Tense and Auxiliaries in Jambi Malay

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This paper describes some syntactic and semantic properties of tense, aspectual, and modal auxiliaries in the variety of Malay spoken in Jambi City (Jambi Province, Indonesia). In addition to describing TAM auxiliaries, this paper demonstrates the ways in which auxiliaries behave differently from main verbs in the language. Moreover, this paper argues that the modal auxiliary biso ‘can’ occupy two distinct syntactic positions. I support this claim with evidence based on the properties of biso when it occurs in constructions with aspectual markers, modals, and certain kinds of syntactic fronting.

1. Introduction

Jambi Malay is a Malay variety spoken in Jambi Province, southeastern Sumatra. The focus of this paper is on the variety spoken in the city of Jambi (see also Yanti, 2010). This paper has two main purposes. The first is to describe tense, aspectual markers, and modal auxiliaries in Jambi Malay (henceforth, JM). The second purpose is to provide a syntactic analysis to explain observed ambiguities in the interpretation of the modal auxiliary biso ‘can’.

This paper is organized as follows. Section 2 presents a very brief description of how tense is expressed in the language. Section 3 describes the properties of aspectual auxiliaries, modal auxiliaries, and constructions with multiple auxiliaries. This section also illustrates how auxiliaries differ from main verbs. Section 4 accounts for an ambiguity in the interpretation of the modal auxiliary biso ‘can’ and proposes a syntactic analysis that accounts for this ambiguity.

2. Tense

In JM, the overt presence of the expression of tense in a clause is optional and, if present, is not morphologically marked on verbs. The inventory of tense markers consists entirely of free lexemes. Thus, sentences like (1), for example, can express events that have occurred in the past, are currently in progress, or will occur in the future, depending upon the context in which they are used.

(1) a. abaj aku manciŋ
     older.brother 1SG ACT.fishing.rod
     ‘My older brother went fishing.’/
     ‘My older brother is fishing.’/
     ‘My older brother is going fishing.’

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Although the timeframe when an event took place can be entirely context-dependant, adverbs of time can also be used to specify when an event took place. The following are common temporal adverbs in JM: kemaren ‘yesterday’, dulu ‘before/old time’, somalam ‘last night’, malam tadi/tadi malam ‘last night’, tadi ‘earlier/just now’, sakaraŋ ‘now, kage?’ ‘later’, beso? ‘tomorrow’, and luso ‘the day after tomorrow’. The adverbs of time kemaren ‘yesterday’ and sakaraŋ ‘now’ in (2) below, for example, specify when an event took place.

(2) a. abaq, aku manciŋ kemaren
   older.brother 1SG ACT.fishing.rod yesterday
   ‘My older brother went fishing yesterday.’
   *‘My older brother is going fishing.’
   *‘My older brother is fishing.’

b. ala kərjo sakaraŋ
   Ali  work  now
   ‘Ali is working now.’
   *‘Ali worked.’
   *‘Ali is going to work.’

In (2), the adverb of time appears sentence-finally. Note that adverbs of time can also appear in different positions in the sentences, such as before the verb, as in (3)a, or before the surface subject, as in (3)b.

(3) a. abaq, aku kemaren manciŋ
   older.brother 1SG yesterday ACT.fishing.rod
   ‘My older brother went fishing yesterday.’

b. sakaraŋ ali kərjo
   now  ali  work
   ‘Ali is working now.’

3. Auxiliaries

This section is divided into four sub-sections. Section 3.1 and section 3.2 describe the aspectual auxiliaries and modal auxiliaries, respectively. Section 3.3 describes multiple auxiliaries and their possible word orderings. Section 3.4 presents pieces of evidence showing that auxiliaries are different from main verbs.

3.1. Aspectual Auxiliaries

Unlike languages such as French and English wherein aspect is often marked via bound verbal morphology, JM marks the aspect using different free lexical items, which are often freely omitted (see e.g. Sneddon 1996, Arka 2013). JM aspectual markers, which I refer to as aspectual auxiliaries, include lagi ‘PROG’, sodan ‘PROG’, masi ‘still’, la ‘PFCT’, baru ‘just’, poŋna ‘ever’, bəlum ‘not yet’, and na? ‘FUT’. When aspectual auxiliaries co-occur with a verb, they appear to the left of the verb, as shown below.
YANTI: Tense and auxiliaries in Jambi Malay

(4) a. dio? lagi baco buku=ɲo di kamar
   3 PROG read book=3 LOC room
   ‘He is reading his book in the bedroom.’

   b. pintu dəpan la di-pasaŋ kami
      door front PFCT PASS-set 1
      ‘The front door has been installed by us.’

   c. kəluargo=ɲo naʔ dataŋ
      family=3 FUT come
      ‘Her family will come.’

