Word-level replacive tonal patterns in mande nominal constructions: On Christopher Green’s binary typology

Schèmes tonales substitutifs dans les constructions nominales en Mandé : à propos de la typologie binaire de Christopher Green

МОДЕЛИ ЗАМЕЩЕНИЯ ТОНОВ В ИМЕННЫХ КОНСТРУКЦИЯХ МАНДЕ: К БИНАРНОЙ ТИПОЛОГИИ КРИСТОФЕРА ГРИНА

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Introduction

The notion “replacive tone” generally covers cases where word-level lexical tones are overwritten by some other tonal sequences in specific grammatical contexts or constructions; for a broader overview, see (Palancar & Léonard 2016; Konoshenko 2017). For example, in Mwan (Southern Mande) verbs can have lexical \{H\}, \{M\} and \{L\} lexical tones, but this distinction is neutralized in present tense forms, where all verbs get a replacive \{M\} tone: /H/ \textit{kū} ‘grasp’ → \{M\} \textit{kū} grasp\textsc{IPFV}; /M/ \textit{gɔ̀} ‘sell’ → \{M\} \textit{gɔ̀} sell\textsc{IPFV}, /L/ \textit{gbi} ‘catch’ → \{M\} \textit{gbi} catch\textsc{IPFV} (Perekhvalskaya 2004:73).\footnote{This paper has been written as a reaction to Green’s (this issue) overview of replacive tones (RT) in Western Mande nominal constructions, most commonly compounds and possessive constructions. Green’s study brings together instances of tonal compounding attested in many Western Mande languages and seeks to compare their structural patterning with the latest genetic classification of Mande as proposed by (Vydrin 2009). In my view, the broad empirical coverage of RT phenomena in Western Mande as presented in Green’s paper is highly valuable. Still, I believe that Green’s approach to classifying RT phenomena is not entirely satisfactory.}
patterns in Mande is not particularly insightful once we extend the typological scope to other Mande branches.

In section 2, I briefly summarize the basic RT type distinction as put forward by Green. In section 3, I critically discuss Green’s approach and suggest my own tentative typology of RT in Mande noun phrases bringing forward data from Southern Mande.

**RT patterns in Western Mande nominal constructions: Green’s approach**

Green (this issue) focuses on RT patterns in Western Mande nominal constructions, most commonly compounds, possessive constructions, or combinations of nouns and particular modifiers, e.g., adjectives or numerals. Such phrases typically consist of two elements, Word 2 (W1) and Word (W2); in what follows, I use the same labels. RT triggers partial or complete lexical tone neutralization in this W1+W2 sequence; this process is commonly referred to as **COMPACITÉ TONALE** in French or **TONAL COMPACTNESS** as an English equivalent. Although Green notes that “the conditions under which RT neutralizations occur and their tonal outcomes are language-specific” (p. 68), his main claim is that any RT patterns observed in Western Mande, however diverse they may seem at first glance, can be all grouped into two general types, labeled Type 1 and Type 2 RT. According to Green, in both of these types, the resulting tones of the whole W1+W2 construction are predictable from W1 lexical tones, and supplemented by type- and language-specific phenomena.

Green’s first RT pattern, or Type 1 RT, “involves i) the initial lexical tone (minimally) or the entire tonal melody (maximally) of W1 being maintained; and ii) the tonal melody of W2 being neutralized to some language-specific melodic sequence” (p. 69). The best known case is Bamana (1) whereby the initial tone of W1 predicts the tonal outcome of the whole sequence. A sequence of /HH+/LH/ becomes [HH#HH] in (1a); /LH+/+LH/ surfaces as [LL#HH] in (1b); /LHH+/+LH/ yields [LLL#HH] in (1c); /HLH+/+LH/ is realized as [HHH#H] in (1d).

As argued in (Green 2013) and (Vydrin 2016), Bamana RT is most naturally analyzed as involving elimination of W2 lexical tones followed by the tonal spread of W1 tones on W2; Green (2018) suggests that such a spreading analysis is not sufficient to account for all the data, but this issue is beyond the scope of this paper.

