

Tonal morphology in a creole: High-tone raising in Saramaccan serial verb constructions

Jeff Good*
University of California, Berkeley

0. Introduction

The focus of this paper is on several cases of tone raising in Saramaccan, an Atlantic creole spoken in Surinam, which appear to be best analyzed as the manifestation of morphological floating high tones. Floating tones have been a well-recognized part of modern linguistic theory since at least Goldsmith (1976:57–62) who defined a floating tone as “a segment specified only for tone which, at some point during the derivation, merges with some vowel, thus passing on its tonal features to that vowel (1976:57).”

It is not uncommon for a floating tone to serve as the sole marker of a morphosyntactic construction in tonal languages. Goldsmith, for example, describes a floating high tone in Igbo which appears at the right edge of preverbal nouns to mark particular kinds of subordinate clauses (1976:57–62). And, the use of such floating tonal morphemes has not been limited, by any means, only to phonological works like Goldsmith’s. In a recent article with a focus on syntax and semantics, for example, Bisang and Sonaiya (1999), explicitly represent a type of subject marker in Yoruba as a floating high tone.

Because of the nature of their phonological structure, a notable characteristic of floating tone morphemes is the fact that they may fail to be overtly realized due to the tonal specification of the tone bearing units (TBU’s) which could potentially serve as their hosts. For example, if a floating high tone attaches to a TBU which is already marked with a high tone, there is no way for that floating high tone to be unambiguously realized, barring some special tonological process. Two high tones attaching to some TBU are simply indistinguishable, on the surface, from one high tone attaching to a TBU.

Like Yoruba and Igbo (and many other languages), Saramaccan exhibits phenomena which can be well analyzed as the surface manifestation of floating tones. In the case of Saramaccan, the conditions under which these tones

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can be overtly realized are particularly restrictive because Saramaccan only allows one tone to attach to any TBU.¹ Thus, if the available host for a floating tone is already specified for tone, for whatever reason, the floating tone simply cannot be realized.

Unlike Yoruba and Igbo, however, the fact that Saramaccan is a creole makes the existence of floating morphological tones in the language very surprising. McWhorter (1998), for example, in developing his notion of the creole prototype, specifically cites a lack of inflectional and tonal morphology as a general feature of creole languages. The floating high tones which will be proposed here for Saramaccan are taken to be inflectional markers of serial verb phrase constructions. The existence, then, of these apparently inflectional *and* tonal morphemes is very significant in light of general creole typology. To the best of my knowledge, tonal inflectional morphology has not been proposed for any other creole—making the arguments to be presented here even more noteworthy.

Saramaccan is an English-based creole with heavy Portuguese and Dutch influence spoken in the interior of Surinam. Of the Atlantic creoles, Saramaccan is often singled out as having had especially little superstratal contact. (The fact that it has a particularly well-developed tone system is probably related to this aspect of its history.) The tone system of the language has been the subject of two descriptive studies (Rountree 1972, Voorhoeve 1961) and one more recent theoretical work (Ham 1999).

There is an underlying three-way tonal contrast in Saramaccan among TBU's specified for high tone, TBU's specified for low tone, and TBU's which are unspecified for tone underlyingly. TBU's unspecified for tone surface with a low tone as a default. However, several processes, both phonological and morphological, cause unspecified TBU's to be realized with a high tone on the surface—I use the word “raising” as a cover term for such effects throughout the paper.

The data in (1) shows how low-tone TBU's and TBU's unspecified for tone behave differently in raising environments.

- (1) a. *dí taánga wómi* → *dí tàángá wómi*
 the strong man
 “the strong man”
- b. *dí bódjèè wómi* → *dí bódjèè wómi*
 the sly man
 “the sly man”

In Saramaccan, an adjective and a following noun form a phonological phrase in which a kind of tonal plateauing acts to raise unspecified TBU's to a high tone when they are flanked by high-tone TBU's. Thus, in (1a) the final

a of *taánga* ‘strong’ surfaces with a high tone. The first *a* of *taánga*, which is also underlyingly unspecified for tone, surfaces with a default low tone since it is not part of any raising environment. Example (1b) illustrates the contrast between TBU’s specified for low tone and those unspecified for tone. The final two TBU’s of *bódjèè* ‘sly’ are underlyingly specified with low tones and, therefore, are not raised within any raising environment.² Throughout the paper, I will refer to the type of raising seen in (1a) as high-tone plateauing to distinguish it from the other types of tone raising, which are discussed in section 1. High-tone plateauing is the source of all phonologically conditioned raising in Saramaccan—and, in fact, applies far more generally than raising which is not phonologically conditioned.

While most tone raising in Saramaccan is a result of the phonologically conditioned plateauing just discussed, some instances of it are not. Morphosyntactically raised tones are found in serial verb constructions. These are complex predicates which contain more than one verb. An example of tone raising found in a serial verb phrase can be seen in (2b) which is contrasted with (2a).

- (2) a. *A náki dí tatái.* →
 À náki dí tátái.
 he hit the rope
 ‘He hit the rope.’
- b. *A náki dí tatái bəs̀̀.* →
 À náki dí tátái bəs̀̀.
 he hit the rope loosen
 ‘He hit the rope and loosened it.’

In (2a), the last TBU of *náki* ‘hit’ is underlyingly unspecified for tone and surfaces with a default low tone. However, in (2b), *náki* is a non-final verb in a serial verb phrase (the verb *bəs̀̀* ‘loosen’ follows it). In this environment, the last syllable of *náki* is raised due to the presence of a high-tone “suffix” marking its syntactic positioning in the serial verb phrase.

The focus of this paper are floating high-tone morphemes in Saramaccan of the sort seen in (2b). Section 1 will describe the specific environments where these high-tone morphemes are found and discuss how they interact with the other tone raising process in the language—high-tone plateauing. Section 2 will sketch a synchronic analysis of these morphemes, paying particular attention to whether or not they should be treated as word-level or phrase-level markers. Section 3 will discuss the possible diachronic origins of these high tones. Finally, section 4 will present some concluding remarks on the importance of these morphemes for claims about the status of morphology in creole languages.

1. The high-tone morphemes of Saramaccan

As mentioned above, most tone raising in Saramaccan is phonologically conditioned high-tone plateauing. In particular, within a phonological phrase, TBU's unspecified for tone are realized with a high tone when flanked by high-tone TBU's. Rountree (1972:314–25) describes various environments where raising is found in Saramaccan. She considers all tone raising to be the result of high-tone plateauing of the sort seen in (1a). However, while some instances of tone raising in serial verb phrases look superficially as though they can be instances of high-tone plateauing, this is not true for all cases.

Two of Rountree's (1972) examples of serial-verb raising are given in (3).

- (3) a. *Mì hópo kumútu à dí wósu.* →
Mì hópó kúmútù à dí wósù.
 I up go out of the house
 "I get up and go out of the house." (Rountree 1972:324)
- b. *Mì ó=náki dí lògòsò kulé gó à mì wósu.* →
Mì ó=nákí dí lògòsò kúlé gó à mì wósù.
 I FUT=hit the turtle run go to my house
 "I will hit the turtle and run to my house." (Rountree 1972:325)

In (3a) the two verbs in the serial verb phrase, *hópo* 'go up' and *kumútu* 'go out', are adjacent. As can be seen, the final tone of *hópo* and the first tone of *kumútu* are raised. Since these TBU's are flanked by two high tones, the raising in (3a) looks as if it could be an example of high-tone plateauing. However, the sentence in (3b) shows that this analysis is probably not ideal. In some respects, it shows a similar sort of raising to that seen in (3a). Namely, the last syllable of the verb *náki* 'hit' and the first syllable of *kulé* both raise when part of a serial verb phrase. However, unlike (3a), these two verbs are not adjacent, making it difficult to view the raised tones on these verbs as resulting from high-tone plateauing.³

Rountree, however, does analyze the tone raising seen in (3b) as an instance of plateauing, claiming, "Successive predicates [raise] with each other whether they are adjacent or not (324)." Her basic intuition is that, in sentences like (3b), the object is "invisible" to the plateauing process and the verbs show raising as if they were adjacent.