In addition, aspectual auxiliaries cannot appear in other positions, such as immediately post-verbal position, as in (5)a, or in sentence-final position, as in (5)b and (5)c.

(5) a. *dio? baco lagi buku=ɲo di kamar
      3 read again book=3 LOC room
      ‘He read his book again in the bedroom.’

   b. *pintu dəpan di-pasaŋ kami la
      door front PASS-set 1 PFCT
      ‘The front door has been installed.’

   c. *kəluargo=ɲo dataŋ naʔ
c      family=3 come FUT
      ‘Her family will come.’

It should be remembered; however, that sentences (5)a and (5)b are grammatical if lagi means ‘again’ and la functions as an emphatic marker, as shown respectively in (6)a and (6)b below. These two sentences simply show that the instances of lagi and la in (6) are homophones to those in (5) and this paper does not focus on this issue.

(6) a. dio? baco lagi baku=ɲo di kamar
      3 read again book=3 LOC room
      ‘He read his book again in the bedroom.’

   b. pintu dəpan di-pasaŋ kami la
      door front PASS-set 1 EMPH
      ‘It was us who installed the front door.’

3.2. Modal Auxiliaries

Modal auxiliaries in JM include *biso, təlap, bole, harus, and məsti.

   biso and telap

Biso is used to express ability, permission, and possibility. Therefore, sentences (7), (8), and (9) below are ambiguous and their interpretations depend on the context in which they are used.

(7) maria biso kərjo sampe malam
   Maria can work until night
   a. ‘Maria is able to work until night.’
   b. ‘Maria is permitted to work until night.’
   c. ‘It is possible that Maria will work until night.’
(8) oraŋ-*tu* *biso bajaran* gorǝja=no lagi
person-DEM.DIST can build church=3 again
   a. ‘They are able to build their church again.’
   b. ‘They are permitted to build their church again.’
   c. ‘It is possible that they will build their church again.’

(9) i*da* *biso datoŋ* kageʔ malam
Ida can come later night
   a. ‘Ida is able to come tonight.’
   b. ‘Ida is permitted to come tonight.’
   c. ‘It is possible that Ida will come tonight.’

Similar to *biso*, *təlap* is used to express ability. However, unlike *biso*, *təlap* is not ambiguous as it cannot be used to express possibility or permission.

(10) dioʔ *təlap bayar* utaŋ-*tu*
   3 can pay debt-DEM.DIST
   ‘He is able to pay the debt.’
   *‘He is permitted to pay the debt.’*
   *‘It is possible that he will pay the debt.’*

*bole*

*Bole* is used to express permission, as exemplified in the following examples.

(11) besoʔ *kau bole* ᵃŋantar motor=no
   tomorrow 2SG may ACT.deliver motorcycle=3
   ‘You may deliver the motorcycle tomorrow.’

*harus* and *məsti*

Both *harus* and *məsti* are used to convey obligation.

(12) amin *harus jual* tana=no dulu
   Amin must sell land=3 before
   ‘Amin must sell his land first.’

(13) edi *məsti* jəmput anaʔ=no
   Edi must pick.up child=3
   ‘Edi must pick his son up.’

Similarly to aspectual auxiliaries, when they appear with a verb, modal auxiliaries must appear to the left of the verb. Sentences are judged ungrammatical when these auxiliaries appear in immediate post-verbal position, as in (14)a, (14)c, and (14)d, or in sentence-final position, as in (14)b.

(14) a. *dioʔ bayar* təlap utaŋ-*tu*
   3 pay can debt-DEM.DIST
   ‘He is able to pay the debt.’
b. *besoʔ kau ŋantar motor=ŋo bole2 tomorrow 2SG ACT.deliver motorcycle=3 may ‘Tomorrow you may deliver the motorcycle.’

c. *orɔŋ-tu baŋun biso goreja=ŋo lagi person-DEM.DIST build can church=3 again ‘They can build their church again.’

d. *amin jual harus tana=ŋo dulu Amin sell must land=3 first ‘Amin must sell his land first.’

3.3. Multiple Auxiliaries

More than one auxiliary may occur in a clause. When two auxiliaries co-occur, the combination can be between two aspectual auxiliaries, between two modal auxiliaries, or between an aspectual auxiliary and a modal auxiliary.

The following combinations of aspectual auxiliaries are among those attested in JM: masi bəlum, la pərna, bəlum pərna, bəlum naʔ, as exemplified in the following sentences.

(15) a. jalan=ŋo masi bəlum di-baeʔ-i street=3 still not.yet PASS-good-APPL ‘The street is still not fixed yet.’

b. budaʔ-tu la pərna kə səŋti kid-DEM.DIST PFCT ever to Sengeti ‘They have been to Sengeti.’

c. kami bəlum pərna kərjo di kota 1 not.yet ever work LOC city ‘We have never worked in a city.’

d. dioʔ bəlum naʔ ŋəŋkat anaʔ 3 not.yet FUT ACT.lift child ‘She does not yet want to adopt a child.’

