

CHAPTER 8

BOUNDS AND COERCION

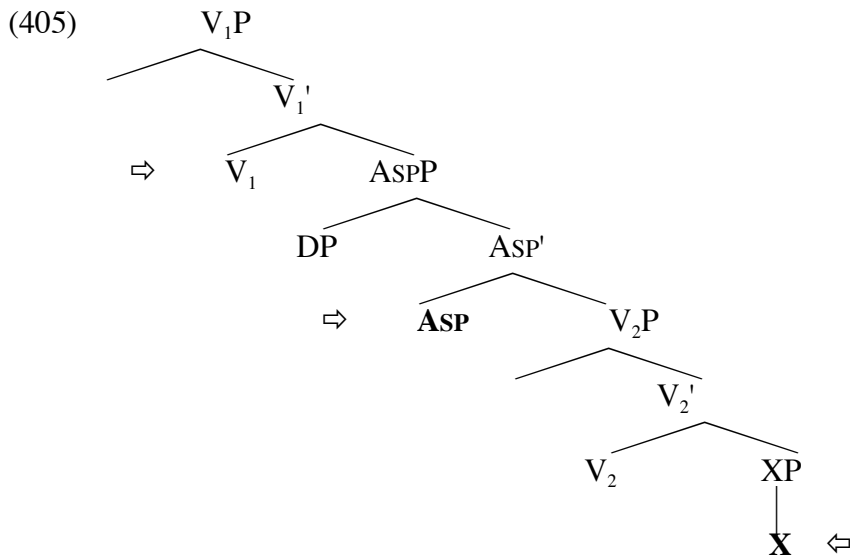
8.1 INTRODUCTION

In the previous chapters I have been constructing a view of phrase structure that maps fairly closely to event structure.¹ Working in the same direction as much of current syntactic research, I proposed in particular that syntax encodes the endpoint of an event. Problems arise, however, when endpoints are looked at more closely and looked at cross-linguistically. If endpoints are going to be encoded in syntax, we now have to face the question of how language variation in the behavior of endpoints should be represented. In this chapter I first outline some ways that languages can vary and propose that these variations can be captured by placing endpoints at various positions in the phrase structure. Once this system is set up, however, a different question arises. Some of the meanings that are achieved in certain languages with overt morphology are achieved in other languages through coercion. In the last section of this chapter I will suggest that coercion is done through a system of zero morphology that mirrors overt alternations in other languages.

8.2 ENDPOINTS

Let us review some of the claims that have been made in earlier chapters of this book. I have argued for an articulated VP structure given below where ASP(ect) Phrase occurs embedded within the VP, below the position of the base-generated external argument. It is this Aspect projection that is important in calculating the aspectual verb characterization of the verb and its internal arguments. I assume that Themes are generally merged into the SPEC position of the V₂P, but that the element that measures out the event in the sense of Tenny (1994) will appear in SPEC, ASP generally via movement.

In the present section of this chapter, I argue in particular that telicity can be marked in three places on this tree, as shown by the arrows on the tree below. These three places are (i) X, the head of the complement of the V, (ii) ASP, and (iii) V₁.



If there are three possible positions in which event boundaries can be encoded, we would like a principled way to distinguish them. I present evidence for each of these positions in turn, and argue that they have different consequences with respect to other elements in the tree. The basic distinctions will depend on three different elements:

- (i) whether the element appears in a **lexical** head (P or A),
 an **inflectional** (ASP)
 or a **light verb** head (V₁),
- (ii) whether it appears in the **Goal** position thereby establishing the endpoint of the event,
 it appears in the **telicity** position in which it determines a designated point of an event, either an ending or a beginning,
 or it appears in the **process** position of the event in which case as well as supplying an endpoint or a beginning point, it can give an arbitrary bound to the process, and
- (iii) whether it appears **above** the event measuring DP,

¹ Much of this chapter appears in Travis (2002 and to appear).

in the **same** projection as the event measuring DP,
or **below** the event measuring DP.

These distinguishing characteristics are summarized in the table below.

(406) Three positions of telicity

V₁	ASP	X
LIGHT VERB ² - restricted class - may have idiosyncratic meaning	EVENT RELATED CATEGORY - closed class - productive meaning	LEXICAL CATEGORY (AP/PP) - open class - may have idiosyncratic meaning
natural endpoint beginning point arbitrary bound	natural endpoint beginning point	natural endpoint
Above Event Measuring DP	Same projection as Event Measuring DP	Below Event Measuring DP

Going from right to left on the first row of the table we can say, just observationally, that we might expect a different inventory of elements to appear in the three positions. I assume that X often is realized as an A ('The children hammered the nail *flat*') or a P ('The children pulled the poster *down*'). As lexical categories³, we expect to have a wide range of possible elements in this position. Further, as it is a lexical category within the domain of L-syntax, I would expect some idiosyncratic behavior. For example, its semantic contribution to the V+X complex might not be completely compositional.

I assume, however, that ASP is an inflectional category and as such we expect to find a closed set of elements in this position. In the extreme there may be just the realization of plus or minus features as we have seen for *ha-* in Malagasy. Further, as an inflectional category, I would expect the realization of ASP to be more productive and its

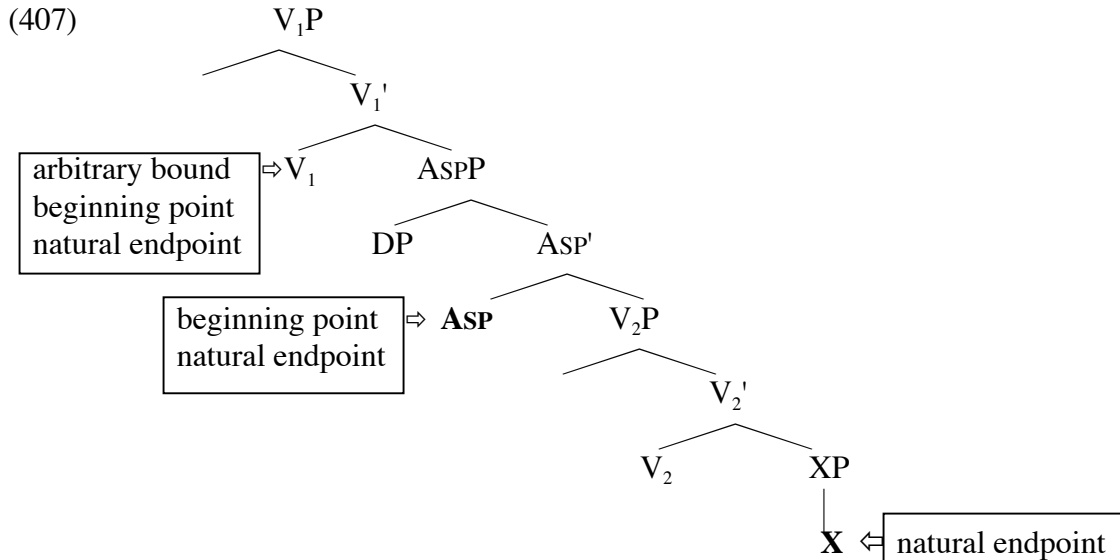
² Ritter and Rosen (1993) define functor predicates as 'predicates which lack lexical semantic content'. The "flavors" of V₁ would then be determined by their event status (+/-stative, the telicity of the lexical material they contain (as in Bulgarian pre-verbs to be discussed), and whatever idiosyncratic information the preverb contains (e.g. changing from *pisa* 'to write' to *pre-pis-a* 'to copy' in Bulgarian).

meaning contribution to be more predictable than what is found in the lexical categories within the L-syntax domain.

Finally, while Chomsky (1995) considers “little” *v* a functional category, I assume that V_1 is a light *V*, a functor category along the lines of Ritter and Rosen (1993). As such will not be as open a class as *X* or as closed a class as *ASP* but rather would have a relatively small number of realizations (see Folli and Harley, 2005, for a discussion of ‘flavors’ of little *v*, as well as Arad, 1998).

These are just observations concerning the range of variation in the elements we might expect to appear in these positions, but the other characteristics of the different elements will be much more important in determining their positions. We will see that these characteristics will follow from the syntactic configuration that they find themselves in. The second row refers to the semantic contribution that elements in each position can have. I assume that elements in *X*, the typical position of *Goal*, can only describe the natural endpoints of events. Elements in *ASP* or V_1 can pick out beginning points of events as well as natural endpoints. Finally, elements in V_1 , as they have syntactic scope over the whole event and in particular are in the position where the process portion of an event is encoded, can designate arbitrary endpoints of events.

