CHAPTER 3

Inner Aspect and Event

3.1 INTRODUCTION

In this chapter I look more closely at the syntactic heads that make up the predicate phrase. First, I argue that the functional category within the VP whose SPEC is the landing site of certain derived objects is (Inner) Aspect. More specifically, I argue that the VP has shells in the sense of Larson (1988) and that Aspect is a projection sandwiched within these shells. The number of layers with the VP and the determination of these layers will be dealt with in Chapter 4xx. In the second half of the chapter, I argue for another functional category, E(vent) which is at the boundary between the lexical domain of the VP and the purely inflectional domain. E becomes important in the demarcation of the two domains in Chapter 5.  

3.2 ARGUING FOR INNER ASPECT

Starting with the assumption that morphology attaches affixes in the syntax in an orderly manner, I will argue that there is evidence that a morpheme that encodes a type of viewpoint aspect not only appears as the functional category closest to the VP, but it is, in fact, within the VP — hence the name Inner Aspect. At this point of the discussion, perhaps misleadingly, I will be talking about Aspect collapsing the notions of situation aspect and viewpoint aspect (see Chapter 1). Eventually I will argue that the main function of the Aspect head that appears VP internally is to encode situation aspect, the

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1 Cinque (1999) has a view of phrase structure that includes many functional categories, of which eighteen are related to aspect (Cinque 1999: 130). Evaluating his analysis would take us far afield. As will become clear in my discussion of Navajo, in the phrase structure I am presenting, there are fewer functional categories. One functional category, however, may host multiple morphemes the order of which is determined by semantics. My point right now is that at least one of these Aspect projections must be within the VP.
inner aspect of Verkuyl (1993), but that it can, as we will see shortly, be used to house situation (outer) aspect morphemes.

While the position of Aspect has varied across different accounts of phrase structure, not surprisingly most accounts overlap in important ways. Below are a sampling of the possibilities with the relevant references.

(74) Positions of Aspect
   a. Aspect is under AUX (Chomsky 1965: 43)
   b. Aspect is its own head selecting a VP (Carstens and Kinyalolo 1989: 7)
   c. Aspect is its own head, selecting AGRoP (Speas 1991: 279)

Chomsky (1965: 43) has the following phrase structure rule.

(75) Aux $\rightarrow$ Tense (Modal) (Perfect) (Progressive)

Chomsky’s phrase structure rule generates Perfect and Progressive under Aux but it also encodes the information that the order is Tense - Modal - Aspect. Aspect, then, clearly is the inflectional element closest to the VP even in this system, which lumps multiple inflectional elements into one category.

The areas in which all of these accounts are in agreement are the following:

(76) Aspect is below Tense
    Aspect has scope over V
    Aspect is the (non-AGR) functional category closest to V

I use morpheme orders in Tagalog and Navajo to argue that an asceptual head is located between Vs in the layered VP of Larson (1988). In particular, I am interested in finding inflectional type material wedged between material that can arguably be considered lexical. By using morpheme order to probe phrase structure, however, I rely heavily on a syntactic account for Baker’s Mirror Principle given below.
(77) **Mirror Principle** (Baker 1985: 375)

Morphological derivations must directly reflect syntactic derivations (and vice versa).

As Baker points out, the morphology/syntax parallel described by the Mirror Principle follows if one derives morpheme order through head movement in syntax. Morphemes will be generated in syntactic heads and gathered up through head movement, obeying the Head Movement Constraint (HMC) of Travis (1984).²

(78) **Head Movement Constraint** (Travis 1984: 131)

An X₀ may only move into the Y₀ that properly governs it.

This view of morphology not only captures the generalization expressed in the Mirror Principle, it can be used as further evidence for the configuration of phrase structure. In other words, if syntax explains morpheme orders, then morpheme orders should be able to give us a probe into syntax. It is this assumption that underlies my arguments in the discussion below.³

### 3.2.1 Tagalog Reduplication.

In this section I use the position of reduplication in Tagalog as evidence that Aspect may appear between the two shells of a VP.⁴ While the assumptions that lead to this conclusion are not uncontroversial, I hope to show that this analysis of Tagalog is at least as plausible as other analyses, and together with other arguments presented in this book, support my particular view of VP phrase structure.

In order to determine what may appear between V₁ and V₂ in any language, it is necessary to determine the content of V₁. As discussed earlier, in English, V₁ has no

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² Baker (1988) derives the descriptive content of the Head Movement Constraint from the Empty Category Principle (ECP). Since the current theoretical status of the ECP is not clear, and the descriptive content of the HMC is all that I require, I refer only to the HMC.

³ In my discussion of Navajo, I will posit that one head can account for multiple morphemes, and the ordering in this case may be determined by semantic considerations. See the discussion in section 3.2.2.

⁴ This account of Tagalog reduplication appeared first as part of Travis (1991), but has also appeared in Travis (1992, 2000).
overt morphological realization and therefore can give us no clues as to inclusion of a head within the V₁P. It is not the case, however, that all languages have empty V₁'s. The first step of my argument concerning Tagalog, then, is to show that V₁ may be filled. As outlined briefly in Chapter 1xx, one of the more obvious members of the V₁ closed class is CAUSE and it is used for transitivizing (lexical causative) morphemes. In the Tagalog data given below, we can see transitivity alternations.⁵

(79) Alternations (Maclachlan, 1992)

a. **t-um-umba** X fall down  
    **s-um-abog** X explode  
    **l-um-uwas** X go to into the city  
    **s-um-abit** X join  

b. **mag-tumba** Y knock X down  
    **mag-sabog** Y scatter X  
    **mag-luwas** Y take X to the city  
    **mag-sali** Y include X

What appears to be alternating in the morphology is the infix **-um-** in the intransitive examples, and the prefix **mag-** in the transitive examples. I follow Maclachlan (1992) in assuming that **mag-** is, in fact, a combination of **m-** and **pag-**. Further, I also assume that **m-** and **-um-** are allomorphs of an inflectional feature that will not concern us here. The alternation, then, is between a zero morpheme for the intransitive and the transitivizing morpheme **pag-**.

There are reasons to have a different view, however, as does Carrier-Duncan (1985), who analyzes both **mag-** and **-um-** as Topic Markers.⁶ For her, the transitivity alternation simply moves predicates from one derivational class to another. In other words, the intransitive verbs would be in the derivational class that takes the **-um-** Actor Topic morpheme while the transitive verbs would be members of the derivational class

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⁵As we will see throughout the book, transitivity alternations tend to be idiosyncratic. This is also true for Tagalog where we find **b-um-ili** ‘buy’ and **mag-bili** ‘sell’. This might suggest that the process is lexical rather than syntactic and that we are headed in the wrong direction by using the morphology of transitivity alternations as evidence for syntactic structure. At this point I ask the reader to bear with me and I will address this issue directly in Chapter 6 (section 6.2.2)xx.

⁶As we have seen in Chapter 2, section xx, one of the central properties of many Western Malayo-Polynesian languages is the process whereby one of a number of DPs within a sentence may be singled out by the verbal morphology and by a marker on the DP or a particular position of this DP within the clause. There is much debate how this DP should be represented structurally or even called descriptively (see e.g. Schachter 1976, Kroeger 1993, Maclachlan 1996, Rackowski 2002, Aldridge 2003). In the text, I will be
that takes the *mag* as the Actor Topic morpheme. One strong argument for this view is that both *mag*- and *-um-* disappear when Theme Topic morphology is added as can be seen below (from Schachter and Otanes 1972:297, 299).

(80) Root Translation Actor Topic Theme Topic

*mag*-verbs

| hiwa  | cut  | mag-hiwa | hiwa-in |
| luto  | cook | mag-luto | lutu-in |

*-um*-verbs

| huli  | catch | h-um-uli | hulih-in |
| tahi  | sew   | t-um-ahi | tahi-in |

Since it will crucial to my claim that there is an Aspect projection below V₁, it is necessary for me to show that V₁ in Tagalog is indeed filled by *pag*-. I give two arguments that support Maclachlan’s analysis over Carrier-Duncan’s analysis.

First, when we look at the addition of the aptative morpheme *maka-* as shown below, we see that *-um-* disappears while *mag-* leaves behind *pag*-.  

(81) Aptative (Ramos and Bautista 1986)

a. ‘able to join’ * maka-sáli maka-*um-*ali

b. ‘able to include’ * maka-sáli maka-*pagsáli

This shows not only that *mag-* is not the same as *-um*-, but also that *mag-* can be argued to be bimorphemic, composed of *m-* and *pag*-.. If this is the case, the parallel that should be made is between *-um*- and *m*-, both of which disappear when the aptative is added, rather than between *-um*- and *mag*-.  

using the terms from the references themselves at the risk of confusing the reader but in an attempt to stay true to the original literature.

7 In order to show this, we have to use *-um*- verbs that are transitive because the verbs must have direct internal arguments. In the discussion in Chapter 6 (section 6.2.2.xx on the difference between lexical causatives and syntactic causatives, we will raise the issue of why a transitive verb can apparently be marked as being inchoative/intransitive.
The second reason for analyzing pag- as a lexical causative marker rather than a topic marker comes from the Benefactive Topic paradigm. Benefactive Topic morphology appears as i- on verbs whose Actor Topic morphology is -um-, and it appears as ipag- on verbs whose Actor Topic morphology is mag-.  

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

\[ \text{AF [AT] - BF [BT] Correspondences} \]

Actor Focus affix    Benefactive Focus affix
-um-      i-
mag-      ipag-

(83) a. kumain ako ng pansit \( um+\sqrt{kain} \)
\[ \text{AT.eat 1SG.NOM ACC noodles} \]
‘I eat noodles.’

b. ikinain mo ako ng pansit \( i-in-\sqrt{kain} \)
\[ \text{BT.PERF.eat 2SG.GEN 1SG.NOM ACC noodles} \]
‘You ate noodles for me.’

(84) a. nagluto ako ng pansit \( n-pag-\sqrt{luto} \)
\[ \text{PST.AT.cook 1SG.NOM ACC noodles} \]
‘I cooked noodles.’

b. ipinagluto mo ako ng pansit \( i-in-pag-\sqrt{luto} \)
\[ \text{BT.PERF.cook 2SG.GEN 1SG.NOM ACC noodles} \]
‘You cooked noodles for me.’