Rountree's intriguing description of serial verb raising was used by Veenstra (1996:108–111) to justify an analysis of serial verb phrases wherein, at some level of derivation, they are adjacent. High-tone plateauing would apply at that point, and the object would move to an intervening position at some later stage of the derivation—without affecting the tones on the already raised TBU's.

- b. *Kofí féni Ámba jàà wáta.* →
Kòfí féní Ámbà jàà wátà.
 Kofi find Amba splash water
 “Kofi found Amba and splashed her with water.”

The sentences in (4), (5), and (6b) each illustrate one environment where serial verb raising is observed: The right edge of a non-final verb in a serial verb phrase. This is true both when the serial verbs are adjacent (as in (4)) and when they are non-adjacent (as in (5) and (6b)).

However, serial verb raising is not limited to that one morphosyntactic environment. As seen in (3b), raising can also be found at the left edge of serial verbs. In that sentence, the verb *kulé* ‘run’ surfaces as *kúlé*. As mentioned above, Rountree (1972) attributed this to the two serial verbs *náki* and *kulé* plateauing with each other despite the existence of an argument intervening between them.

As with raising at the right edge of non-final serial verbs, Rountree’s claim can be straightforwardly tested by seeing whether or not tone raising is found at the left edge of serial verbs when they are preceded by low-tone verbs. Sentences constructed along this pattern show different behavior depending on whether or not the two serial verbs are adjacent. Specifically, raising is not seen at the left edge of a serial verb when immediately preceded by a low-tone verb, as seen in (7a), but it is seen when an argument intervenes between the two verbs, as seen in (7b). (Sentence (7a) is repeated from (5b).)

- (7) a. *A féni wáta bà butá a wósu.* →
À féní wátà bà bùtá à wósù.
 he find water carry put in house
 “He finds water and brings it to the house.”
- b. *A bà wáta bebé éside* →
À bà wátá bĕbé ésidè
 he carry water drink yesterday
 “He carried water and drank it yesterday.”

In (7a) the verb *butá* ‘put’ surfaces with an initial low-tone TBU, and in (7b) the verb *bebé* ‘drink’ surfaces with an initial high-tone TBU. Both of these verbs are preceded by the same low-tone verb *bà* ‘carry’.

Raising at the left-edge of a serial verb when it is preceded by an intervening argument is not limited to occurring when the intervening material is a noun phrase. The sentence in (8) shows that it is also seen when a prepositional phrase intervenes—raising is again seen on the verb *bebé*.

- (8) *Kofí féní wáta bà à wósu bebé ésidè.* →
Kòfí féní wátà bà à wósú bĕbé ésidè.
 Kofi find water carry to house drink yesterday
 “Kofi found water, carried it home, and drank it, yesterday.”

The data in (7) and (8) leads us to a second generalization as to where serial verb tone raising occurs: The left edge of a serial verb raises when that verb is not immediately preceded by another verb in its serial verb phrase.

There are, then, two high-tone morphemes which can be found in serial verb constructions in Saramaccan. The formal status of these morphemes will be taken up in section 2. Their conditioning is descriptively summarized in table I. In table I, I give two labels for these morphemes. The first, H_R , refers to the high tones which appear at the right edge of serial verbs, and the second, H_L , refers to the high tones which appear at the left edge of serial verbs.

Table I. Serial verb raising environments in Saramaccan

	Alignment	Environment
H_R	Right edge of word	Non-final verb in serial VP
H_L	Left edge of word	Non-initial verb in serial VP not immediately preceded by another verb in the VP

When examining the environments where these serial-verb high-tone morphemes are found, a natural question arises as to whether or not they serve any discernible grammatical function. In fact, both morphemes can be understood as taking on some functional load. The H_R morpheme fills the role of an indicator that there will be at least one other verb in the predicate, thus acting as a sort of “warning” that there is more of the sentence to come than might otherwise be expected. The H_L morpheme, on the other hand, can be understood as having the role of “reminding” the hearer that a serial verb phrase is being constructed. When two serial verbs are adjacent, such a reminder would be superfluous, and it isn’t found. However, when an object separates the two verbs, the serial relationship between them becomes somewhat opaque. The H_L tone makes the existence of such a relationship explicit. Broadly speaking, then, these morphemes can be viewed as grammatical marking that a verb is part of a serial verb phrase construction, something which has obvious functional value.

Positing the existence of high-tone morphemes, along the lines of those seen in table I does not account for all instances of raising seen in Saramaccan serial verb phrases. For example, in sentence (3a), the first syllable of the verb *kumútu* ‘go out’ and the second syllable of the verb *hópo* ‘(go) up’ show

raising. The raising on the verb *hópo* is consistent with that predicted by the existence of the H_R morpheme. However, the raising on the first syllable of *kumútu* is not predicted as resulting from the H_L morpheme because the two verbs *hópo* and *kumútu* are adjacent.

The explanation for the appearance of a high tone on the first syllable of *kumútu* in (3a) is, quite simply, that adjacent serial verbs form a phonological plateauing environment of the sort exemplified by the data in (1a). Thus, the high tone on the first syllable of *kumútu* is conditioned by the fact that it is flanked by two high tones within a phonological phrase.

This analysis poses no particular problem for a general account of Saramaccan tone raising since, in no environment, is the left edge of a verb seen to block plateauing. This can be seen in (9), for example, where the verb and its preceding subject form a plateauing environment.

- (9) *Dí wómi tá=woóko taánga lóngi.* →
Dí wómí tá=wóókò tàángà lóngì.
 the man PROG=work hard long
 “The man works hard and long.” (Rountree 1972:322)

Consistent with these facts, serial verbs also form a plateauing environment with a preceding object in serial verb phrases with an SVOV structure (simple SOV order is not allowed in Saramaccan). This can be seen in (7b) above where the last syllable of *wáta* ‘water’ raises when followed by the verb *bebé* ‘drink’. It can also be seen in (10) below.⁴

- (10) *Mí wási koósu butá à dí sónu.* →
Mí wásí kòósú búta à dí sónú.
 I wash clothes put in the sun
 “I wash clothes and put them in the sun.” (Rountree 1972:325)

Thus, in addition to morphosyntactically conditioned serial-verb tone raising in Saramaccan, it is also important to recognize that high-tone plateauing can occur between adjacent serial verbs and a serial verb preceded by a verbal argument—these facts will play a central role in the diachronic analysis given in section 3.

The focus of the data presented in this section has been on unambiguously showing that there are high tones in Saramaccan serial verb phrases which cannot be analyzed as phonologically conditioned. Thus, the data presented here has been intended to exemplify a range of phonological environments. However, serial verb constructions, cross-linguistically, are typically classified with respect to their syntactic or semantic characteristics. Veenstra (1996) offers a detailed discussion of the syntax and semantics of serial verbs in Saramaccan, and Sebba (1987) contains a detailed description of the syntax and semantics of serial verbs in Sranan, a language closely related to Saramaccan.

