"Tense" marking on Malagasy obliques and the syntax of telic events

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In Malagasy, PPs and other obliques may be prefixed with the morpheme t-. When the oblique denotes a location, instrument, etc., t- marks past tense, but when it denotes a goal, t- marks completion of the event. In this paper, I present a syntactic account of this apparently dual function in terms of scope: Goal PPs are VP-internal complements, and are thus in the scope of Aspect, which selects VP, whereas locative and instrumental PPs are external to VP, outside the scope of Aspect but within the scope of Tense.

In this paper, I discuss the distribution and function of the prefix t- in Malagasy, and show how a proper account of this morpheme can shed light both on the mapping between event semantics and syntax, and on the structure of the (extended) VP, with particular reference to the position of PPs and other oblique elements.

The distribution of the t- prefix provides interesting support for the traditional syntactic split between 'argument' and 'adjunct' PPs. Specifically, it suggests that certain kinds of PPs are generated within VP as complements of the verb, while other kinds of PPs are generated outside VP, as modifiers or higher predicates. Based on the semantics of the t- prefix, I will argue for a particular approach to complement PPs which treats them as resultative predicates, selected by the verb and associated with the endpoint of the event (cf. Hoekstra 1988). According to this approach, the predicate in (1b) below, where the verb send selects a goal PP to Daniel, will have the same basic structure as the predicate in (1a), differing from it only in the lexical category of the small clause. This is shown in (2). In both (2a) and (2b), the small clause denotes the "terminal state" of the event denoted by the verb. In (2a), the metal becomes flat as a result of pounding, while in (2b), the parcel becomes "to Daniel" (i.e., comes into Daniel's possession) as a result of sending:

1. a. Eric pounded the metal flat
   b. Eric sent the parcel to Daniel

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1 Thanks to Tim Stowell and Ed Keenan for discussing this material with me, and to the audience at the 1998 UCLA Conference on Tense and Aspect, where this material was first presented. Special thanks to Noro Ramahatadjy, for providing the data for this paper. Mirotra bitaha!
2 In (2a-b), e stands for an empty category which forms a chain with the direct object of the verb in SpecVP. I remain agnostic on the question of whether e is a trace (i.e., the tail of a movement chain) or a PRO-like category (the tail of a control chain).
2. a. [VP, the metal, [V, pound [SC, e1, [VP, flat ]]]]
b. [VP, the parcel, [V, send [SC, e1, [IP, to Daniel ]]]]

The prefix *t-* attaches to a closed class of elements which I will refer to as *obl quer* or *oblique phrases*. These elements include various kinds of locative, instrumental, and manner PPs, spatial deictics (words equivalent to 'here' and 'there'), and the operator 'where'. In descriptive grammars such as Rajemisa-Raolison (1971), the *t-* prefix is treated as a past tense morpheme, based on contrasts of the type found in (3), where the oblique phrase *ao anatiny ny ala* 'in the woods' is a matrix predicate:

In (3a), the oblique is unmarked and the sentence receives a present tense interpretation, while in (3b), the prefix *t-* (glossed for convenience as 'PST') appears on the oblique, and the sentence is interpreted as past tense.²

3. a. *Ao anatiny ny ala ny gidro*
   *there inside:of-DET woods DET lemur*
   ‘The lemur is in the woods’
b. *Tao anatiny ny ala ny gidro*
   *PST-there inside:of-DET woods DET lemur*
   ‘The lemur was in the woods’

The *t-* prefix occurs not only on oblique predicates, but also on oblique dependents within the extended projection of the verb. Here, the distribution and interpretation of the prefix depends on what sort of relation the oblique denotes. When the oblique denotes a location, instrument, or manner, the distribution of *t-* is determined by the tense of the verb. Consider (4), where the oblique denotes a location: In (4a), with the verb in the unmarked non-past tense form, the unprefixe form of the oblique is used; while in (4b), with the verb in the past tense (marked by the prefix *n*), the oblique must carry the *t-* prefix. Use of the unprefixe form with a past tense verb (4c), or the *t*-marked form with a non-past verb (4d), is ungrammatical:

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² Malagasy is a verb-initial language with relatively fixed word order (traditionally characterised as VOS). Clauses generally consist of a *predicate phrase* followed by a clause-final *topic*, where the grammatical function of the topic is indicated by the *voice* form of the verb, as in the Philippine languages. In addition to voice, verbs are also marked for tense. Three forms are distinguished: the *non-past*, which is unmarked, the *past*, marked with the prefix *n(o)*, and the *irrealis or future*, marked with *h(o)*. (For more information about the Malagasy voicing system, as well as general information on the morphosyntax and word order of the language, see Keenan 1976, Guilfoyle et al. 1992, Pearson & Paul 1996, Paul 1998, and references cited therein.)