Green’s second RT pattern “differs most clearly from Type 1 RT in that i) non-final tones of W1’s lexical tonal melody are maintained on W1; and ii) the final lexical tone of W1 spreads on to the initial TBU of W2 (minimally), but further (beyond the first TBU) in some language-specific instances. Remaining TBUs in W2 are assigned a language-specific melodic sequence” (p. 70). A typical Type 2 RT is attested in Mende (Southwestern Mande), whereby W1 tones are generally preserved in the tonal outcome, and the final H of W1 spreads on the first TBU of W2 (2ab). Note, however, that final L on W2 is not predictable from W1 or W2 lexical tones and has to be interpreted as a language-specific pattern ascribed to W2.
After presenting his two-fold typology, Green then applies this distinction to the vast range of empirical phenomena observed in languages from various Western Mande branches seeking to ascribe a given RT pattern in a particular language to one of the two suggested types. He then concludes that his typology largely correlates with the genetic grouping of Western languages as suggested in (Vydrin 2009). The clearest trend is that most Central Mande languages generally exhibit Type 1 RT, and Soso-Southwestern Mande prefer Type 2 RT (p. 100).

RT in Western Mande nominal constructions: discussion

In this section I present some critical remarks concerning Green’s nominal RT typology in Western Mande. I then suggest another possible way of describing the basic RT phenomena in Mande nominal constructions by extending the scope from Western Mande to Southeastern Mande, and more specifically, to the Southern Mande group.

W1 to W2 H spread as surface morphophonological phenomenon

It is a well-established fact that different tonal realizations of a given morpheme can be attributed to morphophonological as well as morphological rules. In my view, Green’s approach fails to distinguish between morphophonological and morphological replacive tone rules which may interact in a given compound construction.

As defined by Green, both Types 1 and 2 involve neutralization of W2 tone, but Type 2 involves an additional spread of the final W1 tone onto W2, e.g. in Mende, Looma, and Kpelle. In my view, such W1 to W2 spreads are a superficial phonological phenomenon in at least some languages ascribed to the so-called Type 2 RT, rather than a specific property of compound marking.

My strongest case involves Guinean Kpelle (Southwestern Mande), as described in (Konoshenko 2014), and also based on my unpublished field data. In Guinean Kpelle, there is a general morphophonological rule of H spreading onto a rightward adjacent L which equally applies to different low-level syntactic phrases including Noun Phrase (NP) + Verb, NP + Noun, and NP + Postposition (Konoshenko 2014:241). Hence, in this language, there is no principal difference between H spreading in a verb phrase (3a) vs. in a compound (3b).

(3) Guinean Kpelle

• a) /ɓɛ́la’a/ ‘sheep’ + {kàa} ‘saw’ → [ɓɛ́la’a#kàa] ‘saw a sheep’
• b) /kwii/ ‘white person’ + {wòò} ‘language’ → [kwii#wòò] ‘language of white people’, i.e., French
Therefore, in Guinean Kpelle, H spread essentially involves the same morphophonological rule applying across different syntactic constructions, and it should not be regarded as specific for nominal constructions.

A similar H spread rule is attested in other Southwestern Mande languages, e.g., in Liberian Kpelle, Looma, and Zialo, as well as in Vai (Vai-Kono). In all these languages, the H spread rule in compounds depends on the W1 tonal class; e.g., spreading is only possible after a /LH/ but not a /H/ W1. In Looma and Zialo, the spread also depends on whether W1 is followed by a referential article. Such idiosyncrasies suggest that H spread is just a surface process that obviously complexifies the tonal realization of compounds, but not one inherent to compounding as a morphosyntactic process. That is, lack of spreading is not linked to a specific meaning in these languages.

Therefore, I argue that W1 to W2 H spreading is not inherently tied to compounding as a morphosyntactic operation in Type 2 languages, but rather, it is a surface phenomenon which may or may not be superposed on compounds at a later stage of the tonal derivation. This view is supported by the fact that (a) we find similar tonal processes applying elsewhere, outside compounds, as in Guinean Kpelle, cf. also Tigemaxoo Bozo, as mentioned by Green (2018:100); and (b) we find surface phonological idiosyncrasies limiting H spreading in compounds, as in the distinction between /H/ and /L(H)/ in Liberian Kpelle, very similar patterning of /LH/ in Vai, and presumably more arbitrary restrictions in Looma and Zialo.

