# The Syntax of Inner Aspect

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**Jonathan Eric MacDonald**

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We, the dissertation committee for the above candidate for the

**Doctor of Philosophy** degree,

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Abstract of the Dissertation

**The Syntax of Inner Aspect**

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The main goal of this dissertation is to explore and provide an account of the
syntactic nature of inner aspect. I conclude that the syntactic nature of inner aspect consists
primarily of a space within the verb phrase within which elements must be located in order
to contribute to the aspectual interpretation of the predicate; this is **the domain of
aspectual interpretation**. Technically the domain of aspectual interpretation is minimally
defined as an aspectual projection (AspP) between vP and VP (see also Travis 1991). When a
certain property of an NP Agrees with Asp°, the domain is extended to everything
dominated by AspP; this is the syntactic instantiation of an object-to-event mapping. The
result of the presence of this domain is that elements above AspP (e.g. CAUSE introducing
external arguments (Hay, Kennedy & Levin 1999), external arguments themselves (Tenny
1987), and locative PPs) cannot contribute to the aspectual interpretation of the predicate.

I also provide a **syntactic typology of aspectual predicate types**. This consists of
the minimal syntactic machinery necessary to account for an array of properties
systematically associated with statives, activities, accomplishments, and achievements.

Relevant to the determination of this typology are AspP, as well as syntactically and semantically active properties of predicates (**event features**). The presence or absence of AspP and event features in conjunction with the syntactic relation between the event features themselves derives the typology.

Furthermore, I claim that a locus of parametric variation in inner aspect is the AspP projection itself. I argue that English is representative of languages that possess AspP and Russian is representative of languages that lack AspP. This claim is motivated by the systematically distinct aspectual distributions and interpretations of mass nouns and bare plurals.

Finally, a natural consequence of this proposal is that case and aspect are independent syntactic relations. I conclude that aspect is a relation between an NP and Asp° and assume that accusative case is a relation between a DP and v° (Chomsky 2001). I discuss this consequence for Finnish, often put forth as a language that exemplifies a direct relation between case and aspect.

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It has not always been clear to me that the path that has lead to the present dissertation would actually do so, especially near the end. This is why I would like to acknowledge those of you that, at some point along it, I have met, traveled with, or just got directions from. You helped me get here.

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**Chapter 1**
# Introduction

The main goal of this dissertation is to understand the syntactic mechanisms at work in inner aspect. Before exploring these mechanisms directly in Chapter 2 and 3, it is instructive to clarify some relevant notions, to introduce important data and to consider previous syntactic analyses of inner aspect. In section 1.1, I introduce the domain of inner aspect contrasting it with outer aspect. The domain of inner aspect is the structure of events; importantly these are linguistic events, **not** real world events. In section 1.2, I give a brief introduction to the main data of the study: the object-to-event mapping, the differences between achievements, accomplishments and statives, and the distinct aspectual interpretations of bare plurals (BPs) and mass nouns (MNs). In section 1.3, I present the main pieces of the present proposal. In section 1.4, I discuss previous syntactic analyses of inner aspect, focusing on one problem that transcends all of them: their inability to account for the differences between achievements and accomplishments.

## 1.1 An Introduction to Aspect

*1.1.1 Inner vs. Outer Aspect*

Aspect is a term that has been used in linguistics to refer to (at least) two distinct domains of study. We can refer to these two domains respectively as inner and outer aspect (Travis 1991), situation and viewpoint aspect (Smith 1991), or lexical and grammatical aspect. This is a study of the syntactic nature of inner aspect.

Intuitively, inner aspect is the study of the way in which a predicate describes an event. Minimally, the event can be described either as possessing an endpoint or as not possessing an endpoint.[1] Consider the sentences in (1).

(1)    a.  Jerome drank a bottle of beer last night.
       b.  Jerome drank beer last night.

The sentence in (1a) describes an event that is interpreted as complete and finished. We understand from this sentence that there is an endpoint to the event that corresponds to finishing the bottle of beer. When there is no more beer in the bottle, the drinking event ends. The sentence in (1a) describes what is called a **telic event**. Compare (1a) to (1b).

The sentence in (1b), in contrast, describes an event that may or may not be interpreted as complete and finished. There is no specific quantity of beer expressed to have been drunk, and therefore no endpoint to the event is understood to have necessarily been reached. The sentence in (1b) describes what is called an **atelic event**.

