Tense and Modality in two creoles: Capeverdean and Saamáka

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1 Introduction

In recent years, debates have revolved around the question whether epistemic modality can be in the scope of Tense. Some have argued that this is possible (see Eide 2003 for Norwegian, von Fintel & Gilles 2007 for English, Martin to appear for French); while others have argued the opposite (see Condoravdi 2002 for English). The focus of this paper is the interaction of Tense and Modality in two creoles; Capeverdean Creole (CV)\textsuperscript{1} and Saamáka (SM)\textsuperscript{2}. This paper provides evidence for the claim that in certain languages epistemic modality can have both a past and a present modal anchor time (in the case of CV), while in other languages epistemic modality must have a present modal anchor time (in the case of SM). Additionally, in his Language Bioprogram Hypothesis, Bickerton (1981, 1984) claims that tense, aspect and modality is similar across creoles. We will demonstrate that this claim is only partially correct. The modality system of these two creoles is very similar: both have a necessity modal which conveys obligation and epistemic readings, and a possibility modal which conveys ability, permissive and epistemic readings. Furthermore, both have a past marker. A difference occurs when the past marker co-occurs with the modals; in CV both the circumstantial and epistemic reading of the two modals surfaces, whereas in SM only the circumstantial reading surfaces, the epistemic reading is infelicitous. The present paper accounts for this on the grounds of some important distinct features between these languages functional morphemes, which reflects in their respective functional structures. Evidence is provided that CV Past marker -\textit{ba} is a temporal affix (situated in TP), whereas SM Past marker \textit{bi} is a situational pronominal (situated in FinP). These facts bring a remarkable

\textsuperscript{1} Capeverdean is a Portuguese-based creole, spoken by the half a million inhabitants of the Cape Verde Republic. This archipelago, to the west coast of Senegal, was a Portuguese colony until 1975. The substrate languages are mainly from the Mande and Atlantic families, spoken by the slaves from the Guinea Rivers area that were taken to Santiago Island in the 15\textsuperscript{th} century (Carreira 1982). The language is also the mother tongue of virtually all the estimated 1 million Capeverdeans in the diaspora (Portugal, The Netherlands, Switzerland, USA, etc.).

\textsuperscript{2} 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 17\textsuperscript{th} 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.
contribution to the debate around any possible default parameters regarding Creole languages. In other words, we assert that Creole languages do not necessarily behave alike (contra Bickerton).

The structure of the paper is as follows: Section 2 shows that CV and SM have some important similarities with respect to: (i) the necessity and possibility modals, and the way in which these may be interpreted; (ii) the temporal reading that circumstantial and epistemic modalities impose on the embedded eventualities, which depends on the aktionsart of these. Section 3 shows that there is a crucial distinction between the two languages: (i) in CV, both in their epistemic and circumstantial readings, the modals may combine with the past marker -ba; (ii) in SM, when the modals combine with the past marker bi, only the circumstantial reading surfaces. Section 4 presents our proposal, on the grounds of some important distinct features between these languages’ functional morphemes. Evidence is provided that CV Past marker -ba is a temporal affix (situated in TP), whereas SM Past marker bi is a situational pronominal (situated in FinP). In Section 5 we present some final remarks.

2 Modals in Capeverdean and Saamáka: Some important similarities

CV and SM have a necessity modal (debe and musu respectively) and a possibility modal (pode and sa respectively) that are ambiguous between an epistemic and a circumstantial interpretation. This is illustrated for the necessity modals in (1) and (2) respectively.

(1) Context: today is not a holiday, and when two friends that meet for dinner wonder about whether another friend has worked or not, one of them says:

CV Djon debe trabadja.
SM Senni musu wooko.
D/S MOD work
‘Djon/Senni must have worked.’ [epistemic]

(2) Context: a father and a son are arguing, and the son says something that the mother, listening to the discussion, finds truly disrespectful; the mother says to the boy:

CV Bu debe rispeta bo pai.
SM Yu musu lesipeki di taata fii.
2SG MOD respect your father
‘You must respect your father.’ [circumstantial]

A second similarities is the temporal orientation of the modal evaluation time which correlates with the modal base and is aktionsart dependent. When epistemic modals: embed a stative verb, the temporal orientation has a present interpretation, as illustrated

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3 Abbreviations: SG = singular; PL = Plural; MOD = modal marker; PST = Past tense; IMP = Imperfective; NEG = Negation; BE = Copula; COMP = Complementizer; DET = Determiner; ART = Article; LOC = Locative; Q = Question marker; NARR = narrative marker

4 A clause containing a modal has two time intervals; a temporal perspective and a temporal orientation (see Condoravdi 2002, Laca 2008). The former refers to ‘time from which the modal background is accessed’ i.e. modal anchor time. Temporal orientation refers to ‘the time at which the temporal property is instantiated’ (Laca 2008, 4) i.e. modal evaluation time.
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in (3a) and (3b), whereas when they embed an eventive verb, the temporal orientation has a past interpretation, as illustrated in (3c) and (3d).