As for other languages ascribed to Type 2 by Green, I cannot comment on Bandi and Loko, as these languages are not very well documented, which is unfortunate given that they seem to have quite complex tonal systems like other Southwestern Mande. Susu and Mende might be unique in that (a) final H spreading occurs only in compounds in these languages, and (b) there are no apparent phonological idiosyncrasies. Still, it seems that H spreading can still be seen as a surface morphophonological rule in these latter languages, being restricted to compounds.

To conclude this subsection, I am not convinced that Green’s approach to classifying nominal RT provides real insights into the nature of tonal marking of nominal constructions in Mande. In my view, it is more fruitful to shift the focus of the typology from documenting additional surface phonological rules to a more abstract question as to what kind of tone is assigned to W2 in Mande nominal constructions. This issue is addressed in section 3.2.

The properties of W2 tone neutralization in Mande

No one would question the fact that RT somehow neutralizes lexical tones on W2 in most Western Mande languages, and that cases where the lexical tonal melody of W2 is preserved, e.g., in Soninke compounds, are much less common. Green’s typology also incorporates the idea of W2 tonal neutralization, which is viewed as characteristic of both his Type 1 and 2 RT patterns. Crucially, Green claims that in both Type 1 and 2 patterns, W2 is assigned some language-specific melody, although in Type 2 this melody somehow interacts with W1 tone spread. Green, thus, does not attempt to arrive at any generalizations regarding the nature of W2 replacive tones, ascribing them to language-particular idiosyncrasies. In my view, rather than constructing the RT pattern typology based on absence or presence of additional W1 to W2 tone spread, which is
crucial to Green’s Type 1/2 distinction, it is much more promising to focus on the specific nature of W2 tone neutralization in Mande. Moreover, as I demonstrate below, significant insights arise once we add other Mande branches into our scope. In what follows, I focus on three genetic groupings revealing the most salient RT patterns – Central (3.2.1) and Soso-Southwestern (3.2.2) Mande from the Western branch and Southern Mande (3.2.3) from the Southeastern branch. In 3.2.4, I also show that Soninke from the Soninke-Bozo branch provides additional evidence supporting my view of W2 tone neutralization in Mande.

W2 tone neutralization in Central Mande

W2 tone neutralization in Central Mande is commonly attributed to tone spreading from W1, e.g., in Bamana (Vydrin 2017a) and Kakabé (Vydrina 2017:499–500), or default tone assignment, e.g., in Niokolo Maninkakan (Creissels 2013:26–27). The notion of default tone is justified by the fact that Central Mande are known to have asymmetric tone systems; most of them, e.g., Bamana and Kita Maninkakan, being commonly viewed as having /L/ vs. /Ø/ contrast with L being marked and H being assigned by default (Creissels 1994; Creissels & Grégoire 1993:110); /H/ vs. /Ø/ contrasts are also attested, e.g., in Niokolo Maninkakan (Creissels 2013).

Crucially, W2 tone neutralization in these languages is fully predictable from the underlying W1 and W2 tones and/or the rule of default tone W2 assignment. Therefore, W2 tone replacement is of a PHONOLOGICAL nature in this branch.

W2 tone neutralization in Soso-Southwestern Mande

As Green (this issue) clearly demonstrates, Soso-Southwestern languages and Vai (Vai-Kono) have much trickier RT patterns. As discussed in 3.1, at least for some of these languages, W1 to W2 tone spread could be interpreted as a surface rule which is not inherent for tonal marking of nominal constructions. The task is then to investigate the remaining W2 tones which cannot be explained by W1 spread.

Similar to what has been proposed by Dwyer (1973) and Keita (1989), I would suggest adopting a derivational approach and to treat such languages as having a morphosyntactically-assigned grammatical tone on W2 which later gets obscured by surface H spreading.

I illustrate this interpretation with well-known examples from Mende. In (4), wòvá ‘old’ has lexical /H/, but it is assigned grammatical {L} in a given N+Adj construction. The {L} on W2 may be faithfully realized as [L] if W1 has final L (4a) or as [HL] after a W1 with final H, which then spreads onto the first syllable of W2 (4b).