The following abbreviations are used in the examples: 1s = 1st singular, 1ex = 1st plural exclusive, 1in = 1st plural inclusive, 2s = 2nd singular, 3 = 3rd (singular or plural), cl = clitic particle, det = determiner, irr = irreals, vi = nominative-topic, ovi = oblique prefix, vi = past, vi = translative-topic. (Note that the vt voice form is traditionally referred to as the *active*, while the tt is referred to as the *a-passive*. My reasons for rejecting this terminology are discussed in Pearson (forthcoming).)
4. a. Matory ao anatin’ny ala ny gidro  
   NT:sleep there inside:of DET woods DET lemur  
   ‘The lemur is sleeping in the woods’

b. Natory tao anatin’ny ala ny gidro  
   PST-NT:sleep PST-there inside:of DET woods DET lemur  
   ‘The lemur was sleeping in the woods’

c. * Natory ao anatin’ny ala ny gidro  

d. * Matory tao anatin’ny ala ny gidro

When the oblique denotes a goal, however, a different pattern obtains. Consider the sentences in (5) below, where the oblique represents the endpoint of a motion event. When the verb is in the non-past tense, the unprefixe ned form of the oblique is required (5a), as one might expect on the basis of the pattern in (4). However, when the verb is in the past tense (5b-c), either the prefixed or the unprefixe ned form may be used, where the choice correlates with an aspectual contrast. When t- is present, the sentence denotes a successfully completed event, and when t- is absent, the sentence denotes an uncompleted or ongoing event: Thus, (5b) is construed such that the lemur made it into the woods, while (5c) is construed such that the lemur was on its way into the woods, and may or may not have actually reached them. This difference is reflected in the choice of translation for nandeha (past ‘went’ versus past progressive ‘was going’):

5. a. Mandeha ao anatin’ny ala ny gidro  
   NT:go there inside:of DET woods DET lemur  
   ‘The lemur is going into the woods’

b. Mandeha tao anatin’ny ala ny gidro  
   PST-NT:go PST-there inside:of DET woods DET lemur  
   ‘The lemur went into the woods’

c. Mandeha ao anatin’ny ala ny gidro  
   PST-NT:go there inside:of DET woods DET lemur  
   ‘The lemur was going into the woods ...’

The t- prefix thus appears to mark tense when attached to an oblique predicate (3), tense “agreement” when attached to a locative/instrumental modifier (4), and aspect (roughly, completiveness) when attached to a goal-denoting oblique (5). In this paper, I argue that the apparently multifunctional nature of the t- morpheme is an artifact of where the oblique to which it attaches merges in the derivation: Goal obliques are merged ‘low’ (within VP), while other obliques are merged ‘high’ (outside of VP but within TP). My analysis is summarised in (i)-(iv):

i. The t- prefix has the status of a polarity item, viz., an element which agrees in features with some other element whose scopal domain it occupies. Specifically, t- spells out a [+Pst] feature of an ordering predicate (either Tense or Aspect).
ii. Simple transitive clauses have the basic structure in (6), where the lexical verb projection VP and the ‘light verb’ projection vP are separated by an “inner aspect” phrase AspP (Travis 1991). The featural specifications of Asp\(^0\) determine the completiveness of the event—that is, whether the endpoint (or “terminal change of state”) of the event has been realised or not. vP is in turn c-commanded by T\(^0\), whose features determine the tense of the clause.

6. \([\text{TP} T^0 \left[ l_P v^0 \left[ \text{Asp}^0 \left[ \text{VP} V \ldots \right] \right] \right] \]

iii. Goal obliques are VP-internal. Specifically, they occur as small clause predicates within the resultative complement of the verb, as in (7). Being VP-internal, goal obliques are within the scopal domain of Aspect, and their morphological form is thus determined by the featural specifications of Asp\(^0\). This is why t- appears to function as an aspectual marker when attached to goal obliques.

7. \([\text{TP} \ldots \left[ \text{Asp}^0 \left[ \text{VP lemur} \left[ v \left[ s_C e_i \left[ pP \text{ in woods } \right] \right] \right] \right] \]

iv. Oblique predicates and non-goal-denoting modifiers are also treated as small clause predicates. However, they merge outside the domain of Aspect and within the domain of Tense (8).\(^3\) Their morphological form is thus determined by the tense of the clause, hence the impression that t- is acting as a tense marker in such cases.