Attested combinations of modal auxiliaries include məsti təlap, harus biso, and biso harus, as illustrated in the following examples.

(16) a. kito məsti təlap kərjo sampe malam 1PL must can work until night ‘We need to be able to work until night.’

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2 This string is felicitous in Jambi Malay only with special intonation, i.e. there is a significant pause before bole and in a context like that shown below:

(i) A: bole aku ŋantar motor=ŋo besoʔ? may 1SG ACT.deliver motorcycle=3 tomorrow ‘May I deliver the motorcycle tomorrow?’

B: besoʔ kau ŋantar motor=ŋoʔ bole tomorrow 2SG ACT.deliver motorcycle=3 may ‘Are you delivering the motorcycle tomorrow? Okay, you may.’

As shown above, bole forms a separate sentence.
b. abatŋ aku harus biso bayar sewo-tu
   older.brother 1SG must can pay rent-DEM.DIST
   ‘My older brother needs to be able to pay the rent.’

c. abatŋ aku biso harus bayar sewo-tu
   older.brother 1SG can must pay rent-DEM.DIST
   ‘It is possible that my older brother must pay the rent.’

Note that sentence (16)b and sentence (16)c are only different with respect to the order of the modal auxiliaries. However, the meanings of the two sentences are different. I shall return to this issue later, in section 4.

When an aspectual auxiliary and a modal auxiliary co-occur, the aspectual marker generally precedes the modal auxiliary, as shown below.

(17) a. dioʔ la təlap bayar utaŋ-tu
   3 PFCT can pay debt-DEM.DIST
   ‘He has been able to pay the debt.’

b. budaʔ-tu bɔltum biso baco
   kid-DEM.DIST not.yet can read
   ‘They haven’t been able to read.’
   ‘They haven’t been allowed to read.’

c. adeʔ aku la holo bawaʔ motor=ɲo deweʔ
   younger.sibling 1SG PFCT may ride motorcycle=3 alone
   ‘My younger brother has been allowed to ride his own motorcycle.’

d. abatŋ aku lagi biso baleʔ bulan dəpan
   older.brother 1SG PROG can return month front
   ‘My older brother is able to return next month.’

e. kantor-tu masi harus ɲasi te.ha.er
   office-DEM.DIST still must ACT.give holiday.bonus
   ‘That office still has to give holiday bonus.’

Although an aspectual auxiliary generally appears before a modal auxiliary, the modal auxiliary biso needs to precede the aspectual marker if it is used to express possibility, as shown in (18) below. In section 4, I shall use this fact as a piece of evidence to support the claim that biso is generated in two different syntactic positions.

(18) a. budi biso la jual motor=ɲo
   Budi can PFCT sell motorcycle=3
   ‘Budi has probably sold his motorcycle.’

b. *budi la biso jual motor=ɲo
   ‘Budi has probably sold his motorcycle.’

More than two auxiliaries can also be present together, as exemplified below.

(19) a. oratŋ tu bɔltum pərna harus ɲaeʔ ojek
   person-DEM.DIST not.yet ever must go.up motor.taxi
   ‘They have never needed to take a motor taxi.’
b. \textit{anaʔ aku masi bolum biso yomon}
\textit{child 1SG still not.yet can ACT.speak}
‘My child still cannot talk.’

### 3.4. Auxiliaries vs. Main Verbs

In Indonesian, aspectual and modal auxiliaries appear between the surface subject and the main verb (see among others: Sneddon 1996, Musgrave 2013, Arka 2013, Grangé, 2013). In previous sections, I have shown that JM also demonstrates similar pattern. The question one may raise is whether or not auxiliaries are different from main verbs in JM.

In this section, I shall show that auxiliaries do pattern differently from main verbs with respect to fronting facts, word order facts, and verbal morphology.