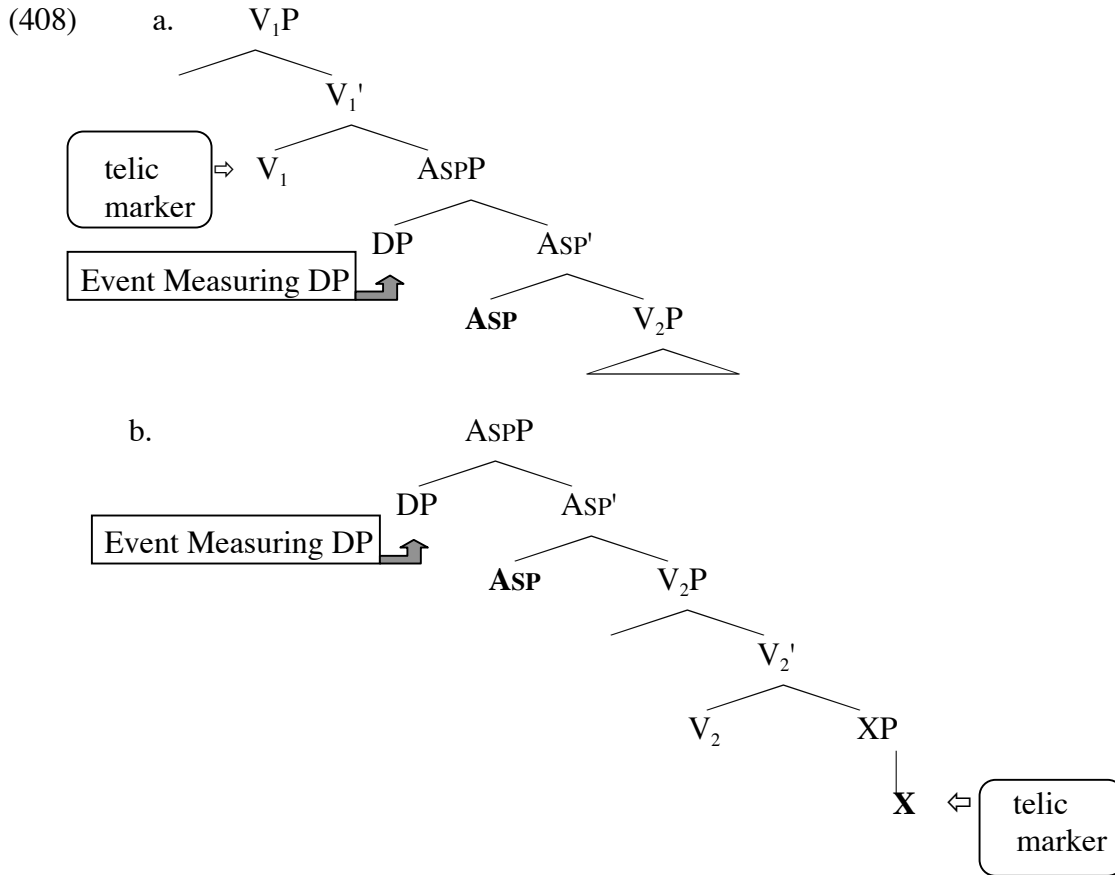
³ I assume that *P* is a lexical category and not a functional category (cf. e.g. Baker 2003) though this is not crucial in the context of this book.



Finally, because of their different positions with respect to the Event Measuring DP, the telicity markers will interact with the DPs differently.⁴ The markers in V₁ will have scope above this DP and therefore may affect the interpretation of the DP. Further, it will be the telicity marker in V₁ which will determine the overall interpretation of the predicate.⁵ The markers in X will have scope below the Event Measuring DP. When the telicity marker is within the c-command domain of the DP, it will be the DP that determines the overall classification of the predicate. This is shown below.

⁴ The idea of using the interpretation of telicity with respect to the Event Measuring DP comes from Slabakova's work (e.g. Slabakova 1996, 1997, 2001).

⁵ Nossalik (2006) achieves this distinction by parameterizing the direction of valuation of features. In a language like English, the direct object contributes information to the ASP head. In Russian, she assumes that pre-verbs are in ASP and contribute information to the interpretation of the direct object.



Problems arise with the interaction of telicity markers in ASP and the Event Measuring DP. Because of this, I will leave this aside for now and return to it below. Now we will look at each of the cases of telicity positions in turn.

8.2.1 Telicity in X

Arguing that the position X can hold material encoding the endpoint of an event is the least controversial of the claims that I will make.⁶ As we saw in Chapter 4, many of the small clause type analyses of complex verb phrases proposed in the late 80s had an equivalent of an X position to describe the endpoint of an event (see, for example, Hoekstra 1988 and, for a more recent reference, Folli and Harley 2005).⁷ A typical example from English is given below where the atelic verb *push* (409a) becomes telic

⁶ This position for the marking of telicity is similar to, among others, Higginbotham (2000) and Snyder (1995).

⁷ In some similar analyses, this sort of result is represented with a small clause. In my structure, it is not a small clause, but rather the VP as a whole, which encodes this relation of predication.

when a PP is added (409b). This shows that position X can describe a natural endpoint to an event. Further we can see that the event measuring DP, if it is a bare plural ([-SQA] in the terminology of Verkuyl (1989)), changes the whole VP back to an atelic predicate (409c). I argue, following Slabakova (1997), that this shows that the telicity marker (in the case the PP) has scope below the Event Measuring DP.

(409) a. *push DP_{sg}* — atelic

The children pushed the cart (*in three minutes/√for three minutes)

b. *push DP_{sg} PP* — telic

The children pushed the cart to the wall

(√in three minutes/*for three minutes)

c. *push DP_{barepl} PP* — atelic

The children pushed carts to the wall

(*in three minutes/√for three minutes)

This marking of the natural endpoint of an event in the complement position of a V is well-known from work on languages like Chinese.⁸ We have already discussed the atelic nature of Chinese. As Tai (1984) notes, Chinese constructions can have Accomplishment verbs in the perfective without entailing the completion of the event as shown in (410a) below. A true Accomplishment (i.e. one that entails completion) is formed by adding a resultative predicate as in (410b) (glosses from Soh and Kuo to appear).⁹

⁸ Serial verb languages have also been argued to have a low resultative complement (see e.g. Larson 1991, Stewart 1998 and Baker and Stewart 1999) and the discussion of Serial Verb Constructions in Chapter 6, section 6.6xx.

⁹ I use the same grammaticality markings as those used in the paper. Presumably the ? on the English translations show that the English equivalents are semantically odd.

(410) a. wo zuotian xie-le yifeng xin, keshi mei xie-wan
 I yesterday write-LE one-CL letter, but not write-finish
 ? ‘I wrote a letter yesterday, but I didn't finish it.’

b. wo zuotian xie-wan-le yi-feng xin,
 I yesterday write-finish-le one-CL letter,

 keshi mei xie-wan
 but not write-finish
 ? ‘I wrote a letter yesterday but I didn't finish it.’

Following analyses such as Sybesma (1992), I assume that the resultative predicate is generated in a position similar to goal phrases in English.¹⁰

8.2.2 Telicity in V_1

Slabakova (1997a, 1997b, 2001) has argued that in Bulgarian (and other Slavic languages) the marking of telicity as done by preverbs occurs in a position higher than the marking of telicity in English.¹¹ In Slabakova (1997a, 1997b), she claims that these preverbs appear in V_1 , her ‘little v’. She gives two arguments for this, one is that preverbs can also encode a causative meaning as might be expected in V_1 , and the second is that these preverbs have scope over the Event Measuring DP. Relevant examples for each argument are given below. In (411) we see the preverb *raz-* (glossed as PV) which adds an agent to the root verb. As we have seen in Malagasy and Tagalog, the morphology that is used to create lexical causatives is V_1 . In the interest of keeping language representations as similar as possible, we would at least hypothesize that *raz-* would also be in V_1 .

¹⁰As mentioned earlier, Soh and Kuo (to appear) in an interesting paper show that the facts of Chinese are a bit more complicated.

¹¹ Slabakova (1997, 2001) assumes that telicity in English is computed and realized in the inner Aspect position. I will reserve overt marking of telicity in this position for a different sort of phenomenon (see section 2.3) and assume that telicity of the verb in English is encoded in the X position.

(411) *raz-* adds an agent (Slabakova 1997: 89)

- a. Kounòt *raz-smja/raz-plaka* bebeto
 clown-DET PV-laugh/cry-3sS/AORIST baby-DET
 ‘The clown laughed/cried the baby.’¹²
- b. Kompanijata na drugi dexo vinagi *raz-jazda*
 company of other children always PV-eat 3pS/PRES

 decata
 children-DET
 ‘The company of other children always gives children an appetite.’

In (412) we see that the preverb has scope over the DP since it creates a telic event in spite of the apparent [-SQA] quality of the DP (Slabakova 2001:89).¹³

(412) Toj na-pis-a pisma *3 casa/za 3 casa
 he PV-write-3SG/AORIST letters *for 3 hours/in 3 hours
 ‘He wrote letters in 3 hours.’

An argument can be made that, while morphologically bare, the object DP in (412) is specific, therefore outside of the VP itself. In this position, then, it is the object DP that ensures that the event is telic and not the preverb. This simply shifts the question. If bare NPs can, in principle, be either specific or non-specific, the question is why preverbs of this sort force the specific (and therefore [+SQA]) reading. This, for example, does not happen with preverbs in other languages as we can see in the Dutch and German examples below.¹⁴ The example in (413a) shows that a verb, *geschreven*, with a preverb,

¹² The English translations are not grammatical. As discussed in Chapter 7, section 7.3.5xx, it may be that there are suppletive (near) equivalents (The clown amused/frightened the baby’).

¹³ Slabakova (1997) places Bulgarian preverbs in V₁ and it is this analysis that I am following. In Slabakova (2001), she changes the analysis and places the preverbs in a Perf head between V₁ and ASP. In either case, it is a head higher than ASP.