The data seen in this section represents at least two important syntactic/semantic types of serial verb phrases. One of these types, a resultative, was seen in (5a). Most of the other examples are consecutive serial verb phrases in which a series of verbs, expressing consecutively performed actions, are joined into one predicate ((5b) is a good example of this type). It would clearly be interesting to examine the range of proposed syntactic and semantic types of serial verb constructions for Saramaccan in order to see if there are any differences with respect to their use of the morphosyntactic tones described in table I. Unfortunately, such a study has not yet been undertaken.

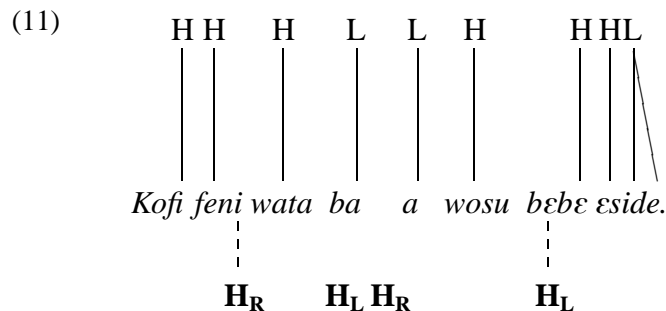
In the next section, a formal analysis of the morphemes described in table I will be given, paying particular attention to the point in the derivation at which the tones are attached to the serial verbs which they mark.

2. The formal status of high-tone morphemes in Saramaccan

The data in section 1 clearly demonstrates the existence of high-tone morphemes in Saramaccan serial verb phrases. However, the exact status of these morphemes is not immediately clear. Two obvious analyses present themselves. The first is that these serial verb phrase high tones are phrasal markers, attaching at some low level of the verb phrase—a likely candidate would be at the so-called V' level (i.e. the verb plus its object, if there is one). The second analysis would treat these high tones more along the lines of inflectional morphemes. They would be attached morphologically to the relevant verbs and those marked verbs would then enter into serial verb constructions.

The data involving the interaction of these high-tone morphemes and high-tone plateauing argues in favor of the latter analysis—that is, it would appear that these high tones in Saramaccan are a type of inflectional morpheme marking a verb's participation in a serial verb construction. To see why this is the case, it will be useful to sketch out a phrasal marker analysis of these tones and see the sort of problems that arise.

Under a phrasal analysis of the high-tone morphemes, we would want to posit a tonal representation for the sentence in (8) along the lines of the one given in (11).⁵



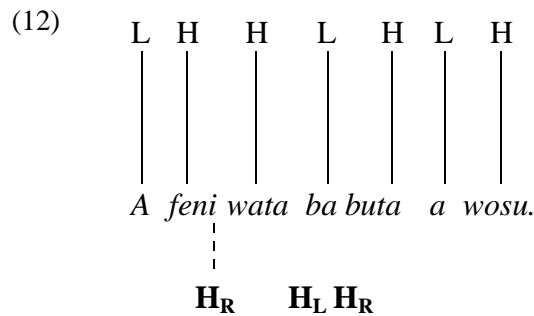
As seen in (11), the H_R morphemes would be positioned essentially along the lines of second position clitics within V' . For example, in the phrase *féni wáta*, an H_R morpheme would be placed after the verb *féni* ‘find’. It would then attach to the second TBU of the verb since that TBU is lexically unspecified for tone. This poses no particular problem for a phrasal positioning analysis.

Similarly, in (11) H_L morphemes are placed in the initial position of V' . For the verb *bebé* ‘drink’, this means that an H_L morpheme will attach to its first TBU and it will surface as high. There is also no particular problem for the phrasal positioning analysis with respect to this tonal morpheme.

At issue, however, is how the two unlinked high-tone morphemes in (11) will behave. Their presence is predicted by the descriptive generalizations in table I. However, they are not realized seemingly because the verb they are placed with respect to, *bà* ‘carry’, is fully specified for tone—so, there is no available TBU for them to attach to. On a formal level, we could, presumably, say that the unlinked H_R morpheme is not realized because there is no local TBU for it to attach to. That is, there is no TBU on either side of the position where it is placed (penultimate position in V') which is unspecified for tone.

However, the unlinked H_L morpheme is more problematic—there is an unspecified TBU immediately to the left of the position where it would be placed, the last syllable of *wáta* ‘water’. However, as can be seen in (8), the second TBU of *wáta* surfaces with a low tone. Thus, the unlinked H_L morpheme in (11) does not seem to surface in any way, even though a TBU is available for it to link to.

The same sort of problem can be seen for an H_R morpheme in the sentence in (5b), which is represented with respect to a phrasal analysis of the high-tone morphemes in (12).



Like the representation in (11), there are two unlinked high-tone morphemes in (12) associated with the verb *bà* ‘carry’. The unlinked H_L morpheme in (12) has the same problem as the unlinked H_L morpheme in (11). However, in this sentence the unlinked H_R morpheme is also problematic. Though it cannot link to any TBU of *bà*, the morpheme is placed in a position which should allow it to link to the first TBU of *butá*. However, as seen in

(5b), it doesn't do so and the first TBU of *butá* surfaces with a default low tone.

The basic problem, then, in analyzing the high-tone morphemes as phrasal clitics is that, without additional stipulation, there is seemingly no reason why those morphemes should not attach to available TBU's which are adjacent to their phrasal position but which are not part of the verb which triggers their insertion.

Thus, the high-tone morphemes in Saramaccan do not, in fact, seem to be examples of phrasal tonology (for examples of such phenomena see Hyman (1990)). Rather, the relevant morphosyntactic domain in which they appear is that of the word. This means that they are best treated not as being positioned with respect to syntactic phrases, like clitics, but should instead be treated as word-level affixes.

What makes the evidence against the phrasal positioning of these morphemes particularly striking is how serial-verb tone raising interacts with phonological plateauing. As discussed above, sentences like (3a) indicate that adjacent serial verbs form a phonological plateauing environment, and sentences like (10) tell us that a serial verb and a preceding verbal argument also form a plateauing environment. (Example (8) also showed this but with a prepositional verbal argument.)

What this means, then, is that Saramaccan treats adjacent serial verbs and the object-verb portion of SVOV sentences as part of the same phonological phrase. Using the sentence in (12) as a reference point, we see that these two environments are precisely where we do not see the high-tone morphemes attaching to available unspecified TBU's. The fact that the verb they are positioned with respect to is fully specified for tone seems to keep these high-tone morphemes from surfacing at all.

Thus, even though data from plateauing tells us that *wáta* and *bà* are part of the same phonological phrase, the H_L morpheme does not attach to the available TBU in the word *wáta*. Similarly, even though plateauing tells us that *bà* and *butá* are also in the same phonological phrase, the H_R morpheme does not attach to the available TBU in *butá* either. Under a clitic analysis of the high-tone morphemes, therefore, we could not appeal to phrase boundaries to explain the constraints on how these morphemes attach. These constraints, however, fall out naturally under an analysis which treats these morphemes as word-level affixes.

Given these facts, I give the derivations in table II and the representation in (14) to illustrate how the high-tone morphemes are operating in Saramaccan. The verb derivations and the sentential representation are based on the sentence in (8), which is repeated in (13).

