <u>mó</u>] |
| 10-lion | DEM10 | SC10 | eat-PERF | REL | 10-cow |
| ‘the lions who ate the cows’ | | | | | |

6 The tone pattern of the “relative tenses”

6.1 Relative and participial tenses

The current section has a closer look at the tone patterns on the verb stem itself which are due to its appearance in a relative clause. First, it needs to be noted that some languages, e.g. Bemba (Cheng & Kula 2005), indicate restrictive subject relative clauses solely by tone-marking. Although the tones of the subject marker also change in relative clauses in Tswana, one cannot say that relative clauses can be indicated solely by tone in Tswana because first, the tones of the subject marker are mostly ambiguous between participial tense and relative tense as will be shown below, second, there is also the relative pronoun (although it can be dropped in specific instances, cf. Cole 1955), and third the relative suffix *-ng* is obligatory. Only perception tests can show which of the cues – tone or suffix – is more important in Tswana.

Cole (1955: 178) states that “direct relatives and relative clauses are formed from participial verb tenses by substituting the relative concord for the subjectival concord, and suffixing *-ng* to the verb.” He shows that relatives are based on the participial forms of the verb tenses, i.e. on those tense forms which occur in subordinate clauses, and not on the principal form. He shows this by reference to the negative form in which the relative, just as the participial form, has the negative morpheme *-sa-*, whereas the principal form has *ga-*, as marked in bold in (20).

- (20) Ngwana **ga**-a-lel-e ‘The child is not crying’ (principal tense)
 Fa ngwana a-**sa**-lel-e... ‘If the child does not cry...’ (participial tense)
 ngwana yô-o-**sa**-lel-e-ng ‘the child who does not cry’ (relative tense)

The verb forms in the relative tense and the participial tense do not only correspond to each other in negative formation by having the same negation particle *-sa-* in the same position, namely following the subject concord, but they also largely correspond in their tone patterns. There are two differences though: the subject concord of CL1 is *ó-* instead of *á-* in all tenses (at least as free variation or as dialectal variation) and the tone pattern in the Present Positive. Section 6.2 first shows the correspondence of tone patterns in most of the tenses, and then discusses the case of the Present Positive in section 6.3.

6.2 Correspondence between relative and participial tenses

The present tense and the perfect tense are the only two synthetic tenses in Tswana. All other tenses, such as the future tense, the past perfect etc., are compound tenses and are composed of at least one of the tenses mentioned in the first sentence (Cole 1955). Only the synthetic tenses will be discussed in this paper.

6.2.1 Present negative

In the present negative, both the participial and the relative tense are characterized by high-toned subject concords in all noun classes, the negative particle *-sa-* and a verb stem ending in *-e*. Tonally, they show grammatical tone on the second verb stem syllable, and iterative tone spread to the end of the domain (cf. Khoali 1991). As mentioned in section 5, the stem-final syllable is always low before the high-tone relative suffix *-ńg*. Apart from the lowered syllable before *-ńg*, the participial tense and the relative tense are identical in tone, as illustrated in (21) in the bold marked verb forms. The conjunction *fá* introduces a subordinate clause in Tswana which takes the participial verb form in the respective tense.

(21) all examples from Cole & Mokaila (1962: 49f)⁴

- | | | | | |
|----|-----------|---|---------------------------|-------------------|
| a. | Particip. | | fá bá-sa-útlwé... | |
| | Relative | Ga-ké-ráté baná | [bá-bá-sa-útlwe-ńg | batsádi bá-bôné]. |
| | | I do not like children | DEM2-SC2-NEG-listen-REL | their parents |
| | | ‘I don’t like children who do not listen to their parents.’ | | |

⁴ For reasons of space and ease of reference, morpheme boundaries in words other than the relative verb word are only indicated for those morphemes that are written separately in Tswana orthography in examples (21)-(23).