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\[ ^8 \text{Example sentences in (83) and (84) were provided by Raph Mercado.} \]
Once again -um- and m- are behaving uniformly and should be treated uniformly. On the other hand, pag- should be treated as a lexical part of the verb rather than Topic morphology.

My conclusion is that pag- is generated in V₁ and is responsible for assigning the additional Agent theta-role and the accusative case. The alternation between s-um-ali and mag-sali will be as in (85) below where the function of -um-/m- is left vague on purpose but will be discussed more in section 3.3.1.2.

(85) a. s-um- ali  

\[
\begin{array}{c}
\text{FP} \\
\text{F} \\
\text{-um-} \\
\text{V₁P} \\
\text{FP} \\
\text{F} \\
\text{m-} \\
\text{V₁P} \\
\text{DP} \\
\text{AGT} \\
\text{V₁'} \\
\text{V₂P} \\
\text{Theme} \\
\text{V₂'} \\
\text{sali} \\
\end{array}
\]

b. mag-sali

\[
\begin{array}{c}
\text{FP} \\
\text{F} \\
\text{V₁P} \\
\text{DP} \\
\text{pag-} \\
\text{V₁'} \\
\text{V₂P} \\
\text{Theme} \\
\text{V₂'} \\
\text{V₂} \\
\text{sali} \\
\end{array}
\]

Both structures above are composed of two VP shells. I will assume without discussion here that, in (85a), the V₁ has a phonetically empty morpheme that simply introduces an event variable and the whole VP has the structure of an inchoative. In (85b) the V₁ has the morpheme pag-, which not only introduces an event variable but also the meaning of CAUSE and the theta-role, Agent. What is important for the present purposes is that now we are able to see the phonetic content of V₁.

In the structures above, there is no functional category between the two VPs. Using the data, below, however, we can argue that such a functional category must be

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9 In Chapter 6 I will be looking more closely at the role of pag- in Tagalog. I will present an explanation for the morpheme deletion that we have just seen in (80) in section 6.4.2xx and also discuss a more recent account of pag- given in Rackowski (2002) in section 6.4.3xx.
added. First let us look at the aspectual system of Tagalog. There appear to be two types of aspect that we will call ASP1 and ASP2.\(^{11}\) ASP1 appears as either the infix -in- or the prefix n- on the verb stem. Using Maclachlan’s (1989) analysis of this, I will assume that the meaning can be captured with the feature [+start]. ASP2 is encoded by a complex rule of reduplication and when this reduplication appears it gives a meaning like imperfective. Maclachlan assigns the reduplicating morphological process the feature [+incomplete]. While the system of features might predict four forms, since it is impossible to have a completed but not yet started event, only three remain.\(^{12}\) The system is outlined in the table below with examples of the complex forms given in (86).\(^{13}\)

<table>
<thead>
<tr>
<th>ASPECT1:</th>
<th>+/-start</th>
<th>+start</th>
<th>-in-/n-</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASPECT2:</td>
<td>+/-incomplete</td>
<td>+incomplete</td>
<td>reduplication</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>START</th>
<th>INCOMPLETE</th>
<th>EXAMPLE</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>+</td>
<td>+</td>
<td>nagtutumba</td>
<td>Imperfective</td>
</tr>
<tr>
<td>+</td>
<td>-</td>
<td>nagtumba</td>
<td>Perfective</td>
</tr>
<tr>
<td>-</td>
<td>+</td>
<td>magtutumba</td>
<td>Contemplated</td>
</tr>
<tr>
<td>-</td>
<td>-</td>
<td>*magtumba</td>
<td></td>
</tr>
</tbody>
</table>

In order to see the relative positioning of the morphemes, we look more closely at the imperfective form which contains both the [+start] morpheme (ASP1) and the [+incomplete] morpheme (ASP2). The order of morphemes appears to be as given below where the reduplication of the ASP2 occurs between the pag- morpheme and the verb root.

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\(^{10}\) The need for a V\(_i\) for unaccusatives will become clearer in later sections of the book (e.g. Chapter 4, section 4.4.4xx).

\(^{11}\) These, in fact, will both semantically be related to Outer Aspect, one stacked above the other. I will claim, however, that the lower of the two can appear housed in Inner Aspect.

\(^{12}\) This form can be used as an aspectless form, however. See Kroeger 1993: 16-17, Schachter and Otanes 1972: 153ff.

\(^{13}\) I use Schachter and Otanes’s (1972) terminology. Contemplated would mean something like future.
If this is the appropriate morpheme order, one could argue that there must be a head between pag- and V to house this morpheme, i.e., there must be an Aspect head within the VP. Other accounts for the placement of reduplication have been offered in the literature, however. I will present one of these below in detail and then conclude that the phrase structure account of the reduplicated morpheme is at least as plausible as any other account.

If one were to argue that Aspect is a functional category which is outside of the VP (and one is also assuming that head movement is an explanation for morpheme order), then the problem at hand would be to explain why reduplication appears to jump over the pag- part of the verb stem. In other words, the assumption would be that the morpheme bracketing for the imperfective form of the Tagalog verb would be as in (88) but the reduplicated syllable would be the second one.

\[(88) \text{n} + \text{RED} + \text{pagtumba}\]

Unfortunately, the reduplication facts in Tagalog imperfective are not as simple as the data given so far might imply. Much has been written on the topic of Tagalog reduplication. The research which investigates the exact form of the reduplicated syllable does not concern us here. It is the research which investigates which syllable is targeted that is relevant. The data are complex and I claim that this complexity argues for and not against a syntactic analysis. As we will see below, any morpho-phonological account becomes so intricate that it suggests that morpheme division and not phonological structure is at the heart of the problem.

There have been some attempts to solve the problem of reduplication in the area of phonology. Before going into one of these accounts, let me outline some of the problems that any account of reduplication must handle. In the simple cases, what is reduplicated is simply the first syllable as in (89). We can see this below with a verb of the -um-paradigm. The reduplication feeds the infixation of -um-. This can be compared with the
cases that we started with where the reduplication skips *pag-* and attaches to the root as in (90).

(89) Reduplication of first syllable:

- **ROOT:** pasok ‘enter’
- **INFINITIVE:** pumasok
- **CONTEMPLATIVE:** pumapasok *um+papasok*

(90) Reduplication of first syllable of root:

- **ROOT:** pasok ‘take in’
- **INFINITIVE:** magpasok
- **CONTEMPLATIVE:** magpapasok *m+pagpapasok*

While we might want to collapse the two cases above to say that reduplication always targets the verb root, we can see in the following examples that when the verbal prefixes are more complex, the process is also more complicated. In (91) below, reduplication appears on the second syllable of the prefix itself (from French 1988: 45).

(91) **STEM:** trabáhoh ‘work’

- **PREFIX:** mag-pa ‘AGT-CAU’
- **INFINITIVE:** mag-pa-trabáhoh ‘X causes (so) to work’
- **CONTEMPLATIVE:** mag-pa-pa-trabáhoh ‘X will cause (so) to work’

- **PREFIX:** maka- ‘AGT+POT’
- **INFINITIVE:** maka-pag-trabáhoh ‘X is able to work’
- **CONTEMPLATIVE:** maka-ka-pag-trabáhoh ‘X will be able to work’

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14 French uses different terminology that I have changed in order to be as consistent as possible. What I have labeled **INFINITIVE** and **CONTEMPLATIVE**, she labels **BASIC ASPECT** (BAS) and **PROPOSED ASPECT** (PRO) respectively.
The data above led French to suggest that, in the case of Agent Focus verbs (or what I have been calling Actor Topic verbs) with polysyllabic prefixes, it is the second syllable of the prefix that reduplicates. At the end of her analysis, she has two reduplicating templates. In Inflectional Template 1, reduplication always occurs on the first syllable of the root (P = prefix; M = stem; S = suffix).

(92) INFLECTIONAL TEMPLATE 1 (IT1) (French 1988: 27)

(P) CV + M (S)

Here, the P in parentheses indicates that the prefix does not count as part of the stem for the purpose of reduplication. The reduplicating template is added to the remaining material. In order to account for the bisyllabic prefixes there is a different inflectional template, Inflectional Template 3, which ensures that reduplication occurs on the second syllable of the prefix.\(^\text{15}\)

(93) INFLECTIONAL TEMPLATE 3 (IT3): agent-focus syllable template

\[ \sigma_1 + CV + \sigma_2 + \ldots + (\sigma)n-2 \]

Conditions:  
(a) \(n = \) no. of syllables in basic verb  
(b) Association is template-driven

\(^{15}\)Inflectional Template 2 has to do with infixation of the ASP1 morphology and not with reduplication.
In this case, reduplication is sensitive to the syllable structure of the stem, not the morphological structure.

French, in presenting this templatic view of reduplication in Tagalog, argues against a different proposal by Carrier (1979). French calls Carrier’s solution the one-syllable, one-morpheme solution. In Carrier’s account, each syllable is an independent morpheme so that the bisyllabic prefixes in Tagalog are also bimorphemic. Further, reduplication must have one morpheme to its left. Within this account, the bisyllabic morphemes *maka-* and *magsi-* in (91) above must be each comprised of two morphemes, *ma-* and *ka-* in the first case, and *mag-* and *si-* in the second case. As French points out, while having a bimorphemic analysis of *maka-* is not unsupported (in fact we will see evidence for this in Chapter 7), having a bimorphemic analysis of *magsi-* is harder to argue for.

In spite of French’s objections, I choose an analysis very similar to Carrier’s. I differ on a few counts, however. As we have already seen, I disagree with Carrier’s exact analysis of *mag-* . I also assume that each of the morphemes of the base form represents a head in the syntactic structure, and I assume that reduplication is added in the syntax. Because *pag-* is relevant for the transitivity alternations shown in (79) above, I assume that this morpheme is generated in the top V of a VP shell structure, i.e. in V₁. Because reduplication occurs between the root and *pag-* , I assume that reduplication is in the functional category between V₁ and V₂, the lower V. Further, since reduplication encodes morphological aspect, I assume that the name of this category is Aspect.

