

To *Bi* or not to *Bi*: A pronominal analysis for past

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Abstract

This paper discusses the morpheme bi in Saamáka which has the following characteristics. It conveys a past interpretation of the eventuality and anchors an eventuality to some past time which is inconsistent with past from a future perspective. It is not necessarily anchored to the time of utterance, i.e. it can convey both a simple past and a past-before-past interpretation. Its interpretation is insensitive to aktionsart, i.e. the pattern of distribution is not determined by whether a predicate is stative or eventive. The morpheme is discourse sensitive, or, in other words, the presence of bi is sometimes omitted. To elucidate these characteristics, I will argue that bi is a temporal pronominal which establishes the anchor time directly and makes it not be the time of utterance but some other contextually established past time.

Keywords: Creole, Saamáka; Tense; Temporal pronominal anaphors

¹ The data discussed in this paper was collected during fieldwork trips to Pikin Slee, Suriname in 2008 and 2009 (totaling six months). Specifically designed questionnaires targeting tense and aspect interpretations were used for data elicitation with bilingual Saamáka-Dutch speakers. Data from narratives by and interviews with monolingual Saamáka speakers are also discussed in this paper. I gratefully acknowledge the funding provided by HumFak, Universitetet i Tromsø. I would like to thank my consultants for their time and patience, and Gillian Ramchand, E. Allyn Smith and Donald Winford, as well as two anonymous reviewers and the audience of Workshop for Tense and Aspect in Generative Grammar in Lisbon (June 2010) for comments, discussion and feedback.

1. Introduction

It is well known from the literature that temporal interpretation can be also conveyed by other means than Tense marking. In certain languages Aspectual interpretation and/or Aktionsart play an important role (see e.g. Smith 1997; Lin 2005 for Chinese, Swift 2004 for Inuktitut, Kiyota 2008 for SenčáΘqen (Salish)). This paper discusses another way to convey temporal interpretation, namely, to establish the anchor time directly and make it not be the time of utterance, but some other contextually relevant anchor time. The data discussed in this paper comes from Saamáka and the focus is on the semantic characteristics of the morpheme *bi*.

In his Language Bioprogram Hypothesis, Bickerton (1981, 1984) aims to explain the (assumed) similarities across creoles and he argues that morphemes similar to *bi* in creoles are anterior tense markers. Their interpretation depends on the stativity of the verb: They convey a simple past reading with stative verbs and a past-before-past with non-stative verbs. Previous literature on Saamáka has argued that Bickerton's analysis also holds for *bi* (Byrne 1987; Veenstra 1996, as illustrated in (1)² and (2) respectively.

(1) Dí muyée **bi** háanse.
 DET woman PST beautiful
 'The woman was beautiful' (Veenstra 1996: 14).

(2) A **bi** wáka gó dí ópóláni.
 3SG PST walk go DET airplane
 'He had walked towards the airplane' (Byrne 1987: 205).

This paper will show that an anterior tense analysis of *bi* cannot account for all its characteristics. I will argue that *bi* is a temporal pronominal (in the sense of Partee 1984; Kratzer 1998) and that it establishes the anchor time directly (in the sense of Enç 1987, 2004) and makes it not be the time of utterance, but some contextually relevant past time.

This paper is organised as follows: Section 2 provides relevant background information on Saamáka. Section 3 presents an overview of my theoretical background assumptions. Section 4 discusses the semantic characteristics of the morpheme *bi*. Section 5 presents a temporal pronominal

² Abbreviations: SG = singular; PL = Plural; MOD = modal; PST = past interpretation; IMP = Imperfective; NEG = negation; BE = copula; COMP = complementizer; DET = determiner; ART = article; LOC = locative; Q = question marker; NARR = narrative marker; FU = prepositional complementizer fu.

analysis of *bi*. This paper ends with a summary and some concluding remarks.

2. Background Information

Saamáka is an English/Portuguese-based creole spoken along the Suriname River, Suriname. The substrate languages are the Gbe languages and Kikongo (Smith 1987). The language was created by slaves who fled the plantations towards the end of the 17th century (Price 1983). Currently, the language has 50.000 speakers (Aboh *et al.* to appear) who reside on the banks of the Suriname River, in Paramaribo, in French Guiana, and in The Netherlands. In the literature, the language is also referred to as Saramaccan.