¹⁴ (413a) is taken from van Hout (1996:94). (413b) was provided by Jozefien Akkermans, and (414a) and (414b) were provided by Máire Noonan.

af-, plus a [+SQA] object, *haar proefschrift*, creates a telic event. This explains why the frame adverbial, *binnen een jaar*, is possible but the duration adverbial, *jarenlang*, is not. What (413b) shows is that it is the bare plural, *brieven*, which shifts the computation of the event to atelic thereby shifting which adverbial is possible.

(413)a. Elena heeft binnen een jaar/*jarenlang haar proefschrift

Elena has within a year/years-long her thesis

afgeschreven

off.written

‘Elena finished writing her thesis within a year/*for years.’

b. Elena heeft ??binnen een jaar/jarenlang brieven

Elena has within a year/years-long letters

afgeschreven

off-written

‘Elena finished writing letters ??within a year/for years.’

A similar example from German is given below.

(414)a. Ich habe in zwei Stunden/*zwei Stundenlang

I have in two hours/two hours-long

zwei Weinflaschen ausgetrunken

two wine bottles up-drunk

‘I drank up two wine bottles in two hours/*for two hours.’

- b. Ich habe *in zwei Stunden/?zwei Stundenlang
 I have in two hours/two hours-long

Weinflaschen ausgetrunken

wine bottles up-drunk

‘I drank up wine bottles *in two hours/?for two hours.’

Relating these two examples back to the Bulgarian example, we can ask the question of why, if Bulgarian DPs are ambiguous between a non-specific -SQA reading and a specific +SQA reading, we cannot get a reading similar to the Dutch or German example. Telic particles in Dutch and German do not require specific objects. To explain the different effect that preverbs have in Bulgarian versus the particles in Dutch and German, I would propose that it has to do with the high positioning of the preverb in Bulgarian versus the low positioning of the particles in Dutch and German. From V_1 , the Bulgarian preverbs can exert an influence on the Event Measuring DP within their c-command domain. The Dutch and German particles, however, can place no restrictions on the Event Measuring DPs since the particles do not c-command them.

If the Bulgarian preverbs are in V_1 , we expect to find a restricted set of them. This set, I assume, will be larger than something represented in a non-lexical category where there may be only one or two realizations. On the other hand, it will be smaller than something represented by a true lexical category, which could be an open set.¹⁵ Further, as a head within L-syntax, I would expect the meaning to not necessarily be compositional. I claim further that, from the position of V_1 which has syntactic scope in the form of c-command over the entire V_1P , telicity marking can target a variety of points in an event. It can specify not only the natural endpoint as can an element in X , but it can also target the initial point and an arbitrary endpoint. Examples below show all of these possibilities. In (415) we see again the case of Bulgarian preverb *na-* added to the root to give a telic predicate.¹⁶ When the same preverb is added to the stative predicate *mraz* ‘hate’ in Bulgarian as in (416), a beginning point is created. (417) gives an example from

¹⁵ In practice, however, the difference between the inventory of V_1 and X may be hard to distinguish, especially if X tends to be a P. There are a restricted number of Ps in most languages.

Bulgarian (Slabakova, p.c.) where a preverb added to an activity picks out the beginning point of the activity. Finally, Kozłowska-Macgregor (2002, 2005) shows that the preverb *po-* in Polish, given here in one of its uses in (418), creates an arbitrary endpoint.

(415) na-pis-a (natural endpoint)
 PV-write-1SG
 ‘to write up’

(416) na-mraz-ja (beginning point)
 PV-hate-1SG
 ‘to start hating someone’

(417) Toj za-tancuva vals mnogo dobre (beginning point)
 he PV-danced-AOR waltz very well
 ‘He began waltzing well OR He learned to waltz well’

(418) Maria po-czyta-la ksiazke (arbitrary endpoint)
 Maria **po**-read-PAST book
 ‘Maria read a book for a while’

While Slavic type preverbs are often glossed as being perfective, they are clearly different from the Outer Aspect sort of perfectivity. They are not productive, their semantics is not compositional, and they shift predicates from one aspectual verb class to another, clearly interacting with situation aspect or Aktionsart.¹⁷

8.2.3 Telicity in ASP

Now that we have seen two types of telicity markers, I now concentrate on a third type—the one that appears in the ASPP within the VP. We have already seen that Malagasy provides overt evidence for the use of this position. We raised the question of

¹⁶ Bulgarian examples are given in the first person singular form, which is the citation form.

whether a telicity marker in this position would have scope over the Event Measuring DP or not. Given the structure presented in (405) we could imagine the account going either way. In a strict notion of c-command, SPEC, ASP asymmetrically c-commands the head ASP. However, considering other notions such as m-command, SPEC, head relations, and/or minimal domains, we could say that ASP could have scope over the Event Measuring DP.¹⁸ Unfortunately, the cases where endpoints are realized in ASP that we will be looking at here have other effects on the syntax and the semantics of the arguments involved. Let us begin by looking at the other characteristics that are expected of elements that appear in this position. They are arguably non-lexical categories, and they can indicate the beginning or endpoint of an event.

As we have already seen, Malagasy is what might be called an “atelic language”. In that in the neutral verb forms, there is no commitment made to the arrival at the natural endpoint of the described event even though the conversational implicature is that this point has been reached (as in Chinese).

- (419)a. namory ny ankizy ny mpampianatra (n+an+√vory)
 PST.AN.meet DET children DET people
 ‘The teachers gathered the children’
- b. ... nefa tsy nanana fotoana izy
 ... but NEG PST.have time they
 ‘... but they didn’t have time.’

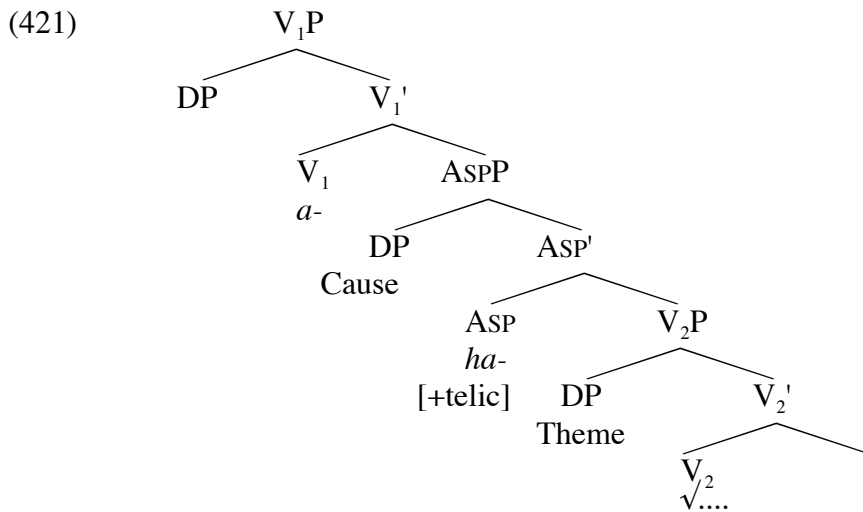
In order to ensure completion, another verbal form is used as shown in (420) below.

¹⁷ See Kozłowska-Macgregor (2002, 2005) for arguments that Polish has two *po*-s, one is an L-syntax morpheme and the other is an S-syntax morpheme.

¹⁸ In a framework such as Epstein et al. (1998), the only relevant notion would be c-command. Unfortunately, I do not have the data which clearly argues for one or the other.

- (420) a. nahavory ny ankizy ny mpampianatra (n+a+ha+√vory)
 PST.a.ha.meet the children the teachers
 ‘The teachers gathered the children.’
- b. * nefa tsy nanana fotoana izy
 ‘ but they didn’t have time.’

In the account presented in Chapter 6, I argued that the external argument in these constructions appears in the SPEC, ASP position.



It is clear that *aha-*, when added to events which describe a natural endpoint, insists that it is the natural endpoint of the event that has been reached. When added to activities, however, the telicity marker must refer to the beginning point as shown in the example below.¹⁹

¹⁹ Much more could be said about this example, but it would take us far afield. Only endpoints are implied but defeasible. Beginning points of processes are always entailed (much like in the imperfective). Adding the telicity marker to an activity, therefore, only has the secondary effect of turning the external argument into a cause rather than an agent. This is not unlike English where ‘They were able to build the house’ points to the actualization of the endpoint whereas ‘They were able to dance’ points to the actualization of the beginning point. See Bhatt (1999) for a discussion of *be able* as a predicate of actualization.

(422) a. nandihy ny ankizy
 PST.AN.dance the children
 ‘The children danced.’

b. nahadihy ny ankizy
 PST.A.HA.dance the children
 ‘The children were able (to begin) to dance’

This morpheme, then, can in some sense ‘see’ the natural endpoint of the event if it has one, and otherwise it refers to the beginning point of an event.²⁰

Before beginning the discussion of what we can learn from this morpheme, I need to discuss the important issue of whether this morpheme is part of situation aspect (and telicity) or viewpoint aspect. In other words, does *aha-* signal telicity or perfectivity? My assumption is that if an alternation is part of L-syntax, as in the case of the Slavic preverbs, it has to do with situation aspect, not viewpoint aspect. Now the question is whether *maha-* is part of L-syntax or S-syntax. For example, the difference between *look for* and *find*, one could argue, is the difference between the process of a task and the successful completion of that task. I don’t believe anyone would argue that *find* is the perfective form of *look for*. In Malagasy, such pairs are often created by alternating between the non-telic form (*an-/i-*) and the telic form (*aha-*). Some examples of pairs are: *mitsinjo/mahatsinjo* ‘to look out for/to notice’; *mitsapa/mahatsapa* ‘to inspect/to notice’; *mamantatra/mahafantatra* ‘to examine/to know’; *mitadidy/mahatadidy* ‘to try to remember/to remember’. Further, some achievements only appear in the *aha-* form such as the following list, repeated from Chapter 7, shows.