8. a. \([\text{TP} T^0 \left[ \text{VP lemur} \right] \left[ pP \text{ in woods } \right] \]

b. \([\text{TP} T^0 \left[ \text{SC lemur sleeps} \left[ pP \text{ in woods } \right] \right] \]

This paper is organised as follows: In section 1 I discuss the subtypes and internal syntax of oblique phrases. In section 2 I review the argument/non-argument asymmetry discussed above in more detail. In section 3 I argue against one possible analysis for the phenomenon of t-marking, namely that t- is a genuine tense marker and obliques are really verbs. Finally, in section 4 I account for the distribution of t- in terms of event structure and the syntactic positions of argument and non-argument obliques with respect to TP and Asp\(^0\). Section 5 summarises the paper.

1. The syntax of obliques

Oblique phrases generally denote the location or orientation of an object, the spatial or temporal setting of an event, the instrument with which an action is performed, the manner in which an action is performed, or the goal/endpoint towards which the

\(^3\) Although nothing crucial hinges on this, I will assume here that locative/instrumental modifiers are not adjuncts (in the X-bar sense), but predicates which select an extended projection of the verb as their subject. Here I follow a proposal made by Sportiche (1994) (cf. Barbiers 1995 for a similar idea).
theme argument in an event of motion is directed. The major subclasses of elements which can head oblique phrases are listed in (9):

9. a. prepositions/adverbs  *aloha* ‘before’, *aoriana* ‘after’, *amin* ‘to/with/at’, etc.
   b. the locative operator *aiza* ‘where?’
   c. spatial deictics  *eo* ‘here’, *any* ‘there’, etc.

Malagasy has only a handful of ‘true’ prepositions. Of these, the most widespread is *amin*, which functions as a sort of all-purpose preposition. PPs formed with *amin* indicate a variety of semantic roles, including instrument, temporal location, goal, source, and manner. Some examples are given in (10):

10. a. *Mandidy mofo amin’ny antisy ny vahiahy*  *instrument*
   *NT:cut bread with-DET knife DET woman*  
   ‘The woman is cutting bread with a knife’
   b. *Mamelatra ny tsihy amin’ny gorodona i Ketaka*  *goal*
   *NT:spread DET mat on-DET floor DET Ketaka*  
   ‘Ketaka is spreading the mats on the floor’
   c. *Miteny anim-pantran-tena fonana izy*  *manner*
   *NT:speak with-modesty always 3*  
   ‘He always speaks modestly’

Note that *amin* is not generally used (by itself) to indicate spatial location. Instead, locative oblique phrases are formed using spatial deictics. There are fourteen such elements (glossed simply as ‘here’ or ‘there’ in the examples), of which the ten most common are given in (11):

11. visible  invisible
    *ety aty* ‘here’  *in contact with speaker*
    *eto ato*  \(\uparrow\)  *quite close to speaker*
    *eo ao*  \(\downarrow\)  *within ‘domain’ of speaker*
    *eny any*  \(\downarrow\)  *outside or away from ‘domain’ of speaker*
    *ery ary* ‘there’  *far away from speaker*

As this table shows, spatial deictics are differentiated along the dimensions of *visibility* and *proximity to speaker*. For example, ‘The book is here/there’ would be translated using *ety* if the book were in the speaker’s hand, *eto* if the book were on the table next to the speaker, and *any* if the book were far away (see Erwin 1993 for discussion of the semantics of spatial deixis in Malagasy). Spatial deictics may occur as oblique phrases by themselves, as in (12a), or they may select a complement
to form a complex phrase. Possible complements include PPs headed by *amin’* (12b), and bare nominals introduced by the oblique prefix *an-* (12c).

12. a. *Ety ny boky*
   `here DET book`
   `The book is here’

b. *Hihona any amin’ny tevezana isika*
   `IRR-NT:meet there at-DET bridge 1IN`
   `We will meet at the bridge’

c. *Hahafana ny reniny any am-pianarana ny ankify*
   `IRR-TT:send DET mother-3 there OBL-school DET children`
   `The children will be sent to school by their mother’

I will assume that spatial deictics head their own projection, *LocP* (locative phrase), and optionally select a PP headed by *an- or amin’. I will also assume (without argument) that *t-* is generated in the head of a functional projection *FP* which selects *LocP* as its complement: This is shown in (13):


2. The distribution of prefixed and unprefixed obliques

Having discussed the internal structure of obliques, I now discuss the distribution of the *t-* prefix in more detail. I begin by discussing locative predicates and VP modifiers in 2.1. Then in 2.2 I turn to goal-denoting obliques, which, I argue, have the syntactic status of resultative small clause complements.

2.1 Non-argument obliques

When the oblique phrase constitutes the matrix predicate of the clause, the choice between the prefixed and unprefixed form is determined by the tense of the clause (past versus non-past). This is illustrated in (14). (Note that there is no copular verb in Malagasy, except in existential constructions. Thus the presence of *t-* is the only indication of past tense in locative sentences like (14b).)