Before we start discussing the meaning and interpretation of the morpheme *bi*, it is important to provide some information regarding the temporal interpretation of the unmarked verb form³ in Saamáka. As in many other creoles, a sentence containing an eventive verb has a past interpretation, while one containing a stative verb has a present interpretation, as in (3) and (4) respectively (see also Byrne 1987; Rountree 1992; Veenstra 1996).

(3) Context: What did the man do this week?

Dí wómi mbéi wan boto.
 DET man make ART boat
 ‘The man made a boat’.
 or ‘The man has made a boat’.

(4) Dí wómi sábi néngétóngo.

DET man know Sranan
 ‘The man knows/speaks Sranan’.

To explain this difference in temporal interpretation between stative and non-stative verbs, I postulated in previous work (van de Vate in press) that Saamáka has a morphological null perfect morpheme. My analysis of the unmarked verb form exploits the idea that states and events have different semantics. The former are true at a moment, while the latter are true at a subinterval. States do not have the property of temporality, whereas events do. Moreover, Tense in Saamáka denotes Present and it is a moment (and not an interval). Evidence that Tense expresses Present is provided by the interaction of the unmarked verb form with temporal adverbials denoting ‘now’, as illustrated in (5).

³ Unmarked means that there is no overt morphology present that marks a verb for tense, aspect or modality.

- (5) Context: From a distance, you and your friend follow a man climbing a mountain. When you see that he is standing at the top, you say to your friend:

Nóúnóu nóo dí wómi dóu a dí kúnunu hédi.
 now NARR DET man arrive LOC DET mountain head
 ‘The man has reached the top of the mountain now’.

Temporal adverbials referring to the time of utterance modify the topic time (Zagona 1995, Demirdache and Uribe-Etxebarria 2007). To get the right semantics of this example, the temporal ordering relation between topic time and time of utterance must be one of simultaneity, and thus, denotes Present Tense.

Events are unable to combine with a point-like Present Tense (see Prior 1967; Taylor 1977; Bach 1986b; Dowty 1986; Hallman 2009). In other words, a point-like Present Tense is restricted to only combine with stative predicates. Eventive predicates need to be embedded by a state deriving functional head before they can combine with Present Tense. This functional head can be a modal, a perfect or some other operator, as illustrated for the possibility modal *sa* in (6).

- (6) A kisi móni nóo a **sa** gó a wósu.
 3SG catch money NARR 3SG MOD go LOC house
 ‘S/he has gotten money and therefore, she can go home’.

When eventive verbs are unmarked in Saamáka, as in (3) and (5), the ‘perfect’ morpheme is inserted. It creates a derived resultant state (in the sense of Parsons 1990; Musan 2001), as well as that it give rise to a past interpretation of the eventuality,⁴ while stative verbs, as in (4), can unproblematically combine with a point-like Present Tense and this gives rise to a present interpretation.

An advantage of the Perfect Analysis is that it provides a natural account of why the temporal distinction splits along the stative vs. eventive divide without additional stipulations for non-default readings of the bare verb form.

3. Theoretical Background Assumptions

The main aim of the present study is to formulate a way to get the effects of past interpretation, while capturing the discourse sensitivity facts of the morpheme *bi* (as will be discussed in Section 4). In order to do so, I adapt

⁴ The term eventuality is used as cover-term for states, events and processes. The term state refers to stative eventualities, and the term event to event/process eventualities throughout this study (in the sense of Bach 1986a).

ideas presented in Partee (1984) and Enç (1987; 2004). The former discusses similarities between temporal morphemes and anaphoric pronouns (Section 3.2), whereas the latter argues that it is possible to establish an anchor time directly, and make it not to be the time of utterance but some other contextually salient time (Section 3.3). First, I will discuss Klein's (1992; 1994) ideas concerning the composition of Tense and Aspect (Section 3.1).

3.1 Assumptions Concerning the Composition of Tense and Aspect

In Klein's (1992; 1994) system of temporal interpretation, three time spans are distinguished: Time of utterance (TU), topic time (TT) and time of situation (TSit). The former refers to the moment when an utterance is made. Topic time refers to the time for which a particular utterance makes an assertion. Time of situation is the time at which an eventuality occurs (Klein 1992: 535-538).

I postulate that Tense and Aspect are 'dyadic spatiotemporal ordering verbs taking time denoting phrases as arguments' (Demirdache and Uribe-Etxebarria 2000: 162, see also Zagona 1995; Stowell 1996). The external argument of Aspect is topic time and its internal argument is time of situation. The external argument of Tense is time of utterance and its internal argument is topic time (Zagona 1995; Stowell 1996; Demirdache and Uribe-Etxebarria 2000).