²⁰ The obvious question is whether this construction can be formed with states. The answer is more difficult. In a way, every Malagasy verb is derived from a stative root. For example, the verb *mamaky* ‘to break’ is formed by adding *an-* to the adjectival root *vaky* ‘broken’. When *aha-* is added instead of *an-*, we get the effect seen above. When *aha-* is added to an adjective that does not have a deverbal form such as *kamo* ‘lazy’, then a causative is formed. See Phillips (1996, 2000) and Chapter 6 for more details on this and an account.

(423) verbs only taking *aha-* (Rabenilaina 1985: 372)

<i>mahazo</i>	‘to understand, to seize’	
<i>mahalala</i>	‘to know’	
<i>mahatsiahy</i>	‘to feel, to remember’	
<i>mahatsikaritra</i>	‘to remark’	
<i>mahatsiaro</i>	‘to perceive’	
<i>mahahay</i>	‘to know’	(> <i>mahay</i>)
<i>mahahita</i>	‘to see’	(> <i>mahita</i>)

The conclusion that *aha-* is part of L-syntax will be brought up again later as it becomes important in the discussion of coercion.

Determining the predictions of the effect of a morpheme in ASP on the Event measuring DP is less straightforward than the other two positions. Part of the problem is that the languages that arguably make use of this position such as Malagasy and Chinese also have DPs where the value of SQA is difficult to determine. A further problem is that the use of this position seems to have other effects on the structure that interfere with the usual tests for event measurement. First, the Malagasy structure co-occurs with a stative marker and secondly, the element in the SPEC, ASP appears to be the external argument rather than the internal argument. Because of these problems, I leave this issue for further research.

To summarize this section, we have seen that morphology that is needed in the computation of the situation aspect of a predicate can appear in three different positions within an articulated VP. Each of these positions has its own characteristics. The X position describes the endpoint of an event, often shows the range typical to lexical categories and can be idiosyncratic in terms of distribution and semantic contribution. The ASP position, as a non-lexical category, is a closed class of perhaps only two, simply encodes whether a designated point in the event has been achieved, and is more predictable in its distribution and semantic contribution. For predicates that imply natural endpoints (what would be translated accomplishments in English), it is this endpoint that is specified. Verbs/Predicates without natural endpoints (activities), the designated point will be the initial point. Since telicity markers in V_1 are light verbs, they will have a

restricted set of realizations. Further, they will be able to target endpoints and beginning points of events as well as creating an arbitrary bound. I argue that all of these elements occur within the VP as they are part of L-syntax.

8.2.4 Telicity in X and V₁

We have already seen, then, that telicity can be marked in three different places. We have used English and Chinese to look at marking in X, Bulgarian (and Polish) to look at marking in V₁, and Malagasy to look at marking in ASP. A given language may employ more than one of these, however, and to see this we turn to the Athabaskan languages of Navajo and Slave.

We have already taken a detailed look at the verbal morphology of Navajo in Chapter 3, section 3.2.2xx. The templatic description is repeated below.

(424) Navajo Verbal Morpheme Order (from Speas (1990:205))

ADV	ITER	DIST-PL	D-OBJ	DEIC-SBJ	ADV	MODE	SBJ	VOICE/TRNS	STEM
1	2	3	4	5	6	7	8	9	

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

We were most interested in the positions 1, 6, and 9 since lexical entries appeared to be spread out over these three positions. Three examples of these 'discontinuous lexical items' are repeated below.

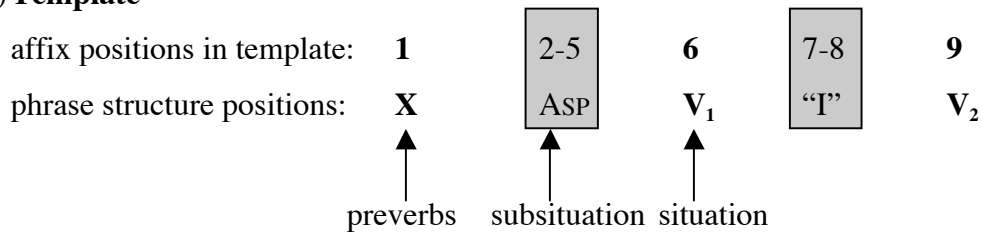
- (425) a. yá ... ti' 'to talk' 1 ... stem (9)
 b. di ... lid 'to burn something' 6 ... stem (9)
 c. so ... di ... zin 'to pray' 1 ... 6 ... stem (9)

These lexical entries can be interspersed with more productive material that looks more inflectional. I accounted for this by assuming that position 1 is X, position 6 is V₁, and position 9 is V₂ (plus √). The inflectional type material in positions 2 through 5 will be realized on the Inner Aspect position, and the material in positions 7 and 8 will be realized on functional categories above the V₁P. The template is reduced then to the following mapping to syntax.

(426) **Template**

affix positions in template:	1	2-5	6	7-8	9
phrase structure positions:	X	ASP	V₁	"I"	V₂

The phrase structure hierarchy of the morpheme order of Navajo, in fact, correlates quite closely with a recent analysis by Rice (2000) of similar morphemes in the related language, Slave. Rice's goal is to show that the morpheme order in Slave correlates with their syntactic scope. As a part of her discussion, she investigates three sets of morphemes that are relevant for the discussion here. These are what she calls situation aspect markers, subsituation aspect markers, and preverbs. Though much more work on this language is required before any claim is made with certainty, I would like to suggest that the preverbs are in X and therefore appear in position 1, the subsituation markers are in ASP (around position 2) and situation markers, glossed SASP, are in V₁. A template adapted for the Rice's terminology is given below.

(427) **Template**

Some examples of the preverbs are given below (Rice 2000: 263).

(428) a. ní-n-i-zha

PV-achievementSASP-PERFviewpt-stem

‘S/he arrived at a point.’

b. ní-né-n-i-yo

PV-qualifier-achievementSASP-PERFviewpt-stem

‘S/he stopped (completed) growing.’

It is clear in the examples I have given that the preverbs are picking out the endpoint of an event and thereby co-occur with the achievement situation aspect morphology. This is what we would expect for morphology in X. Other examples of preverbs that Rice gives, however, while describing an endpoint, are vague as to whether the endpoint has been reached. It is the situation marker that makes this precise. In this case, the preverb would be like the preposition ‘toward’ in English. It is in the X position but it is not telic. Now it is the situation marker in V₁ which determines the endpoint. The situation marker *s* will indicate that the endpoint is reached, and the situation marker *gh* indicates that it has not necessarily been reached (Rice 2000:267-268).²¹

²¹ I refer the reader to Rice’s work for the exact realization of the relevant morphemes. Unfortunately, the morphophonology of Slave is such that the exact morpheme breakdown is often obscured.

(429)

<i>s</i> situation aspect (activity)	<i>gh</i> situation aspect (accomplishment)	
<i>ná-zhe-eh-chú</i>	<i>ná-zha-a-chú</i>	<i>ná</i> ‘down’ ‘take sg. down, bring down, put down...’
<i>ká-zhe-né-h-sho</i>	<i>ká-zhe-ni-i-h-sho</i>	<i>ká</i> ‘out’ ‘cause to grow out’

The morphemes that Rice labels subsituation markers add ‘purely aspectual material’. The examples given are inceptive, egressive, and conative. Some examples are given below (Rice 2000:261). Again, the general meanings are not surprising given the position. They appear to be sensitive to endpoints and beginning points.

(430) Inceptive *d*

- a. *d-éh-ji*
inceptive-accomplishmentsASP-voice/stem
‘S/he started to sing.’
- b. *d-é-ya*
inceptive-accomplishmentsASP/PERFviewpt-stem
‘S/he started to go.’

(431) Egressive *n*

a. *n-é-ti*

egressive-accomplishmentSASP/PERFviewpt-stem

‘S/he fell asleep.’

b. *n-éh-tlah*

egressive-accomplishmentSASP-stem

‘It landed.’

While it appears that the preverbs and the subsituation markers appear in X and ASP respectively in Slave, I assume that the situation markers appear in V_1 .²² This correlates with the use of these morphemes—those in position 1 (which is X) can only see part of the situation, the endpoint, those in ASP can see the end and the beginning, while those in position 6 (which is V_1) see the whole situation. What is interesting and requires further exploration is the fact that the morphemes in V_1 act a bit differently from their counterparts in Bulgarian. In Slave, if the telicity value has been determined lower in the structure, the V_1 simply reflects this telicity value. If, however, as in example (429), telicity has not been determined, the material in V_1 can fix the value. Slave and Navajo, then, are cases where elements in a variety of heads can be used to create the construction of an event.