Observe that the nature of the internal argument affects the interpretation of the event described by the predicate (Verkuyl 1972, Krifka 1989). In (1a) the internal argument

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[1] We will see in Chapter 2 that the beginning of an event is also important.

denotes a specific quantity of beer, and in (1b) the internal argument does not denote a specific quantity of beer. Thus, in English inner aspect depends, in part, on the nature of the internal argument. Let us consider outer aspect. Consider the sentences in (2).

(2)    a.  Jerome was drinking a bottle of beer (when I left the bar).
       b.  Jerome was drinking beer (when I left the bar).

The data in (2) illustrate the effects of outer aspect in English. Consider the morphological manifestations first. Observe that the verb is in the progressive form; *ing* appears on the verb.[2] Observe also that an auxiliary is required. There is no such morphological manifestations of inner aspect in English.

Consider the interpretation of the sentences in (2). Observe that neither sentence informs us of whether the event described has an endpoint or not, irrespective of the nature of the internal argument. The effect of outer aspect in this case is the total elimination of an endpoint (see Pustejovsky 1991, Travis 2000).

Outer aspect has morphological manifestations that inner aspect does not. Outer aspect is not affected by the nature of the internal argument, inner aspect is. These are just two examples to show that these two domains are distinct.[3] This dissertation is concerned only with the syntactic nature of inner aspect, and as such, throughout the dissertation any reference to aspect is a reference to inner aspect, not outer aspect.

*1.1.2 Linguistic Events, not Real World Events*

The domain of inner aspect is the structure of events. Importantly, however, the domain of inner aspect is **not** the structure of real world events. Inner aspect is concerned with the way in which a predicate **describes** real world events, not the actual structure of the real world (see Rothstein 2005 and references therein).[4] Consider data that serve to show this (3).

(3)    a.  Rufus drank **beer** at the local pub.
       b.  Rufus drank **a pitcher of beer** at the local pub.

Both of the sentences in (3) can truthfully describe a real world situation in which Rufus went to the local pub and drank an entire pitcher of beer. The sentence in (3a) does not inform us explicitly that the quantity of beer that Rufus drank was an entire pitcher, although it very well could have been. It also could have been a single sip, or two swallows; the mass noun has a vague denotation. The sentence in (3b), on the other hand, informs us explicitly that the quantity of beer that Rufus drank was an entire pitcher. Both of the sentences in (3) truthfully describe the same real world situation, although they describe it differently. Inner aspect does not inform us about the structure of a real world event, but only about the way in which a predicate describes that event.

Consider the interpretation of (3b) again: Rufus drank an entire pitcher of beer. It is straightforward to conclude that the actual amount of beer does not need to be an entire

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[2] Note that perfective forms in English are examples of outer aspect as well, i.e. *John has drunk the beer.*

[3] See Smith (1991) for a more complete discussion of the differences between inner and outer aspect.

[4] The study of the structure of the real world is the domain of ontology.

pitcher, although we understand it to be. For, even if the pitcher were entirely full when poured (which is usually not the case), it would most likely not be full by the time it reached the table, as beer can easily spill out of a full pitcher. Likewise, there always remains some amount of beer in the pitcher when it is 'finished'. One needs only to go to the bar and order a pitcher of beer to confirm this. Sentence (3b) can truthfully be uttered in these circumstances.

Thus, again, the sentence tells us nothing about the real world event. The predicate only **describes** the real world event, and part of that description is whether the event is understood as complete or incomplete, telic or atelic.[5] Consequently any reference to events in this dissertation is a reference to a description of a real world event, not a real world event itself.

## 1.2 An Introduction to the Data

In this section I introduce data relevant to the study of the syntactic nature of inner aspect. In section 1.2.1 I introduce data that has been the main focus of previous syntactic approaches to inner aspect: the object-to-event mapping, the time span adverbial and the durative phrase. I section 1.2.2 I briefly discuss achievements vs. accomplishments and tests serving to differentiate them: *almost* modification, *it takes x-time*, and the *stop* control construction. I also introduce statives. These data are often neglected in syntactic accounts of inner aspect, while quite prominent in the semantic literature. In section 1.2.3 I introduce new data that show that, contrary to widely held assumptions, BPs and MNs have distinct aspectual interpretations.

*1.2.1 Mapping objects to events*

Since Verkuyl (1972) it has been recognized that the nature of the internal argument affects the aspectual interpretation of the predicate (in many languages).[6] Consider the **standard accomplishments** in (4).[7]

(4)    a.  Dudley ate **a pizza**.
        b.  Dudley ate **pizza**.