The first argument for claiming that auxiliaries and main verbs are different in JM is based on fronting facts. Notice that aspectual markers and modal auxiliaries can be fronted to form a yes-no question (see examples (20)a and (20)b) or for emphatic reasons (see example (20)c).

\begin{enumerate}
\item (20) a. \textit{lagi i kau ti pake pena-tu?}
\textit{PROG 2SG use pen-DEM.DIST}
‘Are you using the pen?’
\item b. \textit{bole i dio? ti datay kage??}
\textit{may 3 come later}
‘May he come later?’
\item c. \textit{la i aku ti cuc i baju-tu}
\textit{PFCT 1SG wash garment-DEM.DIST}
‘I have washed the clothes.’
\end{enumerate}

Unlike auxiliaries, main verbs cannot be fronted, as demonstrated by the ungrammaticality of the following sentences.

\begin{enumerate}
\item (21) a. \textit{*pake i kau lagi ti pena-tu?}
\textit{use 2SG PROG pen-DEM.DIST}
‘Are you using the pen?’
\item b. \textit{*datay i dio? bole ti kage??}
\textit{come 3 may later}
‘May he come later?’
\item c. \textit{*cuci i aku la ti baju-tu}
\textit{wash 1SG PFCT garment-DEM.DIST}
I have washed the clothes.’
\end{enumerate}

The second argument to support the claim that auxiliaries and main verbs are distinguished in JM is based on the word order facts.\footnote{Thanks to Timothy McKinnon for raising this point.} As previously shown, the main

\begin{enumerate}
\item Note that when the auxiliary is fronted for emphatic reason, the speaker tries to emphasize on the fact expressed in the auxiliary. Sentence (20)c, for example, can be used to emphasize on the fact that the subject has done the action of washing.
\item This sentence is grammatical if it means ‘are you using the pen again?’ Note that \textit{lagi} for this translation means ‘again’.
\end{enumerate}
verb can occur following the auxiliary, but the auxiliary cannot occur following the main verb. In addition to many other examples in this paper, sentences in (22) below show that the main verb follows the auxiliary.

(22) a. \( \text{kami} \ \text{la} \ \text{ŋirim} \ \text{paket-tu} \ \text{kə} \ \text{ani} \)
    \( \begin{array}{c}
    \text{1} \\
    \text{PFCT} \\
    \text{ACT.send} \\
    \text{package-DEM.DIST} \\
    \text{to} \\
    \text{Ani} \\
    \end{array} \)
    ‘We have sent the package to Ani.’

    b. \( \text{pasəɾt}=\text{no} \ \text{bole} \ \text{bayar} \ \text{ŋkos}=\text{no} \ \text{beso}? \)
    \( \begin{array}{c}
    \text{participant}=\text{3} \\
    \text{pay} \\
    \text{may} \\
    \text{fee}=\text{3} \\
    \text{tomorrow} \\
    \end{array} \)
    ‘The participants may pay the fee tomorrow.’

In contrast, the following examples show that the main verb cannot precede the auxiliary (also see examples (5) and (14)).

(23) a. \*\( \text{kami} \ \text{ŋirim} \ \text{la} \ \text{paket-tu} \ \text{kə} \ \text{ani} \)
    \( \begin{array}{c}
    \text{1} \\
    \text{ACT.send} \\
    \text{PFCT} \\
    \text{package-DEM.DIST} \\
    \text{to} \\
    \text{Ani} \\
    \end{array} \)
    ‘We have sent the package to Ani.’

    b. \*\( \text{pasəɾt}=\text{no} \ \text{bole} \ \text{bayar} \ \text{ŋkos}=\text{no} \ \text{beso}? \)
    \( \begin{array}{c}
    \text{participant}=\text{3} \\
    \text{pay} \\
    \text{may} \\
    \text{fee}=\text{3} \\
    \text{tomorrow} \\
    \end{array} \)
    ‘The participants may pay the fee tomorrow.’

The third argument showing that auxiliaries and main verbs are different is based on verbal morphology. Jambi Malay exhibits a variety of verbal affixes, such as the nasal prefix \( \text{ŋ}- \) for active voice, the passive \( \text{di-} \) for passive voice, and the applicative suffix \( \text{–i} \) (see Cole, Herman and Yanti, 2008; Yanti, 2010). Main verbs in Jambi Malay can take these affixes while aspects and modals lack of these affixes. In active voice, most verbs, such as \( \text{cuci} \ ‘wash’ \) and \( \text{taŋkap} \ ‘catch’ \) can take the nasal prefix \( \text{ŋ}- \) (see (24)), while aspectual auxiliaries and modal auxiliaries such as \( \text{la} \ ‘PFCT’ \) and \( \text{harus} \ ‘must’ \) cannot take the nasal prefix \( \text{ŋ}- \), as in (25).\(^6\)

(24) a. \( \text{ma?} \ \text{nuc} \ \text{baju-tu} \)
    \( \text{mother} \ \text{ACT.wash} \ \text{garment-DEM.DIST} \)
    ‘Mother washes the clothes.’

\[^6\] Note that some verbs in the City dialect of JM, such as \( \text{tidu?} \ ‘sleep’, \text{jalan} \ ‘walk’, \text{lari} \ ‘run’ \) also do not take the nasal prefix, as exemplified below.