Aspect expresses a temporal ordering relation between topic time and time of situation. Perfective aspect indicates that topic time fully includes time of situation, or formally, TT ON TSit. For imperfective aspect, topic time is fully included in time of situation, or, TT IN TSit (in the sense of Partee 1984; Klein 1994; Kratzer 1998; Zagona 2007). This is presented below.

TT fully includes TSit	perfective	ON
TSit fully includes TT	imperfective	IN

Tense orders time of utterance with regard to topic time. This relation can be one of precedence or simultaneity. Past tense expresses that time of utterance is located after topic time, or, TU AFTER TT. Present tense indicates a simultaneous relation between time of utterance and topic time, or, TU WITHIN TT. Future tense expresses that time of utterance is located prior to topic time, or, TU BEFORE TT (in sense of Demirdache & Uribe-Etxebarria 2000; 2007). This is presented below.

TT precedes TU	past	AFTER
TU simultaneous with TT	present	WITHIN
TU precedes TT	future	BEFORE

3.2. *Similarities between Anaphoric Pronouns and Temporal Morphemes*

Partee (1984) observes similarities between anaphoric pronominals and temporal morphemes. She divides temporal morphemes into deictic and anaphoric temporal morphemes: Deictic tense locates an eventuality relative to the time of utterance, while anaphoric tense locates an eventuality to a reference time independently provided by the discourse. The former is an absolute tense system and the latter a relative tense system. Partee further argues in favour of a pronominal analysis of anaphoric temporal morphemes. She demonstrates similarities between temporal morphemes and pronouns (see also Hinrichs 1986; Bonomi 1995; Kratzer 1998). Under a pronominal analysis, temporal morphemes are assumed to have certain characteristics in common with anaphoric pronouns: both refer to an understood particular time or individual which is made salient by the discourse context. The advantage of a pronominal analysis of anaphoric temporal elements is that it explains the discourse sensitivity of these morphemes. Another similarity between pronominal and temporal anaphors is that they must be bound by their antecedent locally. Controlled PRO and zero pronouns⁵ must locally bind their antecedent. When pronouns and their antecedent are interrupted by an intervening clause, the pronoun cannot refer to its antecedent (Kratzer 1998). The advantage of suggesting a temporal pronominal analysis for *bi*, as we will see in Section 5, is that it is able to account for the optionality of the morpheme in the discourse.

3.3. *Anchoring of Tense*

Enç (1987) investigates embedded clauses in English and observes that an embedded sentence containing a stative verb expresses both a simultaneous and a back-shifted reading, as exemplified in (7). These two temporal interpretations can be distinguished by adding a temporal modifier.

- (7) Peter claimed that Alice was sick (Enç 2004: 203).
- a. Peter claimed that Alice was sick at that moment (Enç 2004: 203).
 - b. Peter claimed that Alice was sick the week before (Enç 2004: 203).

According to Enç (1987; 2004), the traditional idea of treating tense as a sentential operator can only account for the back-shifted reading of (7), while it fails to predict the grammaticality of its simultaneous reading, because the treating tense as a sentential operator analysis assumes that ‘the defining characteristic of past tense is that it shifts to the past’ (Enç 2004: 205). To

⁵ Kratzer (1998) uses the term zero pronoun for pronouns without agreement features. Thus, they are semantically empty. However, these pronouns are pronounced, they are not morphologically null.

account for the grammaticality of both the back-shifted and simultaneous reading, Enç proposes to treat tenses as referential expressions denoting intervals. She holds the following assumptions: Tenses denote intervals and provide a temporal argument of the verb. It carries an index like other referential expressions. Tense is situated in Infl and a tensed Infl is either PAST or PRESENT (Enç 1987: 640). Moreover, Enç argues that the specifier of Tense is located in the CP domain⁶ which, optionally, bears a temporal index. Enç (2004: 207) adopts a number of anchoring conditions which are reproduced in (8).

- (8) a. All Is carry two temporal indices: an index, which yields the evaluation time of I (=Topic Time); and a referential index, which yields the time at which the eventuality described by the sentence holds (=Time of Situation). Given i, j , i is the evaluation index and j is the referential index.
- b. All Is must be temporally anchored
- c. Only Is with the feature [+past] can bind other Is.
- d. An I is temporally anchored if and only if
- (i) it is bound by the local c-commanding I (through its referential index), or
 - (ii) its evaluation time is bound by the local c-commanding I, or
 - (iii) its evaluation time is fixed as the speech time when there is no local I to bind it.