14. a. *Eo ambonin’ny latabatra ireo tavahangy*
   `here on:top-of-DET table those bottle`
   `The bottles are on the table’

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4 A number of expressions corresponding to prepositions in English are formed by prefixing *an-* to a bare noun stem denoting a body part or location, e.g., *ambony* ‘on, on top’ (*an- + vony* ‘top’) and *anaty* ‘inside’ (*an- + aty* ‘liver’). See (3) and (14) for examples.
b. *Teo ambonin’ny latabatra ireo taoahangy
   PST-where on-top:of DET table those bottle
   ‘The bottles were on the table’

When the oblique phrase acts as a modifier within the (extended) verb phrase, indicating a place, time, instrument, manner, etc., the choice of morphological form is dictated by the tense of the verb: The t- prefix appears on the oblique if and only if the verb is in the past tense. If the verb is in the non-past or irrealis, the unprefixed form is required. Examples of this “tense matching” pattern are given in (15)-(17). As I discussed in the introduction, any discrepancy between the tense of the verb and the required form of the oblique yields ungrammaticality. The sentences in (18), for example, are unacceptable:

15. a. [Manjatatra / Hanoratra ] ny taratsy amin’ny penina aho
   NT:write IRR-NT:write DET letter with DET pen 1S
   ‘I am writing / will write the letter with a pen’
   b. Nanoratra ny taratsy tamin’ny penina aho
   PST-NT:write DET letter PST-with DET pen 1S
   ‘I wrote the letter with a pen’

16. a. Ho tonga amin’ny zomà Rajaona
   IRR arrive on DET Friday Rajaona
   ‘Rajaona will arrive on Friday’
   b. Tonga tamin’ny zomà Rajaona
   PST-on DET Friday Rajaona
   ‘Rajaona arrived on Friday’

17. a. Aiza ny reninao no mipetra? where DET mother-2S CL NT:live
   ‘Where does your mother live?’
   b. Taiza ny reninao no mipetra?
   PST-where DET mother-2S CL PST-NT:live
   ‘Where did your mother live?’

18. a. *Mandidy ny hena tamin’ny antsy i Koto
   NT:cut DET meat PST-with DET knife DET Koto
   ‘Koto is cutting the meat with the knife’
   b. *Nandidy ny hena amin’ny antsy i Koto
   PST NT:cut DET meat with DET knife DET Koto
   ‘Koto cut the meat with the knife’

2.2 Argument obliques

When the oblique phrase denotes a goal or endpoint of motion, then a different distribution of t- obtains: Take the verb mandefa ‘send’, which selects both a direct ob-
ject and an oblique argument. When *mandefa* occurs in the non-past or irrealis, only the unprefixed form may be used, just as with non-argument oblique:

19. a. *Mandefa ny ankizy any am-pianarana abo*  
   *NT:send DET children there OBL-school IS*  
   ‘I am sending the children to school’

b. *Handefa ny ankizy any am-pianarana abo*  
   *IRR-NT:send DET children there OBL-school IS*  
   ‘I will send the children to school’

c. *Mandefa / Handefa ny ankizy tany am-pianarana abo*  
   ‘I { am sending / will send } the children to school’

However, when the verb is in the past tense, both the prefixed and the unprefixed form of the oblique are grammatical:

20. a. *Nandefa ny ankizy tany am-pianarana abo*  
   *PST-NT:send DET children PST-there OBL-school IS*  
   ‘I sent the children to school’

b. *Nandefa ny ankizy any am-pianarana abo*  
   *PST-NT:send DET children there OBL-school IS*  
   ‘I sent the children to school’

When the oblique is in the t-marked form (20a), it is understood that, as far as the speaker knows, the children had already reached the school by the time of speaking. (20b), on the other hand, is compatible with a situation where the children did not reach the school, or were still on their way there. In other words, (20a) denotes an event whose endpoint is (presumably) realised, while (20b) denotes an event whose endpoint is potentially unrealised. This contrast can be brought out by embedding these sentences in a context where it is explicitly denied that the event was successfully completed, as in (21): (21a) amounts to a contradiction, and is thus semantically ill-formed; (21b), on the other hand, denotes a possible state of affairs:

21. a. *Nandefa ny ankizy tany am-pianarana abo, fa tsy tonga izy*  
   ‘I sent the children to school, but they didn’t get there’

b. *Nandefa ny ankizy any am-pianarana abo, fa tsy tonga izy*  
   ‘I sent the children to school, but they didn’t get there’

Consider also the examples in (22) below, involving the verb *manetraka* ‘put’. In (22a), with the oblique in the t-marked form, the event is understood to have been completely carried out. In (22b), with the oblique in the unprefixed form, the event is understood to have been only partially carried out. The latter sentence may be interpreted in one of two ways: Either the event was interrupted or abandoned before it could be completely carried out (i.e., some but not all of the books
wound up on the table), or it was ongoing with respect to some other event (e.g., The child was putting the books on the table when I came into the room).

