Derived Objects, Inner Aspect, and the Structure of VP

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0.0 Introduction

The aim of this paper is to argue for two claims.* The first is that derived objects have a landing site within the VP. The second is that this landing site is the SPEC position of a functional category which represents completive aspect, or Aspect2. In the final part of the paper, I will try to support the structure I propose for VP using some theoretical arguments.

1.0 Derived Objects

1.1 Some data

The status of derived objects has had a very rocky history in the development towards GB theory. Often characterized by Raising to Object constructions such as the one given in (1) below, these were for many years ruled out by the principles of UG, in particular the Projection Principle.

(1) a. Mary believes the children to be lying.
b. Mary believes [the children]$_i$ [$_{IP}$ t$_i$ to be lying]

The problem with the derivation given in (1) is that movement has occurred to a complement position, and a position which is a complement to the verb can be created only through theta-assignment. In other words, complement positions are projected from the theta-grid of the head. If this is a theta-position, however, it is not a possible landing site for movement. Further, the position cannot be created between D-structure and S-structure since this would involve changing the complement relations of the head, a violation of the Projection Principle. This forces an analysis of these constructions which does not involve movement of the embedded subject to the matrix object position, but rather the exceptional case assignment of accusative case by the matrix verb to the embedded subject.

The principled unavailability of a movement analysis poses problems for languages where the positioning of the embedded subject is not ambiguous between the embedded subject position and the matrix object position. An example of this is found in Malagasy, a Western Austronesian language.

(2) a. Nanantena iRakoto [fa nianatra tsara **ny ankizy**]
pst-hope-AT Rakoto COMP pst-study good the children
'Rakoto hoped that the children studied well.'

b. Nanantena an' **ny ankizy** [ho nianatra tsara] iRakoto
pst-hope-AT acc the children COMP pst-study good Rakoto
'Rakoto hoped that the children studied well.'

Massam (1985) provides an interesting account for this word order variation without compromising the Projection Principle. It involves movement to a SPEC of CP position within the embedded clause which may be case-marked by the matrix verb. Further examples of possible derived objects, however, are more resistant to explanation. Baker (1988) discusses a wide range of applicative constructions in which an element other than the logical object is behaving like the

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object of the verb. An example of a "dative" applicative construction is given below (taken from Baker, 1988; p. 234, due to Chung 1976).[1]

(3) a. Saja mem- bawa surat itu kepada Ali
I TRANS-bring letter the to Ali
'I brought the letter to Ali.'

b. Saja mem- bawa-kan Ali surat itu
I TRANS-bring-to Ali letter the
'I brought Ali the letter.'

In his account, the dative preposition is incorporated into the verb. The NP **Ali** must appear adjacent to the V+P complex in order to be assigned case, and acts like the object of the verb. The logical object, **surat itu** 'the letter', is no longer adjacent to the verb and no longer acts like the direct object . Baker introduces what he calls Marantz's Generalization (given below) which describes this effect.

(4) Marantz's Generalization: (Baker, 1988: 246)
Whenever a verb appears with both extra morphology and an additional NP argument bearing some oblique thematic role, that additional NP argument will behave like the surface direct object of the complex verb.

The question is: how does the dative NP get into this position? I see two possibilities. The NPs may be base-generated in this order, however this would violate UTAH since there would be two possible representations for the same theta-roles. In Baker (1988), a violation of UTAH is avoided by having ternary branching which allows both XPs to be sister to the head. If we want to assume binary branching, however, a change of word order would entail a change of hierarchical relationships and a violation of UTAH.

The second possibility involves movement, i.e. the direct object would be derived. This is where we run up against the Projection Principle. Since the string is mono-clausal, it is difficult to imagine how an account such as Massam's could be used. It appears, then, that we may need a derived object position within the IP. In fact, in the more recent literature, derived objects have made their way back into the theory. Below I present three proposals concerning derived objects. These three proposals have been chosen to represent different possible landing sites for derived object.