Under Enç analysis, the two readings of (7) are obtained by two ways of anchoring: Anchoring through Comp (back-sifted reading) or anchoring by being directly bound (simultaneous reading). In both readings, Tense of the embedded clause is governed by Comp (which hosts the specifier of Tense). In the back-shifted reading, Tense of the embedded clause is anchored through Comp. The embedded Comp is governed by its verb and the governing category is the matrix clause. Consequently, the embedded Comp must be anchored by binding for which the matrix Tense is a possible antecedent. Since the matrix Tense binds the embedded Comp, both Comp and the embedded Tense are anchored. The matrix Tense denotes the time of utterance, while PAST of the matrix clause expresses that the eventuality occurred prior to the time of utterance. It is to this PAST that the embedded Comp is bound and the embedded PAST is situated in time in relation to this matrix PAST. As a result, the embedded eventuality is situated prior to the past matrix eventuality.

⁶ Giorgi and Pianesi (2001) and Higginbotham (2009) also argue that tense anaphora should be located under a complementizer position C. The former demonstrate that there exists a strong correlation between an anaphoric temporal relation and the characteristics of C (see also den Besten 1977, 1989; Chomsky 2005).

(9) [Comp0 [NP [PAST_i [V [Comp_i [NP [PAST_j] (Enc, 1987: 646)

In the simultaneous reading, the embedded Tense is anchored by being directly bound by the matrix Tense. The matrix Tense denotes PAST and the embedded Tense is coreferential to this matrix PAST. This implies that the embedded eventuality occurs at the same past time as the matrix eventuality.

(10) [Comp0 [NP [PAST_i [V [Comp [NP [PAST_i] (Enc, 1987: 647)

The intuitions in Enç (1987, 2004) can be captured as follows: Building on Rizzi (1997), I assume that within an extended CP domain, the specifier of Tense is located in Fin. Following Giorgi and Pianesi (2001), Stowell (1996) and Higginbotham (2009), Fin is the first argument of Tense and it provides the anchor time. This anchor time expresses an interval. Tense states a relation between Anchor Time (located in Fin) and Topic Time (located in Asp). In most Indo-European languages, in the default, Anchor Time equals Time of Utterance (located in T). Turning to the difference in the anchoring of the eventuality between matrix and embedded clauses in English, tense in a matrix clause is deictically anchored, i.e., it is anchored to the time of utterance, and it expresses a temporal ordering relation between time of utterance and topic time. Tense in an embedded clause is anaphorically anchored, i.e., it is anchored to an anchor time, and it expresses a temporal ordering relation between anchor time and topic time.

4. Semantic characteristics of *bi*

The morpheme *bi* can convey a simple past reading, as the examples of an activity, accomplishment, achievement and stative predicate in (11)-(14) respectively illustrate.

(11) Context: What did the girl do yesterday?

Dí muyéemíi **bi** kandá.

DET girl PST sing

‘The girl sang’.

(12) Context: A girl was late for school this morning and therefore she had to run to be on time.

A **bi** kulé gó a sikóo.

3SG PST run go LOC school

‘She ran to school’.

(13) Hén dí wómimíi u Pikin Slee ku dí u dí óto kónde bi fêti wan pási kaa
 náo dí u Pikin Slee **bi** wíni.
 NARR DET boy FU Pikin Slee with DET FU DET other village PST
 fight ART time already NARR REL FU Pikin Slee PST win
 ‘The boy from Pikin Slee and the other one fought one time before
 already. Then the one from Pikin Slee won’.

(14) Lathoya **bi** suáki ma a béte.
 Lathoya PST ill but 3SG better
 ‘Lathoya was ill, but she is better now’.

Secondly, a sentence containing *bi* can also have a past-before-past interpretation, as exemplified for an activity, accomplishment, achievement and stative predicate in (15)-(18) respectively.

(15) Éside dí Freddy kó a wósu a bi wéi. A **bi** woóko taánga.
 yesterday when Freddy come LOC house 3SG PST tired. 3SG PST
 work strong
 ‘Yesterday when Freddy came home, he was tired. He had worked
 hard’.

(16) Dí mi dóu éside ndéti a wósu náo mi sísa **bi** skífi tú bífi kabá kaa.
 when 1SG arrive yesterday night LOC house NARR 1SG sister PST
 write two letter finish already
 ‘When I arrived home yesterday evening, my sister had written two
 letters already’.