- (13) *Kofí féní wáta bà à wósu bebé é̀sìdè.* →
Kòfí féní wátà bà à wósú bĕ̀bé é̀sìdè.
 Kofi find water carry to house drink yesterday
 “Kofi found water, carried it home, and drank it, yesterday.”

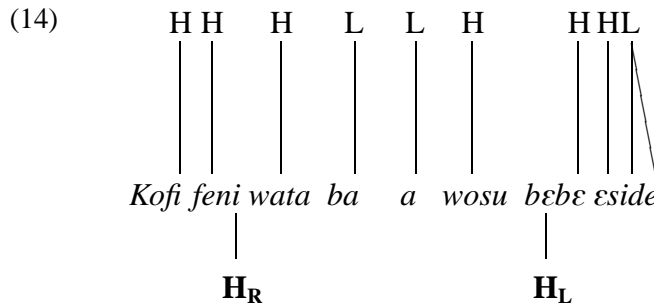
Table II shows the derivations of the three verbs in sentence (13). The first verb, *féni* ‘find’, is marked with an H_R morpheme by virtue of being a non-final verb in a serial verb phrase. Since the rightmost TBU of *féni* is lexically unspecified for tone, the H_R morpheme is free to link to it. Similarly, the last verb *bebé* ‘drink’ is marked with an H_L morpheme since it is not immediately preceded by a verb in its serial VP. The leftmost TBU of *bebé* is unspecified for tone. Thus, the H_L morpheme is free to link to it as well.

Table II. Derivation of verbs in sentence (13)

Verb	Morphosyntactic environment	Tonal affixes	Realization
$\begin{array}{c} H \\ \\ \text{feni} \end{array}$	Non-final verb in serial VP	H_R	$\begin{array}{c} H \\ \\ \text{feni} \\ \vdots \\ \mathbf{H_R} \end{array}$
$\begin{array}{c} L \\ \\ \text{ba} \end{array}$	Non-final verb in serial VP <i>and</i> Not immediately preceded by a verb	H_L <i>and</i> H_R	$\begin{array}{c} L \\ \\ \text{ba} \\ \mathbf{H_L \ H_R} \end{array}$
$\begin{array}{c} H \\ \\ \text{bebé} \end{array}$	Not immediately preceded by a verb	H_L	$\begin{array}{c} H \\ \\ \text{bebé} \\ \vdots \\ \mathbf{H_L} \end{array}$

In contrast to *féni* and *bebé*, the verb *bà* ‘carry’ is fully lexically specified for tone. Thus, it contains no TBU’s unspecified for tone which the tonal morphemes could attach to. Thus, even though the morphosyntactic position of *bà* is such that it would be marked with both an H_L morpheme and an H_R morpheme, neither of these morphemes can be realized and the verb surfaces simply with its underlying low tone.

The derived verbs in table II, then, would enter into their serial verb phrase, producing a sentence with the tonal tier given in (14).



There are two important differences between the phrasal analysis of the tonal morphemes illustrated in (11) and the affixal analysis illustrated in (14). The first is that the realized H_R and H_L morphemes are already linked to their verbs. The high-tone marking is part of the morphological derivation of those words (given in table II) and therefore, by the time they enter into the syntactic serial verb phrase construction, the high-tones are already taken to be fully linked.

The other important difference is that the two unlinked high-tone morphemes, depicted in (11), are not seen at all in (14). Again, this reflects the fact that the high tones are taken to be added morphologically at the word-level. Since the low-tone verb *bà* had no available TBU for the high-tone affixes to link to, the morphemes were simply not realized at all on that word. This is important because it solves the problem of spurious linking which would be the result of a phrasal analysis as discussed above.

The analysis here of these morphemes as affixes has more than just formal consequences. In particular, it implies that they are effectively a sort of inflectional morphology—marking the syntactic status of a verb within its serial verb phrase. Saramaccan otherwise lacks any morphology which is so clearly inflectional.⁶ Thus, this is a significant language-internal claim.

Its significance is increased by the fact that, since Saramaccan lacks extensive morphology, it is difficult to devise non-controversial tests for a word's membership in a morphosyntactic category, like verb, adjective, adverb, etc., in the language. These serial verb marking morphemes constitute a new test for the morphosyntactic status of words within a verb phrase. For example, there is a word, *póí* 'too much', in Saramaccan which has an adverbial translation in English. However, it triggers raising on a preceding verb indicating that it is the second verb of a serial verb phrase as seen in (15).

- (15) a. *Mí wáka póí.* →
Mí wáká póì.
 I walk a lot
 "I walk a lot."

- b. *Mí wáka taánga pói.* →
Mí wáká tàángà pói.
 I walk strong a lot
 “I walk hard a lot.”

It might be possible to analyze the raising seen on the verb *wáka* ‘walk’ as an example of high-tone plateauing. However, the sentence in (15b) shows unambiguously that *póí* triggers morphosyntactic raising. The data in (15) is not completely surprising since, despite its adverbial translation, *póí* is derived from the English verb *spoil* (and can also be used to mean that in Saramaccan today). However, the sentences in (15) do illustrate how the serial verb raising seen here can be used as a test for morphosyntactic verbhood.

Looking beyond Saramaccan, the existence of these morphemes has significance since they are potential counterexamples to the claims put forth put forth by McWhorter (1998) when he developed his notion of the creole prototype.

McWhorter identifies three distinctive general attributes of creoles. One of them, transparent derivational morphology (1998:797–9) is not relevant here (but see Braun and Plag (this volume) for some discussion). The two others are, however: Creoles tend to lack inflectional morphology (1998:792–3) and they tend to lack phonemic or morphological tone (1998:793–6). Importantly, McWhorter is only attempting to describe the prototypical creole and acknowledges that particular creoles do diverge from the prototype. What makes the data seen here striking, however, is the fact that these tonal morphemes run counter to two of his three criteria.

Saramaccan has long been known to be divergent from most creoles in its use of tone because of the existence of tonal minimal pairs in the language (for example *bigí* ‘begin’ vs. *bígi* ‘big’). However, the morphemes described in section 1 and formalized in this section are both tonal and inflectional. Furthermore, they are very productive—one or both of the morphemes is found in every serial verb phrase in the language, and these are quite common.

Thus, the existence of these morphemes in Saramaccan is somewhat surprising, and it is important to situate them into the larger picture of creole morphology. In the next section, I will explore possible contact and historical sources for these high-tone morphemes. The general conclusion will be that, given available data, these morphemes are most plausibly understood as an innovation internal to the language. If this is the case, then they offer no particular problem for the claims of McWhorter (1998) since he was interested in the characteristics which appear due to creole formation and not the characteristics creoles take on as the result of later innovation.

3. On the origin of high-tone morphemes in Saramaccan

3.1. INTRODUCTION

The central question I would like to address in this section is whether or not Saramaccan's high-tone morphemes are innovations purely internal to the language or whether they could have entered through another mechanism—specifically, the mechanism of substrate transfer.

It is not possible to address this question fully given the available descriptions of the tone systems of Saramaccan's possible substrate languages. However, while available studies show that some of its substrate languages show processes very similar to the high-tone plateauing seen here, no language has been described as having morphosyntactic serial verb tone raising. Assigning tones to serial verbs is not unknown. Gwari, for example, marks verbs in serial constructions with a floating low tone (Hyman and Magaji (1970), see, e.g., section 26). Interestingly, however, even though tonal marking of serial verb phrases is a known phenomenon, I have encountered no language which marks its serial verbs in a way which closely follows the Saramaccan pattern with its H_R and H_L morphemes.