22. a. Naperan'ny zaza teo ambonin'ny latabatra ny boky
    PST-NT:put-DET child PST-here on;top-of-DETtable DET book
    'The child put the books on the table'

   b. Naperan'ny zaza eo ambonin'ny latabatra ny boky
    PST-NT:put-DET child here on;top-of-DETtable DET book
    'The child was putting the books on the table ...'

   The same pattern that we find with (di)transitive verbs like mandefa 'send' and mametraka 'put' is also found with intransitive motion verbs like mandeha 'go, walk'. Consider the sentences in (23): Here the predicate ‘go into the woods’ describes an activity which terminates in a change of state: The event begins with the lemur outside the woods, and ends once the lemur is inside the woods. T-marking on the oblique indicates that the change of state was achieved—i.e., the lemur wound up in the woods—while the absence of i-marking indicates that the change of state was not achieved—i.e., the lemur did not wind up in the woods (or at least had not yet reached the woods at some contextually-determined point in time):

23. a. Nandera tao anatin'ny ala ny gidro
    PST-NT:go PST-there inside:of-DET woods DET lemur
    'The lemur went into the woods'

   b. Nandera eo anatin'ny ala ny gidro
    PST-NT:go there inside:of-DET woods DET lemur
    'The lemur was going into the woods ...'

   Structurally, all of the verbs discussed here have something in common: Verbs such as mandefa 'send' and mametraka 'put', form ditransitive predicates which denote the transmission of an object to a particular location. Various authors, including Mulder (1990) and den Dikken (1995), have analysed such verbs as subcategorising for a PP small clause complement predicated of a 'theme' subject, as in (24). Here the verb ‘put’ denotes an event of directed motion initiated by the agent, while the small clause ‘the books on the table’ denotes a (change of) state resulting from that activity. Together they form a complex event known as an accomplishment (Vendler 1967), a non-punctual activity terminating in a change of state.

24. the child [vp put [sc the books [pp on the table ]]]

   Intransitive motion verbs such as ‘go’ are like ‘send’ and ‘put’ in that they select a PP small clause complement denoting a resulting (change of) state. The only difference between ‘go’ and ‘send’ is that ‘go’ is unaccusative: it lacks an external agent. In place of an agent, the theme argument raises to become the derived subject
of the clause, as in (25) (cf. Hoekstra & Mulder 1990). Given the structural similarity between the complements of verbs like ‘go’ and those of verbs like ‘send’ and ‘put’, it makes sense that we would find the same distribution of \( t \)- in both cases.

25. the lemur, \( \text{VP go [SC \ t \ [TP in the woods \ ]]} \)

With verbs of this type, the presence or absence of \( t \)- on the oblique indicates whether the terminal (change of) state denoted by the small clause, and hence the accomplishment as a whole, has been realised. That is, when a past tense verb takes a \( t \)-marked complement, the participant denoted by the small clause subject is understood to have reached the endpoint denoted by the oblique. When a past tense verb takes a non-\( t \)-marked complement, the small clause subject is understood not to have reached the endpoint (as of some contextually-determined point in time), and may never reach it. This is schematised in (26):

26. \( \text{[VP V [SC PP ]]} \)
   a. \( \text{PST t-} \rightarrow \text{result is realised} \)
   b. \( \text{PST 0-} \rightarrow \text{result is unrealised} \)

It follows from this that when a verb is in the non-past or irrealis, only the unprefixes form of the oblique should be allowed (as shown in (19)), since the endpoint of a non-past or irrealis event is necessarily unrealised: Irrealis morphology on the verb marks the predicate as denoting a future or counterfactual event. Clearly the endpoint of such an event cannot have been reached at the moment when the sentence is uttered. Similarly with non-past verbs: As in many languages, non-past eventive predicates in Malagasy may be construed as referring either to a particular event concurrent with the utterance time (‘The lemur is eating the fruit’) or to a habitual or generic event (‘Lemurs eat fruit’). In the case of the progressive reading, the endpoint of the event has not yet been reached at the moment of speaking. Thus \( t \)-marking is predicted to be impossible for reasons similar to those involving irrealis predicates. In the case of the habitual/generic reading, a succession of events is referred to. Here, the predicate might be thought of as denoting not an accomplishment but an activity (albeit an activity composed of sub-events which are themselves accomplishments). If \( t \)-marking on oblique complements indicates that the endpoint of an event has been reached, then such marking is clearly incompatible with activity predicates, which lack such an endpoint.