(3a) CV  E ka debe sta dretu di kabesa.  
3SG NEG MOD be well of head  
’S/he must be out of his mind.’

(b) SM  A musu dê a wosu.  
3SG MOD BE LOC house  
’S/he must be at home’.

(c) CV  Djon debe txiga tardi ontí notí Dja nen N  
Djon MOD arrive late yesterday night already NEG 1SG  
ka obi-l ta entra.  
NEG listen-3SG TA get.in  
‘Djon must have arrived late last night. I didn’t even listen to him coming in.’

(d) SM  Context: Jacky is one of the women in the village who bakes and sells bread.  
Jacky musu yasá beée tide bigá mi sumée feisi  
J MOD bake bread today because 1SG smell fresh  
beée dí mi pasá neen písi.  
bread when 1SG pass LOC.3SG place  
‘Jacky must have baked bread today, because when I passed her place I smelled fresh bread.’

When circumstantial modals embed a stative, the temporal orientation has a present/future reading, as illustrated in (4a) and (4b), while when they embed an eventive verb, the temporal orientation has a future interpretation, as illustrated in (4c) and (4d).

(4a) CV  N tene txeu trabadju, N ka pode sta duenti.  
1SG have lot work 1SG NEG MOD BE  
‘I have lots of work, I am not allowed to be sick’

(b) SM  Mi abi hia wooko, Me sa de siki.  
1SG have lot work 1SG NEG MOD BE sick  
‘I have lots of work, I am not allowed to be sick’

(c) CV  Nu debe defendi nos prinsipiu ti fin.  
1PL MOD defend our principle until end  
‘We must defend our principles until the end.’

(d) SM  Ée a ta kísi búni môní nóo a musu woóko taánga.  
if 3SG IMP catch good money NARR 3SG MOD work hard  
‘If s/he receives good money, s/he is obliged to work hard’.

This difference in temporal orientation is due to the type of complement a modal embeds. Epistemic modals merge in a higher position (above TP) than circumstantial modals (above VP) (in the sense of Cinque 1999; Hacquard 2006). Consequently, epistemic modals embed Tense, while circumstantial modals do not embed Tense.
Additionally, we argue that both languages have a morphological null Perfect morpheme. This morpheme is obligatory in the underlying structure when the modal conveys an epistemic reading and embeds an eventide verb. In both languages Tense is momentary (i.e. expresses a moment) and is, therefore, restricted to embed a stative complement. Stative and eventive verbs are different in that the former are true at a moment, whereas eventive verbs need a subinterval of a moment to become true (in the sense of Taylor 1977, Bach 1981, Dowty 1979). Consequently in order to be able to combine with Tense, eventide verbs need to be modified by a state deriving functional head (this could be Perfect, Modals or some other operator, in the sense of Parsons 1990, Werner 2003). Epistemic modals embed a complement including Tense and Perfect. Perfect gives rise to the past interpretation. Since modals are also state deriving heads (Werner 2003), in their circumstantial reading, they also satisfy the stativity requirement placed by Tense on its complements. In these cases, the future interpretation is due to the modal itself (Condoravdi 2002, Werner 2003, Stowell 2004).5

3 Modals in the past: a crucial distinction

In CV, both in their epistemic and circumstantial readings, the modals may combine with the past marker -ba,6 as illustrated in (5)-(6) and (7) respectively.