In (4a) in the presence of *a pizza*, there is an interpretation in which the entire pizza is eaten. In (4b), in the presence of *pizza*, the exact quantity of pizza eaten is not specified. The predicate in (4a) is **telic** and the predicate in (4b) is **atelic**.[8] This difference in aspectual interpretation results from different properties of these internal arguments. In (4a) the internal argument is *quantized* (Krifka 1989), or expresses a *specific quantity of A* (Verkuyl

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[5] Inner aspect shows us that there is no language-world isomorphism (see Ludlow et al. 2003).

[6] In languages such as English, Dutch, German, Spanish, Italian there is a mapping from the object to the event. This same mapping does not seem to be present in Malagasy, Chinese (see Travis in prep) or Russian. See Borer (2005) and Travis (in prep) for recent discussions of this object-to-event mapping in the domain of syntax. See Chapter 5 of this dissertation for a discussion of Russian aspect.

[7] (4a) is an accomplishment while (4b) is an activity as a result of the presence of the mass noun. I retain the term accomplishment for greater ease of exposition.

[8] Note that throughout the dissertation I use the term predicate not to refer to the lexical verb alone, but to the entire verb phrase, unless explicitly noted otherwise.

1972), and results in a telic predicate. In (4b) the internal argument is *cumulative* (i.e. *non-quantized*) (Krifka 1989), or does not express a *specific quantity of A* (Verkuyl 1972), and results in an atelic predicate.[9] I refer to an NP that elicits a telic interpretation of a predicate as a [+q]NP, *q* for (specific *quantity*),[10] and an NP that elicits an atelic interpretation of a predicate as a [-q]NP.[11]

When the [q] feature of an NP affects the telicity of a predicate, this is referred to as an object-to-event mapping. We can intuitively understand these effects in the following way. In (4a) the action described by the verb progresses through the material denoted by the pizza, and since the NP is [+q], eventually, there will be an end to the pizza stuff and consequently an end to the eating itself. When all of the pizza is eaten, the eating event ends. The eating event has an endpoint; the predicate is telic. In (4b) the action described by the verb progresses through the material, and since the NP is [-q], there is no end to the material, and the eating continues without coming an end. The event has no endpoint; the predicate is atelic.

Note that there are concrete linguistic tests corresponding to telic and atelic interpretations elicited by the internal argument. Consider the data in (5).

(5)     a.   Dudley ate **a pizza**    in ten minutes/#for ten minutes.
        b.   Dudley ate **pizza**    #in ten minutes/for ten minutes.

Observe in the telic predicate in (5a) that the time span adverbial (e.g. *in ten minutes*), is compatible, while the durative phrase (e.g. *for ten minutes*) is not. In contrast, observe in the atelic predicate in (5b) that the time span adverbial is incompatible and the durative phrase is compatible (Borer 2005, Dowty 1979, Pustejovsky 1991, Tenny 1987 among others).

These are widely attested facts within the syntax and semantics literature on inner aspect. In fact, the majority of syntactic approaches to inner aspect focus solely on these data. They are typically only concerned with the atelic-telic dichotomy and capturing the object-to-event mapping (see Borer 1994, 1996, Folli 2000, 2001, Folli and Ramchand 2001, Ramchand 1993, 2001, Ritter and Rosen 1998). There are, however, other important data relating to inner aspect that are widely discussed in the semantics literature. I introduce these in the next section.

*1.2.2 Achievements, Accomplishments, and Statives*

The simple dichotomy between atelic and telic interpretations of a predicate is an important distinction to capture in any study of the syntactic nature of inner aspect. There are, however, other important distinctions to capture as well, such as the distinction between achievements and accomplishments. Several authors recognize the linguistically legitimate

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[9] There is some debate about the exact nature of the property of an argument that can elicit this alternation in aspectual interpretation. See Borer (2005), Hay, Kennedy, Levin (1999), Krifka (1989), Rothstein (2005), and Verkuyl (1972) for some discussion. It is not my intention to enter into this debate, although I assume there is some property that does affect the aspectual interpretation of the predicate which I refer to as a [q] feature.

[10] Here I am referring only to accomplishment (and achievement predicates) for the nature of the internal argument in activities does not affect their aspectual interpretation. This is not to say that an NP internal argument of a verb in a predicate interpreted as atelic cannot be considered [+q]; it can be, it only does not affect the telicity of the predicate. See Chapter 3 for a more detailed discussion of activity predicates.