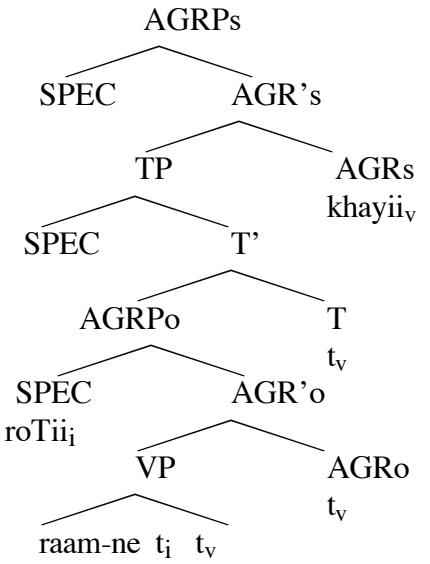
1.2 Some accounts

Mahajan (1990) argues that Hindi allows objects to appear in a derived A-position. He assumes that this position is SPEC of AGRo in a tree such as the one proposed by Chomsky (1991) developing the ideas of Pollock (1989). In most instances, A-movement of the object is triggered by Case, similar to A-movement of subjects. He argues that perfect participles do not assign Case to their objects and therefore the objects of perfectives must move to SPEC of AGRo to receive structural Case in this position. An example string is given in (5a) and the relevant S-structure tree in (5b) (adapted from Mahajan pg. 79).

(5) a. roTii raam ne khayii (M: (15); 79)
bread(f.) Ram(m.) erg. eat (perf.f.)
'Ram ate bread.'

[1]These are not simply double object constructions. Similar examples may be provided with instrumental, locative, or benefactive objects. Examples of these that are directly relevant to the discussion are given in (13).

b.



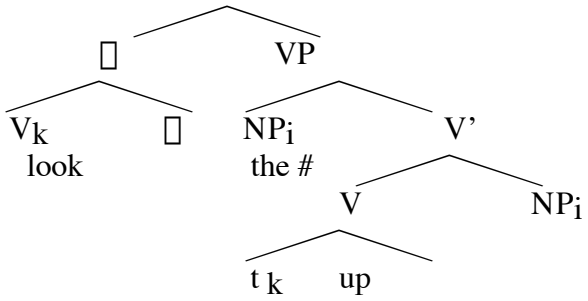
Since the perfective **khayii** does not assign case, the object **roTii** must move to SPEC of AGRo to receive Case in this position. What is important to note in this structure is that the derived object position is excluded by the VP. In this way, this account will differ from the next two.

Johnson (1990) also assumes that there is an A-position which is a landing site for derived objects, but he believes this position to be the SPEC of VP. He argues that it is this landing site which accounts for the alternation in directional particle constructions such as the one given below.

(6) a. He looked up the number.
b. He looked the number up.

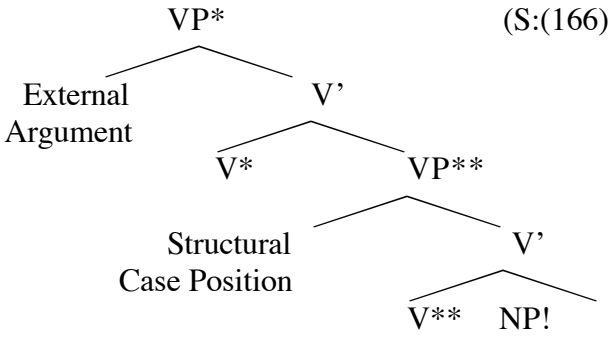
The direct object, **the number**, may appear before or after the particle, a fact that Johnson takes as an indication of a change in position of the direct object. In (6a) the direct object is in its base-generated position as complement of the V, and in (6b), it has moved to the SPEC of VP. Since in (6b), the object is at the edge of the VP, the V **looked** must itself have moved out of the VP. As shown in (7), Johnson assumes, following Jaeggli and Hyams (1988) and Pesetsky (1989), that there is a position for such verb movement, called □.

(7) □' (J: (55); 24)



Finally, Sportiche (1990) agrees with Johnson and Mahajan in that there are derived objects, however he believes that the landing site of these objects is below the D-structure position of the external argument. The structure he proposes is given in (8) below.