(17) U **bi** dóu a dí kónde bifo u yéi táa Senni fútu boóko.
 1PL PST arrive LOC DET village before 1PL hear COMP Senni foot
 break
 ‘We had arrived in the village before we heard that Senni foot was
 broken’.

(18) Éside Senni bi ta woóko. A dí wíki dí bi pasá de a **bi** suáki.
 yesterday Senni PST IMP work LOC DET week DET PST pass there
 3SG PST ill
 ‘Yesterday Senni was working. The week before, he had been ill’.

These sentences in (11)-(18) question Bickerton’s (1981; 1984) assumption that aktionsart, or to be more precise dynamicity, influences the meaning. The morpheme *bi* expresses always a past reading with regard to some other time regardless of the dynamicity of the verb which it embeds. However, *bi* cannot modify an eventuality which is situated in the past of an anchor time located in the future, i.e., a past-in-the-future reading, as

illustrated in (19). Therefore, *bi* can only express a past reading with regard to some other time which is restricted to be non-future.

- (19) Context: I am having a conversation with a pregnant woman and I tell her that in a year from now I will return to Pikin Slee. She replies to me:
 #Té i tooná kó nóo mi **bi** palí.
 when 2SG return come NARR 1SG PST give birth
 Intended reading: ‘By the time you have returned, I will have given birth’.

Furthermore, the eventuality embedded by *bi* is interpreted as being terminated and no longer relevant at the time of utterance, as exemplified in (19), (20), and (21).

- (20) a. Mi **bi** lási dí beéi u mi ma mi fëndi hén báka.
 1SG PST lost DET glasses FU 1SG but 1SG find 3SG back
 ‘I had lost my glasses, but I found them again’.
 b. #Mi **bi** lási dí beéi u mi. Téluku nóú mé fëndi én éti.
 1SG PST lost DET glasses FU 1SG up.until now 1SG.NEG find 3SG yet
 Intended reading: ‘I lost my glasses. Up until now, I haven’t found them yet’.

- (21) Context: It is cold in the room. The window is closed. A asks B:
 I **bi** yabí dí fénse?
 2SG PST open DET window
 ‘Did you open the window (and close it again)?’

- (22) Context: The window is open, but A has not noticed that. A asks B:
 Why is it so cold in the room? B replies:
 #Mi **bi** yabí dí fénse.
 1SG PST open DET window
 Intended reading: ‘I opened the window’.

These examples illustrate that a sentence containing *bi* can continue to express that the eventuality no longer holds at the time of utterance (see (20a) and (21)), whereas it cannot continue to express that the eventuality still holds at the time of utterance (see (20b) and (22)). In other words, the presence of *bi* indicates that the eventuality is no longer true at the time of utterance.

Conversational and narrative data are also relevant in determining the characteristics of morphemes expressing a temporal interpretation. In (22), it is illustrated that the presence of *bi* can be omitted.⁷

- (23) a. Yoó dá u to? Únfadí gaánwáta bigí u kó,
 2SG.MOD give 1PL right how DET flood start FU come
 únfa I dú?
 how 2SG do
 F: ‘You will give us something, right? When the flood started to come, what did you do?’
- b. Mé **bi** dé akí.
 1SG.NEG PST BE here
 S: ‘I was not here’.
- c. Oh yá **bi** dé akí?
 oh 2SG.NEG PST BE here
 F: ‘Oh, you were not here?’
- d. Mí \emptyset dé a Semoisi.
 1SG \emptyset BE LOC Semoisi
 S: ‘I was in Semoisi’.
- e. Oh yá **bi** dé akí nó?
 oh 2SG.NEG PST BE here RQ
 M: ‘Oh, you were not here?’
- f. Nóno mí \emptyset dé a Semoisi. Di a kó a dóu té.
 no 1SG \emptyset BE LOC Semoisi when 3SG come 3SG arrive until
 S: ‘No, I was in Semoisi. When it came, it reached up to there’.

As mentioned in Section 2, sentences containing an unmarked stative verb have a present interpretation. In order for stative verbs to convey a past interpretation, they require to be modified by *bi*. Interestingly in line (23d) and (23f), the copula *dé* is unmarked. It would be expected that these two sentences have a present interpretation. However, this is not the case. This conversation took place in Pikin Slee (and not Semoisi) and the topic of conversation was the flood of 2006 (which took place two years prior to this recording). Based on these discourse facts, it is possible to interpret line (23d) and (23f) with a past reading.