At this point we may ask: Why should argument and non-argument obliques behave differently with respect to \( t \)-marking? Can we explain this pattern in such a way that \( t \)- receives a uniform interpretation? In section 4 below, I argue that the apparently dual function of the \( t \)- morpheme (as a marker of \(+\text{past}\) or \(+\text{completive}\)) is a by-product of where the oblique attaches in the tree. Before exploring this idea, however, I will consider the alternative hypothesis that \( t \)- is a
genuine tense marker, and that oblique constructions have the syntax of serial verb constructions.

3. T-marking as tense marking

Given that t- often behaves like a past tense marker, we might be tempted to analyse Malagasy obliques as a subclass of verbs, rather than as a distinct category of elements comparable to prepositions in English. Under this analysis, predicates of the kind in (27) would have essentially the same structure as the serial verb constructions (SVCs) in (28), from Saramaccan (den Dikken 1995), with amin' functioning as a secondary verb analogous to Saramaccan da 'give'—the major difference between the two languages being that in Malagasy tense is marked on both verbs. 5

27. a. Namerina ny boky tamin'ny sekoly izy
   PST-NT:return DET book PST-to-DET school 3
   'She returned the book to the school'
   b. Nandroso ny sakafo tamin'ny vahiny izy
   PST-NT:offer DET food PST-to-DET guest 3
   'She offered the food to the guests'

28. a. A puka di moni da di womi
   he pay the money give the man
   'He paid the money for the man'
   b. A sei di wosu da di womi
   he sell the house give the man
   'He sold the house to the man'

However, this analysis faces a number of problems. Most obviously, obliques and verbs take different 'tense' inflection (past tense n(a)- on verbs versus t- on obliques). Moreover, obliques fail to take other kinds of verbal inflection, such as voice and causative morphology, and reduplication.

Another objection involves word order: Although the dative constructions in (27) appear to be structurally parallel to the dative SVCs in (28), this parallelism fails when it comes to the order of objects in instrumental constructions. In instrumental SVCs, the noun phrase denoting the instrument is invariably the so-called shared object (i.e., the object which occurs between the primary and secondary verbs and bears a thematic relation to both), and thus precedes the theme object, as shown in (29) for Yoruba (Baker 1991). In Malagasy, however, the instrument surfaces as the complement of amin', following the theme (30):

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5 Cf. serial verb constructions in Akan, in which both verbs carry subject agreement (Schachter 1974):

[i. Mede aburow niga muan]
1s-take corn 1s-flow water-in
'1 pour corn into the water'
29. Olë fi ɓbe gûn ɓba
thief take knife stab chief
'The thief stabbed the chief with a knife'

30. Nandiky ny hena tamin'ny antsy i Koto
PST-NT:cut DET meat PST-with-DET knife DET Koto
'Koto cut the meat with the knife'

I final piece of evidence against equating obliques with verbs in SVCs comes when we compare oblique constructions with V-V constructions in Malagasy. V-V constructions involve two or more adjacent verbs which form a single complex predicate (see Ranaivoson 1985 for extensive discussion of such constructions). Certain V-V constructions are semantically and syntactically comparable to constructions involving a verb and an oblique argument. However, the restrictions governing the distribution of tense morphology in V-V constructions can be shown to be distinct from the restrictions governing the interaction of tense morphology and t-marking in predicates containing oblique arguments.

There are various types of V-V constructions. The type which I will consider here is illustrated in (31): Here, the primary predicate head (V₁) denotes an event which triggers movement of the shared object, while the secondary predicate head (V₂) expresses the direction or trajectory of that movement:

31. Mianaka miantena ny zazahy ny vevihavy
NT:send NT:go:to:market DET boy DET woman
'The woman is sending the boy to market'

In Pearson (forthcoming), I argue that, word order differences aside, (31) has essentially the same structure as a SVC of the type illustrated by the Ewe example in (32) (Collins 1997). In particular, I assume that (31) and (32) share the partial structure in (33a): Here, the VP headed by V₁ is embedded within the complement of V₁, and contains an empty category controlled by the theme argument of V₁ (cf. Collins 1997). Notice that (33a) is structurally parallel to the directional-PP construction in (33b); in both cases the main verb selects a small clause complement which indicates the result of the event:

32. Ekte fo koro yi xo-me
rock hit cup go room-in
'A rock hit a cup into the room'

33. a. [VP [DP_i [VP V [VP V_i V ... ]]]]

However, despite the syntactic similarities between (33a) and (33b), the rules governing the tense-marking of secondary verbs in V-V constructions are quite distinct from the rules governing the t-marking of goal-denoting oblique complements:
In directional-V₂ constructions, one of two tense marking patterns is attested: Either the tense of V₂ matches that of V₁, or V₂ appears in the irrealis. The former pattern is illustrated in (34):