(8) (S:(166);98)



In this case, a Larson (1988) type of layered VP is used. The object is generated as the complement of the lower V and moves to the SPEC of the lower VP to be assigned Case. In a brief comment, Sportiche says that if there is an AGRo which is the landing site for object movement, it is within the VP such as in the bracketed structure in (9) below (S; 118).[2]

(9) ... [spec, IP] [NP* ... [AGRo VP ...
(where N* = base-generated external arg)

These different accounts, then, leave us with the question of where exactly derived objects are found. Are they outside of the VP as in Mahajan, or at the edge of the VP as in Johnson, or within the VP as in Sportiche? In many cases the position of the derived object is difficult to determine because there is no lexical material that it moves across. Looking again at the tree proposed by Sportiche in (8) above, if movement takes the direct object out of the VP, it will move across the top V and the external argument. This makes it look as if such movement should be very visible. However, in many languages, the external argument moves out of the VP to the SPEC of IP, and the V also moves out of the VP, to INFL in languages like French, and to □ in English according to Johnson's account. Now it appears very difficult to choose between the analyses given above. For this reason, I turn to other languages for more evidence concerning this question.

1.3 More data

The languages that I will be using in this section are Western Austronesian and require a bit of background on what I assuming to be the appropriate account for their phrase structure. In Guilfoyle, Hung, and Travis (to appear), it is argued that there are two 'subject' positions represented structurally by SPEC of IP and SPEC of VP. The NP in the SPEC of VP is what is often called the logical subject, in most cases the Agent. The NP related to the SPEC of IP position will always be a derived subject and may have a variety of theta-roles depending on the morphology on the verb. Claiming the existence of two subject positions is similar to what is being proposed by many researchers currently but what is particularly interesting in these languages is that these two positions may be filled simultaneously so that the two subjects co-occur. With verb movement to INFL in a head-initial structure, we get the following word order where Agent is one subject in SPEC of VP and "Topic" is the other subject in SPEC of IP.[3]

(10) [IP V+"topic" morphology [VP Agt [t_V Th Go]] "Topic"]

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[2]Having AGRo within the VP makes it similar to the structure I proposed in a talk given at McGill (Travis 1990) and in work by Lefebvre (1991).

[3]I use the term traditional term "topic"mainly for those who are familiar with this literature. See Kroeger (1991), however, for arguments that this "topic" bears little similarity to the discourse notion of Topic.

In languages like Malagasy, the element which appears in SPEC of IP depends on the choice of "topic" morphology. We assume that this morphology, in fact, represents (sometimes a combination of) syntactic relations such as P-incorporation and case assignment. The effect is that one NP will always be without case and thus will be forced to move to SPEC of IP at S-structure. The result is that the NP in the SPEC of IP may carry a wide variety of theta-roles as will become obvious below. What is important to note at this stage, however, is that the edges of the VP are discernible. The Agent will be at the left edge in the SPEC of VP and the lowest argument on the hierarchy will be at the right edge. My claim, then, is that any argument which occurs between these two must be within the VP.

Now we are ready to look at a specific case; Kalagan, a Philippine language. Kalagan is slightly different from Malagasy since the "topic" does not move to SPEC of IP at S-structure, but rather at LF. It is not the case, however, that the topic remains in its base-generated position. There is some movement, but only within the VP to what I would claim is the derived object position. The facts are as follows. In these languages the word order generalization is that, in the case of a non-agent topic, the topic immediately follows the Agent (and precedes all other arguments of the verb). The word order as described by Collins (1970) is given in (11) below, and a schematized version is given in (12).

(11) Kalagan word order generalization:

> the verb is first and is followed by the nominal elements as they are given [Agent-Object-Instrument-Beneficiary-Locative-Time: LDT]. The one regular exception is that when the *ya*-phrase [topic: LDT] is not the agent, it immediately follows the agent, all other phrases keeping their places. (Collins, 1970, p.4)

(12) V-(Agt)-"Topic"-XP

Examples of a variety of topic constructions are given in (13). In (13a) and (13b), one could conceivably argue that the topic has remained in its base-generated position. In (13c-e), however, it is clear that there is a designated position to which the topic (in our terms, the nominative case marked element) moves.