(i) a. \( \text{kami} \ \text{biaso} \ \text{tidu?}/\text{*nidu?} \ \text{malam} \)
    \( \begin{array}{c}
    \text{1} \\
    \text{usual} \\
    \text{sleep} \\
    \text{ACT.sleep} \\
    \text{night} \\
    \end{array} \)
    ‘I usually sleep late.’

    b. \( \text{kawan} \ \text{aku} \ \text{lari} \ /\text{ŋ}-\text{lari} \ \text{kəncəŋ} \ \text{nian} \)
    \( \begin{array}{c}
    \text{friend} \\
    \text{1SG} \\
    \text{run} \\
    \text{ACT.run} \\
    \text{quick} \\
    \text{very} \\
    \end{array} \)
    ‘My friend runs very quickly.’

However, these verbs can take the nasal prefix when the applicative suffix \( \text{–i} \) is present or take other prefixes.

(ii) a. \( \text{kami} \ \text{nidu?-i} \ \text{ana?} \ \text{kami} \ \text{jam} \ \text{lapan} \)
    \( \begin{array}{c}
    \text{1} \\
    \text{ACT.sleep-APPL} \\
    \text{child} \ \text{1} \\
    \text{hour} \\
    \text{eight} \\
    \end{array} \)
    ‘We put our child to sleep at eight.’

    b. \( \text{kawan} \ \text{aku} \ \text{bo-lari} \ \text{kəncəŋ} \ \text{nian} \)
    \( \begin{array}{c}
    \text{friend} \\
    \text{1SG} \\
    \text{INTR.run} \\
    \text{quick} \\
    \text{very} \\
    \end{array} \)
    ‘My friend runs very quickly.’
b. *plisi-tu ŋharus tajkap malij-tu
police-DEM.ACT must ACT catch thief-DEM.DIST
‘The police must catch the thief.’

It should be clarified that the ability to take verbal morphology like the nasal prefix is merely a way of differentiating the behavior of auxiliaries from content words (including nouns), and not from verbs in particular.

In addition, when the nasal prefix co-occurs with the auxiliaries, it only attaches to the verb, and not to the aspectual or modal auxiliary:

(26) a. ma? harus η-la cuci baju-tu
mother must ACT-PFCT wash garment-DEM.DIST
‘Mother must wash the clothes.’

(27) a. plisi-tu łą tajkap malij-tu
police-DEM.ACT PFCT ACT catch thief-DEM.DIST
‘The police have caught the thief.’

Much like the active voice prefix η-, whereas main verbs in the language can take the passive di- prefix, neither the aspectual auxiliary nor the modal auxiliary can take this prefix. Examples follow.

(28) a. baju-tu łą di-cuci ma?
garment-DEM.ACT PFCT PASS wash mother
‘The clothes have been washed by mother.’

(29) a. *baju-tu łą di-la cuci ma?
garment-DEM.ACT PFCT PASS wash mother
‘The clothes have been washed by mother.’

In summary, auxiliaries in JM are different syntactically from main verbs.
4. An Analysis of Biso

Before turning to an analysis of *biso*, it is necessary to discuss the possible position of auxiliaries in JM. I have shown that when auxiliaries co-occur with a main verb, they need to appear to the left of the main verb. In addition, I have demonstrated that auxiliaries show behavior different from that of main verbs, and are thus a distinct category of lexemes. Based on these facts, the possible structure for (4)a, repeated in (30) below, can roughly be represented as in (31).

(30) *dioʔ lagi baco buku=ɲo di kamar*
    3  PROG read book=3  LOC room
    ‘He is reading his book in the bedroom.’

(31)

As shown in the structure above, the auxiliary is in a position different from that of the main verb. The position of the auxiliary shown in (31), however, can be analyzed in two different ways. The first analysis treats the auxiliary as the head of an intermediate projection; whereas a second analysis treats the auxiliary as an adverbial modifier that adjoins to VP. I shall next argue that the first analysis which treats the auxiliary as the head of an intermediate projection is superior.

Section 3.3 shows that multiple auxiliaries are possible in JM. When an aspectual auxiliary and a modal auxiliary co-occur, for example, the aspectual auxiliary generally precedes the modal auxiliary (see examples in (17)). Example (17)c is repeated below.

(32) *adeʔ aku la bole bawaʔ motor deweʔ*
    younger.sibling 1SG PFCT may ride motorcycle alone
    ‘My younger brother has been allowed to ride his own motorcycle.’
Sentence (32) is ungrammatical if the modal auxiliary precedes the aspectual marker, as shown below.

(33) *adeʔ aku bole la bawaʔ motor deweʔ
   younger.sibling 1SG may PFCT ride motorcycle alone
   ‘My younger brother has been allowed to ride his own motorcycle.’