The question can then arise as to the role played by DPs in such a language. Both Smith (1991) and Rice (2000) pick up this question in Navajo and Slave respectively, both coming to the same conclusion, which is that DPs do not enter into the computation of aspectual classes in these two languages. This is, in fact, not surprising if these two languages are polysynthetic in the sense of Baker (1996). As polysynthetic languages, they would not have their DPs in argument positions but rather in adjunct positions. Rice (2000: page 271), however, points out the following intriguing fact. When pronominal

²² K. Rice (p.c.) says that preverbs and subsituation markers can co-occur with the subsituation marker appearing closer to the verb stem than the preverb. Due to their productivity relative to the preverbs and their position relative to the preverbs, I claim that these are part of the inner aspectual system of Slave.

elements are incorporated into the verbal morphological system, then they can have an effect on the computation.²³

- (432) a. be-w-i-h-xi
 ‘I killed it/him/her/it’ (s accomplishment situation aspect)
- b. ku-y-i-gho
 ‘I killed them’ (gh activity situation aspect)

What is interesting in the data above is that the plural pronominal material acts as if it is [-SQA] unlike what occurs in the English translation. A better translation, perhaps, would use a bare plural, i.e. ‘things’. Again, the element in *v*, the situation marker, reflects the telicity value that has been determined by the elements lower in the V_1P .

8.2.5 An aside: different types of beginnings

As we saw briefly above, Dutch is a language that clearly uses morphological markers to encode natural endpoints. Some typical examples, taken from van Hout (2000:247-9) are given in (433) below.

- (433) a. Het hout heeft urenlang/ *in een uur gebrand
 the wood has hours-long/ *in an hour burned
 ‘The wood burned for hours/*in an hour.’
- b. Het hout is *urenlang/ binnen 5 minuten verbrand
 the wood is *hours-long/ within 5 minutes PFX-burned
 ‘The wood burned up *for hours/within five minutes.’

- c. John heeft die hele nacht/*in een uur gelopen
 John has the whole night/*un an hour walked
 ‘John walked all night/*in an hour.’
- d. John is *urenlang/ binnen 5 minuten weggelopen
 John is *hours-long/ within 5 minutes away-walked
 ‘John walked away *for hours/within 5 minutes.’

This is as one would expect if the particles appear in the X position (as is suggested by the small clause analysis of Hoekstra 1992:166). But as the following examples show (van Hout, pc), these verbal particles can also indicate a beginning point.²⁴ The pairs given in (434a) are from standard Dutch, and the examples give in (434b) are from her dialect, Brabandish.

- (434) a. reizen - afreizen ‘travel - set out to travel’
 varen-afvaren ‘drive (by boat) - start driving (by boat)’
- b. rijden - aanrijden ‘drive - start driving’
 fietsen - aanfietsen ‘bike - start biking’
 lopen - aanlopen ‘walk - start walking’

One can see from the following examples that these preverbs do have an effect on the event structure as they turn the verb forms from unergative activities to telic unaccusatives. Below we see that the preverb form takes the BE rather than the HAVE auxiliary and the resulting form can be used as a prenominal adjectival participle.

²⁴ Many thanks to Angeliek van Hout for bringing this problem and the relevant data to my attention. I am also grateful to Jozefien Akkermans for discussion on this point and more relevant data.

(435) a. Hij heeft jarenlang /*in een jaar gereisd
 he has years-long /*in a year travelled
 ‘He has travelled for years.’

b. * de gereisde man
 ‘the travelled man’

(436) a. Hij is in 2 minuten /*jarenlang afgereisd
 he is in 2 minutes /*years-long off-travelled
 ‘He started travelling in 2 minutes.’

b. de afgereisde man
 the off-travelled man
 ‘the man who started travelling’

In order to determine where this prefixal morpheme lies, we can see what scope it has with respect to an object DP. Given that the telic verb forms are unaccusative, we can play with the shape of the subject. Because unaccusative subject originates in a position below ASP, I assume they enter into the computation of Aktionsart. An example from English where the SQA value of the subject of an unaccusative verb can have an effect on the aspectual verb class is given in (437) below. I assume that the subject of an unaccusative verb moves first from the underlying object position to the derived object position (SPEC, ASP). Here it measures out the event before moving to the derived subject position.

(437) a. The child arrived in fifteen minutes/*for five minutes.

b. Children arrived *in fifteen minutes/for fifteen minutes.

The Dutch examples behave similarly as shown below (examples from J. Akkermans).

(438) Zeemannen zijn jarenlange afgereisd naar Indonesië
 sailors are year-long off-travelled to Indonesia

vanaf deze haven

from this harbor

‘Sailors have for years started travelling from this harbor.’

To have a consistent analysis for all of these particles, we have to say that the Dutch particles are not in V_1 since they do not have scope above the Event Measuring DP. We know this because it is the shape of the DP and not the particle that has final say in the aspectual verb class of the predicate as a whole. The particles, therefore, must be no higher than ASP. Given that this particular particle targets the beginning point of the event, one might suspect that the particle has to be generated in ASP. I want to suggest, however, a different analysis. Some observations on Slave by Rice point to the fact that beginnings are of different types. It turns out that Slave also has inceptive particles as well as inceptive subsituation markers. Recall that I have claimed that the preverbs in Slave are in X and the subsituation markers are in ASP. Rice says that there is a semantic difference between the two. “... the preverb indicates the point of starting... the [subsituation] inceptive ... refers to the early part of the event rather than to its starting point” (Rice 2000:264). Some examples of each type are given below.

(439) Inception: Subsitution (in ASP) (Rice 2000:261)

a. d-éh-ji

inceptive-accomplishmentsASP-voice/stem

‘S/he started to sing.’

b. O de-d-é-h-k'é

inceptive-accompASP/PERFviewpt-valence-stem

‘S/he started to shoot O.’

(440) Inception: Preverb (in X) (Rice 2000:264)

a. ti-gó-n-I-ne

PV-area-achievementsASP-PERFviewpt-stem

‘S/he started to talk.’

b. ti-ji

PV/achievementsASP-voice/stem

‘S/he started to sing.’

Note that the situation aspect for the ‘start’ predicate encoded in ASP is accomplishment while the ‘start’ predicate encoded in X is achievement. While much more work needs to be done both on the morphological systems of Dutch and Slave and the semantics of inception crosslinguistically, my hypothesis would be that inception has varieties the same way that completion/termination does and that further these varieties should be represented syntactically. Inception within the lower VP appears to reduce the event to one point. A paraphrase of the Dutch example could have the flavor of lexical subordination (Levin and Rapoport 1988) such as ‘left by travelling’ or ‘left by driving a boat’ where the main predicate is the departure and the root *√reizen* behaves like a manner tag. Inception higher within the V₁P, in ASP or V₁, would allow a period of duration to be described by the lower V₂P and the marker in ASP would describe a point early in this duration. Interestingly, there are also to inception predicates in English, *begin/start*, with different effects. We can say either (441a) or (441b) but (441c) is fine while (441d) is not.²⁵

²⁵ I thank Hela Ben Ayed for pointing these data out to me.

- (441) a. I started to cough.
 b. I began to cough.
 c. I started to cough but stopped myself just in time.
 d. * I began to cough but stopped myself just in time.

Begin also describes the first stages (like the subsituation inception marker in Asp) while *start* describes the exact point before the event occurs (like the preverb inception marker in X). These speculations await further empirical support.

8.3 NULL TELIC MORPHEMES AND LEXICAL ENTRIES

Now I shift direction as a way of conceptualizing some of the issues that have just been discussed. We have seen that languages vary significantly in how telicity is encoded. Further, we have seen that some of this variation is encoded with empty morphemes. Following Hoekstra (1988), I have been assuming that English has an empty telic morpheme in the lexical item *kill*. This obligatory zero affix distinguishes the English lexical item from the Malagasy lexical item *mamony* ‘kill’ that has an optional telic morpheme. Slavic languages tend to have overt morphology to indicate telicity. This then raises questions for first and second language learners and the nature of lexical items. Part of lexical learning would involve determining the inventory of zero morphology. For this reason, I turn to the question language variation, zero morphemes, and lexical knowledge.

I start by outlining the research on the acquisition of lexical knowledge done by Juffs (2000). Noting facts of Chinese similar to those we have seen in (410), Juffs proposes that there is a lexical parameter that distinguishes English and Chinese called the CAUSE/STATE conflation parameter. English allows a lexical conceptual structure (LCS) to be realized in a root as in (442), producing the examples given in (443).

- (442) $\sqrt{[ACT (+effect) [GO [STATE]]]}$

- (443) a. The book disappointed Mary.
 b. The sun melted the ice.
 c. John covered the bed with a blanket.

Chinese does not allow such a lexical conceptual structure to be represented by a root and Juffs claims that this is due to the CAUSE/STATE conflation parameter, the Chinese value of which is given in (444).

(444) Chinese: *[ACT (+effect) [GO [STATE]]]

It is the impossibility of a root to have such a lexical conceptual structure which explains the lack of constructions such as those given in (445) below.