(5) Context: a father discovers that the money his son brought home had been stolen from someone. Later, he told the police:
Nunka ka pasa-m pa kabesa ma dinheru podeba
never NEG get.through-1SG PREP head COMP money MOD:PST
ser furtadu.
bef. stolen
‘It never occurred to me that the money might have been stolen.’ [epistemic]

(6) Context: (from von Fintel & Gillies 2008, ex. (21)): Pedru is looking for some ice cream and checks the freezer. There is none in there. Asked why he opened the freezer, he replies:
Pamodi podeba ten jeladu.
because MOD:PST have ice.cream
‘Because there might be ice cream.’ [epistemic]

(7) Context: a student had a bad punctuation in an exam, and he strongly felt it was not fair. But he also knew that this was the kind of professor that you cannot argue with. Later, at dinner, he tells his mother:
N staba ku raiba di pursor, mas N ka podeba
1SG be:PST with rage of professor but 1SG NEG MOD:PST
faze nada.
do nothing
'I was furious at the professor, but I couldn't do anything.' [circumstantial]

5 We refer the interested reader to Pratas (2010, to appear) and van de Vate (2011) for discussion of this morphological null Perfect morpheme in CV and SM respectively.
6 With the past modal, the epistemic reading is only possible when it embeds a stative verb.
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However, in SM, when the modals combine with the past marker bi, only the circumstantial reading surfaces, the epistemic reading is infelicitous, as illustrated in (8).

(8a)  
\[
\begin{array}{c}
\text{Senni bi musu go a Botopasi.} \\
\text{S PST MOD go LOC B}
\end{array}
\]

‘Senni was obliged to go to Botopasi.’

*‘Senni must have gone to Botopasi.’

[contextual]

(b)  
\[
\begin{array}{c}
\text{Dí wómi bi musu sătì di píngo kìì.} \\
\text{DET man PST MOD shoot DET wild.pig kill}
\end{array}
\]

‘The man had to kill the wild pig.’

(because it would have killed him otherwise)

*’The man must have shot the wild pig’.

[contextual]

In the next section we discuss the differences between past markers in the two languages.

4 The different positions of the past markers: -ba in TP; bi in FinP

Before presenting our proposal, in subsection 4.3, we describe some important distinct features between these languages’ functional morphemes. Evidence is provided that CV Past marker -ba is a temporal affix (situated in TP) – subsection 4.1 –, whereas SM Past marker bi is a situational pronominal (situated in FinP) – subsection 4.2.

4.1 The interpretation of Capeverdean Creole -ba

Evidence that CV past marker -ba merges on T comes from two different lines of argumentation: (i) its clear temporal contribution; (ii) the fact that it is a postverbal affix. Now, let us analyse each of these.

(i) If -ba were not a temporal morpheme, the following temporal contrast would be hard to explain:

(9) a.  
\[
\begin{array}{c}
\text{N sata odja tilivizon.} \\
\text{1 SG PROG see television}
\end{array}
\]

‘I’m watching tv.’

[present interpretation]

b.  
\[
\begin{array}{c}
\text{N sata odjaba tilivizon.} \\
\text{1 SG PROG see-ba television}
\end{array}
\]

‘I was watching tv.’

[past interpretation]

One could argue that this does not demonstrate anything about -ba being on Tense, since a past interpretation also obtains in Null Perfect constructions. This may occur in the absence of -ba. See (10):

(10) N ø odja tilivizon.  
\[
\begin{array}{c}
\text{1 SG PFT see television}
\end{array}
\]

‘I have watched tv.’ / ‘I watched tv.’

[past interpretation]
The temporal relation in (10), however, is distinct from the one in (9b). First, this is what happens in (10): in the absence of -ba, Topic Time overlaps the Time of Utterance (in the sense of Klein 1992, 1994); we have a Null Perfect marker. The past temporal interpretation of the eventuality is due to the semantics of the Perfect, and we have the following representation: TT O TU; TSit < TT → e < TU

Then, in (9a), what we have is the following: just as in (10), in the absence of -ba, Topic Time overlaps the Time of Utterance; there is no Perfect but rather a progressive morpheme, and, thus, Time of Situation overlaps Topic Time; the temporal interpretation of the eventuality is present and we have the following representation: TT O TU; TSit O TT → e O TU

Finally, this is what happens in (9b): -ba sets a Topic Time prior to the Time of Utterance; we have a progressive morpheme, and, thus, Time of Situation overlaps Topic Time; the temporal interpretation of the eventuality is past and we have the following representation: TT < TU; TSit O TT → e < TU

Furthermore, in (11) we observe that the Null Perfect and -ba may co-occur, giving rise to a past-before-past interpretation: -ba sets a Topic Time prior to the Time of Utterance. In other words, in (10) we have a Present Perfect construction, and in (11) we have a Past Perfect construction: TT < TU; TSit < TT → e < TU

(11) NØ odjaba tilivizon.
   ISG PFT see.PST television
   ‘I had watched tv.’ [past-before-past interpretation]

(ii) The second line of argumentation in favor of -ba being on T is that, when a verb is marked by -ba, the object clitic is forbidden and we must have a free pronominal form:

(12) a. N odja.  ‘I saw’
    b. N odja-l.  ‘I saw him / her.’
    c. N ta odjaba.  ‘I used to see.’
    d. * N ta odjaba-l
    e. N ta odjaba el.  ‘I used to see him / her.’