In some more recent studies, additional complications of Tagalog reduplication have been addressed. The positioning of the reduplicative affix to encode incompletive in Tagalog is not straightforward because, though many descriptions of the facts do not present it this way (e.g. French 1988), there are often many different options for the same form. These options are outlined in Rackowski (1999). An example given to me by R. Mercado is given below.
(94) a. makapagpahintay
   m-a-ka-pag-pa-hintay
   PRES-A-KA-PAG-PA-!wait
   ‘be able to cause someone to wait’

b. ma-ka-kapagpahintay
c. maka-pa-pagpahintay
d. makapag-pa-pahintay
e. makapagpa-hi-hintay

R. Mercado reports that (94e), where the reduplicative affix attaches to the root, is the most ‘elegant’. I take this to mean that it represents the most conservative version. Rackowski (1999) argues that this reduplicative morpheme in Tagalog is indeed generated in the lower Aspect position (as an exemplar of Cinque’s completive aspect) and can undergo optional scrambling in the morphological component. Within Rackowski’s account, the conservative version would be the merged position and the other positions would be created through scrambling. For my needs, the merged position is Inner Aspect.16

My analysis is clearly not without problems. One particular problem that I look at return to Chapters 4 and 6xx is the type of aspect that is being encoded in this Inner Aspect position. As we will see, the Inner Aspect position will be primarily related to situation aspect throughout the rest of this book, but reduplication in Tagalog appears to encode the viewpoint aspect, progressive (see Chapter 1 and Smith 1991: 5ff for a discussion of this distinction). There are two directions that a solution to this could take. I outline these briefly.

One could argue that reduplication primarily encodes (lack of) completion. This is the direction that Rackowski (1999) takes. In Cinque (1999:130), the head for terminative aspect is located above the head for progressive aspect which in turn is located above the head for completive aspect. If we assume that the outer aspect morpheme of Tagalog is Cinque’s terminative aspect, we could still analyze the reduplicative morpheme in

16 See a more recent paper by Mercado (2006) for a phase-based account of these options.
Tagalog as (in)completive. However, in Chapter 7, section 7.3.2xx, another aspectual morpheme (\textit{-ka} in Tagalog and \textit{–ha} in Malagasy) will be discussed. I argue that this morpheme is the completive morpheme and more evidence will be given there that it appears below \( V_1 \). Further, this morpheme and the reduplicative morpheme can co-occur as shown in (95) below.\(^{17}\)

\[(95) \begin{align*}
\text{a. ROOT:} & & \sqrt{\text{sulat}} & & \text{‘write’} \\
\text{b. APTATIVE(INF):} & & \text{makasulat} & & \text{‘able to write’} \\
\text{c. APTATIVE (CONT):} & & \text{nakakasulat} & & \text{‘was managing to write’}
\end{align*}\]

\[n- \quad a- \quad \text{RED-} \quad \text{ka-} \quad \sqrt{\text{sulat}}\]

\text{TERMINATIVE} \quad \text{\( V_1 \)} \quad \text{PROG} \quad \text{COMPLETIVE} \]

The co-occurrence of these two morphemes suggests that they are generated in different heads and that the solution of analyzing reduplication as (in)completive is not the direction to take.\(^{18}\) What is important for the discussion at hand, however, is that there can be a position below \( V_1 \) and that this position can house aspectual information. The structure of the VP argued for, then, is given in (96) below.

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\(^{17}\) I have taken these forms and the terminology from Ramos and Bautista (1986:237). The exact meaning of the \textit{m/n-aka} complex of morphemes is quite difficult to characterize. I discuss it more in Chapter 7, but other relevant references are Dell (1983), Phillips (1996, 2000), and Travis (2005a, 2005).

\(^{18}\) In the discussion of Navajo in the next section, I do allow modificational material to be late-adjointed to a head. Since the +incomplete morpheme is not modificational, late adjunction is not an option. In fact, we will see several environments where outer progressive aspect appears to exert an influence on inner aspect. As mentioned in Chapter 1, this issue is one I am exploring in ongoing research.
3.2.2 Mirror Principle Violations and Navajo

Now I turn to apparent Mirror Principle violations in Navajo\(^{19}\) and suggest that they may be accounted for through the phrase structure introduced above, along with the assumption that affixes may be forced to attach directly to a pre-determined domain that is a subpart of the stem.\(^{20}\) At first glance, it seems that the order of morphemes in Navajo is best captured by positing an idiosyncratic template as has been done in the descriptive literature (e.g. Young and Morgan 1987: 37-38). Such a solution, however, would undermine the restrictive nature of the Mirror Principle. Speas (1990) presents an account of the morpheme order that avoids the use of a template, but which also increases the power of the morphological component. In this section I suggest that there is an analysis that borrows from two separate ideas presented by Speas. First, at the end of her discussion of morpheme orders in Navajo, she notes that the morpheme order appears to be in the reverse order of the syntactic heads in a tree structure.\(^{21}\) In other words, the morpheme that would be syntactically represented furthest from the verb is the affix closest to the verb stem. The second idea is that affixation may be sensitive to a phonological environment giving the appearance of infixation.

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\(^{19}\) In Chapter 8xx, I summarize some similar observations made by Rice (2000) on Slave, a related language.

\(^{20}\) The material presented in this section was first written up in Travis (1992).

\(^{21}\) Hale (2000) presents a different account for the order of the morphemes. The advantage of his account is that the voice/trans affix is part of the syntax. The disadvantage is that he cannot account for the non-compositionality of positions 1 and 6. I refer the reader to his account to make a comparison.
The morpheme order of Navajo is as follows (Speas, 1991: 205ff emphasis mine):

LDT).

(97) Navajo Verbal Morpheme Order

<table>
<thead>
<tr>
<th></th>
<th>ADV</th>
<th>ITER</th>
<th>DIST-PL</th>
<th>D-OBJ</th>
<th>DEIC-SBJ</th>
<th>ADV</th>
<th>MODE</th>
<th>SBJ</th>
<th>VOICE/TRNS</th>
<th>STEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td></td>
</tr>
</tbody>
</table>

1= ADVERBIAL: manner, direction ... also indirect object pronoun

2= ITERATIVE: aspectual/adverbial prefix

3= DISTRIBUTIVE PLURAL: plural and distributive, ‘each one separately’

4= DIRECT OBJECT: number and person of direct object

5= DEICTIC SUBJECT: indefinite (someone) or fourth person (people in general)

6= ADVERBIAL: adverbial/aspectual notions

7= MODE: core of tense system

8= SUBJECT: person and number of subject

9= voice/trans

Speas (1990) accounts for the order of morphemes by having them sensitive to phonological environments. The five phonological environments needed are given below.

(98) # _____ beginning of the word

_____ F before the underlying foot

_____ CV(C)# before the final syllable

_____ C,F before the final foot and the conjunct prefixes (which are all Cs)

CV _____ after the first syllable

The problem with this type of analysis is that, if this is a possible mechanism, one would expect enormously complex morphology orders in natural language undermining the observations of the Mirror Principle. It also fails to capture Speas’s other observation that the morphemes are in the reverse order predicted by the Mirror Principle.
Before going into my analysis of this morpheme ordering, there is an important observation to make. The affixes in Navajo can be distinguished on two axes — one which involves semantic productivity and the other involves the strength of phonological ‘bonding’.

Let us tackle the semantic division first. In the template given above, I have highlighted two prefix positions — positions 1 and 6. My reason for doing this is that these positions (labeled Adv) appear to be part of the lexical entry of the verb along with the stem itself. In (99) I give three examples taken from Speas (1990: 208) which show that these positions are idiosyncratically realized and contribute in a non-compositional fashion to the meaning of the verb.

(99)  
a. yá ... ti’ ‘to talk’ 1 ... stem  
b. di ... lid ‘to burn something’ 6 ... stem  
c. so ... di ... zin ‘to pray’ 1 ... 6 ... stem

Speas writes “[n]one of these prefixes is derivationally productive, nor may these stems occur without these prefixes”. The material filling in the … in these verb forms, however, will be the more productive agreement, aspect and mood morphemes of the language. Young (2000: 27) labels positions 1 and 6 DERIVATIONAL (THEMATIC-ADVERBIAL) PREFIXES, while positions 2, 3, 4, 7, and 8 are labeled INFLECTIONAL PREFIXES.22

There is an additional qualitative difference among the prefixes in the verbal complex. Positions 1-3 are traditionally called disjunct prefixes while positions 4-9 are called conjunct prefixes, where disjunct prefixes are seen to be more “loosely bound” while the conjunct prefixes are seen to be more “tightly bound” (based on “functional, phonological, and positional criteria” (Young 2000: 27)).

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22 In fact, he concludes that three elements that appear in 6 — the transitional, semelfactive, and seriative markers — are inflectional. I will discuss this briefly below.
Ideally, an account will capture both of these distinctions. Now I turn to my attempt to do just this. In order to make my analysis of the morpheme ordering of Navajo work, I need three ingredients. The first is the phrase structure being argued for here where there is an inflectional head within the verbal domain. The second is a particular version of morpheme attachment (interior affixation) where only an edge that is internal to the stem is visible for attachment. Finally, I will accept a version of late head adjunction (see e.g. Newell 2004, 2005 and reference therein). I begin my discussion with interior affixation and give a sketch of how this would work with the Inner Aspect phrase structure. I then turn to the problem of disjunct vs. conjunct prefixes and propose a solution using late adjunction. Finally, I detail how Inner Aspect, along with interior affixation and late adjunction produce the morpheme facts of Navajo.

In order to account for the apparent mirror image attachment of Navajo morphology, I propose that affixation may be sensitive to some domain that is morphologically circumscribed that I will label here minimal word (MW), which in Navajo contains the stem and the VOICE/TRNS morpheme. Each subsequent affixation would attach directly to this minimal word. This is clearest in step (101c) below. When af2 is attached, it ‘tucks in’ and attaches to the left edge of MW rather than to the left edge of af1.