34. a. Maniraka miantsena ny zazalahy ny vehivavy
   NT:send NT:go:to:market DET boy DET woman
   ‘The woman is sending the boy to market’

   b. Naniraka miantsena ny zazalahy ny vehivavy
   PST-NT:send PST-NT:go:to:market DET boy DET woman
   ‘The woman sent the boy to market’

It is not possible to combine a past tense V₁ with a non-past tense (unmarked) V₂ to indicate an ongoing or otherwise uncompleted event. There is thus no correlate among directional-V₂ constructions for the pattern observed with goal-denoting obliques, where a past tense verb combines with a non-t-marked oblique to denote an incomplete event. This can be seen by comparing the sentence in (35), containing an oblique complement, with the sentence in (36), containing a VP complement. Thus, although directional-V₂ constructions are syntactically and semantically comparable to directional-PP constructions, the distribution of t- fails to coincide with the distribution of the past tense morpheme n(o)-. This strongly suggests that t- is not a ‘true’ tense marker, but instead expresses some other feature.

35. Nande fa ny zazalahy any anin’ny tsena ny vehivavy
   PST-NT:send DET boy there to-DET market DET woman
   ‘The woman sent the boy to the market [but he may not have gotten there]’

36. *Naniraka miantsena ny zazalahy ny vehivavy
   PST-NT:send NT:go:to:market DET boy DET woman
   ‘The woman sent the boy to market [but he may not have gotten there]’

4. Towards an analysis

Having argued against analysing t- as a tense marker, I now turn to an alternative analysis, which treats t- as a kind of polarity item whose interpretation depends on the scopal domain it occupies. As I argue here, the behaviour of t- can receive a coherent account if we adopt a particular set of assumptions about the syntax of event structure—and specifically about the positions of ‘adjunct’ and ‘argument’ PPs within that structure, relative to the positions of Tense and Aspect.

As a lead-in to my analysis, a few remarks about the syntactic instantiation of telicity: Telic predicates are distinguished by the fact that they contain a natural endpoint. For instance, the telic predicate build a house differs from the atelic predicate look at a house insofar as event of building a house necessarily terminates once the house has been completed, whereas the event of looking at a house can go on for an
indeterminate length of time, and when it does terminate, the moment of termination
is arbitrary. To reflect this difference, I will assume that whereas atelic predicates
contain a single event variable, telic predicates contain two event variables: one
variable (here notated \( E_1 \)) is associated with the event as a whole, while the other
variable (notated \( E_2 \)) is associated with the change of state which causes the event to
terminate. As shown in (37), \( E_1 \) is associated with \( \text{VP} \) (perhaps as an argument of \( v \)),
while \( E_2 \) is associated with \( \text{VP} \) within the complement of \( v \).

37. \[
\begin{align*}
\text{T}^0 & \quad \text{Asp}^0 \\
E_1 & \quad \text{E}_2
\end{align*}
\]

Notice that the projections associated with \( E_1 \) and \( E_2 \) are immediately dominated
by TP and AspP, respectively. Following Zagona (1990), Stowell (1996), and
Demirdache & Uribe-Etxebarria (1997), I treat the heads of TP and AspP as transitive
ordering predicates, which establish a sequential relation between the time of an
event and some other, context-determined time, which I will call the reference time
(using this term in a somewhat different way from Reichenbach 1947). In the case
of Tense, the reference time is the time of utterance.\(^6\) In other words, \( T^0 \) indicates
whether the moment of speaking occurs before, during, or after the time of the event
denoted by \( E_1 \) (future, present, and past tense, respectively). In the case of Aspect,
the reference time is what Demirdache & Uribe-Etxebarria (following Klein 1995)
call the assertion time—that is, the portion of \( E_1 \) about which the speaker is making
an assertion, or more informally, the "point of view" from which \( E_1 \) is being present-
ented. Asp\(^0\) orders this assertion time before or after the endpoint of the event, \( E_2 \):
When the assertion time precedes \( E_2 \), the speaker is confining his/her assertion to
some proper subpart of \( E_1 \)—i.e., the event is viewed as ongoing (incomplete aspect).
When the assertion time follows \( E_2 \), the speaker is making an assertion about
\( E_1 \) as a whole—i.e., the event is viewed "after the fact" (complete aspect).

The ordering relations established by \( T^0 \) and Asp\(^0\) can be represented by means
of features. In characterising the distribution of the \( t \)-prefix in Malagasy, the import-
ant factor to consider is whether the reference time follows the event or not. I will
thus use the feature \([+\text{Pst}]\), where \([+\text{Pst}]\) indicates that the reference time follows the
event time, and \([-\text{Pst}]\) indicates that the reference time fails to follow the event time.