- (445) a. * Nei ben shu shiwang le Zhang San
 that CL book disappoint ASP Zhang San
- b. ?? Taiyang rong(hua) le xue
 sun melt ASP SNOW
- c. ?? Zhang-san yong tanzi gai le chuang
 Zhang San use blanket cover ASP bed
 ‘Zhang San covered the bed with a blanket.’

In order to represent the type of LCS given in (444), Chinese must mark the resulting state overtly as shown in (446).

- (446) Zhang-san yong tanzi gaizhu le chuang
 Zhang San use blanket cover-complete ASP bed
 ‘Zhang San covered the bed with a blanket.’

In the following sections, I will recast this observation by attaching the LCS structure to a syntactic structure. Further, I will argue that there is evidence that zero telic morphemes show the same range of behaviors that we have seen for the overt telic morphemes just discussed.

8.3.1 Zero morphemes in X

Unlike Chinese, English allows the complex LCS shown in (442). What does this mean in terms of knowledge of lexical information? Following Hoekstra (1988), I propose that English gives the appearance of having roots that encode such an LCS only because it has a zero morpheme in the syntactic head that encodes the final state in a change of state. This morpheme, however, must be overt in the Chinese system. In other words, while English allows for overt realization of telicity in X (as in (447b) below), it also allows for a zero morpheme in this position (as in (448)).²⁶

- (447) a. The children hammered the nail (*in three minutes/√for three minutes).
 b. The children hammered the nail flat (√ in three minutes/*for three minutes).

- (448) a. * The teachers gathered the children but they didn't have time.
 b. I built one house (√ in four months/*for four months)

As we have seen Malagasy, roots can either have the zero morpheme or not. This explains why an Accomplishment type verb can mean completion, but doesn't necessarily mean completion. However, an overt marker in the ASP position will ensure the telic reading as shown in (449b).

²⁶ It may be more accurate that Chinese has optional telic morphemes like Malagasy. It is also interesting that in languages generally, it seems that achievements must either have overt marking of telicity (Malagasy, Chinese) or have it obligatorily encoded with the root (Bulgarian, English).

- (449) a. Nanorona trano anakiray ($\sqrt{\text{tao}}$ anatiny efabolana
 PST-AN-build house one ($\sqrt{\text{in}}$ four.months
 $\sqrt{\text{nandritrin'ny}}$ efabolana) aho
 $\sqrt{\text{for}}$ four.months) I
 lit: 'I built one house (in four months/for four months).'
- b. Nahaorona trano anakiray ($\sqrt{\text{tao}}$ anatiny efabolana
 PST-AHA-build house one ($\sqrt{\text{in}}$ four.months
 $\sqrt{\text{*nandritrin'ny}}$ efabolana) aho
 $\sqrt{\text{*for}}$ four months) I
 lit: 'I built one house ($\sqrt{\text{in}}$ four months/ $\sqrt{\text{*for}}$ four months).'

If zero telic morphemes can be posited for the X position, we can ask about the two other positions that I have claimed house telic morphemes. I will look at each of these in turn.

8.3.2 Zero morphemes in V_1

In trying to find zero telic morphemes in the V_1 position, we have to ask what sort of effects we might expect of such a morpheme. We have seen that in Bulgarian, the morphemes in V_1 can target the beginning point of an event, and it is this characteristic that I will mention here. It has been pointed out (e.g. Moens 1987, de Swart 1998) that English is able to shift an event type to fit a certain semantic environment. While leaving a longer discussion of coercion until later in this chapter, we can see an example of this below. The sentence in (450a) is clearly an activity taking a *for*-adverbial. However, as (450b) shows, the same string can take an *in*-adverbial implying that there is some designated point that occurs after three minutes. The same can be shown for stative verbs like *hate* and *know* in (450c) and (450d).

- (450) a. The children sang for three minutes.
 b. The children sang in three minutes.
 c. The children hated the play in three minutes.
 d. The children knew the answer in three minutes.

The question is what allows activities and states to appear in a construction that normally requires a telic event? Moens (1987:45) proposes that there is some process which allows transitions between aspectual categories by adding ‘an extra “layer” of meaning’. de Swart (1998) introduces aspectual operators which map eventualities onto other eventualities. Sometimes these transitions and operators are marked overtly (the progressive in English maps an event into a state), but sometimes they are not marked overtly as in (450b). These latter cases are considered to be cases of coercion. Going back to the examples above, for (450b), the point that occurs at the end of the time designated by *in three minutes* can either be the endpoint of the singing or the beginning point. With the two stative examples, the point is the beginning point of the hating or the knowing. I will be proposing that there is a zero morpheme that facilitates the coercion discussed by Moens and de Swart. In the inceptive reading of (450b) and in (450c) and (450d), the zero morpheme would be similar to the overt *na*-morpheme which we saw in the Bulgarian example (416) and would appear in the V_1 position.

8.3.3 Zero morphemes in ASP

Finally, let us look at the possibility that there are zero telic morphemes in ASP. For this I turn to a structure discussed by Haik (1989). She investigates a construction in English that behaves, in many ways, similarly to the *aha*-construction in Malagasy. She presents a use of the verb *tell* which has (at least) two characteristics in common with *aha*-constructions — the external argument is a non-agentive cause, and the construction involves a change of state in the object. (451a) below is an example of the relevant construction. (451b) shows that the canonical use of the verb *tell* does not necessarily involve a change of (mental) state in the object while (451c) shows that a change of (mental) state is required.

- (451) a. All this snow tells me that winter is here.
 b. Bob told me that winter is here, but I don't believe it.
 c. * All this snow tells me that winter is here, but I don't believe it.

One can think of the meaning of *tell* as having two possibilities. One (as in (452a)) does not involve having a sentient object and describes an activity of talking to (at) someone (something). The other (as in (452b)) involves having a sentient object and describes an attempt by the teller to affect the mental state of the object. *Tell* could be something like CAUSE BECOME $\sqrt{\text{KNOWN}}$. When this form is +telic, the external argument would be a non-agentive cause and when the form is –telic, the external argument would be agentive.

- (452) a. Bob told the statue that it was winter.
 b. Bob told Mary that it was winter.

I suggest that the second meaning is similar to the Malagasy atelic predicates since all that is necessarily encoded is an attempt to do something, but not the success of doing this. As in Malagasy, this form can enter into a different construction (in Malagasy, this would be the *aha*-construction), which entails the success of the action. Further, the external argument is now Cause rather than Agent. If this is the case, the similarities between the alternation in Malagasy and the alternation in English are indicative of a zero representation in English of morphology parallel to the Malagasy *maha*-.

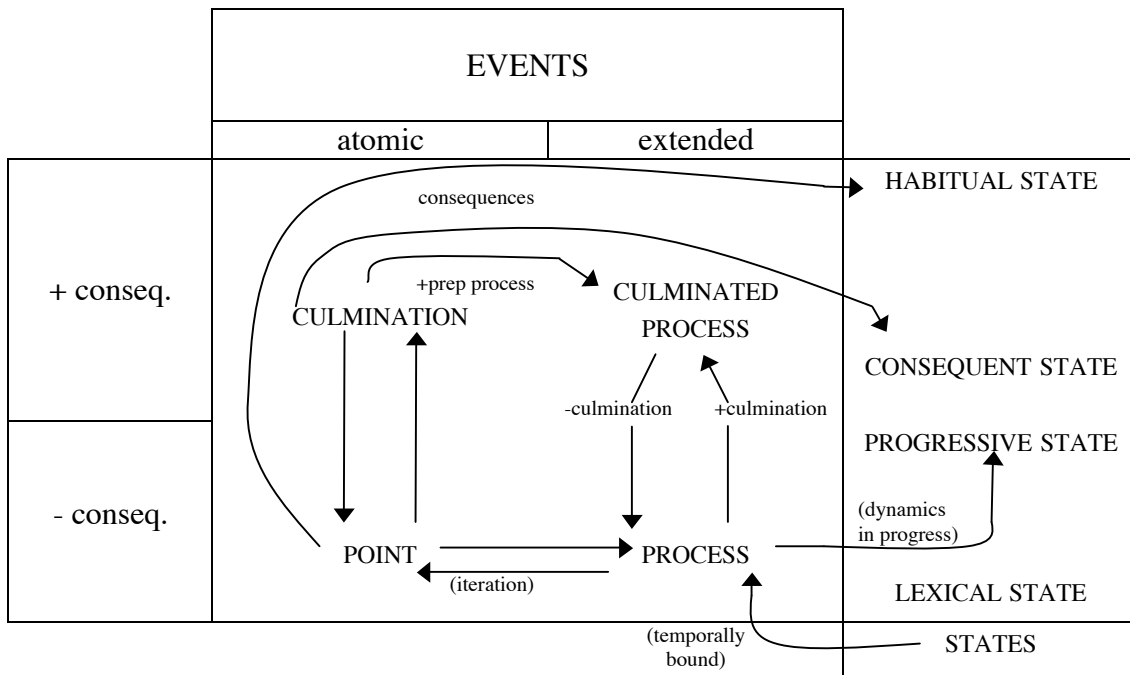
8.4 COERCION AND SELECTION

In this section I continue the exploration of zero morphology begun above by looking specifically at the phenomenon of coercion. I develop an idea presented in Moens (1987) and deSwart (1998) that the apparent fluidity of situation aspect involves a shift that is forced by the selectional properties of an aspectual modifier. I propose that these shifts are, in fact, the effect of null morphemes of the sort introduced in the previous sections of this chapter. I basically take Moens' and deSwart's observations and give them syntactic realizations through these empty morphemes. These proposals, then, set up the following

section where I return to the cases introduced in Chapter 4 where viewpoint aspect appears to have an effect on the case marking of the object. We saw that the meaning of a predicate also was affected. I argue that the selectional properties of the viewpoint aspect force changes in the situation aspect and it is the shift in situation aspect which changes the meaning of the predicate. This final section of the book is the beginning of what needs to be a longer study. It outlines a direction of an answer to a question raised in Chapter 5 by using notions of L-syntax from Chapter 6, phrase structure from Chapter 4, and positions of telicity from the present chapter.