(101) a. [ MW ]
   b. af1 + [ MW ]
   c. af1 + af2 + [ MW ]

---

I am actually unclear on what exactly defines this domain.
The mirror image effect, then, would in fact be predicted by the Mirror Principle\textsuperscript{24}. As each new morpheme is attached, the previously attached morphemes would be pushed further from the minimal word. Linear bracketing would give one order, but the effect of affixation to the minimal word would give the opposite order.

Second, I propose the morphemes in position #1-#3 will be attached via Late Adjunction. Basically, this means that, under certain conditions, morphemes can be adjoined late in the derivation (following movement) (see e.g. Newell (2005) how this is used for separable prefixes in German). While I refer readers to other works that detail how this might work, I give an example from.

Now let us turn to the structure proposed and see how these ingredients produce the appropriate morpheme order for Navajo. The tree below shows where on the structure each morpheme is realized.\textsuperscript{25} The prefixes in boxes will be attached via Late Adjunction following movement. Note further that Agreement morphemes can co-occur on a head with other morphemes. Since Chomsky (1995), there is a general consensus that agreement, being uninterpretable, denotes a relation and is not realized as a separate syntactic head.

\textsuperscript{24}McCarthy and Prince (1990) have argued that morphological processes may be sensitive to prosodic domains (prosodic circumcision), which also gives the appearance of infixes in certain contexts. The affixation in Navajo would be similar to this except that it would be sensitive to a morphological context rather than a phonological context.

\textsuperscript{25}I have sketched a head-final tree though that is not crucial. I follow Baker’s analysis of polysynthesis (Baker 1996) so no XP arguments will be part of this structure. This becomes important in the discussion of West Slave in Chapter 8.
Let us go through a sample derivation. The voice/transitivity morpheme (#9), according to Speas, is no longer productive and, I would assume, is now part of the stem.\footnote{I am aware that other cases of unproductive transitivity alternations (such as the ones discussed in Chapter 6, section 6.2.2xx for Tagalog) I place within L-syntax, i.e. not the pure lexicon. I do not think it is contradicting myself to say that some cases are semi-productive (i.e. L-syntax) and others are no longer productive at all (i.e. lexicon). \textit{Pag} in Tagalog can be added to loan words for example \textit{mag-slice} (\textit{Magslice ka ng tomato}. ‘You slice the tomato.’) It would be interesting to see if the Navajo morphemes can also be added to loan words.} The material licensed by the Inner Aspect head is added in the next step of head movement (see (103b) below). At this point, all that appears here are two agreement markers (#4, #5) that will be discussed in more detail below. In the next step, (103c), movement to $V_1$ adds the lexical material in position #6. Since this material will be added by interior affixation, the already existing material (#4, #5), will be pushed further from the root. In the final movement to T, (103d), tense (#7) and subject agreement (#8) are added, once again attaching to an interior position. Post-movement, material is adjoined to the merged positions via Late Adjunction as shown in (103e).
Before investigating the semantic content of the various positions, let us first propose a solution to the conjunct/disjunct divide. Looking at (103e) above, we can see a qualitative distinction between the disjunct prefixes (#1-#3) and the conjunct prefixes (#4-#8). Those prefixes that are ‘loosely bound’ are all attached via late adjunction. I will assume that this difference in mechanism accounts for their distinct behavior.

Now let us go back to the details of the Navajo morphemes with the goal of correlating their content with their syntactic position. Position #9 is the root, positions #7, #8, and #4 are fairly straightforward being Tense, subject agreement and object agreement respectively. As already discussed, positions #2 and #3 are aspectual modifiers, which, as modifiers of Inner Aspect, attach to Inner Aspect. I have nothing more to say about any of these. I turn my attention now to the remaining more problematic positions of #5, #1, and #6.

Position #5 is difficult to explain. It seems to be a low subject position, appearing unexpectedly below V₁. Superficially, it has two semantic elements in common with the reflexive passive in Spanish. It is used for unspecified agents, and it is used for passive interpretation (see Young 2000: 35). A relevant example from Spanish is given below (from Bruhn-Garavito 2000: 36).

(104) Ayer *(se) vendieron los helados
    yesterday SE sold-PL the ice creams
    ‘Yesterday the ice creams were sold.’

---

27 Lsubject/object indicates the logical subject/object position, or merged subject/object position. Dsubject/object indicates the derived subject/object position.
Tentatively, I propose that the morpheme is not so much subject agreement as it is an element which absorbs an external theta-role giving an interpretation similar to a passive or an unspecified external argument.

Now we turn to the ‘adverb’ positions #1 and #6. These, I have claimed, are part of the lexical entry of the verb. They differ, however, in where they are placed in the tree. Ideally these differences would have consequences. Such consequences are addressed in more detail in Chapter 8, but, for now, the basic predictions are clear. Position #6 is expected to be related to the external argument or the whole event as it is merged in V₁, the position where the external argument is generated and which is at the edge of the whole event. Further, position #1 within V₂P is expected to relate to the end point of the event. A quick look at the details of the affixes found in this position from Young (2000) is only suggestive but I argue that they go in the appropriate direction.

In Position 1, the prefixes range over a variety of meanings, but all arguably related to the core event (in the sense of Tenny 1998). The most promising types are those that encode what Young calls BOUND POSTPOSITIONALS and SIMPLE ADVERBIALS (in Position 1b). Some examples are given in (105a) and (105b) below.

(105) Position 1b

a. BOUND POSTPOSITIONALS (Young (2000: 45)

-\textit{k'í-}: onto (e.g. pour onto)
-\textit{-í-}: against (e.g. lap against)
-\textit{gha-}: away from (e.g. take away from)
-\textit{ghá-}: through (e.g. penetrate through)
b. **SIMPLE ADVERBIALS**

'a- 'e- 'i-: away, out of sight (e.g. the sun set, moves away out of sight)
ha-: up, up out (e.g. climb up)
'ahá-: apart, in half (e.g. cut in two)
'ada-: downward from a height (e.g. descend)
ch’í-: horizontally (e.g. carry outside)
na'1-: around (e.g. walk around)
na'3-: downward (e.g. get down)
ná'1-: around (e.g. extend around)
ná'3-: up from a surface (e.g. get up)

The English translations of these morphemes highlight their similarity to event endpoints and to English particles which would correlate with their low position in the phrase structure. Other elements that can appear in Position 1 are:

(106) Position 1 (cont.)

(i) Position 1d - null postpositions which co-occur with an object clitic and generally indicate a goal argument (e.g. hex (on him), poke (him), contact (him)),

(ii) Position 1b – locations (e.g. into mouth, into hole, into field, into hand).

(iii) Position 1b - thematic elements, (e.g. die – to die; smoke – to smoke; mental – to think),

(iv) Position 1a – semeliterative (once again),

(v) Position 1d - reversionary (e.g. return, revert, put back),

(vi) Position 1c – reflexive which co-occurs with object agreement marker (e.g. shave self).

To understand these fully and to place them into the context of the structure I am proposing is a study in itself. A quick attempt at an analysis, however, leads me to posit that (i) and (ii) above are similar to the bound postpositionals of position 1b that we have just seen in (105) as they give an endpoint to the event. The thematic arguments listed in (iii), I would argue, are parallel to the inherent objects that are discussed in Chapter 6,
section 6.7.2xx. Generally these would be an incorporated version of an English pair such as ‘have a smoke’ and ‘to smoke’. The last three are the hardest to account for but (iv) and (v) could be argued to modify the core event. It would be interesting to see if they produce a restitutive reading in the sense of von Stechow (1995) indicating the return to the state expressed by the core event. Finally, (vi) would have to indicate a process of low argument saturation. Here it is interesting that the example given is a verb of grooming which in English is given a reflexive meaning when the object is dropped (and we will see in Chapter 6, section 6.3.2xx that Tagalog marks such verbs lexically).

Now let us return to Position 6. This position is predicted to contain elements that refer to the whole event, not just the endpoint. Young writes “semantic identification is often difficult and quite speculative. There are possible 40 or more prefix constituents of position 6” (Young 2000: 32). He divides these into three subcategories. The first category marks transitional, semelfactive, and seriative aspect. The second category marks terminus or round shape. The third category is more complex. Some of the uses are:

(107) Position 6

(i) thematic elements
   a. movement of arms/legs (e.g. reach with hand, step into)
   b. fire/light (e.g. to burn something, light shines through)
   c. stomach/food/oral noise (e.g. belch, say)

(ii) co-occurs with Position 1 downward prefix and acts as a unit meaning ‘downward movement to a state of freedom’

(iii) inchoative (e.g. start to paint)

(iv) seriative (e.g. enter one after another)

The prefixes of type (ia) could be seen as being subject oriented with Possessor Raising. An example that is given is I reached into it, which can be seen as a form as My hand went into it, or I went into it handwise. Perhaps (ib) and (ic) could also be analyzed similarly or as instrumentals. Again, much more work would have to be done to have a consistent analysis throughout. It is difficult to understand (ii) and Young, himself,
admits being tentative about it. We will see (iii) the inchoative is represented in \( V_1 \) in languages like Malagasy (discussed in Chapter 6, section 6.2.2). As for (iv), Slavic can express the seriative with the pre-verb \( po- \). This meaning occurs only when \( po- \) is attached to a predicate which is already telic. The relevant example is given below, taken from Kozlowska-Macgregor (1999, see also Kozlowska-Macgregor 2005).

\[(108)\text{Po-prze-czyt-yw-alam wszystkie jej ksiazki}\]

\( \text{COMPL-PERF-read-FREQ-PAST all her books’} \)

‘I have read all her books occasionally one after another and right through.’

The ‘right through’ part of the meaning comes from the perfective pre-verb. The ‘occasionally’ part of the meaning comes from the frequentative suffix. The ‘one after another’ meaning comes from the completive \( po- \). The main point of Kozlowska-Macgregor’s paper is that the exact meaning of \( po- \) depends on what it has been combined with and in which domain it appears (within or external to VP). Her claim is that the \( po- \) above has been attached VP externally. An alternative, however, is that \( po- \) is attached as a modifier on \( V_1 \), modifying the perfective pre-verb that I assume (see Chapter 8, section 8.2.2xx) is also in \( V_1 \).