(13) Kalagan word order

a. Kumamang **aku** sa tubig na lata kan Ma' adti balkon na lunis
AT-get **I** the water with the can for Father on the porch on Monday
'I'll get the water with the can for Dad on the porch on Monday.'

b. Kamangin aku **ya tubig** na lata kan Ma' adti balkon na lunis
TT-get I **the water** with the can for Father on the porch on Monday

c. Pagkamang aku **ya lata** sa tubig kan Ma' adti balkon na lunis
IT-get I **the can** the water for Father on the porch on Monday

d. Kamangan aku **ya Ma'** sa tubig na lata adti balkon na lunis
BT-get I **Father** the water with the can on the porch on Monday

e. Kamangan aku **ya balkon** sa tubig na lata kan Ma' na lunis
LT-get I **the porch** the water with the can for Father on Monday

If we take an example such as (13c), we can represent it structurally as in (14), showing movement of the instrumental NP from its base-generated position to the right of the logical object, to some position between the Agent and the Theme.

(14) Derived object movement

a. Pagkamang$_k$ [$_{VP}$ aku **ya lata**$_i$ [$_{VP}$ sa tubig V_k t_i kan Ma'
IT-get I the can the water for Father

b. V_k [VP Agt **derived object** [VP Theme V_k t_i XP]]

These word order facts look similar to the Indonesian example given in (3) except that the presence of the Agent NP tells us that the moved element has remained within the VP. For this reason, I assume that there must be some position within the VP that can be a landing site for derived objects. We have answered the question of where the position is, but we still do not know what the position is. Below, I claim that movement is to the SPEC position of a functional category, Aspect.

2.0 "Inner aspect"

In this section, I argue that there is a functional category between the two VPs in a Larsonian type VP structure and that this functional category is Aspect. My reasoning is as follows. First I show that Larson's 'top' V at least has semantic content ('cause'), and, in many instances in Tagalog, has morphological content (**pag**-). Just as above where the order of maximal projections determined what maximal projections are within the VP, here the order of morphemes will determine what heads are within the VP. I will show that the Aspect morpheme appears between **pag**- and the verb root and therefore must be a head located between the top V and the bottom V.

2.1 Tagalog *pag-*

As shown below, there are alternations in Tagalog by which a causer is added to the argument structure of a verb with the change of morphology.

(15) Alternations (Maclachlan in press)

a.	**t-**<u>um</u>**-umba**	X fall down	b.	<u>mag</u>**-tumba**	Y knock X down
	s-<u>um</u>**-abog**	X explode		<u>mag</u>**-sabog**	Y scatter X
	l-<u>um</u>**-uwas**	X go into the city		<u>mag</u>**-luwas**	Y take X to the city
	s-<u>um</u>**-abit**	X be suspended		<u>mag</u>**-sabit**	Y hung X
	s-<u>um</u>-**ali**	X join		<u>mag</u>-**sali**	Y include X

Maclachlan (in press) argues that the additional **mag**- in the (b) column consists of a topic marker (**m**-) which is parallel to the topic marker -**um**- in the (a) column, and a further morpheme **pag**-. She claims that **pag**- is a case-marker, but given the argument structure alternations in (15), I would claim that it not only assigns case to a theme, but also adds a causer to the argument structure. For this reason I call it Burzio's morpheme. In fact, it is very similar to the 'upper' V in a framework such as Hale and Keyser (1990), Sportiche (1990), or Speas (1990).[4]

This analysis of **mag**- is not uncontroversial, however, and while a discussion of the distribution of this particular morpheme would take me far afield, I believe that the data in (16) offer support that **pag**- is an argument structure changing morpheme rather than simply a topic marker. As we can see below, the topic marker -**um**- cannot be embedded under the aptative morpheme **maka**- while that the morpheme **pag**- may (must) be.