If auxiliaries are in fact adverbs, it is expected that sentence (33) would be grammatical. Such a restriction can be explained if auxiliaries are in head positions. So, I claim that auxiliaries are heads in JM.

Now, let us turn our discussion to bisa. In section 3.2, I showed that bisa is ambiguous in its interpretation because it can be used to express ability, permission, and possibility, as illustrated in examples (7) to (9), repeated below as (34) to (36).

(34) maria bisa korjo sampe malam
    Maria can work until night
    a. ‘Maria is able to work until night.’
    b. ‘Maria is permitted to work until night.’
    c. It is possible that Maria will work until night.’

(35) oraʔ-tu bisa baŋun gareja=no lagi
    person-DEM.DIST can build church=3 again
    a. ‘They are able to build their church again.’
    b. ‘They are permitted to build their church again.’
    c. ‘It is possible that they will build their church again.’

(36) ida bisa datay kageʔ malam
    Ida can come later night
    a. ‘Ida is able to come tonight.’
    b. ‘Ida is permitted to come tonight.’
    c. ‘It is possible that Ida will come tonight.’

Given the ambiguous interpretations in (34) through (36), it could be claimed that the modal auxiliary bisa is ambiguous and that its interpretation is determined by some pragmatic means or by the context in which the sentence is used. However, I shall argue that the ambiguity of bisa follows from the fact that JM distinguishes between root (abilitative and permissive) bisa and epistemic bisa. The claim that epistemic modals and root modals have two distinct syntactic positions can also been found in other studies of the world’s languages. Picallo (1990), for example, claims that modal verbs in Catalan have two base positions: a higher position which corresponds to epistemic interpretations and a lower position which corresponds to root interpretations. Likewise, Cinque (1999:56) also locates epistemic modals in a higher position than root modals, as shown in the following hierarchy.

(37) Moodspeech_act >Moodevaluative > Moodevidential > Modepistemic >T(Past) > T(Future)
    >Mood(ir)realis > Modroot / Aspecthabitual /T(Anterior) > Aspectperfect > Aspectprogressive /
    Aspectcompletive / Voice > V

In section 4.1, I propose two syntactic positions where the modal auxiliary bisa can be generated. In section 4.2 through 4.4, I present various types of evidence in support of the proposed structure. Specifically, I provide evidence having to do with aspectual auxiliaries, fronting, and adjacent modals. In section 4.5, I provide more data to show that the proposed structure can account for more facts.
4.1. The Base-generated Structure of Biso

In this section, I shall present the structure of clauses that contain *biso*. Let us first consider a sentence that contains *biso* and which is ambiguous, such as in (7)/(35), repeated below.

(38) *oran-tu biso baŋun gareja=ŋo lagi*

    person-DEM.DIST can build church=3 again

    a. ‘They are able to build their church again.’
    b. ‘They are permitted to build their church again.’
    c. ‘It is possible that they will build their church again.’

At the beginning of section 4, I claim that auxiliaries are heads. I shall now claim that the ambiguity of (7)/(35)/(38) follows from the fact that, in a sentence with this word order, *biso* can be generated in two different syntactic positions. The modal auxiliary *biso* that receives the root (abilitative or permissive) interpretation is base-generated as the head of an intermediate projection between TP and VP, a position which I will now refer to as ‘VPₐ’. This structure is illustrated below.⁷

(39)

```
(39) CP
    |     C’
    |      C
    |       TP
    |        NP
    |          T’
    |            T
    |              MODAL
    |                *biso* (root)
    |                  VP
    |                    V’
    |                      V
    |                        NP
```

In contrast, the modal auxiliary *biso* that receives an epistemic interpretation is base-generated as the head of TP; thus, the clause structure can be as shown below:

---
⁷ Cole, Hara and Yap. (2008) propose a similar position for Type I Auxiliary in Peranakan Javanese.
In what follows, I shall present various pieces of evidence in support of the proposed structures represented in (39) and (40).

4.2. Evidence from Aspectual Auxiliaries

As I described in section 3.3, an aspectual auxiliary such as lagi ‘PROG’, la ‘PFCT’, or masi ‘still’, can co-occur with a modal auxiliary, like biso ‘can’. I also mentioned that, despite the fact that aspectual auxiliaries typically precede the modal auxiliaries, when biso co-occurs with an aspectual auxiliary, the aspectual auxiliary can either precede or follow biso. Interestingly, as I have mentioned, the interpretation of biso depends on the position of the aspectual auxiliary. If biso follows the aspectual auxiliary, biso can only have the root (abilitative or permissive) interpretation, as shown in (41). However, if biso precedes the aspectual marker, the abilitative and permissive interpretations are suppressed and only the epistemic interpretation is possible, as shown in (42).