The discussion above, while preliminary, is meant to show that details of the semantics of the various parts of the Navajo template correlate with appropriate parts of the event. In the end, what Navajo has shown us is that lexical entries can be spread across a word and be interrupted by non-lexical aspectual material and agreement. We can account for this if we allow the \( V \) to have parts to it as predicted in a VP shell analysis and further have (at least) one non-lexical head sandwiched between these shells. Further, the lexical material that we find in each of the bits should be restricted in what it adds to the meaning of the root. We can account for these restrictions but aligning the lexical bits with syntactic heads that encode specific parts of an event.

### 3.2.3 Agreement in Tagalog

Returning now to Tagalog and combining what we have seen about object movement and what we have seen about Inner Aspect, we can get further confirmation for the VP
structure being proposed from a subset of the subject agreement facts in Tagalog. There are two interesting aspects to subject agreement in Tagalog. One is that the agreement changes depending on whether the subject is the logical subject or the logical object. The other is that what has been called the agreement with the logical object in subject position looks very much like the imperfective (+incomplete) aspect marking that we have seen above.

When the Agent is the subject in Tagalog, the (optional) plural agreement marker is *pagsi-* . An example of this is given in (109) below.  

(109) Agent subject agreement (*pagsi*)

a. Kumakain na ang bata ng hapunan
   AV.IMPERF-eat already NOM child ACC supper
   ‘The child(ren) is/are eating their supper already.’

   a'. Nagsi- kain na ang mga bata ng hapunan
   AV.IMPERF.PL-eat already NOM PL child ACC supper
   ‘The children are eating their supper already.’

b. Nangisda na si Ben
   AV.IMPERF-fishing already NOM Ben
   ‘Ben has gone fishing.’

b’. Nagsi- pangisda na sina Ben
   AV.IMPERF.PL-fishing already NOM.PL Ben
   ‘Ben and the others have gone fishing.’

When the subject is something other than the Agent, however, plural agreement is indicated through reduplication (data taken from Kroeger 1991: 25).

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28 The example shows a case where reduplication has scrambled away from the merged Aspect position.
For the purposes of this book, it is the reduplication form of subject agreement that is the more interesting. As we have seen earlier and is exemplified in (111) below, reduplication is also used for progressive aspect (from Schachter & Otanes 1972:67, glosses mine LDT).

(111)a. Nagluto ng pagkain ang nanay.
   PST.\textit{PAG}\textunderscore\textit{cook} \textit{NG} food \textit{ANG} mother
   ‘Mother cooked some food.’

b. Nagluluto ng pagkain ang nanay.
   PST.\textit{PAG}\textunderscore\textit{RED}\textunderscore\textit{cook} \textit{NG} food \textit{ANG} mother
   ‘Mother is cooking some food.’

We could say, then, that reduplication is represented in Aspect in both cases. This would explain why the logical subject would not show this type of agreement since it never passes through the SPEC, ASP position triggering the reduplication.

We can see further that the reduplication that indicates plural objects is not the same as the imperfective reduplication since they can co-occur as the example below shows (from Aspillera 1956: 143, glosses mine, LDT).\textsuperscript{29}

\textsuperscript{29}The +incomplete aspect appears outside of the plural marking as is clear by the vowel length on the first CV in the triple CV sequence, though only some speakers get the vowel length distinction. This vowel lengthening occurs with the aspect reduplication and not with the agreement reduplication. This ordering of affixes may indicate again that this is a case of Outer Aspect (progressive) having an effect on Inner Aspect.
(112) Plural agreement with +INCOMPLETE aspect

Pinagbíbibihisan ng katulong ang aking mga anak

\( n-pag_{agr} \cdot red_{agr} \cdot red_{agr} \cdot bihis-an \)

PST-AGR-ASP-AGR-dress-TT NG maid ANG 1SG.POSS PL child

‘The maid is dressing my children/My children are being dressed by the maid.’

While both Kroeger (1991) and Aspillera (1956) analyze this reduplication as subject agreement, analysis of it as agreement is not uncontroversial. An alternative analysis would characterize the morpheme as a marker of iteration. An example with the iterative translation is given below.

(113) Pinagbububukas ni Juan ang mga bintana

PERF.TT.RED.RED.open GEN Juan NOM PL window

‘Juan opened the windows repeatedly.’

(114) Pinagsisisipa ni Diego ang mga bola.

TT.RED.RED.kick GEN Diego NOM PL ball

‘Diego kicked the balls repeatedly.’

It is clear that there is a connection between the two. As we will see in Chapter 8, one way of coercing a telic event into a homogeneous event is by making it iterative. I leave an investigation of this for future research.

3.2.4 Summary

In this section I have argued that there is an inflectional domain embedded within the VP, and it is the SPEC of one of these categories that is the landing site of the derived object. Again, the arguments for the existence of such a domain have come from the order of elements, in this case morphemes. More data that uses free-standing words as well as other syntactic processes will be provided in in Chapter 6 to support this finding. The

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30 I thank both Norvin Richards and Raph Mercado for discussion on this point.
important observation from this section is that inflectional material may appear within what seems to be a lexical item. While this statement assumes a certain view of what a lexical item is that will be fleshed out in Chapter 6, the basic idea is that a lexical item can be made up of semi-productive bits, similar to verb particle constructions in English (*throw up, throw out, look up, look through*). Inflectional material appearing between these lexical parts is not surprising if one allows these bits to appear in different heads in a phrase structure and further one allows inflectional heads to appear syntactically within this domain.

Having established that there is an aspectual head within the VP, I now turn to a different functional category that appears at the outer boundary of the VP. I will eventually argue that these heads are of the same type in that they both are related to event structure.

### 3.3 ARGUING FOR EVENT

Starting with Pollock (1989), there have been arguments brought forward in support of a functional category between V and T. I investigate this particular head for two reasons. First, it will become important to later discussions about the boundary between the VP and the purely inflectional domain. The second reason is that this position has often been seen to be where Aspect appears and/or where the derived object appears. Since I have moved both Inner Aspect and the derived object to lower positions, it is instructive to re-investigate this VP external head.

Pollock’s arguments for an inflectional head above V and below T come from apparent short verb movement of non-finite lexical verbs (as opposed to auxiliary verbs) in French. Using the placement of the negative marker *pas* and sentential scope adverbs, Pollock shows that finite verbs and infinitival verbs have a different surface position. Finite verbs appear before *pas* and adverbs as shown below (Pollock 1989: 367).

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31 Thanks to Raph Mercado and Eden Mercado for these data.
32 Material in this section first appeared in Travis (1994).
(115) a. Jean (n’) * aime pas Marie.
   Jean (ne) likes PAS Marie
   ‘Jean doesn’t like Marie.’

   b. Jean embrasse souvent Marie.
   Jean kisses often Marie
   ‘Jean often kisses Marie.’

Infinitival lexical verbs, however, appear after *pas (compare (116a) and (116b)) but before the sentential adverb, as in (116c) (Pollock 1989: 374, 378).

(116) a. Ne pas sembler heureux est une condition pour écrire des romans.
   NE PAS seem INF happy is a condition for write INF DET novels
   ‘To not seem happy is a condition for writing novels.’

   b. * Ne sembler pas heureux ...

   c. Parler à peine l’italien après cinq ans d’étude dénote un
   speak INF hardly DET Italian after five years DET study indicate DET
   manque de don pour les langues.
   lack P gift for DET languages
   ‘To hardly speak Italian after five years of study shows a lack of a gift for languages.’

   The claim, then, is that there is a syntactic head between the position of negation and the adverb. We do not have evidence of this position of short verb movement in the case of finite verbs since finite verbs obligatorily move to the higher head position.
French lexical verbs, however, in their infinitival form, can optionally move to this intermediate position. This is shown schematically in (117) below.

(117) **French lexical verbs:**

\[
\begin{array}{c}
V_{\text{FIN}} \quad \text{NEG} \quad V_{\text{INF}} \quad \text{ADVERB} \quad [V \_ \_ ] \\
\text{\textbf{\ulcorner}} \quad \text{\textbf{\ulcorner}} \quad \text{\textbf{\ulcorner}} \quad \text{\textbf{\ulcorner}} \quad \text{\textbf{\ulcorner}} \\
\text{+finite obligatory} \quad \text{-finite impossible} \quad \text{+finite obligatory} \quad \text{-finite optional} \\
\end{array}
\]

English, on the other hand, does not exhibit short verb movement with infinitivals as we can see in the examples given below. We see that the verb *seem* must appear after the negation in (118a,b) and the verb *speak* must appear after the adverb in (118c,d) (Pollock 1989: 376&381).

(118)a. **Not to seem** happy is a prerequisite for writing novels.

   b.* **To seem not** happy is a ...

   c. **To hardly speak** Italian after years of hard work....

   d.* **To speak hardly** Italian ...

Given this, we can have a very simple English version of the schema we have already seen in (117) for French. Basically, English lexical verbs do not move into this inflectional domain.

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33 For the time being, I label the intermediate position $V_{\text{inf}}$ for infinitival verbal forms.

34 Pollock also discusses the position of French auxiliary verbs but that discussion is not relevant for my concerns here.
The correlation between the two languages becomes more interesting, however, when we add the data concerning the position of the English infinitival marker to. While Pollock concentrates on the lack of verb movement in English infinitivals, we can add the observation that the position of short verb movement in French (between the negative marker not and sentential adverbs) is occupied by this marker in English.

In both French and English, then, there is evidence for a position between negation and certain adverbs. This position is targeted by the movement of infinitival verbs in French, and it is realized by the infinitival marker to in English.

There is general agreement that there is a functional category between V and T but here I concentrate more on what this functional category is, and what its function is. To remain neutral concerning the label of the category, I simply refer to it as F. Eventually, I label it E(vent) due to its importance in characterizing and outlining an event.