(4) Mende

- /bèlè/ ‘trousers’ + /wòvá/ ‘old’: /bèlè/ + {wòvá}→ [bèlè#wòvá] ‘old trousers’
- /hálè/ ‘medicine’ + /wòvá/ ‘old’: /hálè/ + {wòvá}→ [hálè#wòvá] ‘old medicine’

The same analysis is possible for Susu (5ab), at least for the dialect described in Green (2018), citing (Green, Anderson & Obeng 2013:68).

(5) Susu

- a) /dégé/ ‘sew’ + /sèé/ ‘thing’: /dégé/ + {sèé}→ [dégé#sèé] ‘needle’
- b) /piyá/ ‘avocado’ + /bíílì/ ‘trunk’: /piyá/ + {bíílì}→ [piyá#bíílì] ‘avocado tree’
(Green, Anderson & Obeng 2013:71–72) show that the only difference between Susu and Mende is that in Susu, a HL melody on W1 is later simplified to H due to another surface process of tone raising, or contour simplification. This effect is not relevant for the present discussion, but see also Green’s (2018) section 4.2.3 on some other complicating phenomena attested in various Soso-Southwestern languages.

Green (2018) shows that W2 tone varies across Manding languages depending on which of the two tonal elements – H or L – is unmarked in a given language. On the other hand, W2 tone specification is quite uniform across Soso-Southwestern Mande. After one removes the surface effects of W1 to W2 H spreading, it turns out that in all of Soso-Southwestern Mande, and indeed in all Green’s Type 2 languages including Vai, W2 gets [L] marking, cf. the W2 Lowering rule in (Dwyer 1973). Therefore, W2 neutralization may be much less chaotic and language-specific in Western Mande than Green puts it.

To account for uniform [L] W2 neutralization in Soso-Southwestern languages and Vai, one could simply assume that L is phonologically default, or unmarked, in these languages. I am quite convinced that this is not true. In these languages, both H and L tend to be phonologically active. In all Southwestern Mande languages, H and L tonal prefixes function as pronominal 1SG and 3SG markers. In Susu, there is a tone lowering/settling /LH/-/H=/[LL#H] rule, as well as a comparable tone raising rule /HL/-/L=/ [HH#L] (Green, Anderson & Obeng 2013:71–72). Similarly, in Vai, there are both lowering /LH/-/H=/[LL#H] and H spread /LH/+/L=/[LL#HL] (Welmers 1976:40–41, 56–57). Therefore, there is not enough evidence to treat these languages as having a privative /H/ vs. /Ø/ tonal contrast. Hence, [L] neutralization cannot be seen as an automatic phonological default tone assignment. Because [L] appears in a specific morphosyntactic context, e.g., in compounds, it should be treated as a MORPHOLOGICAL (morphosyntactic?) W2 tonal marker.

So far, my typology based on W2 neutralization patterns yields the same results as Green’s typology based on W1 to W2 spreading, because among Western Mande, all or most languages with [L] marking tend to have additional H spread. However, my distinction will become more meaningful and, I believe, more insightful provided that one looks at languages in Southeastern branch of the family, and more specifically at the relatively well-described Southern Mande group (3.2.3). Finally, in section 3.2.4, I show that Kingi Soninke (Soninke-Bozo) has various RT patterns, and some of them provide evidence supporting my approach.

**W2 tone neutralization in Southern Mande**

Southern Mande languages are multitonal, meaning that they have from three to five level tones. In many Southern Mande languages, e.g., Mano, Dan, Toura, and Guro, W2 is assigned a lower register tone marker, e.g., optional [L] as in (6) from Mano, a language with three level tones, or {extra-Low} as in (7) from Dan-Gwëttaa, which has five level tones.