⁷ The following abbreviations are relevant for this extract: F = Fonteni, my guide and interpreter; S = Sina, an elderly monolingual woman and main narrator; M = Marleen. Please note that the Saamáka of the author of the present study is that of a second language learner who has not acquired the language completely. This conversation was recorded in Pikin Slee. Semoisi is another Saamáka village along the Suriname River. In May 2006, the Suriname River was flooded due to heavy rainfall in Brazil. Several villages along the Suriname River were flooded, among them Pikin Slee. This recording was made in March 2008.

Additionally, *bi* can also be omitted in bi-clausal structures, as illustrated in (24) and (25).

- (24) Senni **bi ta** bebé té hén Lathoya **ta** nyá beée.
 Senni PST IMP drink tea NARR Lathoya IMP eat bread
 ‘Senni was drinking tea and Lathoya was eating bread’.
- (25) Dí muyée **ta** náí koósu nóo a **bi ta** kondá
 DET woman IMP sew cloth NARR3SG PST IMP tell
 wan sondí déé sembe.
 ART thing LOC DET.PL person
 ‘The woman was sewing cloth(s) while she was telling something to the others’.

In these two examples, the eventualities are modified by imperfective *ta*. This morpheme can convey a progressive, habitual and inchoative reading. When no additional TAM marking is present, the most natural temporal interpretation of a sentence containing *ta* is a present interpretation, as exemplified in (26).

- (26) Senni **ta** wáka gó a bákase. wan sondí déé sembe.
 Senni IMP walk go LOC vegetable.garden wan sondí déé sembe.
 ‘Senni is walking to his vegetable garden’.
 or ‘Senni walks to his vegetable garden’.

Imperfective *ta* requires *bi* to convey a past interpretation. However, in (24) and (25) two eventualities occur which are both modified by *ta*, while only one eventuality in each sentence is modified by *bi*. It would be expected that the temporal interpretation of the two eventualities in each sentence would differ: Eventualities not modified by *bi* would be interpreted as occurring simultaneously with the time of utterance, whereas eventualities modified by *bi* would be interpreted as occurring prior to the time of utterance. However, according to my consultants, the two eventualities in each sentence are interpreted as occurring simultaneous at some past time. Whether *bi* modifies the first eventuality, as in (24), or the second eventuality, as in (25), does not influence the temporal interpretation of the whole sentence: The eventualities are interpreted as occurring simultaneously at a time prior to the time of utterance. The examples in (23)-(25) indicate that it is possible to omit *bi*, as well as that *bi* can scope over several eventualities without having to directly precede them. This raises the question how the omission of *bi* can be accounted for. The answer to this question will be the focus of Section 5.

To sum up, *bi* has the following characteristics: It conveys a past interpretation of the eventuality and anchors an eventuality to some past time

which is inconsistent with past from a future perspective. Secondly, it is not necessarily anchored to the time of utterance. It can convey both a simple past and a past-before-past interpretation. Thirdly, it is insensitive to aktionsart. The pattern of distribution is not determined by whether a predicate is stative or eventive. Finally, it is discourse sensitive, or in other words, the presence of *bi* is sometimes omitted.

An absolute tense analysis of *bi* would be able to explain the past interpretation of the morpheme, but would have difficulties to account for the discourse sensitivity of *bi*, i.e., the possibility to omit *bi* (as in (23)-(25)). A relative tense analysis would be able to capture the simple past and past-before-past reading of *bi*, but would not be able to explain why *bi* cannot convey a past-in-the-future reading (as in (19)). Therefore to elucidate these characteristics, I will argue that *bi* is a discourse marker which has the role of a temporal pronominal (in the sense of Partee 1984; Kratzer 1998; Giorgi 2006) and which establishes the anchor time directly (in the sense of Enç 1987, 2004).

5. Analysis of *bi* as Temporal Pronominal

The previous section ended with the question how the omission of *bi* can be explained. To answer this question, I will present evidence from narratives in which *bi* only in the beginning modifies predicates after which its presence is no longer necessary. This is restricted to the storyline not being interrupted by a different storyline. When a storyline is interrupted by a second storyline and the narrative continues with the initial storyline, the anchor time of the initial storyline needs to be reestablished. With these extracts in (27) and (28), I will demonstrate that the omission of *bi* is explained by arguing that it is a temporal pronominal which establishes the anchor time directly. When the anchor time is established, all eventualities are anchored to this anchored time and the presence of *bi* is no longer necessary.