3.3.1 Characteristics

I begin the investigation by reviewing some of the uses of this intermediate head position. I argue that in the verbal domain, the position is tense related. More particularly, it seems to be related to the lack of finite tense. Also, I suggest that markers in this position also encode the distinction realis/irrealis. Since my main interest is in the syntactic uses of this position, I admittedly leave the details of the actual semantics quite vague. The goal is to give only an intuitive sense of a natural class of meanings that material in this position can provide.
3.3.1.1 Tense related

In the data that we have been investigating, the F position is related to (the lack of) tense. As Pollock shows, in French, this position is linked in some way to the infinitival. While his evidence comes from the position of infinitivals through head movement, one could also argue that infinitival morphology is actually generated in the position between the V and T. Movement to this position could be triggered by the actual affix (or a relevant feature). Further, in a view where morpheme order is determined through head movement (e.g. Baker 1988), phrase structure could be used to explain the morpheme make-up of the future and conditional tenses in French where infinitival morphology appears between the V and tense/agreement morphology.

(121) \[ \begin{array}{ccc}
V & F & T/\text{agreement} \\
\text{FUTURE:} & \text{parl} + \text{er} + \text{a} & \text{‘s/he will speak’} \\
\text{CONDITIONAL:} & \text{parl} + \text{er} + \text{ait} & \text{‘s/he would speak’} \\
\end{array} \]

As we can see in (121), the future and the conditional in French both include the infinitival marker chosen by the conjugation class of the verb, whether it is –er, -ir, or –r. I start with the assumption that this is not accidental and that the infinitival morphology indicates movement through a head linked to infinitival marking.

Using F for the morphological markers of infinitivals would also explain the positioning of the infinitival marker to in English. As mentioned above, to may be found in the same position as the moved infinitival verb in French. The infinitival marker in English is not a bound morpheme and it does not trigger movement of the verb to this position. There is no evidence, therefore, of short movement of lexical verbs in English. This construction, then, would parallel other cases where a head which is filled with a free-standing morpheme will prevent head movement to that position.

 infinitive | parler | partir | prendre
---|---|---|---
FUTURE | parler-ons | partir-ons | prendr-ons
CONDITIONAL | parler-ions | partir-ions | prendr-ions
While it has often been assumed that to is generated in the same position as Tense, there is an additional argument to show that there isn’t just one position that marks both [+tense] and [-tense]. One position will not explain the word order facts of the finite verb and to with respect to the position of not. Where the finite verb must appear before not, to may appear after not. As (122d) shows, a finite verb will select for an empty headed complement in English.

(122) V finite \( \text{NOT} \) to (NOT) V
a. \( \text{Not to} \) leave would be difficult.
b. \( \ast \) John \( \text{not will} \) leave.
c. John \( \text{will not} \) leave.
d. \( \ast \) John \( \text{not will} \) to leave.

It may be that the subjunctive in English is also related to the position of short verb movement. It is certainly the case that subjunctives do not move to T. In (123) below we can see that, while finite auxiliary verbs appear to the left of negation, subjunctive auxiliaries appear to the right.

(123) a. Sally would prefer that I \( \text{not be} \) reading that book. \( \text{SUBJUNCTIVE} \)
   a’. \( \ast \) Sally would prefer that I \( \text{be not} \) reading that book.
   b. Sally said that I \( \text{was not} \) reading that book. \( \text{INDICATIVE} \)
   b’. \( \ast \) Sally said that I \( \text{not was} \) reading that book.

When looking at subjunctive auxiliary verbs with respect to sentential adverbs, the data are less clear. In fact, they are similar to the data for infinitival auxiliaries. Pollock

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35Pollock suggests in his footnote (12) that to may be generated in Agr, his position for short movement. Laka (1990) proposes that Tense must c-command negation. Since to is [-tense], it may appear below negation. Baltin (1993) also discusses the position of to and provides interesting data concerning the position of to with respect to not and interactions with VP deletion. As Pollock writes in his footnote ‘Needless to say, neither this proposal nor the one made in the text exhausts what has to be said concerning to.’

36It also appears that to may appear before not as is ‘To not leave would be difficult’ but this may be the constituent negator not.
argues that there may be short verb movement for auxiliaries in English. He gives the following examples.

(124) a. ? I believe John to be often sarcastic. (P: (39c))
    b. * I believe John to sound often sarcastic. (P: (39d))
    c. ? Peter is said to have seldom enough money. (P: fn.18)
    d. * Peter is said to make seldom enough money. (P: fn. 18)

To my ear, the subjunctive facts are similar.\(^{37}\)

(125) a. ? Sally would prefer that I be often sarcastic.
    b. * Sally would prefer that I sound often sarcastic.

In French and English we have seen F used for infinitival marking, in English it is also arguably used for positioning of the subjunctive. We can find data in other languages to show that morphology between tense and the verb might be mood related. In Nahuatl (p.c. Mark Baker), the future morpheme (which may be used to designate future, subjunctive, infinitive or the polite imperative) may co-occur with the tense morpheme in which case the future morpheme occurs closer to the verb root.

(126) a. ni-cochi-z
    1SS-sleep-FUT
    ‘I will sleep.’

\(^{37}\)Frankly, I have some difficulties in evaluating these data since I am not convinced that the adverb is not in some sense modifying the predicate which it precedes.
b. ti-cohi-z-que
   1PS-sleep-FUT-PL
   ‘We will sleep.’

c. CONDITIONAL
   ni-quito-z-quia
   1SS-say-FUT-PST
   ‘I would have said’

In (126c) we can see that this future morpheme is used much in the same way that
the infinitival marker in French is used. Two more examples of a future morpheme
appearing below tense are given in Cinque (1999: 59-60).

(127) Guyanese Creole (Gibson 1986: 585)
   Jaan bin gu riid
   John PST FUT read
   ‘John would have read’

(128) Sranan (Seuren 1983: 227)
   A ben o kan nyan
   he PST FUT can eat
   ‘He would be able to eat.’

It appears, then, that future may appear in a position that is not tense with the effect
of making the mood of the clause irrealis.

What this evidence points to is the existence of a functional category between V
and T that is used for verbal inflection that encodes infinitivals, subjunctives, and future
when it gives an irrealis reading.38

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38 It may be that all future elements are generated in this position and that when the clause is anchored to
the present, we get the ‘pure’ future meaning (see Baker and Travis 1997 for some views on this).
3.3.1.2 Reference related

Malagasy provides further evidence that F introduces verbal morphology that is different from tense and closer to the verb than tense. I have labelled it ‘reference related’ since the morphology under discussion in this section adds no tense-related meaning (i.e. realis/irrealis). Rather I see this morphology as demarcating the edge of an event in a way that I hope will become clearer in Chapter 6. This discussion will be comprised of two parts — one an analysis of the tense system of Malagasy, and one an analysis of the topic marking system of Malagasy. In the end, each provides support for the other.

Malagasy, as we have already seen in Chapter 2, section 2.5.3xx, may make a variety of DPs subject by changing the topic morphology on the verb. In Malagasy, there are basically three paradigms, one which makes the highest theta-role in the theta hierarchy the subject (Actor Topic), one which makes the second theta-role the subject (Theme Topic), and one which makes other arguments such as the benefactive, instrumental, location, etc. the subject (Circumstantial Topic). When one looks at the tense system of Malagasy across the topic marking paradigms, there appears to be one major inconsistency.

(129)  

<table>
<thead>
<tr>
<th></th>
<th>ACTOR TOPIC</th>
<th>THEME TOPIC</th>
<th>CIRCUMSTANTIAL TOPIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRESENT</td>
<td>m-</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>PAST</td>
<td>n-</td>
<td>no/n-</td>
<td>n-</td>
</tr>
<tr>
<td>FUTURE</td>
<td>h-</td>
<td>ho/h-</td>
<td>h-</td>
</tr>
</tbody>
</table>

In (129) above, we can see that past and future tense are similar in all topic forms. The present tense, however, has no overt morphology in two of the topic forms, Theme Topic and Circumstantial Topic, but is realized as m- in the Actor Topic form. As a first step in reanalyzing the morphology of Malagasy, I will follow a suggestion of Hung (1988) that the present tense is always indicated by a zero morpheme. The m-, then, is part of the Topic morphology for Actor Topic and not part of the tense paradigm. This m- deletes when it is preceded by another consonant as in the past and future tenses.

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Rajemisa-Raolison (1971:100) suggests that the appearance of no- or ho- rather than n- or h- is conditioned by stress rather than topic choice. I leave this for future work.

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The revised morphological system for tense, then, would be the more consistent one given below.

(130)  

<table>
<thead>
<tr>
<th></th>
<th>ACTOR TOPIC</th>
<th>THEME TOPIC</th>
<th>CIRCUMSTANTIAL TOPIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRESENT</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>PAST</td>
<td>n-</td>
<td>no/n-</td>
<td>n-</td>
</tr>
<tr>
<td>FUTURE</td>
<td>h-</td>
<td>ho/h-</td>
<td>h-</td>
</tr>
</tbody>
</table>

Now we turn to the specifics of topic morphology where again I draw heavily on the work presented in Hung (1988). Here we note first that \( m- \) is in complementary distribution with \(-na\), and second, that the other morphemes that appear in the topic paradigm have independent functions.

(131) \( \sqrt{\text{foha}} \) ‘wake up’

<table>
<thead>
<tr>
<th>ACTOR TOPIC</th>
<th>THEME TOPIC</th>
<th>CIRCUMSTANTIAL TOPIC</th>
</tr>
</thead>
<tbody>
<tr>
<td>( m)-an(_1)-(\sqrt{} )</td>
<td>( \sqrt{})-(na)</td>
<td>( \sqrt{})-(CV)-(an(_2)-(na)</td>
</tr>
<tr>
<td>mamoha</td>
<td>fohazina(^{40})</td>
<td>amohazana</td>
</tr>
<tr>
<td>( m)-an-(\sqrt{})(\text{foha})</td>
<td>(\sqrt{})(\text{foha})-(CV)-(na)</td>
<td>( \sqrt{})-(\text{foha})-(CV)-(an(_2)-(na)</td>
</tr>
</tbody>
</table>

As we will see below, prefix \( an\(_1\) \) serves as a transitivizing morpheme parallel to \( pag\) in Tagalog, and will be discussed more in Chapter 6. Suffix \( an\(_2\) \) indicates the preposition incorporation that occurs in the formation of Circumstantial Topic constructions.\(^{41}\) This leaves \( m- \) and \(-na\) unexplained. Given that they are in complementary distribution, Hung assumes that they are generated in the same position. Given that the \( m- \) occurs between tense (as argued in above) and \( V_1 \) (which is where \( an\(_1\) \) would be generated), I will assume that \( m- \) and \(-na\) are generated in F.\(^{42}\) Two questions

\(^{40}\)Often there is some idiosyncratic CV sequence added to the root of the verb before any suffixes are added. In this case the CV sequence is \( zi \) (see Erwin 1996 for an analysis of the different realizations for the CV sequence). There are other passive (i.e. Theme Topic) forms in Malagasy that will not be discussed here - root, \( voa\)-, and \( tafa\)-passives. These will be discussed in Chapter 4xx.