Moens (1987: 45) very graphically shows the fluidity of the aspectual classes of a predicate. His observation is ‘... almost any verb can occur as almost any category ... by allowing the verbal expression to move around in the network, always adding extra layers of meaning or changing focus to other layers of meaning’. The schematic representation he gives of this fluidity is duplicated below.

(453) THE ASPECTUAL NETWORK



To show how this works, we take some examples from Moens (1987:46).

- (454) a. John played.
 b. John played the sonata.
 c. John played the sonata for a few minutes.

In (454a), we have an Activity (Process) predicate.²⁷ By adding a culmination point in (454b), we now have an Accomplishment (culminated process). By adding the duration adverbial in (454c), however, we ‘strip off’ the culmination point and have returned to the process reading. ‘What we are left with is a process of John playing the sonata, with no indication that John actually finished playing the sonata, and with the added information that this process lasted for a few minutes.’ On the network given above, we have moved from PROCESS to CULMINATED PROCESS and back again via +culmination and –culmination. As Moens points out, there are other ways to go through the network. If, instead of (454c) above we had (455), the last part of the route would be different.

- (455) John played the sonata for about eight hours.

Given what we know about the length of sonatas, the normal reading for this would be that the sonata was played repeatedly.²⁸ For this reading, each playing is seen as a POINT, and then the POINT is iterated returning us to PROCESS. We can ask what triggers these transitions, and how they are represented formally. Moens see this type of coercion as being triggered by a selection process. We look at another example below (from Moens 1987:47).

- (456) a. Harry delivered a sermon.
 b. Harry delivered that sermon for years.

²⁷ Moens uses the Process and not Activity and Culminated Process and not Accomplishment. I substitute Activity and Accomplishment since this is the terminology I use in this book.

²⁸ This is a simplification of the facts. It could be that there were no complete playings of the sonata and that John played bits and pieces of it for four hours. This is similar to saying that there are apples in the salad when, in fact, there might only be bits of pieces of apple and no one whole apple in the salad (see Borer 2005 for a discussion of this).

We want to represent the fact that, by adding *for years*, we turn an Accomplishment, *delivered althat sermon*, into an Activity via iteration. We do this by specifying that a duration adverbial can only combine with an Activity and that it forms a culminated process (Accomplishment). It is the selection process of the adverbial, then, that forces the predicate to move through the network.²⁹

de Swart (1998), picking up on Moens's work, also sees coercion to be the effect of selection. 'Coercion ... is an implicit, contextually governed process of reinterpretation which comes into play whenever there is a conflict between the aspectual nature of the eventuality description and the input condition of some aspectual operator.' She posits that, parallel to overt aspectual operators like PROG(ressive), there are covert aspectual operators and that these covert operators can be used to account for coercion. Here, I simply propose a concrete realization of these covert operators as empty syntactic heads. I am led by her observation that coercion appears where the language has no explicit markers (from de Swart 1998: 359).

The interpretation of aspectual operators as eventuality description modifiers builds on ideas developed by Moens (1987, 44f), and others... Transitions **for which a language has no explicit markers** are free as long as the content supports the meaning effects associated with the aspectual change. (emphasis mine : LDT).

First she sets up a typology of eventualities that includes three types of eventuality (state, process, and event), and then she has supercategories such as HOMOGENEOUS which includes states and processes, and DYNAMIC which includes processes and events. The outline of her system is given in the table below (de Swart 1998:351).

(457) Eventualities and supercategories

HOMOGENEOUS		QUANTIZED
state	process	event
STATIVE	DYNAMIC	

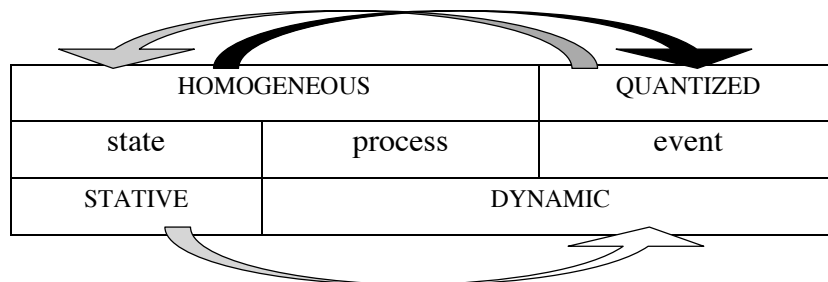
²⁹ As pointed out by both Moens and de Swart, coercion is subject to constraints set by the real world.

Just as overt aspectual markers may select types of eventualities and create types of eventualities, so do covert aspectual markers. The three covert aspectual markers that she posits are given below where the subscript indicates what type of eventuality (or supercategory) is selected and what type of eventuality (or supercategory) is created. C_{eh} selects an event and produces a homogeneous eventuality while C_{he} does the reverse selected a homogeneous eventuality (either a state or a process) and produces an event. C_{sd} selects a state and produces a dynamic eventuality. The examples given in the second column below are some details of meaning that might accompany this process. For example, one way in which an event can become homogeneous is by making it iterative, or habitual, or turning it into a process. Which of these meanings arise often depends on real world knowledge of the type we saw above concerning the length of sonatas.

- (458) a. C_{eh} (ITER, HAB, PROC ...)
- b. C_{he} (BOUND, INCH, ADD-CUL ...)
- c. C_{sd}

While de Swart shows a mapping between supercategories and event types, it is tempting, as shown with the arrows below, to assume that the relations are always between supercategories. Homogeneous eventualities can be coerced into quantized eventualities and vice versa. Stative eventualities can be coerced into dynamic eventualities.

(459) The path of coercion



We can even take this further, since supercategories, as we have seen in Chapter 4, section 4.4.2xx, are often defined by features, it is tempting to see this selection output process as the selection of one feature, and the shifting it to another feature.

Speculatively, I will assume that this is the right direction to take. In the subsequent sections, I outline how such a system would work. I have three goals. First, I want to show that coercion can be represented by the selection of particular heads which are represented by zero morphemes in some languages and overt morphemes in others. Second, I want to use this system to return to an issue raised in Chapter 5 where both situation aspect and viewpoint aspect appear to have an effect on case assignment. By using a selection version of coercion, I argue that case is only affected by situation (L-syntax) aspect and not viewpoint (S-syntax) aspect. Finally, using ideas of Carter (1976), I argue that some shifting between aspectual predicate classes is clearly done in the L-syntax and, as such, must have continued access to the lexicon.

I start here by outlining my view of coercion by translating some of de Swart's examples into the syntax that I will be using. One example of de Swart's will be particularly useful as it has much in common with the constructions that I investigate in the next section.

de Swart's prime example of coercion comes from the interpretation of the French *Imparfait* as compared to the French *Passé Simple*.³⁰ She points out that while, in the unmarked case, States in the past appear in the *Imparfait*, they may appear in the *Passé Simple* with a shift in meaning. Some of the examples she gives are reproduced below (de Swart 1998:367, 370).

- (460) a. Anne était triste
Anne was-IMP sad
- b. Anne fut triste
Anne was-PS sad
- c. (Soudain,) Jeanne sut la réponse
(Suddenly,) Jeanne knew-PS the answer

³⁰ We have seen similar examples from Spanish in Chapter 5, section 5.1.2xx.

The constructions in (460a) and (460b) are possible but (460b) is given an inchoative reading. This is clearer in (460c) where the adverb *soudain* ‘suddenly’ highlights the change of state. In her analysis, the Passé Simple and the Imparfait are not themselves aspectual modifiers. However, they are what she calls ‘aspectually sensitive tenses’. The Passé Simple selects a quantized expression and the Imparfait selects a homogeneous expression. When combined with a predicate of the wrong type, a coercion operator is required to resolve the aspectual conflict. de Swart’s representation of the (460c) is given below where the coercion operator is necessary to mediate the needs of the Passé Simple and the properties of the predicate ‘know the answer’.

(461) [PAST [C_{he} [Jeanne know the answer]]]

To explain the appearance of the coercion operator she writes ‘French does not have a morphological marker for inchoativity, but the value of INCHO of may be triggered by a combination of a state and the Passé Simple [(460c)] in the presence of an adverb like *soudain* ‘suddenly’.’

Translating de Swart’s analysis into a syntactic representation is fairly straightforward but, within the context of the issues being addressed in this book, some details must be added. My interest is whether the coercion operators are part of the L-syntax (below E) or s-syntax (above E). I argue that the coercion operators are part of L-syntax and therefore part of situation aspect (Aktionsart) rather than viewpoint aspect (grammatical aspect). First I will give semantic reasons for moving in this direction, and then I will sketch the syntactic account that captures the observations.