(6) Mano (Khachaturyan 2017: 705)

- /sɔ̀ɔ̄/ ‘amusement’ + /m̃i/ ‘person’: /sɔ̀ɔ̄/ + {m̃i} → [sɔ̀ɔ̄#m̃i] ‘lover’

(7) Dan-Gwëttaa (Vydrine & Kessébeu 2008:75)

- /bàà/ ‘manioc’ + /dùũ/ ‘plant’: /bàà/ + {dùũ} → [bàà#dùũ] ‘manioc plant’
Crucially, W2 {L} or {extra-L} marking is not accompanied by surface spreading in these languages, with an exception of Guro which has more complex rules of W2 neutralization (Kuznetsova & Kuznetsova 2017). Therefore, most Southern Mande languages provide evidence in favor of the derivational approach proposed here for Soso-Southwestern languages and Vai, whereby the latter languages are viewed as having underlying {L} marking on W2 which is later obscured by surface W1 to W2 tone spreading.

RT patterns in Southern Mande are thus similar to those of Soso-Southwestern Mande and Vai in that W2s receive a lower register tone marker in both branches, although in Soso-Southwestern Mande and Vai, W2 RT is further overridden by W1 to W2 tone spreading.

**W2 neutralization in Soninke**

Finally, it should be noted that in Kingi Soninke (Western Mande, Soninke-Bozo group), a language mentioned by Green (2018) as atypically preserving W2 lexical tones in compounds, there is also lower register W2 marker attested in certain nominal constructions.

According to Creissels (2016), a multisyllabic W2 is marked with {LH} in Soninke possessive constructions (8ab). In sequences of a noun and a numeral from two to ten, W2s receive invariable {L} marking (8cd); I ignore segmental alternations which may affect both W1 and W2.

(8) Kingi Soninke (Creissels 2016:70, 75)

- a) /Muíṣáː/ + /qáliši/ ‘money’ /Muíṣá+{qáliši}/ ‘Musa’s money’
- b) /Muíṣáː/ + /móvelfi/ ‘car’ /Muíṣá+{móvelfi}/ ‘Musa’s car’
- c) /séfinjú/ ‘chicken’ + /síkkò/ ‘three’ /séfinjú+{síkkò}/ ‘three chickens’
- d) /lémiñe/ ‘child’ + /tànmmu/ ‘ten’ /lémiñe+{tànmmu}/ ‘ten children’

Thus, Soninke has a morphological {L} W2 marker similar to that seen in Southern and Soso-Southwestern Mande, although it coexists with other RT patterns in this language. Note that Creissels (2016) analyzes Soninke tonal system as /L/ vs. /Ø/, i.e., as having marked L. Therefore, {L} marking of W2 in this language cannot be attributed to an automatic process of default tone assignment.

**Conclusion**

In this paper, I suggest a shift in the focus of RT typology in Mande from the existence of W1 to W2 tone spreading, as suggested by Green (2018) based on Western Mande, to the properties of W2 tonal neutralization, which seems more promising once we take a look at other Mande branches. Two basic types of W2 tonal neutralization in Mande are proposed in this paper.

First, W2 may get a default (unmarked) tone and/or it may get its tone from W1 via spread, which is a phonological neutralization, e.g., in Central Mande.

Second, W2 may be assigned a specific morphological (morphosyntactic?) tone, typically {L} or {extra-L}. This type of W2 neutralization is attested in Southern, Soso-Southwestern Mande, Vai, and Soninke, although it is obscured by further surface W1 to W2 spreading in Soso-Southwestern Mande and Vai.
In my view, Soso-Southwestern Mande should be seen as intermediate between Central Mande and Southern Mande when it comes to general tonal patterning and nominal RT tones in particular. On the one hand, just like Central Mande, Soso-Southwestern Mande have binary tonal systems with a tendency towards spreading phenomena (as observed by Green, many Central Mande language do have tone spreading, albeit on W1 in certain nominal constructions). On the other hand, the tonal contrast in Soso-Southwestern Mande is not privative in that both H and L are phonologically active. Moreover, just like Southern Mande, Soso-Southwestern Mande languages have a specific lower register tone marker assigned to W2 in nominal constructions. These structural properties generally correspond to the areal patterning of this group. Indeed, Soso-Southwestern Mande may be considered as geographically central for Mande from an areal perspective.