\(^{41}\)There are instances where this morpheme appears and yet no obvious preposition has been incorporated (see e.g. Paul 2000: Chapter 3, section 4.3 for a discussion). I leave this issue aside for now tentatively assuming the existence of a zero preposition.

\(^{42}\)I assume that Tagalog \( m-/-um\) has the same analysis as Malagasy \( m- \).
remain: (i) what does F do in this case, and (ii) why are there two different realizations of it. I will address the second question in the following section, and save the first larger question till section 3.3.2xx.

Hung (1988) proposes that the difference in realizations of F is due to the difference in case checking properties of F. In (132) below, a tree is given which indicates what topic morphology means in terms of syntax. When there is Actor Topic morphology on the verb, the DP generated in the Spec, VP moves toSpec, TP. When Theme or Circumstantial Topic morphology appears, it is an element within the V' that moves to Spec, TP.43

(132)

Another way of looking at this with respect to the distinction between m- and -na is that when m- appears, there is movement from the Spec, VP, and when -na appears, there is no movement from the Spec, VP. Given that movement to Spec, TP is assumed to be licensed by Case, the conclusion Hung draws is that -na is responsible for checking the Case of the element in the Spec, VP. Since m- cannot check case, the external argument in Spec, VP is forced to check its case in the Spec, TP. Looking at the tree in (133) below, we see that m- and -na are both generated in F. -na is responsible for allowing the contents of Spec, VP to remain in situ. Depending on other verbal morphology (for instance whether there is P-incorporation or not), either the Theme or a

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43 Here I use a simple VP structure as it is sufficient for the present purpose.
Circumstance will move to SPEC, TP. If \( m \)- is generated in F, then the contents of SPEC, VP will move to SPEC, TP to be licensed.

\[
(133)
\]

\[
\begin{array}{c}
\text{TP} \\
\text{T'} \\
\text{T} \\
\text{FP} \\
\text{DP} \\
\text{F'} \\
\text{F} \\
\text{VP} \\
\text{m- [-Case]}
\text{-na [+Case]}
\end{array}
\]

\[
\begin{array}{c}
\text{Actor} \\
\text{V'} \\
\text{V} \\
\text{Theme} \\
\text{Circumstance}
\end{array}
\]

The position and realization of these morphemes, then, finds some support. Being in the closest functional category to the SPEC, VP, there is at least intuitive appeal to their licensing relation to this position. Further, the distinction between \( m \)- and -na can be linked to the difference in whether or not the contents of SPEC, VP is licensed in situ.\(^{44}\)

Now we turn to the larger question — what is the function of F in terms of interpretation? What we have seen above is that one use of F is for verb related morphology that is not tense. It may be used for infinitival marking (French and English), subjunctives (English), and DP licensing morphemes (Malagasy). Further, this projection can be selected specifically, in particular by causatives. In English, we could posit that the causative make (as opposed to have, see Ritter and Rosen 1993) selects FP. This is clearest in the passive where the infinitival marker in F appears.\(^{45}\)

\(^{44}\) Depending on which Case framework is being used, further details must be worked out. I'll assume here that there is an AGREE relation as in Chomsky (2000) between F and SPEC, VP. It has to have the effect of both allowing this DP to stay in situ and another lower DP to move to SPEC, TP.

\(^{45}\) I have no explanation for the disappearance of to in (134a). Fabb (1984:71-2) ties verbal morphology to verbal case and notes that the morphology is unnecessary when the matrix verb is active and can assign case. It would be interesting to use his observation, recast within the Minimalist Program, to account for the data in (134).
The parents made the children go to bed early.

b. The children were made *(to) go to bed early.

The morphology of Malagasy provides better support for the hypothesis that certain causatives select FP. Hung (1988) argues that, while there appear to be two different causative morphemes in Malagasy (this will be discussed in much more detail in Chapter 6), these two morphemes can, in fact, be collapsed into one if it is assumed that the morpheme appears at different positions in the phrase structure.

The first causative (a lexical causative) is the transitivizing affix that was mentioned briefly in the section above. There are many instances of the alternation, one of which is given below, where the verb with an i- prefix is an unaccusative and the verb with the an- prefix is a transitive. Hung proposes that an- adds Case and an Agent.

(135) TRANSITIVIZING (LEXICAL CAUSATIVE) PREFIX: an- (vs. i-)

a. manala 'to take x out'
   m-an-\|ala
b. miala 'to go out'
   m-i-\|ala

The productive causative morpheme in Malagasy is -amp- and, like most causatives, it also adds an Agent and Case.

(136) PRODUCTIVE CAUSATIVE PREFIX: amp-

a. manala ‘to take x out’  mampanala ‘to cause y to take x out’
   m-amp-an-\|ala
b. miala ‘to go out’  mampiala ‘to cause y to go out’
   m-amp-i-\|ala

Given the similarity in form and function of amp- and an-, Hung reanalyzes amp- and an- and f-. The transitivizing an- would be generated in the highest V within a
Larson type structure as we have seen for Tagalog pag- in Chapter 2, section xx. In this position, it would be responsible both for the external argument, and the accusative case. But an- can also be a productive causative, selecting an FP. The morpheme f- generated in F will follow the productive causative an- but not the transitivizing morpheme an-,
accounting for the difference in realization. In the end there is one an- morpheme which
has the same function, but its realization will vary depending on whether it is generated
as head of the complement of F or the selector of F as shown in the trees below. (137a)
shows the productive causative an-, which selects FP and therefore is followed by the
morpheme f-. This results in the complex morpheme an-f- (amp-). (137b) shows, using
the Inner Aspect structure being proposed here, the lexical causative structure, which
selects ASP and is selected by FP. Since the ASP morpheme is zero in this case, the
causative morpheme remains an-.

(137)a. PRODUCTIVE CAUSATIVE

b. TRANSITIVIZER (LEXICAL CAUSATIVE)

At this point of the discussion, all that is important is that the productive causative
and the lexical causative are created by the same morpheme and that the apparent
difference between the productive causative (amp-) and the lexical causative (an-) is due
to an additional morpheme (f-) which appears between the productive causative and the

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46 Other linguists working on Malagasy have interpreted productive causatives as having complex
morphology, but none, as far as I can see, in exactly the way Hung has. For example, Malzac (1908:15)
has analyzed mampanoratra as man+pa+noratra. He does this to make it more similar to the Tagalog
pag+pa. This analysis misses the point, however, since the nasal at the beginning of the root soratra has
no explanation. Further, there is only one instance of the morpheme (m)an-. In the analysis presented here,
the morphological decomposition would be m+an+f+an+soratra. Dahle (xx) has pointed out that a form
like mampandeha has two causative morphemes, but his analysis is man+man+leha. This leaves
unexplained why the second m- becomes p-.
stem to which it attaches. Further, this morpheme is parallel to *to* in English causatives which also occurs in F. In Chapter 6, there is more discussion concerning the differences in behavior between the two causatives.

We have seen a bit of what F can do and where it is, but the question remains as to what it is, what its function is. This, in some sense, reduces to the function of an infinitival marker, or the subjunctive, or the difference between the French imperfect (*parlait*) and the French conditional (*parlerait*). These questions will be addressed in the next section.48

3.3.2 Function of F

Among syntacticians working within the Principles and Parameters (pre-Minimalism) framework, there is a fairly large consensus that there is a functional category between T and V. There also, recently, has been some convergence as to what this category is. Below I trace some of the history of this category and give some rationalizations that have been provided for its labelling.

3.3.2.1 Previous characterizations

Pollock (1989) labeled the category which acted as the landing site for short V-movement AGR. Previous to his work, INFL was the only functional category between C and V and it was used to encode both tense and agreement. Given this background, it made sense to split the two functional jobs over the two functional categories that were shown independently to exist through the verb movement facts given in the introduction to this section. Further, since finite verbs tend to undergo long verb movement and non-finite verbs tend to undergo short verb movement, it made sense to have the higher category be TENSE and the lower category AGR(eement). Pollock’s other argument to label the lower category AGR came from his proposed parameter, which linked the lack of even short V-movement in English to its weak agreement system.

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47 Hung posits *f-* rather than *p-* because *f-* is a common reference related morpheme — on that is used, for example, to form deverbal nominals. There is a regular phonological change in Malagasy whereby a continuant becomes a stop following a nasal. This is discussed more in Chapter 6, section 6.2.2xx.

48 Elsewhere, using data from Danish adverbs presented in Reinholtz (1994), I argue that EP is also relevant for the creation of yes/no questions.
Chomsky (1991:434) relabeled the lower functional category $\text{AGR}_{O}$, and introduced a third functional category above Tense which was $\text{AGR}_{S}$. His argument for this modification was that subject agreement tends to be above tense as determined by morpheme order (see also Belletti 1990). If there were an agreement category below TENSE, therefore, most likely this was responsible for object agreement. “These conflicts might be reconciled by noting that there are actually two kinds of Verb-NP agreement: with subject and with object. ... On general assumptions, AGR-O should be close to V, and AGR-S close to the subject.” Chomsky notes that while this solves a problem raised in Pollock, it has problems of its own. “It would then be unnecessary to suppose that infinitives necessarily carry (generally vacuous) subject-agreement, though we would now be assuming that AGR-O is present even for non-transitives.”

Since the existence of AGR heads has been called into question on conceptual grounds, however, the label for this functional category needs further investigation.