8.5 VIEWPOINT VS. SITUATION ASPECT

Using de Swart’s work, we now have a specific view of coercion and we can return to a problem raised in Chapter 5, section 5.1.2xx. It appears that both viewpoint aspect and situation aspect can have an effect on the case-marking properties of the predicate. Both statives and imperfectives in many languages resist assigning structural case to their objects. Ideally, if Inner Aspect is more closely tied with situation aspect, and if case-assignment to the object tied to the specification of Inner Aspect, we want the link to be

direct between case and situation aspect. If case appears to be dependent on the nature of Outer Aspect (viewpoint aspect), we want this dependency to be mediated by Inner Aspect (viewpoint aspect). Further, viewpoint aspect appears to have an effect on the situation aspect of the verb. The question is: can this view be simplified? One way of simplifying it is to use what we have learned in the previous section to provide an answer. Like in de Swart's work, we will assume that empty elements will provide the mediation between an outer (higher) overt realization and an effect on an inner (embedded) element.

First, because we want to know where the empty element appears in the phrase structure, I give two semantic reasons to believe that the empty head is part of the L-syntax and therefore, given the conclusions reached in Chapter 6, should appear below E.

The first reason has to do with the direction that Carter's (1976) research took. His question involved what a possible word is. In Chapter 6, in discussing this, we found it necessary to distinguish between M-words and E-words. Clearly Carter's concern is E-words. So, for example, an E-word can have only one Agent, one CAUSE, one event, while M-words have no such restrictions. Further, E-words are contained within the L-syntax while M-words may well extend beyond this domain.

In English, *kill/die*, *look for/find*, *want/get*, and *know/meet* are pairs of distinct words in the sense of Carter. In Chapter 6 we discussed lexical causatives which in many languages use morphology to create pairs like *kill/die* whereas English has two distinct words. In Chapter 6 I argued that such morphology is part of the L-syntactic domain. In Chapter 7 we saw that Malagasy uses morphology to create pairs like *look for/find*. Again, English uses two distinct words for the members of the pair and we can use the same argument that the Malagasy morphology must be part of the L-syntax. At present we are looking at similar pairs — *want/get* in Scots Gaelic, *know/meet* in Spanish. All other things being equal, we expect the same argumentation to be relevant. We can assume that what would distinguish them must be listed in the L-syntax part of the lexicon. This means, then, that just as the additional meaning of CAUSE in *kill* and endpoint in *find* is added to *die* and *look-for* respectively in the L-syntactic domain, so must the inchoative meaning in *get* and *meet* be added in the L-syntactic domain to *want* and *know* respectively.

Another reason to suspect that the zero coercion morphemes are added in the L-syntactic domain is that we saw that separate E-words resist zero realization. English has a zero lexical causative morpheme, but no language that I know of has a zero productive causative morpheme. Coercion morphemes by definition are non-overt.³¹

The last reason comes from cross-linguistic evidence. Many languages have morphemes that encode a notion like inchoativity or starting point. For example, we saw in section 8.2.2xx of this chapter the following Bulgarian form from Slabakova (2001).

(462) na-mraz-ja
 PV-hate-1SG
 ‘to start hating someone’

Na- is a preverb that is part of the L-syntax. It cannot productively be added to every verb form. Coercion, then, can simply be seen as a use zero-morphemes in one of the various heads within the VP. These heads have to be the ones that are accessible to the selectional requirements of elements outside of the VP, elements in Outer Aspect. Because of the nature of selection, I assume that these are V_1 and ASP. V_1 is visible as the highest head in the complement position. ASP is visible as the closest event related category. Given that the features necessary for the determination of the Aktionsart class of a predicate are located in these two heads — Process in V_1 and telicity in ASP — we can see how the shifts through the network sketched by Moens can come about.

Let us now look at some ways that this view of coercion can be put to use. My particular goal is to show how this view of coercion can be used to keep all aspectual case changes linked only to situation aspect, Inner Aspect. We start with a more straightforward example — one from Scots Gaelic. We have seen that perfective aspect is linked to direct case assignment. The relevant examples are repeated from Chapter 5, section 5.1.1xx below (Ramchand 1997: 51-52).

³¹ de Swart mentions coercion within the nominal domain as well, giving examples such as *many/few apples* vs. *much/little apple* and *much/little beer* vs. *many/few beers*. Just as V_1 can give a shape to an event, so can N_1 give a shape to a nominal (much like a classifier). Most likely the type of verbal coercion I outline here can be extended to the nominal domain.

- (463) a. Bha Calum a'faicinn **a'bhalaich** PAST PERIPHRASTIC
 be-PAST Calum AG see-VN boy-GEN
 'Calum saw the boy.'
- b. Bha Calum air **am balach** (a) fhaicinn PAST PERFECT
 be-PAST Calum AIR the boy-DIR A see-VN (PERIPHRASTIC)
 'Calum had seen the boy.'

We also know that there is a constraint on the appearance of non-dynamic predicates with perfective aspect. As we saw in Chapter 5, section 5.1.2xx, this caused the following shift in meaning (Ramchand 1997: 45).

- (464) a. Bha mi 'ga chreidsinn PAST PERIPHRASTIC
 be-PST I-DIR AG.he-GEN believe-VN (Ramchand 1997: 45)
 'I believed him.'
- b. Chreid mi e SIMPLE PAST
 believe-PAST I-DIR he-DIR (Ramchand 1997:45)
 'I came to believe him'

This shift in meaning is similar to the case of French presented in de Swart suggesting that we would like to have a similar account. The problem, then, must be one of selection. The perfective forms select a dynamic predicate. The mismatch between the stativity of 'believe' and the requirements of the perfective aspect is what forces the coercion. In terms of the structure proposed here, the selectional restriction of Outer Aspect will force V_1 to be of a certain type. Instead of being a stative V_1 , it will be an eventive V_1 . Scots Gaelic does not have overt morphology to effect such a change, therefore a zero morpheme will create the effect of coercion.

One can imagine a similar process happening in the case of the following example from English.

(465) We are solving the problem.

As pointed out in Smith (1991:97), to the extent that this example is possible, the event is describing the preparatory event leading up to the actual point of the problem being solved. In Ryle's terms, the event has been handed back to the player and taken away from the referee. This shift can be handled in a similar fashion as the previous example from Scots Gaelic. The Progressive in English requires an event of a specific shape. It needs a process V_1 . This will shift the Achievement of 'solve the problem' into an Accomplishment by adding the zero DO morpheme in English to V_1 .

The effect on ASP can also be seen. Frame adverbials require that ASP have the value [+telic]. This means that generally they cannot occur with Activities. However, we can also have coercion in these cases as the following example shows.

(466) Mary ran in three minutes.

As has been pointed out earlier, there are two readings for this in the event that it is grammatical. Either we measure the time until the event started or we measure the length of a predetermined task. Both involve coercion, or, as I am arguing, zero morphology. In this chapter, we have seen inception encoded in a variety of positions. Since only V_1 and ASP can be affected by coercion, I assume that there is a zero morpheme that perhaps performs similarly to *na-* in Bulgarian in which case it would appear in V_1 . For the completed task reading, I assume that there is a zero morpheme that will appear in the Inner Aspect position.

An example that is slightly more difficult to account for is the case of imperfective in Finnish, the first example given in the book. Why is it that Finnish imperfective, clearly an Outer Aspect, have an effect on case assignment? Worse, the case assignment shift seems to be the only indication of the shift in morphology. The example from Chapter 1 is given below (from Comrie 1976: 8).

(467) FINNISH

- a. hän luki kirjan
‘He read the book.’

- b. hän luki kirjaa
‘He was reading the book.’

There is no change in the verb form, only a change in case. Here I return to de Swart’s suggestion that there are two past tenses in French, *Imparfait* and *Passé Simple*, but with different selectional restrictions. In French, however, these two pasts have different morphological realizations. In Finnish, the two pasts would have the same morphological realization, the only distinction would be in the selectional restrictions. The imperfect past would coerce the nature of ASP and thereby affect the nature of its case assigning abilities.

At this point at the beginning stages of this new line of research, much of this must remain speculative but the direction of the research is clear. The hypothesis is that case shifts can only be dependent on VP internal information and that any apparent influence from heads outside the VP must be mediated by selectional restrictions.

8.6 CONCLUSION

This chapter has put to use the VP structure that was developed through the earlier chapters of the book. The important claims made were (i) the articulation of the VP opens various possibilities for the realization of boundary points for an event, (ii) languages vary on which of these positions are used overtly, (iii) there is covert use of these positions in instances of coercion. More generally, it has brought together various claims made throughout this book. In order to have the fine-tuning to even start this discussion, we need to have a VP structure that represents sub-parts of an event, we need to have an event-related head within the VP that is the point where *Aktionsart* is computed, and we have to have an interaction of the lexicon and syntax which allows a domain where mechanisms are borrowed from syntax and idiosyncracies are encoded in the lexicon. In this corner of the computational system, the corner that builds an event,

we see creativity mixed with convention. Forcing this domain to be purely the syntactic component or purely the lexicon either does a disservice to the universal grammar's ability to combine components.