This shows that this morpheme affixes to the verb prior to the clitic. This postverbal affixed position is the result of lowering of the Tense morpheme to the verb (Pratas 2007), just as has been proposed by Bobaljik (1995) and others for the -ed Past morpheme in English.

Pratas & Salanova (2005) have explained the above restriction on the object clitics in the following way: the stress of CV words always fall on the penultimate mora; in a. we have ‘ódja’, which is ok; in c. the temporal affix changes the stress of the word, and we get ‘odjába’ – this is ok, since the stress still falls on the verb root; then, we have another phonological fact in the language, which is: the final clitic counts as moraic in the phonological word that it forms with the verb; so, it also changes the stress of the word; in b. ‘odjá-l’, this is ok, since the stress still falls on the verb root; the problems come when we have both the affix and the clitic - for the phonological rule to apply, we would have the stress on the affix (* ‘odjabá-l’), and this is bad. So, in this case we must have a free pronominal, which a different word and, thus, does not interfere with the stress of the verb + affix.
4.2 The interpretation of Saamáka *bi*

The morpheme *bi* conveys a simple past reading, as exemplified in (13) and (14) and a past-before-past reading, as exemplified in (15) and (16). These readings are not influenced by aktionsart.

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

\[
\text{A } \text{bi kulé } \text{gó a } \text{sikóo}. \\
3SG PST run go LOC school
\]

‘She ran to school’.

(14) 

\[
\text{Lathoya } \text{bi suáki } \text{ma } \text{a } \text{béte}. \\
\text{L PST ill but 3SG better}
\]

‘Lathoya was ill, but she is better now’.

(15) 

\[
\text{Dí } \text{mi } \text{doú } \text{éside } \text{ndéti } \text{a } \text{wósu } \text{nóo } \text{mi } \text{sísa} \\
\text{when 1SG arrive yesterday night LOC house NARR 1SG sister }
\]

\[
\text{bi } \text{skífi } \text{tú } \text{biífi } \text{kabá } \text{kaa} \\
PST write two letter finish already
\]

‘When I arrived home yesterday evening, my sister had written two letters already’.

(16) 

\[
\text{Éside } \text{Senni } \text{bi } \text{ta } \text{woóko}. \text{Dí } \text{wíki } \text{dí } \text{bi } \text{pasá } \text{de} \\
yesterday S PST IMP work DET week DET PST pass there
\]

\[
\text{a } \text{bi } \text{suáki.} \\
3SG PST ill
\]

‘Yesterday Senni was working. The week before, he had been ill’.

Interestingly, it is possible to omit the morpheme *bi* in a narrative context.

(17) Context: In May 2006, the Suriname River was flooded due to the rain fall in Brazil. Several villages along the Suriname river were flooded by water. Houses and vegetable gardens were destroyed.

(a) 

\[
\text{Yoó } \text{dí } \text{u } \text{to?} \\
3SG.MOD give 1PL.right
\]

F: ‘You will give us something, right?’

(b) 

\[
\text{Únfa } \text{dí } \text{gaánwáta } \text{bígi } \text{u } \text{kó } \text{únfa } \text{i } \text{dú}. \\
how DET flood start FU come how 2SG do
\]

F: ‘When the flood started to come, what did you do?’

(c) 

\[
\text{Mé } \text{bi } \text{dé } \text{akí.} \\
1SG.NEG PST BE here
\]

S: ‘I was not here.’

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8 Abbreviations: F = Fonteni, guide and interpreter; S = Sina, an elderly monolingual woman and main narrator; M = Marleen. Please note that the Saamáka of the author is that of a second language learner. This interview was recorded in March 2009 in Pikin Slee, Suriname
This extract demonstrates that from line (17b), the whole conversation is temporally located at the time of the flood in 2006 i.e. e < TU. Additionally, stative verbs, which have a present interpretation when they are unmarked and require bi to express a past interpretation, can be not marked by bi and still convey a past time reference reading, as illustrated for the copula dé in (17e) and (17g). From this we conclude that the presence of bi is discourse sensitive, i.e., its occurrence depends on certain features of the discourse context.