3.3.2.2 $F$ binds event "theta-role"
Here I suggest an alternative to viewing this category as AGR, and one that makes just as much functional sense. Higginbotham (1985) proposes a third use for INFL — as a theta-binder. In his system of theta-role discharge, theta-binding is one of four possible ways of discharging a theta-role and it occurs when INFL theta-binds the event theta-role of the verb, and D theta-binds the R theta-role of the N.49 “... we can conjecture that the position E of the thematic grid of the verb is discharged at the point where VP meets INFL. The interpretation is existential generalization over the E-position, as in Davidson (1966): hence, it is a form of theta-binding.” This theta-binding is shown in the tree in (138) using the type of notation given by Higginbotham.

(138)

```
            IP
            /
           /  
        DP   I'
        /
       /
      I
      /
     /  
    VP<...*E>
    /  
   V<...E>
```

49In Higginbotham’s 1985 article, the determiner was assumed to be in the specifier position of NP. With revised phrase structure, the parallel between INFL and DET is much clearer.
This is the function of F that I will espouse, and for this reason will label F as E(vent).\textsuperscript{50} What this means for the conclusions already reached here is that infinitival and subjunctive morphology is generated in E and, at the very least, binds the E theta-role in V. In Malagasy, both m- and -na bind the E theta-role, and -na, in addition, is able to license a DP. Causatives that occur above E such as make in English, and what is realized as amp- in Malagasy, specifically select a fully saturated event (i.e. a VP which has discharged its E theta-role).

I further argue that we can see the effects of the theta-binding of E. E and ASP would be of the same type. Each would select a VP and bind an event type theta-role in the head V. Where the form of Aspect might affect the telicity of an event (targetting the endpoint), Event would have scope over the whole event. It might be used for realis/irrealis distinction, or it might take on some referential force like its nominal counterpart R. The realis/irrealis distinction could be argued to account for the subjunctive use of E. The referential use of E shows up in the causative construction where, as argued by Ritter and Rosen (1993), make V constructions encode two events while have V constructions encode only one.\textsuperscript{51} E is the obvious place to encode mood creating a complete system where T represents Tense, E mood, and ASP Aspect, but I leave the exploration of this idea to future research.

3.4 PARTIAL A-MOVEMENT

Having set up the whole phrase structure, now, where VP has an internal inflectional domain, I return to the problem of N3 languages. I propose that N3 languages use this VP internal inflectional domain in a way that indicates overtly its function as a landing

\textsuperscript{50}Stowell (1995) proposes a Z(ect) Phrase, which like E, theta-binds the event theta-role introduced by the V. ZP and EP, are similar, then, in some respects. They are different enough, though, to assume that they represent two very different proposals. ZP is much more like a Tense phrase in that it orders events. I assume that EP does not have that role. Harley (1995) also proposes an Event Phrase but hers, in introducing the external argument, is much closer in function to my V\textsubscript{1}. Carstens and Kinyalolo (1989) relabel this intermediate functional category ASP(ect).

\textsuperscript{51}I have no account of have, though I would be tempted to generate it in E and have it act as a higher version of the ha-/ka- Malagasy/Tagalog morpheme discussed in Chapter 7. Much of the literature on lexical causatives points to the observation that lexical causatives (as opposed to productive syntactic causatives) encode just one event (see Fodor 1970, Shibatani 1972, 1976). This is discussed more in Chapter 6.
site for A-movement. In this section I argue that the N3 order is created by partial A-movement parallel to partial A’-movement in languages like German.

To start the discussion, I present Cheng’s (2000) analysis of partial wh-movement which I use as a starting point for my account of N3 languages. Below we see an example of partial wh-movement in German. In (139a), the wh-element, in this case a PP, has moved to the matrix COMP. (139b) is an example of partial wh-movement where the wh-element has moved only to the intermediate COMP position (Cheng 2000: 78 taken from McDaniel 1989: 569).

(139) a. \[ [pp \text{ Mit wem }], \text{ glaubt } [ip \text{ Hans } [cp t, daβ } [ip \text{ Jakob } \text{ jetzt } t, \text{ spricht } ]] \]

with whom thinks Hans that Jakob now talks

‘With whom does Hans think that Jakob is now talking?’

b. \[ \text{ Was, glaubt } [ip \text{ Hans } [pp \text{ mit wem }], [ip \text{ Jakob } \text{ jetzt } t, \text{ spricht } ]] \]

wh thinks Hans with whom Jakob now talks

There are two important observations to make. First, when the wh-phrase has not moved to the scope-bearing COMP, the path between the wh-word and the scope-bearing COMP is marked by WH-COMPS. This is shown in (140) below. (140a) shows full wh-movement. Here the intermediate COMPS are marked –WH by daβ. (140b) shows partial movement with the appropriate WH-COMP, was, along the path. (140c) shows that the use of was is obligatory.\textsuperscript{52}

(140) a. \[ [pp \text{ Mit wem }], \text{ glaubst } [ip \text{ du } [cp t, \text{ daβ } [ip \text{ Hans meint }]

with whom believe you that Hans thinks

[cp t, daβ [ip \text{ Jakob } \text{ jetzt } t, \text{ gesprochen hat }]]

that Jakob now talked has

‘With whom do you believe that Hans thinks that Jakob is now talking?’

\textsuperscript{52} The ungrammaticality of (140c) seems to be dialectal. I would assume that the dialect variation is a superficial one of morphological representations of features.
b. \[\text{Was}_i \text{ glaubst [IP du [CP } \text{ was}_i [IP \text{ Hans meint }] \text{ WH believe you WH Hans thinks }] [CP [PP mit wem ]}, [IP \text{ Jakob jetzt t, gesprochen hat } ])]\]
   with whom Jakob now talked has

\[\text{c. * Was}_i \text{ glaubst [IP du [CP } \text{ daß [IP Hans meint }] \text{ WH believe you that Hans thinks }] [CP [PP mit wem ]}, [IP \text{ Jakob jetzt t, gesprochen hat } ])]\]
   with whom Jakob now talked has

Second, while the WH-phrase need not make the full movement, it may not remain in-situ. As (141a) shows, WH-in-situ may be licensed by a full WH-phrase in the scope bearing COMP. Such licensing is not possible, however, with the bare scope marker was as we can see in (141b).\(^{53}\)

(141a) \[\text{Wann}_i \text{ glaubst [IP du [CP } \text{ daß [IP Hans an welcher Universität studiert hat ]]} \text{ when believe you that Hans at which University studied has }\]

‘When do you think that Hans has studied at which university?’

(141b) \[\text{Was}_i \text{ glaubst [IP du [CP } \text{ was}_i [IP \text{ Hans meint [CP was}_i [IP \text{ Jakob WH believe you WH Hans thinks WH Jakob }] [PP mit wem ]}, \text{ gesprochen hat ]]}\]
   with whom talked has

‘With whom do you believe that Hans thinks that Jakob has talked?’

Cheng accounts for these data via cyclic WH-feature movement, a theoretical possibility discussed in Chomsky (1995). However, Chomsky (2000) backs away from this

\(^{53}\) (141a) comes from McDaniel (1989) via Cheng (2000:80). I have changed the gloss of glaubst to be consistent with the data provided by Cheng.

draft: 8/10/06
possibility and proposes that constructions that appear to make use of feature movement are, in fact, cases of AGREE, a relation between a probe and a goal. AGREE is a relation that is constructed before movement occurs. Here I link the properties of partial WH-movement to the facts of nominative-third (N3) languages that we saw in Chapter 2, section 2.5.3xx. The relevant example and schema are given below.

(142)a. Pagkamangk [v1p aku ya latai [v2p sa tubig Vₖ ti kan Ma’ ]]  
   rr-get I can water for Father  
   ‘I will get the water with the can for Father.’

   b. Vₖ [v1p Agt Subject [v2p Theme Vₖ ti XP]]

Recall that in N3 languages the subject, here ya lata ‘the can’, appears in a position between the Agent aku ‘I’ and the Theme sa tubig ‘water’. At this point, let us note the similarities between partial WH-movement and N3 constructions. In each case, a feature of a higher inflectional category is checked by an element that has moved to the SPEC of a lower related inflectional category. In the case of partial WH-movement, a morphological realization of the WH-feature comes in the form of was appearing in the scope bearing COMP position as well as other COMP positions along the path. The actual WH-phrase appears in a lower Spec, COMP position, presumably checking a feature in this position. In other words, we have a WH-feature appearing in a COMP that would otherwise be –WH. This is shown schematically in (143) below.
Because of the similarities with the facts of N3 languages, one can imagine a similar account. Now the relevant feature is NOM, and the relevant XP is the nominative DP (the Subject/Topic). The relevant inflectional categories that share the feature NOM are T, the head that usually bears NOM, and ASP, the head that usually bears ACC but in this case bears NOM.\(^{54}\)

\(^{54}\) As expected, the external argument will move to SPEC, TP when it is the Subject/Topic.
Nominative case is assigned to a position within the VP — the position to which accusative is normally assigned. Now we can see how the N3 word order comes about. The verb moves to some functional head outside of the V_1P. The external argument remains in Spec, V_1P and the third element will be the Nominative DP.

### 3.5 CONCLUSION

The purpose of this chapter was to provide labels for various event related categories, in particular Inner Aspect and Event. Inner Aspect is particularly important as it is an inflectional category within the lexical domain of the VP. Morpheme orders in Tagalog and Navajo showed how the phrase structure proposed accounts for the interleaving of lexical and inflectional material. Event Phrase was introduced as a higher parallel to Inner Aspect. As Inner Aspect is an event related category at the edge of V_2P, Event is an event related category at the edge of V_1P. Event will become more important in Chapter 6 as a marker of the event (and perhaps phase) edge. Before turning to that, however, I explore the relationship of the two topics we have just discussed — derived objects and Inner Aspect.

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55 This mechanism could be used to explain other constructions where NOM appears within the VP such as psych predicates in languages such as Italian and Icelandic. I leave this for future research.

56 I assume that the Spec of this position will not be filled at least overtly.

57 There is a significant problem with this view that is raised in the Bare Phrase structure/Minimalist framework. Movement to a low Spec cannot be triggered by a feature that is introduced later into the structure. Whatever technology allows intermediate WH-movement should be able to allow intermediate DP-movement.