At present, the most likely account for the origin of the high-tone morphemes in Saramaccan is that they resulted from a reinterpretation of high-tone plateauing within serial verb phrases. The high-tone plateauing itself seems to have been present in Saramaccan due to substrate transfer.

First, I will explore the evidence indicating that high-tone plateauing entered the language through transfer. Second, I will discuss a scenario through which high-tone plateauing in serial verb phrases would have been reinterpreted as tonal morphology. The validity of the second claim is clearly not contingent on the first being true. Even if high-tone plateauing were a development internal to Saramaccan, we would merely need to suggest that it is older than tonal morphology and the second claim would still hold. However, if it is the case that the appearance of the high-tone morphemes was triggered by a reanalysis of high-tone plateauing, it is worthwhile to understand how this process may have entered the language in the first place.

3.2. HIGH-TONE PLATEAUGING AS THE RESULT OF SUBSTRATE TRANSFER

The suggestion that high-tone plateauing in Saramaccan is the result of substrate transfer is not new to this paper. Ham (1999) argues for this by examining the Saramaccan data in Rountree (1972) and data from Anlo Ewe taken from Clements (1978). Importantly, Ham's approach predicts that, if Saramaccan had SOV word order, then plateauing would occur between the object and the verb. Data verifying this was not available to him, but sentences like those in (10) support his analysis by showing that in SVOV sentences,

the object and following verb do form a plateauing environment. Therefore, previous work supports the idea of substrate transfer even in light of the new data seen in this paper.

Further support for the idea of substrate transfer comes from an examination of tone processes in Fongbe, a likely substrate of Saramaccan (Smith 1987:154, Arends 1995). Fongbe shows a tonal process which looks very similar to the one found in Saramaccan (Lefebvre and Brousseau 2002:22–24). Consider, for example, the data from Fongbe in (16).

- (16) a. {É sà} {àsón wé}. →
 {É sâ} {àsón wê}.
 (s)he sell crab two
 “(S)he sold two crabs.”
- b. {É kò xò} {àsón}. →
 {É kó 'xò} {àsón}.
 (s)he ANT buy crab
 “(S)he has bought some crab.”
- c. {É kò nò sà} {àsón}. →
 {É kó nó sâ} {àsón}.
 (s)he ANT HAB buy crab
 “(S)he used to buy some crab.”

The data in (16) illustrates two important facts about phrasal tonal processes in Fongbe. The first is that the subject and verb(s) together form a phonological phrase and the object forms its own phrase (this is indicated by the braces in the examples). This is the same basic phrasing as that found in a Saramaccan sentence (as will be seen in section 3.3).

The data also shows that there is a rule in Fongbe which raises low tones when the first TBU of a phrase is marked with a high tone. Thus, in (16c), for example, we see that the tones on *kò* and *nò* raise to high and we also see the effects of the high tone spread on the word *sà* since it changes from a low-tone word to a word with falling tone.

The Fongbe raising pattern is not precisely what was seen for Saramaccan. In particular, the Fongbe process is not an example of plateauing since it only stipulates that a high tone be at the left edge of the raising environment, not both edges. Also, in Fongbe, unlike Saramaccan, each TBU of a word is lexically specified as high or low—there are no TBU’s which are unspecified for tone.

However, the similarities between Saramaccan and Fongbe are somewhat striking. The conclusion, given the study by Ham (1999) and the Fongbe

data here is that high-tone plateauing in Saramaccan is a good candidate as resulting from, at least in part, substrate transfer since similar phenomena are found in two of its potential substrates.

This argument is strengthened by the fact that Saramaccan is a tonal language in the first place. The primary superstrate language for Saramaccan was English, and it was later influenced by Portuguese and Dutch—none of these languages is tonal while tonal languages are found throughout the region of Africa from where the Surinamese slaves originated. Therefore, since the presence of lexical tone is almost certainly due to substrate transfer, the idea that processes affecting the surface realization of tone are also the result of substrate transfer becomes fairly plausible.

Assuming there is some validity to these arguments, there is an interesting question as to whether or not there is any principled reason for the differences between Saramaccan tonal plateauing and Fongbe tone raising. One possible explanation is, quite simply, that there either is (or was) another dialect of Fongbe which shows a tonal process more similar to Saramaccan than the dialect reported in Lefebvre and Brousseau (2002). However, there is another important reason why Saramaccan plateauing might be different from Fongbe raising—namely, that the formation of the tonal phonology of Saramaccan involved the integration of words from European languages, which mark their words for accent, and words from tonal African languages.

It is probably the case that the rise of the three-way underlying tone distinction in Saramaccan among TBU's specified for high tone, TBU's specified for low tone, and TBU's unspecified for tone is a direct result of the language's mixture European and African vocabularies. Ham (1999:55) points out that in borrowed words of European origin the high-tone syllable in Saramaccan tends to correspond to the accented syllable in the word's original language. Furthermore, the TBU's in unstressed syllables of historically European words are typically underlyingly unspecified for tone. Words which have underlyingly specified low tones and more than one specified high tone, on the other hand, overwhelmingly tend to originate from African languages. Rather than completely force African words into a European phonological system or completely force European words into an African phonological system, Saramaccan's tonal phonology seems to have developed in a way that maintained some basic lexical distinction between the two etymologically distinct sets of vocabulary items.

Contact, then, seems to explain part of the difference between Saramaccan and Fongbe. Particularly, it can explain why Saramaccan has TBU's unspecified for tone and Fongbe does not. This doesn't explain, however, why Fongbe raising targets low tones and Saramaccan plateauing is blocked by lexical low tones or why Fongbe raising only requires a left-edge high-tone trigger and the Saramaccan process requires a left- and a right-edge high-tone trigger. I know of no satisfactory answer to these questions and leave them unresolved

here. Understanding whether or not these differences between Saramaccan and Fongbe are principled in some way would, I believe, require a theory as to what sort of phrasal phonology should result from contact between languages marking words for accent and those marking words for tone—and, no such theory exists, to my knowledge.⁷

Returning to the subject of the tonal morphemes, at present, there is no data which indicates that they could be the result of substrate transfer. This is an important fact in light of McWhorter’s (1998) description of the creole prototype. He makes no claims about phonology, but does about morphology. The fact that only phonological, and not morphological, transfer of tonal processes is a likely possibility for Saramaccan is important for evaluating his general hypothesis in light of the Saramaccan facts.

3.3. THE REANALYSIS OF HIGH-TONE PLATEAUIING AS MORPHOLOGY

While a full treatment of high-tone plateauiing in Saramaccan is outside the scope of this paper, it will be necessary, in this section, to discuss it in somewhat more depth than before. As mentioned above, phonologically, high-tone plateauiing raises TBU’s unspecified for tone to high tones when those TBU’s are flanked by high tones. A very basic example is given in (17).

- (17) *Dí foló bè.* →
Dí fóló bè.
 the flower red
 “The flower is red.”

The environment for high-tone plateauiing can roughly be described as between a head and the word preceding it in its phrase. As such, plateauiing always only occurs between two words at a time. In the example in (17), plateauiing has occurred between a head noun and its preceding determiner, raising the first TBU of the word *foló* ‘flower’.

Table III summarizes, for some important environments, whether or not high-tone plateauiing occurs. A “ $\widehat{\quad}$ ” indicates that two constituents form a plateauiing environment and a “|” indicates that they do not. Where possible, the numbers of pertinent example sentences from this paper are given for verification and illustration. (Not all of the environments are relevant for the present discussion, but they are included for completeness.)