(41) a. maria la biso ʔambeʔ barany=ŋo
   Maria PFCT can ACT.take thing=3
   ‘Maria has been able to take her stuff.’
   ‘Maria has been permitted to take her stuff.’
   ‘It is possible that Maria has taken her stuff.’

b. oray-tu lagi biso datay
   person-DIM.DIST PROG can come
   They currently are able to come.’
   ‘They are being permitted to come.’
   ‘It is possible that they are coming.’

   c. ali masi biso nanam maŋgo di kɔbon-tu
      Ali still can ACT.plant mango LOC garden-DIM.DIST
      ‘Ali is still able to plant mangoes in that garden.’
      ‘Ali is still permitted to plant mangoes in that garden.’
      ‘It is possible that Ali are still planting mangoes in that garden.’

(42) a. maria biso la ʔambeʔ barany=ŋo
   Maria can PFCT ACT.take thing=3
   ‘It is possible that Maria has taken her stuff.’
   ‘Maria has been able to take her stuff.’
   ‘Maria has been permitted to take her stuff.’
b. \( \text{oraj-tu biso lagi datay} \)
   \( \text{person-DEM.DIST can PROG come} \)
   ‘It is possible that they are coming.’
   *‘They currently are able to come.’
   *‘They are being permitted to come.’

c. \( \text{ali biso masi nanam mango} \)
   Ali can still \( \text{ACT.plant mango} \)
   ‘It is possible that Ali are still planting mangoes in that garden.’
   *‘Ali is still able to plant mangoes in that garden.’
   *‘Ali is still permitted to plant mangoes in that garden.’

The aspectual auxiliary \( \text{la} \) in (41)a, \( \text{lagi} \) in (41)b, and \( \text{masi} \) in (41)c, precede \( \text{biso} \). Although they are grammatical, these sentences are not ambiguous in their interpretation. They can receive a root (abilitative and permissive) interpretation, but not an epistemic interpretation. In contrast, when the aspectual auxiliary follows \( \text{biso} \), as shown in the sentences in (42), the only available interpretation is that of possibility. The abilitative and permissive interpretations are not possible in this construction.

Now let us consider how the proposed structures would handle these facts. Assuming that the aspectual auxiliary is generated in AspP, between TP and VP\(_a\), it would follow that when \( \text{biso} \) appears after the aspectual auxiliary, it only receives the root reading; whereas, when \( \text{biso} \) precedes the aspectual auxiliary, it only receives the epistemic reading.

Example (43) roughly illustrates the structure of (41)a in which \( \text{biso} \) follows the aspectual marker \( \text{la ‘PFCT’} \).

Example (44) roughly illustrates the structure of (42)a in which \( \text{biso} \) precedes the aspectual marker \( \text{la ‘PFCT’} \).
As shown in (44), the epistemic *biso* is generated in T, above the aspectual marker. Therefore, *biso* can only receive the epistemic interpretation.

In contrast, the hypothesis that *biso* is ambiguous and that its interpretation is determined by some kind of pragmatic means cannot account for the fact that different word orders trigger different interpretations. If the ambiguity of the sentences containing *biso* occurs because *biso* is ambiguous, then the word order should play no role in the interpretation of *biso*. The data in this section have clearly shown that different word orders do trigger different interpretations of *biso*.

### 4.3. Evidence from Fronting

Further evidence in favor of this analysis comes from fronting constructions. JM allows the fronting of *biso* to the position preceding the subject of the clause, as shown in (45) below. However, when *biso* is fronted, it no longer is ambiguous. The fronted *biso* can only be interpreted epistemically.

(45) a. *biso* *ida* *la* *ambeʔ* *panci-tu*
    
    can *Ida* PFCT take *pot*-DEM.DIST
    ‘It is possible that Ida has taken the pot.’
    
    *‘It is the case that Ida has been able to take the pot.’*

b. *biso* *budi* *la* *bukiʔ* *pintu-tu*
    
    can *Budi* PFCT open *door*-DEM.DIST
    ‘It is possible that Budi has opened that door.’
    
    *‘It is the case that Budi has been able to open that door.’*

Let us now examine how the interpretation of (45) can be explained based on the proposed syntactic structure. If the fronted *biso* is base-generated in the epistemic modal position, i.e. in T, as shown by the structure in (40)/(44), then *biso* undergoes head-movement to C in order to get the word order in (45). This is illustrated below (I only show the structure for (45)b).
As illustrated in (46), epistemic *biso* has moved from T to C, and thus fronted *biso* in (45) is interpreted epistemically.