- b. Particip. **fá á-sa-ítsé...**
 Relative A gó-na lé-mótho **[yó -ó-sa-ítse-ńg** ngwêdí lé-létsatsí]?
 There is noone DEM1-SC1-NEG-know-REL moon and sun
 ‘Is there a person who does not know moon and sun?’
- c. Particip. **fá sé-sa-í-tiréle...**
 Relative Mothibi ké-sétshwakga **[sé-sé-sa-í-tiréle-ńg** sépê].
 Mothibi is a lazy person DEM7-SC7-NEG-REFL-do_for-REL thing
 ‘Mothibi is a lazy person who does not do anything for himself.’

6.2.2 Perfect positive

In the perfect positive, both the participial and the relative tense are characterized by high-toned subject concords in all noun classes, grammatical tone on the second stem syllable, and iterative tone spread (cf. Khoali 1991). Again, the stem-final syllable is always low before the high-toned relative suffix *-ńg*. Otherwise, participial tense and relative tense are identical in tone, as illustrated in (22) in the verb forms marked in bold.

(22) all examples from Cole & Mokaila (1962: 66f)

- a. Particip. **fá á-ág-il-wê...**
 Relative Ke-rátá matlo **[á-á-ág-il-wê-ńg** ká-seténá].
 I like houses DEM6-SC6-build-PERF-PASS-REL with-brick
 ‘I like houses which are built of brick.’
- b. Particip. **fá é-bês-íts-wê ...**
 Relative Batho bá-rátá nama **[é-é-bês-íts-wê-ńg** ká-mólelô].
 people like meat DEM9-SC9-roast-PERF-PASS-REL with-fire
 ‘People like meat which has been roasted on the fire.’
- c. Particip. **fá bó-apé-il-wê...**
 Relative Ke-rátá bogôbe **[jó-bó-apé-il-wê-ńg** ká-maši].
 I like porridge DEM14-SC14-cook-PERF-PASS-REL with-milk
 ‘I like porridge which has been cooked with milk.’

6.2.3 Perfect negative

In the perfect negative, both the participial and the relative tense are characterized by high-toned subject concords in all noun classes, negative particle *-sa-* and verb stem ending in *-a* (ga-SC-aa-R-a in the Principal tense). Tonally, they show grammatical tone on the second stem syllable, and iterative

tone spread (cf. Khoali 1991). Again, the stem-final syllable is always low before the high-tone relative suffix *-ńg*. Otherwise, the participial tenses and the relative tenses are identical in terms of tone, as illustrated in (23) in the bold marked verb forms.

(23) Examples from Cole & Mokaila (1962: 66f)

- a. Particip. **fá dí-sa-ómá...**
 Relative ga-ó-batlé dikgóng [tsé-dí-sa-óma-ńg] tháta].
 It does not want DEM10-SC10-NEG-be_dry.PERF-REL very
 ‘It (i.e. a fire) does not want wood which is not very dry.’
- b. Particip. **fá á-sa-íthúta ...**
 Relative Ga-á-batlé Makgóa [á-á-sa-íthúta-ńg] Setswána].
 It doesn’t want Whites DEM6-SC6-NEG-learn.PERF-REL Tswana
 ‘It (e.g. the government) does not want Europeans who have not learnt Tswana.’
- c. Particip. **fá bá-sá-rupá ...**
 Relative BáBatswána gabáráte bańna [bá-bá-sá-rupá-ńg].
 DEM2-SC2-NEG-initiate.PERF-REL
 ‘The Tswana (women) do not like men who have not gone through initiation.’

For the tenses above, one can generalize that the relative forms do not only correspond to the participial forms in morpho-syntax but also in tone.

6.3 The present positive in the relative

The following table follows Chebanne et al. (1997) and shows the tonal differences in the comparison of participial tense (termed “gérondif”) and relative tense in high-toned verb stems in the present positive.