- b. *Dí wómi, hén kulé=dé.* →
Dí wómì, hén kúlé=dè.
 the man he.EMPH run=there
 “The man, he runs there.” (Rountree 1972:324)
- c. *Dí goón à Saamáka héi.* →
Dí góón à Sààmáká hèi.
 the ground in Saramacca high
 “The ground in Saramacca is high.”

The sentence in (19) shows how this plateauing is phonologically conditioned. The low-tone verb *lègèdè* ‘lie’ blocks plateauing.

- (19) *Páúlu lègèdè.* →
Páúlù lègèdè.
 Paul lie
 “Paul lies.”

As for plateauing internal to the verb phrase, looking down the column labelled “No raising” in table III, the most important generalization is that raising is always blocked by the left edge of a verbal argument.⁸ This fact was used above in sentence pairs like those in (6) to demonstrate the existence of morphosyntactic raising in serial verb phrases. Another example is given below in (20).

- (20) *Mì lápu koósu.* →
Mì lápù kòósù.
 I mend clothes
 “I mend clothes.”

The claim which will be developed here is that the tonal morphemes of Saramaccan developed from a reanalysis of certain instances of high-tone plateauing. A range of facts support the analysis. The first crucial observation is that the tonal morphemes appear in positions where plateauing is still found synchronically and is quite common—in other words, the environment for plateauing and tonal morphology often overlap making the surface form opaque as to which process could have raised a particular tone.

Consider, for example, the sentence in (21), repeated from (3a), where an H_R morpheme is predicted to occur but where the two adjacent serial verbs also form a plateauing environment.

- (21) *Mì hópo kumútu à dí wósu.* →
Mì hópó kúmútù à dí wósù
 I up go out of the house
 “I get up and go out of the house.” (Rountree 1972:324)

In this sentence, the existence of the H_R morpheme which should occur on the second syllable of *hópo* ‘(go) up’ is effectively masked by the fact that the phrase *hópó kúmútù* forms a plateauing environment which would independently raise that tone.

It is only in sentences like the two in (22) that the H_R morpheme can be clearly observed. In the first, repeated from (4), the second of the two adjacent serial verbs is a low-tone verb, thus the phonological conditions for plateauing are not met. In the second, repeated from (3b), an object intervenes between the first and second serial verb, thus the syntactic conditions for plateauing are not met.

- (22) a. *A wáka bà wáta gó à wósu.* →
À wáká bà wátá gó à wósù.
 he walk carry water go in house
 “He carries water into the house.”
- b. *Mì ó=náki dí lògòsò kulé gó à mì wósu.* →
Mì ó=nákí dí lògòsò kúlé gó à mì wósù.
 I FUT=hit the turtle run go to my house
 “I will hit the turtle and run to my house.” (Rountree 1972:325)

The overlap between plateauing and the H_L morpheme is even greater than for the H_R morpheme. There is only one environment where the H_L morpheme is unambiguously visible—when the verb being marked is preceded by a low-tone noun. The vast majority of nouns in Saramaccan are not low-tone nouns making this particular environment especially uncommon.

In (23) I repeat the sentence in (8). This sentence illustrates an environment where the H_L morpheme and plateauing overlap. The high-tone on *bebé* ‘drink’ could be understood either as triggered by an H_L morpheme or by plateauing with the preceding intervening argument—or even by both. Sentence (22b) above is a case where the H_L morpheme unambiguously appears because the low-tone noun *lògòsò* ‘turtle’ cannot form a plateauing environment with the following verb.

- (23) *Kofí féní wáta bà à wósu bebé ésidè.* →
Kòfí féní wátà bà à wósú bébé ésidè.
 Kofi find water carry to house drink yesterday
 “Kofi found water, carried it home, and drank it, yesterday.”

The overlap between these plateauing environments and the environments where H_R and H_L morphemes are found could be taken to be completely accidental. However, I believe it instead suggests that the high-tone morphemes arose from a reinterpretation of the high-tone plateauing as marking the serial verb construction. Further support for this idea comes from the hypothesis, put forth by Ham (1999) and strengthened by the data in section 3.2, that high-tone plateauing is the result of substrate transfer. This indicates that plateauing is a very old process in the language, making it a viable candidate for the source of innovative high-tone morphemes.

The specifics of the reanalysis of high-tone plateauing as tonal morphology are fairly straightforward—though it will take some effort to justify why these particular reanalyses might have occurred. Starting with the H_R morpheme, the high tone at the left edge of non-final verbs in serial verbs, like the one in (21), I take to have been reinterpreted as being morphosyntactically conditioned instead of phonologically conditioned. A representation is given in (24). Plain H's are used to represent a lexical high tone, H_P is used to represent a phonologically raised tone, and H_R is used to represent the same morpheme as throughout the paper.



The H_L morpheme arose from a very similar sort of reanalysis in the environment of a non-initial serial verb and preceding argument, which, as we have seen is a raising environment. A representation of this reanalysis, based on the fragment *bà à wósú bébé* from (23), is given in (25).



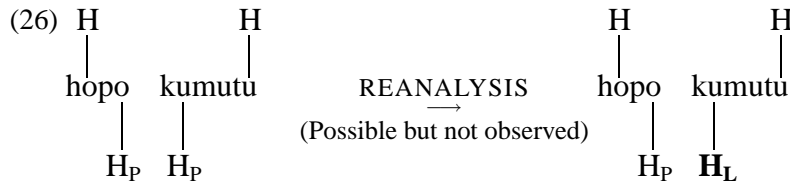
Once these reanalyses had occurred, the H_R and H_L morphemes would have been extended to all serial verb phrases regardless of whether or not there would have been a plateauing domain.

The first argument in support of the proposed reanalyses is quite simply that they account for the present distribution of high-tone morphemes in Saramaccan. In particular, this analysis explains why the H_R morpheme only appears on non-final verbs in the serial verb phrase. Final verbs never would have been subject to plateauing of the sort depicted in (24). Therefore,

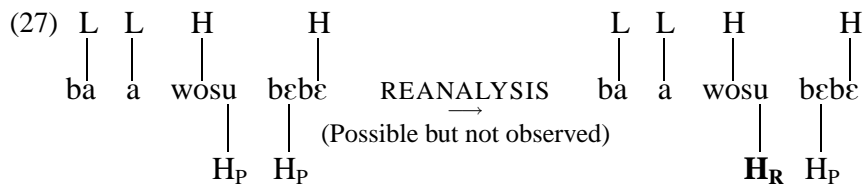
they never would have carried the tone that would have been reanalyzed as a morpheme. The case of the H_L morpheme is supported in essentially the same way. The plateauing it is taken to have developed from only occurred when a verbal argument would have preceded a serial verb—thus explaining why the H_L morpheme isn't found at the right edge of all serial verbs.

However, the above logic is not really sufficient to justify the analysis because it fails to address why, of all the tones raised by plateauing, only the tones in the H_R and H_L environment were reanalyzed as morphemes. For example, the data seen in (18) and (19) indicates that plateauing occurs between subjects and following verb phrases. We can imagine that the raised tone at the right edge of the subject could also be reanalyzed as a tonal morpheme, but that has not occurred.

Even more troubling is that, given the synchronic existence of the H_L morpheme in some environments, why didn't we see other serial verb environments where the left-edge of the verb raises develop a sort of H_L marking? To take a specific scenario, why should the reanalysis in (24) have taken place, but not the one in (26)?



Similarly, what mechanism would favor the proposed reanalysis in (25) but not the hypothetical one given in (27)?