(16) Aptative (Ramos & Bautista 1986)

a.	maka-sáli	*maka-s-**um**-ali	'able to join'
b.	maka-**pag**sáli	*maka-sali	'able to include'

Further, while the **pag**- morpheme does disappear in certain Topic forms (I have no explanation for this), it is retained in other such as the Benefactive Topic form as shown below.

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[4]Carrier-Duncan analyzes this alternation (in her terms, the Direct Causative) as being derived by a zero morpheme which adds the predicate CAUSE to the Predicate Argument Structure and links a causee argument to the Theme. This morphological change forces the use of **mag-** as the Actor-Topic morpheme.

(17) Benefactive Topic Marker (Schachter and Otanes, 1972)

AF [AT] - BF [BT] Correspondences

AF affix	BF affix
-um-	i-
mag-	ipag-

My claim, then, is that **pag**- assigns an external theta-role of causer as well as accusative Case and appears in the 'top' V of a Larsonian VP structure. If this is so, then any morphological material that appears between this morpheme and the verb root must be either added to the stem in the lexicon, or be found in a head positioned between the lower verb and the upper verb. As we see below, there is such a morpheme.

2.2 Tagalog Aspect

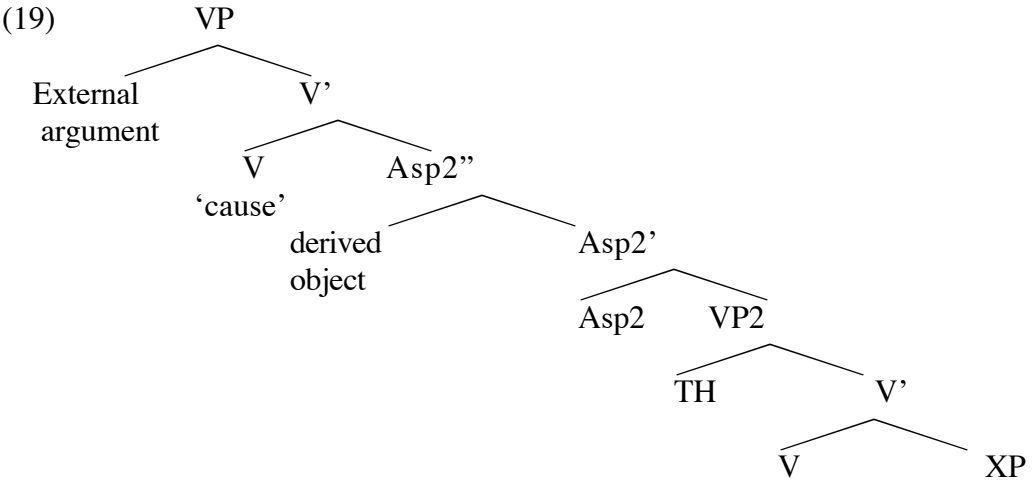
It has been assumed that there are two aspect markers in Tagalog (see DeGuzman 1978). One, which I call Aspect1 or outer aspect, indicates whether or not the action has started or not. The other, Aspect2 or inner aspect, indicates whether or not the action is completed. It is Aspect2 which is interesting for our purposes since it appears between the **pag**- morpheme and the verb root. This is shown in the examples below.

(18) a. n+m+ pag-tumba (nagtumba) 'has x-ed'
Aspect1+TM+pag-V Perfective

b. n+ m+pag+**RED**+ tumba (nag**tutu**mba) 'was x-ing'
Aspect1+TM+pag+Aspect2+V Imperfective

In (18b), the reduplication morpheme indicating Aspect2 occurs between the 'cause' morpheme **pag**- and the verb root **tumba**. I will assume, then, that this indicates an intervening functional head (I assume that aspect is not added in the lexicon as it is an inflectional morpheme). Further, I assume that it is the specifier of this functional category that acts as the landing site for the derived objects discussed in the first section of this paper. The structure of the VP, then, is as below.

(19)



3.0 Theoretical consequences

This paper has already presented some empirical arguments for positing a functional category, Aspect, within the VP and claiming that derived objects move to the SPEC of this

functional category. In further defense of this position, I will discuss three conceptual advantages to this system.