Within this framework, we can characterise the function of \( t \)- as follows:

38. \( t \)- is a polarity item which occupies the scopal domain of the feature \([+\text{Pst}]\).

Given (38), the distribution and (apparent) function of \( t \)- can be accounted for as
a product of how the oblique enters the derivation. Consider first the example in
(39), where the oblique 'in the woods' is a matrix predicate. Since being in the
woods is a state rather than a telic event, I will assume that AspP is not generated in

\(^6\) At least in matrix clauses. See Stowell (1996) for a discussion of tense in embedded clauses.
this structure. Instead, the oblique surfaces as a small clause predicate within the direct scope of Tense, as shown in (40). The presence of t- thus indicates that $T^0$ has the feature [+Pst] (i.e., the utterance time follows the time of the event of the lemur being in the woods), hence the impression that t- is a marker of past tense.

39. Tao anatin'ny a la ny gidro
    PST-there inside:of DET woods DET lemur
    ‘The lemur was in the woods’

40. 

   \[
   \begin{array}{c}
   TP \\
   \text{[+Pst]} \\
   DP \\
   \text{lemur} \\
   FP \\
   \text{t-} \\
   \text{LocP} \\
   \text{in woods}
   \end{array}
   \]

This analysis can be extended to cases where the oblique is a locative or instrumental modifier, as in (41). Here again, the oblique is a small clause predicate within the immediate scope of tense. The only difference between (41) and (39) is that the subject of the small clause is not a DP, but an extended projection of the verb (perhaps vP)—i.e., the sentence in (41) serves to locate the event ‘the lemur is eating the fruit’ in the woods. This is shown in (42). Note that although an AspP projection is presumably generated in the derivation (given that the predicate eat the fruit is telic), the oblique phrase occurs outside the c-command domain of this projection. Examining the structure in (42) shows that the appearance of “tense matching” between the verb ‘eat’ and the oblique ‘in the woods’ is a product of the fact that both are within the scope of a [+Pst] feature in Tense.

41. Nihinana ny voankazo tao anatin’ny a la ny gidro
    PST-NT:eat Det fruit PST-there inside:of DET woods DET lemur
    ‘The lemur was eating the fruit in the woods’

---

7 Note that the tree in (40) represents an intermediate stage in the derivation of (39). At a later stage, ny gidro raises out of TP to become the clause-final topic, yielding the correct surface word order.
Finally, I turn to goal obliques, illustrated in (43): Here, as I argued in section 2, the oblique is a small clause predicate within the complement of the verb. It is thus within the scope of Asp₀, as shown in (44). This means that the presence or absence of t- is not determined by the tense of the clause, but by whether the assertion time of the event follows or precedes the endpoint, i.e., whether Asp₀ has the feature value [+Pst] or [-Pst]. In the former case, t- is required, and a complete interpretation for the sentence obtains; in the latter case, t- is absent, and an incomplete interpretation obtains—hence the impression that t- is an aspectual marker in such sentences.

43. a. Nametraka ny boky teo ambonin’ny latabatra izahay
   PST-NT:put DET book PST-there on:top:of DET table IEX
   ‘We put the books on the table’

   b. Nametraka ny boky eo ambonin’ny latabatra izahay
      PST-NT:put DET book there on:top:of DET table IEX
      ‘We were putting the books on the table [when something else happened]’

44. \[
\begin{array}{c}
\text{TP} \\
\downarrow \\
\text{Asp} \\
\downarrow \\
\text{VP} \\
\downarrow \\
\text{FP} \\
\downarrow \\
\text{DP} \\
\downarrow \\
\text{books} \\
\downarrow \\
\text{on table}
\end{array}
\]

\[
\begin{array}{c}
\text{F} \\
\text{LocP}
\end{array}
\]
5. Conclusion

In this paper I offered an analysis of the Malagasy prefix t-. I argued that t- can be assigned a uniform semantics if we assume that (a) argument obliques are VP-internal, and are thus within the scope of Aspect, which immediately c-commands VP; (b) non-argument obliques are generated outside the scope of Aspect but within the scope of Tense; (c) Tense and Aspect are ordering predicates, whose semantics are expressible in terms of features such as [+Pst]; and (d) t- is a polarity item licensed within the scopal domain of the feature [+Pst]. As I showed, an adequate account of the distribution of t- is highly relevant to a general theory of the syntax of event structure. In addition to providing novel evidence for the syntactic contrast between 'argument' and 'adjunct' PPs, my account supports the notion that Tense and Aspect are featurely non-distinct, as well as the claim that goal-denoting PPs are structurally akin to resultative complements, as schematised in (2).

References


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