Example (27) which is the beginning of *Totomboti* ('woodpecker'), a Saamáka folktale about the origin of the river⁸ illustrates that *bi* only appears in the beginning of a narrative while all predicates are interpreted with a past reading.

- (27) a. Só déé míí, mi ó dá unu wan fési tén wótoe.
 So DET.PL child 1SG MOD give 2PL ART first time story NARR
 b. Da Gaángádu **bi** mbéi lío e, té a kabá.
 tjen big.God PST make river NARR until 3SG finish

⁸ This folktale was told by Tiini Amoida and recorded by Naomi Glock for Summer Institute of Linguistics. It was published as appendix in 'Languages of the Guianas V: Saramaccan for Beginners' in 1982. The glosses are mine.

- c. Nóo á **bi** dé kuma fá dí lío fúu de
 NARR3SG.NEG PST BEjust.like way DET river full there
 fá u dé akí e.
 manner 1PL BE here NARR
- d. Híí dí lío líba tuu fia **bi** dé sósó sitónu balalaaa
 all DET river top all completely PST BEjust stone flat
 té gó pii.
 after go IDEO
- e. Nóo dí wáta **bi** ta kulé ta pasá a básu alá gililili.
 NARRDET water PST IMP run IMP pass LOC under there IDEO
- f. Só a **bi** dé.
 so 3SG PST BE
- g. Wáta séépi á **bi** dé u sembe ta fèni ta bebé.
 water self 3SG.NEG PST BEFU person IMP find IMP drink
- h. Nóo hén Gaamákáí híí lánti –sembe, mbéti ku fóu-
 NARRNARR chief call all people –person, animal and bird-
 táa we dí wáta pená nóo de á **sa** tyeen
 COMPFOC DET water to.be.poor NARR3PL NEGMO carry.3SG
 móo.
 more
- i. Bigá da de **ó** boóko sitónu u de **sa** fèni wáta.
 because then 3PL MOD break stone FU 3PL MOD find water
- j. Hén de **ta** boóko sitónu té de **wéi**.
 NARR3PL IMP break stone until 3PL tired
- k. Dí sitónu á **sa** boóko e u de dou a wáta.
 DET stone NEG MOD break NARR FU 3PL arrive LOC water
 ‘So children, I will tell you a story from the old days. When the
 almighty God made the river, it was not like this river. It was
 blocked by a stone. The water was running/passing underneath it.
 So, it was. The water was not for people to take and drink it.
 Therefore Granman called all people – person, animal and bird –
 that the water was running low and they could not reach it anymore.
 They would break the stone so that they could find water. They were
 breaking the stone, until they became tired. The stone could not be
 broken in order for them to reach the water?’

Note that predicates which are stative, modified by imperfective *ta*, future morpheme *ó*, or possibility modal *sa* have a present or future interpretation in an out-of-the-blue context and without any additional TAM marking. In order for them to have a past interpretation, they require *bi*. However, these predicates have a past interpretation throughout this folktale; while they are not always modified by *bi* (see line (27g), (27h), (27i), (27j) and (27k)). Moreover, after line (27g) there is only one more occurrence of *bi* in the continuation of this folktale (which is 63 lines long). To explain this, I argue

that *bi* establishes the anchor time directly and makes it not be the time of utterance, but some contextually salient past time. All eventualities are anchored to this anchor time. Once the anchor time is established, the presence of *bi* is no longer necessary and can therefore be omitted.

With the second extract, I aim to demonstrate that, as like pronouns, the anchor time must be locally bound. In (28),⁹ the first storyline is interrupted by a second storyline. When the speech act participants continue with the initial storyline, its anchor time needs to be reestablished.

- (28) a. U woókoi fëndidí móni dí wáta de kaa ku
 1PL work 2SG find DET money DET water BE already with
 hén u tooná báí láí ku séti wósu butá kuma fá
 3SG 1PL return buy thing with set house put like manner
 a dé báka.
 3SG BE back

L: 'We worked and found money, the water went down. With the money, we bought things and decorated our houses again'.

- b. Ú dí tén de táa de ó tyá móni kó. De
 which DET time 3PL COMP3PL MOD carry money come 3PL
 á tyá dí móni kó yéti.
 NEG carry DET money come yet

Y: In those days, they said that they would bring money. They have not brought the money yet'.