First, with a structure of the type given in (19), the parallel between dative shift and passive indicated by Larson (1988) is now complete. In both a regular passive and a derived object construction, there is A-movement . The logical subject and the logical object are base-generated in the SPEC of a lexical category, and there is movement of the derived subject and derived object to the SPEC of a functional category.[5]

Second, there are some intriguing relationships between aspect and direct objects as might be expected if direct objects appear in the SPEC of aspect. The most obvious correlation has already been mentioned. Mahajan (1990) claims that derived objects occur in perfective constructions. Noonan (1991) argues that there is also object movement in Irish perfectives. Further, only affected arguments may be delimiters of the event (Tenny 1987: pg. 75), and in many languages, there is a correlation between derived objects and affectedness. Rappaport and Levin (1985) note the difference in meaning in a locative alternation where the object is more affected than the prepositional NP. In Chinese, only affected objects may appear in the pre-verbal **ba** position (Cheng 1986). Lastly, only specific objects may be delimiters. In Hindi, only specific objects of perfectives move (Mahajan 1990). In Kimaragang Dusun, the derived object designates the undergoer and also must be specific (Kroeger 1990). From these correlations, I am suspicious that there is a link between the derived object position and the +/-completed aspect of the verb.

The third consequence of this system is the most interesting one. The positioning of Aspect within the VP suggests that there should be certain effects of scope since this functional category has scope only over the "internal" arguments of the verb. With this in mind, in the final part of this paper, I look more closely at the nature of the functional category Aspect and come to the conclusion that it is simply a projection of Tense with scope over only the lower VP. Because this uses an idea from Pustejovsky (1988), I will give his view of event structure which itself is a development of much other work (see e.g. Dowty, zz).

Pustejovsky (1988) argues that there is sub-eventual structure of the type given in (20) below.

(20) Event structure: Transition = $[_T E_1 \ E_2]$

A transition consists of two event variables. This allows for different types of transitions but for the purpose of this paper, I will be discussing only culminating transitions such as 'build the house' where the first event is a process 'building on a house' and the second is a state 'the house is built'. Two of the arguments that Pustejovsky gives for dividing events in this way come from differences in scope. In one case, what is relevant is the scope of an adverb, in the other case the scope of tense. In the sentence in (21), the adverb **almost** may modify either the first event, PROCESS, or the second event, STATE. This is indicated in the two possible meanings given below the sentence.

(21) John almost built a house.
a. almost engaged in the building process
b. almost finished a house

While this type of analysis is common to many analyses of event structure (), Pustejovsky also argues that tense behaves similarly, in other words it may have a variety of scope readings. When tense has narrow scope, i.e. over just the STATE, then it has the meaning of completive aspect. My use of the scope of tense varies slightly from Pustejovsky's by assuming there are only two possible scopes for Tense. If tense has wide scope, then it may

[5]Note that neither the logical subject nor the logical object are 'demoted' in any sense. In this way, these are unlike passives in English, and derived objects are unlike Larson's passive account of double objects.

indicate +/- start, and if tense has narrow scope, it indicates +/- complete. I have three reasons for having two scope readings for tense (as opposed to Pustejovsky's three scope readings), (i) it more closely mirrors the facts about adverbs such as 'almost', (ii) conceptually it recognizes two points in an event (beginning and end) and gives each of these a choice of two values (realis and irrealis), and (iii) it reflects the aspect morpheme facts of Tagalog. The resulting system with the variation in meaning and the correlation with the Tagalog aspect system is given below.

(22) wide scope tense = tense (irrealis = -start; realis = +start)
narrow scope tense = aspect (irrealis = +incomplete; realis = -incomplete)

One might wonder why both of these should be called tense since in the syntax there are two different positions, and in the semantics, there are two different interpretations. Data from Oweré Igbo (OI), however, argue that outer tense and inner tense are, in fact, two positions for the same element. Déchaine (1991) presents very interesting data concerning the morpheme **ga** in OI. Depending on its realization, it may have one of three meanings. These are given below.