Let us now examine whether or not the fact that the fronted *biso* cannot receive the root interpretation can be predicted. If fronted *biso* is base-generated as the head of VP, as shown by the structure in (39)/(43), it must undergo cyclic head movement, first to T and then to C, as illustrated in (47) below. However, this movement is ruled out because the movement of *biso* to T is blocked by *la* (which is generated in the head of the AspP) due to the Head Movement Constraints (Travis, 1984) which states that an X⁰ category can only move to a position that governs its maximal projection.
In short, the fact that _biso_ in (45) only receives an epistemic interpretation indicates that the fronted _biso_ is the epistemic _biso_, which is base-generated in T, and not the root _biso_, which is a head in VP_a.

4.4. Evidence from Adjacent Modals

JM also allows the modal auxiliary _biso_ to co-occur with another modal (see section 3.3). As with aspectual auxiliaries, the modal that co-occurs with _biso_ can either precede or follow _biso_. This is illustrated by the examples in (48) below.

\[(48) \text{a. } kau \text{ harus } biso \text{ ŋaŋkat meja=ɲo} \\
2SG must can ACT.lift table=3 \\
‘You must be able to lift the table.’ \\
*‘It is possible that you must lift the table.’}

\[(48) \text{b. } kau \text{ biso harus } ŋaŋkat meja=ɲo \\
2SG can must ACT.lift table=3 \\
‘It is possible that you must lift the table.’ \\
*‘You must be able to lift the table.’}

(48)a, in which _biso_ follows _harus_ ‘must’, only gets the root interpretation. In contrast, when _biso_ precedes _harus_, as in (48)b, the sentence only exhibits the epistemic interpretation. The fact that _biso_ only receives one interpretation with one word order and another interpretation with another word order further supports the claim that _biso_ is projected in two different syntactic positions.

4.5. More data

If the analysis that the epistemic _biso_ and root _biso_ are generated in different syntactic positions, it would be expected that these two types of _biso_ can co-occur in the same clause.\[^8\]

Sentence (49) below contains two instances of _biso_.

\[(49) \text{Ali biso biso beli motor-tu} \\
Ali can can buy motor-DEM.DIST \\
Surprisingly, sentence (49) is grammatical only with an epistemic reading and thus must be translated as ‘Ali might buy the motorcycle’. In fact, _biso biso_ is interpreted as containing a distinct reduplicated form of _biso_, which happens to mean ‘perhaps’. This fact appears problematic for the current analysis.

Despite the fact that (49) appears to provide a counter argument to the proposed analysis, the following sentences are grammatical.

\[(50) \text{a. } robi biso harus biso ʰrəŋkat beso?} \\
Robi can must can leave tomorrow \\
‘Robi probably has to to be able to leave tomorrow.’

\[(50) \text{b. } susi biso daʔ biso dataŋ kageʔ malam.} \\
Susi can NEG can come later night \\
‘Susi may not be able to come tonight.’

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\[^8\] Thank you to the presenters and audience at the International Workshop on TAM and Evidentiality in Indonesian Languages for their constructive comments and questions, especially to Simon Musgrave, Daniel Kaufman, and David Gil.
The sentences in (50) also contain two biso’s; however, unlike sentence (49), in these sentences, the two biso’s are not adjacent. The aspectual auxiliary harus ‘must’ in (50)a and the negative marker daʔ in (50)b intervene between two biso’s and the sentences are judged grammatical. More importantly, both epistemic and root interpretations are present.

In addition, there are also two biso’s in the sentences in (51) below. In these sentences, one biso is higher than the surface subject and the other biso appears immediately before the main verb. Much like the sentences in (50), the sentences in (51) are also judged grammatical.

(51) a. biso ali la biso beli motor-tu
   can Ali PFCT can buy motorcycle-DEM.DIST
   ‘Ali has probably been able to buy that motorcycle.’

   b. biso robi harus biso bəraŋkat besoʔ
can Robi must can leave tomorrow
   ‘Robi probably has to be able to leave tomorrow.’

The fact that sentences in (50) and (51) are grammatical and contain both epistemic and ablittative interpretations supports the claim that biso can occupy two syntactic positions because biso simultaneously occurs in both syntactic positions in these sentences. Reasons for the ungrammaticality of (49) are unknown.

5. Conclusion

This paper has presented a description of tense, aspectual, and modal auxiliaries in Jambi Malay. Aspectual auxiliaries and modal auxiliaries in JM pattern like the auxiliaries in European SVO languages in that they must appear to the left of the main verb. It has been shown that these auxiliaries are better treated as heads. In addition, this paper has provided an analysis of biso ‘can’. The fact that the modal auxiliary biso can have either a root (ablittative or permissive) interpretation or an epistemic (possibility) interpretation can be accounted for by proposing two distinct syntactic positions for biso. This claim is supported by the relationship between the word order and interpretation of sentences that contain aspectual markers and biso, sentences that involve fronting, sentences in which biso co-occurs with another modal, and sentences in which biso occurs twice.

Abbreviations

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References