Line (a) and (b) refer to story line A) Flood 2006

- c.
 d. Kuma fá dí u Botopasi de. Fá a dé
 a Botopasi de nóo u Seei akí musu ábi tú.
 manner like REL FU Botopasi there like 3SG BE
 LOC Botopasi there NARRFU Pikin.Slee here
 MOD have also

L: Like the one in Botopasi. Like it is in Botopasi, we of Pikin Slee must have one too'.

Line (c) and (d) refer to story line B

- e. Dí Venitiaan **bi** kó akí a dí a **bi** dú dá
 when Venitiaan PST come here LOC when 3SG PST do give
 u a Seei akí a dí lío déndu.
 1PL LOC Pikin.Slee here LOC DET river inside

L: 'Venitiaan came here and he gave help to us in Pikin Slee'.

⁹ The following abbreviations are relevant for this extract. L = Laurens, my guide and interpreter; Y = Yeye, an elderly monolingual woman who was interviewed and main narrator. President Venitiaan was the president of Suriname during the flood in 2006 and still was when this conversation was recorded in March 2008. Vinije is Yeye's grandson who lives in Wageningen, The Netherlands. After the flood in 2006, he visited his family in Pikin Slee.

- f. Á heépi ná wan wee sondí. Vinije kó a dí
 3SG.NEG help NEGART ? thing Vinije come LOCDET
 kónde **ta** daamá **ta** butá sondí a dí kónde
 village IMP walk.around IMP place thing LOCDET village
ta lóntu.
 IMP round

Y: 'He (=Venitiaan) helped us with nothing. Vinije came to the village and he was walking around in the village.'

Line (e) and (f) refer to story line A) Flood 2006

Line (28a) and (28b) refer to the first storyline. In Storyline A, the speech act participants Laurens and Yeye talk about the flood of 2006. From line (28c), Storyline A is interrupted by a new storyline, Storyline B, which discusses the development of mobile phone masts along the Suriname River. In line (28e), speech act participant Laurens returns to Storyline A. The first two predicates are modified by *bi*. By doing so, the anchor time of Storyline A is reestablished after which all eventualities can, again, be anchored to this anchor time.

To sum up, (28) illustrates that when a new temporal past discourse topic is introduced, the first predicate(s) is modified by *bi*. When a sequence of eventualities is interrupted by a second storyline, the anchor time of the initial storyline needs to be reestablished when the speaker continues with this first storyline. From this it follows that an anchor time established by *bi* must locally bind its antecedent(s): Eventualities falling under the initial storyline after an interruption cannot be bound and anchored to the original anchor time.

Summarizing this section, *bi* establishes the anchor time directly and all eventualities are anchored to this anchor time. When the anchor time is interrupted by a different storyline, the anchor time of the initial storyline needs to be reestablished when this initial storyline continues.

6. Conclusion

The focus of this paper was the semantic characteristics of the morpheme *bi*. This morpheme conveys past interpretation of the embedded eventuality. I have argued that *bi* is a temporal pronominal which establishes the anchor time directly. The meaning of *bi* asserts that this anchor time is located prior to the time of utterance which entails that the embedded eventuality is located before the time of utterance. All the eventualities are anchored to this anchor time and once the anchor time is established the presence of *bi* is no longer necessary and it is possible to omit this morpheme. Eventualities can only be bound to the anchor time as long as the conversational topic is not interrupted by a different topic.

The temporal pronominal analysis proves itself to be a compelling analysis for Saamáka, and possibly also other languages with the same profile, where a relative tense analysis has been proposed. If this reanalysis is on the right track and *bi* is not a Tense head, then this has far reaching implications for what we should infer about the functional sequence of the clause from the ordering of so-called ‘tense’ morphemes in Saamáka and other similar (creole) languages.

In a cartographic approach to language structure (Rizzi 1997; Cinque 1999), it would be possible to argue that *bi* is situated in Fin. Fin is the first argument of Tense and it provides the anchor time (in the sense of Giorgi and Pianesi 2001; Stowell 2007; Higginbotham 2009). If such a syntactic analysis is on the right track, the syntactic structure would explain two things: First, it would predict that *bi* can be omitted. The possibility for *bi* to be omitted would be difficult to explain under the assumption that *bi* would be a Tense head. Additionally, it would explain why *bi* is not distributionally sensitive to aktionsart, or to be more precise sensitive to dynamicity; Fin is not adjacent to Aspect. I leave the syntactic composition of *bi* for future research.

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