The omission of bi in SM is also demonstrated in clausal structures. In (18) and (19) two events take place which are both marked with the imperfective morpheme ta. In both examples, the eventualities are interpreted as occurring simultaneously and are located prior to Time of Utterance.

(18a) Senni bi ta bebe te hen Lathoya ta nya beée.  
S PST IMP drink tea NARR L IMP eat bread  
‘Senni was drinking tea and Lathoya was eating bread’.

(b) e1 ○ e2 < TU

(19a) Di muyee ta naai kosu nóo a bi ta konda wan  
DET woman IMP sew cloth NARR 3SG PST IMP tell ART  
sondi a dee sembe.  
thing LOC DET.PL person  
‘The woman was sewing cloth(s) while she was telling something to the others’.

(b) e1 ○ e2 < TU

Another characteristic of bi is that anchoring of a narrative can only occur when a storyline is not interrupted by a different storyline, as demonstrated in (20)⁹.

(20a) U woóko i féndi dí móni dí wáta de kaa ku hén  
1PL work 2SG find DET money DET water BE already with 3SG  

⁹ The following abbreviations are relevant for this extract. L = Laurens, guide and interpreter; Y = Yeye, an elderly monolingual woman and main narrator. President Venitiaan was at that moment of the flood in 2006 the president of the Republic of Suriname, 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.
This extract demonstrates that when a new temporal past discourse topic is introduced, the first predicate(s) is marked by bi. Secondly, when a sequence of eventualities is interrupted by a different storyline, the anchor time of the first storyline has to be re-established when the speaker continues with the first storyline. Thirdly, an anchor time must locally bind its antecedent(s).

To summarize, the morpheme bi has the following characteristics. The morpheme conveys a past time reference reading and it anchors an eventuality to some past time which is inconsistent with past from a future perspective. The eventuality embedded by bi is not necessarily anchored to Time of Utterance. The morpheme is insensitive to aktionsart. Finally, bi is discourse sensitive; the presence of bi is sometimes omitted.
To explain these characteristics of *bi*, we argue that *bi* is a discourse marker which has the role of a temporal pronominal (in the sense of Partee 1984, Kratzer 1998). We postulate that *bi* establishes the Anchor Time directly and that all eventualities are anchored to this Anchor Time. Moreover, *bi* is restricted to establish an Anchor Time prior to Time of Utterance. We argue that *bi* is located in Fin in the syntactic structure (in the sense of Enç 1987).\(^\text{10}\)

### 4.3 Consequences for epistemic modals

In this subsection, we present our proposal regarding the temporal interpretation under epistemic modals in both languages.

#### 4.3.1 CV

Given all that has been said earlier, the following two lines of assumptions may seem incompatible for CV:

(i) As we have said in section 2, we assume that epistemic modals merge in a higher position (above TP) than circumstantial modals (above VP) (Cinque 1999; Hacquard 2006). Consequently, epistemic modals embed Tense, while circumstantial modals do not embed Tense.

(ii) As we have said in section 4.1, we assume that CV marker -*ba* surfaces on Tense.

Under these two assumptions, it might seem difficult to explain why in CV we get the epistemic reading illustrated in (5), here repeated as (21).

\[(21) \text{CV} \text{Dinheru } \text{podeba } \text{ser furtadu.} \]

\[
\text{money MOD:PST be stolen} \\
\text{‘The money might have been stolen.’ [epistemic]} \]

In other words, how is it possible that, here, we get the reverse order; that is, the epistemic modal is marked by Tense? This is the crucial distinction between CV and SM that we are trying to account for.

The proposal is that these sentences do not occur in out-of-the-blue contexts; they must be either inserted in a situation that has set a past tense for the sequence of events or embedded under a past clause, be it marked by -*ba* (in the case of a stative) (22a) or by the Null Perfect (in the case of an eventive (22b).

\[(22) \text{a. Si pai staba prokupadu pamodi dinheru podeba ser furtadu.} \]

\[
\text{his father be:PST worried because money MOD:PST be stolen} \\
\text{‘His father was worried because the money might have been stolen.’ [epistemic]} \]

\[\text{b. Pulisia fla ma dinheru podeba ser furtadu.} \]

\[
\text{police ø say COMP money MOD:PST be stolen} \]

\(^{10}\) For a detailed discussion of the semantic and syntactic characteristics of *bi*, we refer the interested reader to van de Vate (2011).
‘The policeman said that the money might have been stolen.’  