[11] I argue in Chapter 4, section 4.2 that this [q] feature is most likely located closer to the NP layer of an argument than the DP layer.

distinction between achievements and accomplishments (Dowty 1979, Mittwoch 1991, Rothstein 2005, Travis in prep, Vendler 1969 among others, but cf. Borer 2005, Verkuyl 1989). For the most part, for those who recognize the distinction, achievements describe events characterized as temporally punctual telic events (see 6) and accomplishments describe events characterized as temporally extended telic events (see 7).

(6)     a.    John caught the raccoon.
        b.    Bill left (the basement).

(7)     a.    Phil drank the pitcher of root beer.
        b.    Sal ate the slice of pizza.

Besides this intuitive difference in the length of time of the event described by these telic predicates, achievements and accomplishments show different concrete linguistic patterns Dowty (1979). This can be observed with the three following **event structure modifiers**: the *stop* control construction, *almost,* and *it takes x-time.* Consider the *stop* control construction first (8).

(8)     a.    John stopped catching the raccoon.
        b.    Bill stopped leaving (the basement).

(9)     a.    Phil stopped drinking the pitcher of beer.
        b.    Sal stopped eating the slice of pizza.

For the achievements (8), the only interpretation available is an iterative interpretation in which John stopped repeatedly catching the raccoon (8a) and in which Bill stopped repeatedly leaving (the basement); these are often interpreted as habitual actions (Dowty 1979), given that only an iterative interpretation is available. We can intuitively understand why only an iterative interpretation is available for achievements in this construction if we interpret the punctual nature of the event they describe in the following way: The beginning and the end of the event occur at the same time. Since they occur at the same time, once the beginning takes place, the end does too. Therefore, in the *stop* control construction in which some amount of time is interpreted to pass before the action expressed by the verb is stopped, achievements can only be interpreted iteratively, because the only way to meet the condition that time passes is for the punctual event to repeat, as there is no time between the beginning and end to pass. Pragmatically, this often results in a habitual interpretation.

For the accomplishments (9), there is an iterative interpretation available as well (made more salient if the indefinite *a* is used, and interpreted as a habitual action), however, more importantly there is a **single event interpretation** available that is not available for achievements (Dowty 1979); the single event interpretation of (9a) is that Phil did not finish the pitcher of beer, and in (9b) it is that Sal did not finish the slice of pizza. These events start but then stop before reaching their endpoints. Intuitively, this is possible if we understand time to pass between the beginning and the end of the event. There is no requirement that once the event starts it must reach the end; it can be stopped before reaching the end. This is the single event interpretation.

Consider *almost* and *it takes x-time* together, for their interpretations seem to depend on the same properties. Achievements with *almost* and *it takes x-time* elicit only one interpretation

(10-11) while accomplishments elicit two interpretations (12-13) (Dowty 1979; but cf. Hay, Kennedy and Levin 1999 for the interpretation of *almost*).

(10)　a.　John *almost* caught the raccoon.
　　　b.　Bill *almost* left (the basement).

(11)　a.　It took John ten minutes to catch the raccoon.
　　　b.　It took Bill ten minutes to leave the basement.

(12)　a.　Phil *almost* drank the pitcher of beer.
　　　b.　Sal *almost* ate the slice of pizza.

(13)　a.　It took Phil ten minutes to drink the pitcher of beer.
　　　b.　It took Sal ten minutes to eat the slice of pizza.

There is only a **counterfactual**[12] interpretation of *almost* with achievements, in which the event of catching the raccoon (10a) and the event of leaving the basement (10b) never took place. The event never began. Additionally, with *it takes x-time*, only the amount of time before the catching of the raccoon event began (11a) and the amount of time before the leaving of the basement event began (11b) can be expressed. This is what I term a **start-time interpretation.**

With accomplishments, in contrast, *almost* elicits the counterfactual interpretation, in which Phil never began to drink the pitcher of beer (12a) and in which Sal never began to eat the slice of pizza (12b), but there is also an **incompletive** interpretation, in which Phil began to drink the pitcher of beer, but never finished it (12a) and in which Sal began to eat the slice of pizza but never finished it (12b). The event begins, but never comes to an end. No incompletive interpretation is available in achievements.