There are, in fact, reasons to believe that the two particular proposed reanalyses are more likely than other tonal reanalyses. In particular, the two tones which are proposed to have been reanalyzed as morphemes are notable for being the only two tones which would have raised exclusively in the environment of serial verb phrases—that is, the raising of those two tones has no strong parallel in other areas of the grammar.

This is more straightforwardly seen as the case for the H_R morphemes so I will begin there. As indicated in table III and exemplified in (20), a verb and following object do not form a plateauing environment. This is one of the more salient aspects of plateauing in Saramaccan—it is blocked by the left edge of a noun phrase or a prepositional phrase. What this means is

that there are very few environments in Saramaccan, outside of serial verb phrases, where the right edge of a verb can be observed to raise.

There is one fairly frequently attested environment where raising occurs at the right edge of the verb. Object clitics form a plateauing environment with their preceding verb, as in (28).⁹

- (28) *Dí sitónu ó=náki=mí à mí fútu.* →
Dí sítónú ó=nákí=mí à mí fútù.
 the stone FUT=hit=me on my foot
 “The stone will hit me on my foot.” (Rountree 1972:323)

However, such plateauing is not particular to object clitics but is a general property of clitics in the language. In (29) the same effect is seen between a noun and following intensifying clitics.

- (29) a. *dí wómi=dé àkí* →
dí wómí=dé àkì
 the man=that here
 “this man here” (Rountree 1972:318)
- b. *Déé adómítɔtɔ=dé túu.* →
Déé ádómítɔ́tɔ́=dé túù.
 the.PL butterfly=there all
 “Those butterflies are everywhere.”

Therefore, the right-edge verb raising triggered by object clitics would have been identifiable as arising from a generalization found elsewhere in the language. In addition, the clitic-group is a well-known unit in the literature on phrasal phonology (see, e.g., Nespór and Vogel (1986)). Serial verb phrases cannot be classified as clitic groups and are larger phrasal units—further distinguishing these two cases of raising at the right edge of a verb. So, despite the existence of some instances of right-edge raising on verbs, the raising seen on serial verbs is without strong parallel elsewhere in the grammar.

Therefore, what makes the reanalysis given in (24) more likely than the reanalysis in, for example (26), is the fact that right-edge verb raising, outside of raising triggered by clitic groups, is limited to occurring only in serial verb phrases. This would have made it more susceptible than other instances of tone raising to being reanalyzed as morphosyntactically conditioned.

Understanding what is special about the tones involved in the reanalysis which created the H_L morpheme is somewhat more subtle. Unlike raising at the right edge, raising at the left edge of verbs is fairly common in the phrasal phonology. It is found both in the plateauing environment of a subject

and following verb phrase (see the examples in (18)) and in the plateauing environment of adjacent serial verbs (see, for example, (21)).

There is, however, a key difference between the H_L raising environment and other environments where the left edge of the verb is seen to raise. Only in that environment is there frequently a very minor syntactic connection between the verb and the element it is raising with. A detailed treatment of the syntax of serial verb phrases is well beyond the scope of this paper. However, the three sentences in (30) exemplify three relevant types of serial verb phrases where an argument intervenes between two serial verbs. (All of these examples are repeated from above.)

- (30) a. *A féni wáta bà butá a wósu.* →
À féni wátà bà bùtá à wósù.
 he find water carry put in house
 “He finds water and brings it to the house.”
- b. *Kofí féni Ámba jàà wáta.* →
Kòfí féni Ámbà jàà wátà.
 Kofi find Amba splash water
 “Kofi found Amba and splashed her with water.”
- c. *Kofí féni wáta bà à wósu bebé ésidè.* →
Kòfí féni wátà bà à wósú bebé ésidè.
 Kofi find water carry to house drink yesterday
 “Kofi found water, carried it home, and drank it, yesterday.”

In (30a) there is a very tight syntactic connection between the intervening argument *wáta* ‘water’ and the verb it precedes *bà*—namely, *wáta* is interpreted as the object of *bà*. In (30b) the intervening argument *Ámba* still has some connection to the verb it precedes, *jàà* ‘splash’, since Amba is affected by the splashing. However, since *jàà* has an overt direct object *wáta*, the connection is less straightforward.¹⁰ In (30c) there is effectively no syntactic connection between the verb *bebé* ‘drink’ and its preceding argument. The prepositional phrase *à wósù* ‘to the house’ cannot be construed as an argument of *bebé*. Instead, the object of *féni* ‘find’, *wáta*, is the construed argument of *bebé*.

What the sentences in (30) show is that, although an argument intervening between two serial verbs can bear some sort of syntactic relationship with the verb which follows it, this is not necessarily the case. The relationship can either be indirect, as in (30b), or completely non-existent as in (30c).

Serial verb phrases are the only construction in Saramaccan grammar where the right edge of a verb can raise as the result of being preceded by

an element which bears no obvious syntactic relationship to it. As mentioned above, the other cases where the left edge of a verb is raised are the plateauing environment between a verb and its subject and when a verb is immediately preceded by another verb in a serial verb phrase—two environments where there is a straightforward syntactic connection between the verb and the element preceding it.

The above argument establishes that there can be something “strange” about the raising that occurs between intervening objects and the serial verb that follows them. This would seemingly make the plateauing that occurs between them a good candidate for morphological reanalysis. However, if this plateauing is somehow aberrant, what would favor the reanalysis given in (25) over (27)? It is still important to decide why the raised tone on the verb would have been reanalyzed as morphosyntactic but not the raised tone on the preceding argument.

There are, I believe, two potential reasons why the raised tone on the verb would have been reanalyzed but not the raised tone on the preceding argument. The first is mostly speculative and deals with the relative chronology of the appearance of the H_R morpheme and the H_L morpheme. The second has to do with the surface properties of raising at the right edge of noun phrases.

The first argument is only valid if we assume that the H_R morpheme came into existence before the H_L morpheme. There is no data (diachronic or synchronic) which has any bearing on this, which is why the argument is essentially speculation. However, if the H_R morpheme did appear first, then it would have served to create a new morphological category in the language—tonal inflectional morphology on serial verbs. Once this category had been established, this would have made the reanalysis of other instances of raising on serial verbs as being triggered morphosyntactically more likely since the category of serial verb tonal morphology would have been merely expanded, not created. Along the same lines, the lack of such a morphological category marking nouns would have made raising affecting nouns resistant to such morphosyntactic reanalysis.

The second argument supporting the idea that only the verb’s raised tone would have been reanalyzed falls from a closer examination of the right edge of noun phrases. The right edge of a noun phrase in Saramaccan need not be the head noun. The sentence (18c) repeated in (31a) was one example. Another example is given in (31b).

- (31) a. *Dí goón à Saamáka héi.* →
Dí góón à Sààmáká héi.
 the ground in Saramacca high
 “The ground in Saramacca is high.”

- b. *dí táfa ù dí kónu líba* → *dí táfà ù dí kónú líbà*
 the table of the king above
 “the top of the king’s table” (Rountree 1972:320)

Both examples in (31) involve noun phrases which contain prepositional phrases after the head noun. In (31a) this complex noun phrase raises with a following predicate, and in (31b) it raises with a nominal locative element. Both sentences establish a pattern where particular nouns are raised at the right edge by constituents which follow them but with which they have no direct syntactic relationship. It is only by virtue of being part of larger noun phrase that the nominal heads of the prepositional phrases in (31) undergo raising at their right edge.