Therefore, we argue that the tense marking on the embedded epistemic modal is not a real tense marking: it is not relevant to anchoring the embedded clause in Time (Iatridou 1990). If this is on the right track, we have the following set of predictions:

(i) matrix past + embedded past epistemic modal – ok (22)
(ii) matrix present + embedded past epistemic modal – odd (23)
(iii) matrix past + embedded past circumstantial modal – ok (for different reasons) (24)
(iv) matrix present + embedded past circumstantial modal – ok (this shows that, here, the relation is different) (25)

Now, let’s see the examples for (ii), (iii) and (iv)

(ii)

(23) *Pulisia sata fla ma dinheru podeba ser furtadu.*  

*Police PROG say COMP money MOD:PST be stolen*

‘The policeman is saying that the money might have been stolen.’  

[epistemic]

(iii)

(24) a. *Si pai stabu prokupadu pamodi dinheru podeba furtada.*  

*His father be:PST worried because money MOD:PST be.stolen*

‘His father was worried because the money could have been stolen.’  

[circumstantial]

b. *Pulisia fla ma dinheru podeba furtada.*  

*Police Ø say COMP money MOD:PST be.stolen*

‘The policeman said that the money could have been stolen.’  

[circumstantial]

(iv)


*Djon be worried because Pedru MOD:PST work until late*

‘Djon is worried because Pedru was obliged to work until late.’  

[circumstantial]

b. *Djon sata fla ma Pedru debeba trabadja ti tardi.*  

*Djon PROG say COMP Pedru MOD:PST work until late*

‘Djon is saying that Pedru was obliged to work until late.’  

[circumstantial]

The fact that epistemic modals marked for past can only embed eventualities either with stative verbs or with an eventive marked by the progressive, as in (26), is crucial for this hypothesis. These types of statives are the ones that necessarily have a temporal reading simultaneous to the matrix past.

(26) *[Maria ka faze raboliso pamodi] E podeba sata durmi.*  

*Maria NEG make noise because 3SG MOD:PST PROG sleep*

*[Maria didn’t make any noise because] He might be sleeping.*

The prohibition of the Perfect – which is another way of bringing a past reading to the eventuality – may be accounted for as follows: this would bring a shifted reading, which is forbidden in these contexts.
4.3.2 The infelicity of a past epistemic interpretation in Saamáka

Given the syntactic structure (i.e. *bi* being situated in FinP), it would be expected that the combination of *bi* and a modal morpheme would also give rise to a past epistemic interpretation. However, as (27) illustrate, which is repeated here, this reading is infelicitous.

(27) Dí wómi *bi* musu súti dí píngo kíi.

DET man PST MOD shoot DET wild.pig kill

‘The man had to kill the wild pig.’ [circumstantial]

(because it would have killed him otherwise)

*’The man must have shot the wild pig’. [epistemic]

To account for this, we argue that modals in their epistemic reading cannot combine with *bi* because they are obligatorily anchored to Time of Utterance (in the sense of Hacquard 2006). Since *bi* establishes an Anchor Time prior to Time of Utterance, there is a mismatch regarding the temporal interpretation between *bi* and the epistemic modals. This temporal mismatch results in the infelicity of an epistemic reading with a past modal anchor time in SM.

5 Conclusion

This paper discussed the interaction of tense and modality in Capeverdean and in Saamáka. It was shown that the modal system in these creoles is very similar. Both have a necessity and possibility modal which can convey a circumstantial and an epistemic interpretation. The interpretation of the modal base correlates with temporal orientation and aktionsart. In the circumstantial reading, the modal evaluation time has a future orientation. In the epistemic reading the temporal orientation is aktionsart dependent: stative verbs give rise to a present orientation of the modal evaluation time, while eventive verbs give rise to a past orientation. We argued that the future orientation is due to the modal itself, while the past orientation is due to the presence of the morphological null Perfect morpheme. The languages differ regarding their past markers. These past markers have different semantic and syntactic characteristics: it was shown that CV has a Past Tense marker, *-ba*, while SM has a situational pronominal which establishes a past Anchor Time, *bi*. Another difference is the possible readings that surface when modals combine with these past markers. In CV both the circumstantial and epistemic interpretation is available (for stative verbs), while in SM only the circumstantial reading is available.

References