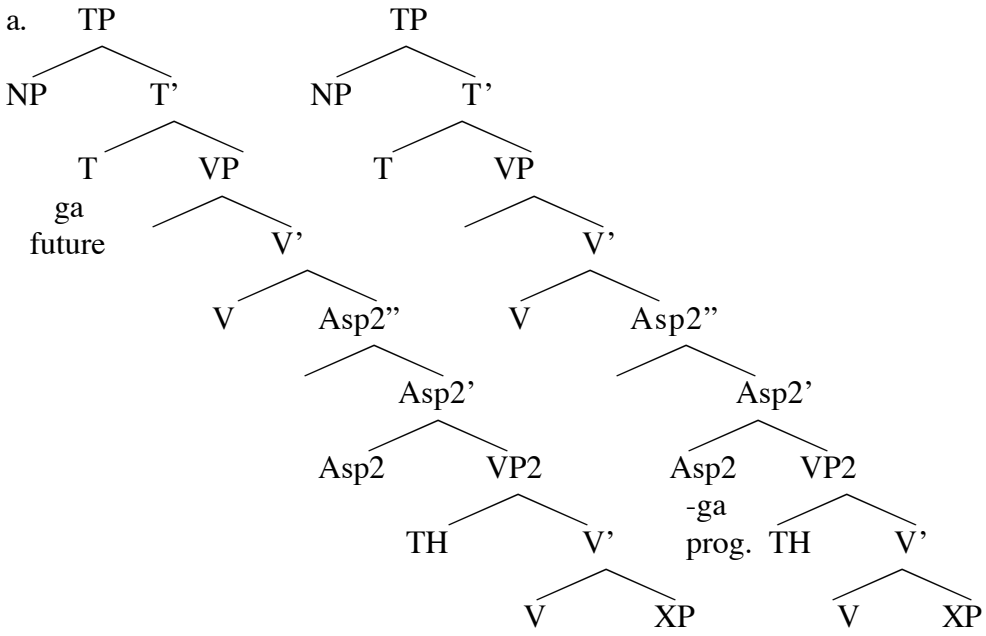
(23) a. main verb 'go' *gà-* (derived low tone)
b. progressive suffixal *-ga* (toneless, as an affix)
b. future auxiliary *gà* (derived low tone)

(24) a. O rí- ga ri à 'S/he is eating this food'
3sg eat prog food this

b. O ga e-rí- ri à 'S/he will eat this food'
3sg fut ?-eat food this

Here we see the same morpheme having a tense-type meaning (future) when it is an auxiliary and an aspect-type meaning (progressive) when it is a suffix. Déchaine accounts for the distinction in meaning by assuming that if **ga** is adjoined to V, it is in the scope of V and has the aspectual reading. If **ga** is in T, then it has scope over V and has the tense reading. This analysis may be translated onto the tree proposed in this paper. If we assume that the suffix status of the aspectual marker indicates that this morpheme has been picked up through head-movement, we may suppose, like Déchaine, that the aspect marker is lower on the tree than the auxiliary. Further, given its meaning and the structure argued for above, I would put the progressive **ga** in the lower tense position (i.e. Aspect). This produces the structure below.

(25) a.



Now the analysis of the **ga** morpheme is straightforward. It is the same morpheme with the same meaning, irrealis. It (unlike most tense markers in other languages) may appear in either tense head, i.e. T or Asp. When it has wide scope (appears in the upper tense position), the whole event is unrealized and it has the interpretation of future tense. When it has narrow scope (appears in the lower tense position), only the resulting state is unrealized and it has the interpretation of uncompleted aspect, or progressive. A summary of these conclusions in given in (26).

(26) **ga** = "irrealis"

	WHERE	WHAT	MEANING
wide scope	in T	aux	future
narrow scope	in ASP	suffix	progressive

4.0 Conclusion

I conclude with a summary of the claims made in this paper. First I argued using the order of maximal projections within the VP in Kalagan that the derived object position is within the VP. Then I argued that there is a functional category within the VP, Aspect, and that it is the SPEC of this functional category which is the landing site for derived objects. Finally, I tried to support this proposed structure of VP by pointing to several attractive theoretical consequences.

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