What we have seen, then, is that there are other areas of Saramaccan grammar than serial verb phrases where plateauing affects the right edge of nouns which bear no straightforward syntactic relationship to the item which directly follows them. These instances of raising would have made the raising occurring at the right edge of intervening arguments in serial verb phrases less susceptible to being reanalyzed as being morphologically conditioned—since there would have been parallel phenomena elsewhere in the grammar.

What this argument boils down to is the simple observation that the head verb is always at the left edge of verb phrases in Saramaccan, whereas the head noun of a noun phrase is not always at the right edge. So, while left-edge raising on a verb phrase will *always* be marked on the left edge of the head verb, right-edge raising on a noun phrase can occur on a number of different elements. This asymmetry between noun phrases and verb phrases is taken to have favored a reanalysis like the sort given in (25) and disfavored a reanalysis of the sort given in (27).

Therefore, we have seen that the proposed reanalyses not only accounts for the present distribution of the tonal morphemes, but there are also reasons why these two tones, and no others, would have been susceptible to being reanalyzed as morphosyntactic markers. These reasons have been presented primarily in structural terms—that is, the reanalyzed tones are the ones which were uniquely raised in serial verb phrase environments. They could also be readily understood from a functional perspective. Since the tones which are taken to have been reanalyzed as morphemes were peculiar to serial verb phrases, they would have been the best candidates for developing into grammatically conditioned markers of the serial verb construction. Since serial verb phrases could be potentially difficult to parse, given the presence of multiple “small” verb phrases in a larger predicate, the development of such serial-verb high-tone markers would have clear functional value.

Before moving onto the conclusion of the paper, it seems worthwhile, here, to repeat Rountree’s initial formulation of how raising operated between serial verbs: “Successive predicates [raise] with each other whether they are

adjacent or not (1972:324).” Though thorough testing reveals that Rountree’s description is not completely adequate, the analysis presented here lends support to her basic intuition that serial verb raising is somehow similar to the plateauing processes which are pervasive in the language. Even if her description is not a proper synchronic characterization, it does capture the idea that the two processes may be diachronically related to each other.

4. Conclusion

We have seen in this paper that Saramaccan is apparently unique among Atlantic creoles in that it makes use of inflectional tonal morphology. While the existence of such morphology is an interesting fact for studies of Saramaccan itself, it also could have bearing on McWhorter’s (1998) notion of the creole prototype since a lack of both inflectional and tonal morphology is taken by him to be an important typological property of creole languages. Importantly, however, an analysis of available evidence indicates that these morphemes do not appear to be the result of substrate transfer but are instead a language-internal innovation.

Since McWhorter explicitly acknowledged that creoles should eventually develop characteristics which would make them indistinguishable from other languages (1998:812), what we seem to be seeing in Saramaccan are some of its first steps towards acquiring grammatical properties typical of non-creole languages. The crucial ingredient for this process was the fact that it already made more extensive use of tone than most creoles. These facts are striking in light of the idea, as put forth by Bickerton (1988) and Byrne (1987), that Saramaccan’s status as a “radical” creole means that it is somehow a more prototypical example of a creole than others. The data and the analysis seen here suggest that tone in Saramaccan has contributed to Saramaccan’s looking less like a creole and more like older languages and, therefore, calls into question Saramaccan’s status as a creole “prototype”. Certainly, Bickerton and Byrne’s notion of a prototypical creole is not necessarily the same as McWhorter’s. But, I doubt they would consider tonal morphology to be a normal property for such languages. Saramaccan may have many prototypical creole features, but a detailed analysis of its tonal phenomena suggests that it is no longer a prototypical creole, if indeed it ever was.

Notes

¹ In the transcription system used here, any orthographic vowel can be a tone bearing unit. In underlying representations, vowels not marked with an accent are unspecified for tone. Surface representations are always fully tone marked, reflecting their actual pronunciation.

² Though difficult to characterize fully, the basic conditioning factor for phonologically conditioned raising is that TBU's unspecified for tone will raise when flanked by two high-tone TBU's where both high-tone TBU's are in the same phonological phrase and the rightmost high-tone TBU is contained within the head word of the phrase—thus it is a type of tonal plateauing. Saramaccan basic sentence word order is SVO and noun phrase word order is Determiner-Adjective-Noun. For one possible formalization of this sort of tone raising, see Ham (1999). This phonologically conditioned raising is more thoroughly discussed in section 3.3.

³ Superficially the raising on the final syllable of *náki* 'hit' in (3b) may look as though it could be the result of high-tone plateauing between *náki* 'hit' and *dí* 'the'. However, we shall see in section 3.3 that verbs and a following nominal objects do not form a plateauing environment—that is, they do not form a phonological phrase.

⁴ Rountree (1972:323) has a different transcription for (10) from the one given here for the word *koósu*. She gives its surface forms as *kòósù* with a low tone on the final vowel. I suspect this is a mistranscription, and not simply a difference in consultants, since two consultants consistently raise tones in this position and Voorhoeve (1961:151) gives structurally similar data which shows raising on the last syllable of an object intervening between two serial verbs.

⁵ In the tone diagrams presented in this section, neither high-tone plateauing nor default low-tone insertion is represented. Also, no particular linguistic significance is intended by placing lexical tones above the word and morphosyntactic tones below the word. This is done merely for visual clarity.

⁶ The most salient other potential candidates for inflectional morphology in Saramaccan are some tonal alternations in its pronoun system. Voorhoeve (1961:161) points out that there are two forms of each of the six personal pronouns of Saramaccan. For five of these six pronouns the only difference between the forms is their tone marking. For example, the first person singular pronoun can be either *mì* or *mí*. In addition, McWhorter (1998:796) discusses a less clear-cut case involving the distinction between the low-tone third-person pronoun *à* and the high-tone predicate negator *á*.

⁷ Ham (1999:47), after comparing Saramaccan plateauing with tonal processes in the Anlo dialect of Ewe, concludes that the facts generally support the claim of Mufwene (1986) that creole formation is the result of “choosing unmarked linguistic options”. The data examined here, from Fongbe, does not support that idea. The Saramaccan process is seemingly more marked than the Fongbe one due to its distinction between low-tone TBU's and those unspecified for tone and because it requires a left- and right-edge trigger instead of just a left-edge one. Some of the differences between the results of the present study and Ham's results are from each looking at a different substrate language. However, Ham also fails to recognize the implications of the distinction between low-tone TBU's and TBU's unspecified for tone, treating both sorts of TBU's as simply specified for low tone without offering any account for their different behavior.

⁸ The only counterexample to this generalization is that pronominal object clitics, which directly follow the verb, do form a plateauing environment with it. It is a general property of clitics, however, that they form a plateauing environment with their host. This is discussed below.

⁹ The other environment where raising occurs at the right edge of the verbs is when they precede a class of idiosyncratic adverbs which trigger raising with a preceding verb. The words which have been observed to do this are *móon* 'more' (see Rountree (1972b:322)), *nóu* 'now', and *jétí* 'yet, still'. These appear to be exceptional and no principled account has yet been developed for them.

¹⁰ The basic arguments of the verb *jàà* ‘splash’ seen in (30b) are a subject agent and an object corresponding to the substance used for splashing. An optional locative prepositional phrase can be used to designate someone or something affected by the splashing.

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- University of California, Berkeley*
1203 Dwinelle Hall #2650
Berkeley, CA 94720-2650
U.S.A.
- e-mail: jcgood@socrates.berkeley.edu*