Therefore, the implications of my typology are quite coherent with the areal patterning of Mande languages. My approach may also provide more insights into the diachronic development of RT in Mande. Because grammatical constructions triggering RT are quite uniform across Mande branches, one may argue that nominal RT is an old phenomenon in the family. Moreover, because similar lower register tone marking is attested in genetically quite distant branches of the family – Soso-Southwestern group and Soninke from the Western branch and Southern group from the Southeastern branch – one might assume that {L} could have been a W2 tonal marker in nominal constructions in Proto-Mande, cf. also (Vydrin 2017b:34–35). Hence, the RT patterning in Soso-Southwestern and Southern Mande may appear more archaic, whereas the surface-phonological reinterpretation of W2 tonal neutralization in Central Mande could be an innovation.

Still, I must note that the broad coverage of RT phenomena collected by Green (2018) across all Western Mande branches is extremely important and speaks for itself, however sketchy and incomplete the descriptions in some sources may be. At the same time, my typology is only based on a subset of Mande branches and may need revision once we more complete descriptions of languages from other groupings, and more specifically Samogho-Bobo, Soninke-Bozo, and Eastern Mande, are available.

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**BIBLIOGRAPHY**

**References**


NOTES

1. This paper was written with financial support from the Russian Science Foundation, project 17-78-20071 “Languages of West Africa: description and comparative analysis”.
2. In what follows, symbols H, M, L represent high, mid, and low tones, respectively. Following McPherson (2014), I use slashes, e.g., /L/, for word-level lexical contours and curly brackets {} for word-level grammatically assigned tone, e.g., {L}. Surface tones are given in square brackets [ ].
3. I illustrate RT in Mende taking examples from (Dwyer 1973) rather than from Green’s paper, because Dwyer’s examples featuring an adjective wo’va’ with lexical H tones show more clearly that the tonal outcome of a nominal construction is not predictable from W2 lexical tones in Mende.
4. Some description of Kpelle segmental phonology and tonology can be found in (Odden 2015), but this source misses the distinction between /L/ and /L( H)/ lexical contours, which makes the analysis quite problematic and largely inaccurate.
5. I put aside cases like Soninke compounds where tonal neutralization only affects W1.

ABSTRACTS

The paper critically discusses Green’s (this issue) binary typology of replacive tones in Western Mande nominal constructions. Green’s distinction between the two types of replacive tones in Western Mande is based on the existence of Word 2 to Word 2 tone spreading, which is attested in a subset of languages under the scope of Green’s paper. I suggest to shift the focus of Mande replacive tone typology from Word 2 to Word 2 tone spreading, as put forward by Green, to the properties of Word 2 tonal neutralization. The crucial evidence in favour of my approach comes from other Mande branches not discussed in Green’s paper. I argue that there are two types of Word 2 tonal neutralization in Mande. The first type covers phonological neutralization, whereby Word 2 gets a default (unmarked) tone and/or it may get its tone from Word 2 via spreading, this type is attested in Central Mande. The second type is morphological (morphosyntactic) neutralization whereby Word 2 is assigned a specific tone marker, typically low or extra-low tone. This type of Word 2 neutralization is attested in Southern, Soso-Southwestern Mande, Vai, and Soninke, although it is obscured by further surface W1 to W2 spreading in Soso-Southwestern Mande and Vai.
lumière le caractère de la neutralisation tonale de W2. Les arguments principaux en faveur de ma proposition proviennent des groupes mandé qui ne sont pas traités dans l’article de Green. Je considère qu’il y a deux types de neutralisation tonale en mandé. Le premier type est une neutralisation phonologique : le W1 acquiert un ton par défaut (ton non-marqué) et/ou il peut obtenir son ton du W2 par propagation ; ce type est bien représenté dans le groupe mandé central. Le deuxième type est une neutralisation morphologique (morphosyntaxique) : le W2 reçoit un marqueur tonal spécifique, typiquement un ton grammatical bas ou extra-bas. Ce type de neutralisation tonale du W2 est attesté dans les langues mandé-sud, soso-mandé-sud-ouest, vaï et soninké. Cependant, ce phénomène est obscurci par la propagation ultérieure et superficielle du ton du W1 sur le W2 en soso-mandé-sud-ouest et vaï.

INDEX

motsclésru языки манде, тон, заместительный тон, словоизменительный тон, нейтрализация, дефолтный тон

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