Table 1: Tone patterns of the present positive

<i>Chebanne et al. 1997</i>	participial	relative tense
monosyllabic H	lóo-já	[bá bá-ja-ńg]
disyllabic H	ó-biná	[bá bá-kwála-ńg]
trisyllabic H	ó-bêréká	[bá bá-béréka-ńg]
quattrosyllabic H	ló-bêrékéla	[bá bá-tshámékísa-ńg]
monosyllabic L	ó-tlá	[bá ré-ya-ńg]

disyllabic L	á-límá	[bá bá-bála-ńg]
trisyllabic L	ló-tsámáya	[bá bá-étéla-ńg]
quatrosyllabic L	bá-tlhálóganya	[bá bá-dúmédísa-ńg]

Mascher (in prep.: Gram 100) adds the observation that the high tone spread in the present positive relative tense takes place iteratively, just as in other tenses in which a grammatical high tone is inserted. This is exemplified in (24) for low-toned verb stems (in contrast to [bá bá-dúmédísa-ńg] in table 1).

(24) Iterative High Tone Spread (marked in bold)

a. [bá ké-**bá**tlísísa-ńg]

b. [bá ké-**lé**kálékánya-ńg]

Thus, two differences emerge in the comparison of participial tense and relative tense in the present positive: First, with high-toned verbs, the stem-initial syllable is never lowered in the relative tense, and second, with low-toned verbs HTS takes place iteratively (just as in the present negative, perfect positive and negative), at least in the Rolong variety (Cole & Mokaila 1962, Mascher in prep.).

The first observation is explicitly confirmed by Chebanne et al. (1997: 199) and Creissels (2002: 104) by stating that “Le gérondif [= participial, SZ] des verbes à tons lexical haut est caractérisé au présent positif par une alternance tonale qui ne se retrouve pas dans la forme relative correspondante (par exemple, le gérondif présent de *-símólóla* “commencer” avec un indice de sujet de classe 1 est *á-símólóla*, mais la forme relative correspondante est *á-símólóla-ńg*.”

Chebanne et al. (1997: 185ff) account for the lowered stem-initial syllable of high-toned verb stems in the Present Participial Tense by positing an underlying empty syllable at the junction between the subject concord and the stem. If the subject concord is immediately followed by a lexically toneless stem, however, the tonal melody is not the one which would be expected if an empty syllable were still present after the subject concord as the spreading of the high tone of the subject concord reaches the second syllable of the stem. They do not see any other solution than to posit two variants of the structure of this tense.

Mascher (in prep., Gram 40C) analyses the participial tense as being formed with a “lingering” low tone which pulls down the first syllable of a high stem but vanishes into a low stem. The subject marker to its left is nevertheless able to spread its high tone.

In the present positive of the relative tense, however, this empty syllable or the lingering low tone (depending on the analysis) are obviously absent. Thus, this tense is not identical to the participial tense. Further evidence is needed from diachrony and/or other Bantu languages that would support such an earlier morpheme in the participial tense, and/or a characteristic tone pattern in the relative clause.

7 Conclusion

Relative clauses in Tswana are marked unambiguously by the presence of a relative pronoun and the relative suffix, except for “short relatives” in the present tense. The tone pattern of the verb word in the relative clause corresponds to the tone patterns occurring in the participial tenses, with the exception of the present positive tense which shows an idiosyncrasy in lacking the low stem-initial syllable of the participial present tense. As for its prosodic embedding into the head phrase, the relative clause behaves parallel to other (nominal) modifiers in that the last syllable of the preceding head noun cannot become the target for high tone spread. This might be due to phrasing or the tonal environment and is a question that awaits further research by developing a coherent analysis of tonal alternations in Tswana. Another area for further research in connection with tones of the relative clause is the difference in the tonal patterns of the relative present tense and the participial present tense. Here it is cross-Bantu data, both synchronic and diachronic, that is needed to reach at a better-informed classification and evaluation of the two observable tone patterns.

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