Similarly to *almost*, *it takes x-time* elicits two interpretations with accomplishments. The first is on par with achievements and is the start-time interpretation in which ten minutes pass before Phil began to drink the pitcher of beer (13a) and in which ten minutes passed before Sal began to eat the slice of pizza (13b). In addition to this interpretation and in contrast with achievements, there is another interpretation in which the amount of time that passes before the end of the event is expressed; this is the **end-time interpretation.** Thus, there is an interpretation in (13a) in which ten minutes passed before the pitcher of beer was entirely drunk, and in (13b) there is an interpretation in which ten minutes passed before the slice of pizza was entirely eaten. No such interpretation is available in achievements.[13]

The telic-atelic distinction is an important one to capture in any account of the syntax of aspect; however, equally important is the further distinction between the two types of telic predicates: achievements and accomplishments. Any syntactic approach to inner aspect must account for these distinctions and the corresponding patterns of the event structure modifiers.

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[12] I borrow this term from Rapp and von Stechow (1999).

[13] One might ask how we know that the beginning of the event is targeted in achievements by *almost* and *it takes x-time* if the event is instantaneous, for as the event begins, it ends and vice versa, making it difficult to know which is being modified. We will see in Chapter 3 that there are a variety of event structure modifiers that target different parts of the event. Their (in)compatibility with achievements indicates that only the beginning of the event is available for modification.

Another linguistically relevant aspectual predicate type are **statives**. Statives differ quite systematically from achievements and accomplishments (as well as from activities). Observe two relevant ways below in (14).

(14)     a.  Jack owned **a stereo/stereo equipment**     for a week/#in a week.
         b.#Jack **almost** knew the answer.

Stative predicates do not exhibit the same object-to-event mapping that we observed above in (5). The [+/-q] nature of the internal argument NP does not affect the telicity of the predicate (14a); the predicate is interpreted as atelic regardless of the nature of the internal argument. Moreover, observe that *almost* does not elicit any counterfactual or incompletive interpretation (14b). These are just some systematic linguistic differences that distinguish statives from other aspectual predicate types and that must also be accounted for in any syntactic approach to inner aspect.[14]

*1.2.3 The Bare plural-Mass noun Assumption*
In this section I discuss the distinct aspectual interpretations of BPs and MNs.[15] These data are new to the discussion of inner aspect, and as we will see, they shed light on its syntactic nature.[16] Most authors assume that BPs and MNs affect the aspectual interpretation of the predicate in the same way; for, in predicates in which a durative phrase is incompatible (15a), the presence of a BP or MN makes it compatible (15b) (Borer 2005, Dowty 1979, Filip 1999, Pustejovsky 1991, Travis in preparation).

(15)     a.  Dudley ate **a cake**          # for ten minutes.
         b.  Dudley ate **cake/cakes**     for ten minutes.

Observe, however, that BPs are compatible with a time span adverbial (16a), while MNs are not (16b).[17]

(16)     a.  Dudley ate **cakes**     in three minutes     (for the 1st hour at the party).
         b.  Dudley ate **cake**     #in three minutes     (for the 1st hour at the party).

The BP in (16a) is compatible with the time span adverbial under the interpretation that for each cake Dudley ate, he ate it in three minutes for the 1st hour at the party. No such interpretation is available for the MN in (16b). Time span adverbials are typically assumed to

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[14] In Chapter 2 and 3, I discuss other properties of statives that show further systematic differences from eventives.

[15] In Chapter 2, we will see that BPs and MNs have distinct aspectual distributions as well.

[16] Some others have noted that there is some difference in interpretation between BPs and MNs (Tenny 1987, Verkuyl 1972), however, without a formal pursuit of the difference. Ramchand (2001) for instance suggests that the aspectual effect that a BP has on the predicate is an outer aspectual effect and does not pursue it further.

[17] Thanks to John Bailyn for pointing out these data to me.

be compatible only with telic predicates;[18] thus, the data in (16) show that in the presence of a BP, the predicate is interpreted as telic, while in the presence of a MN, the predicate is interpreted as atelic. The BP elicits a **sequence of similar events (SSE) interpretation** in which one cake after another is eaten sequentially for an indefinite amount of time; MNs elicit an **atelic interpretation**. BPs and MNs have distinct aspectual interpretations. These are data that a syntactic account of inner aspect should be able to explain.

## 1.3 An Overview of the Present Syntactic Account of Inner Aspect

Before proceeding to previous syntactic approaches to inner aspect, I outline the proposal argued for here. One goal of the present dissertation is to uncover the minimal syntactic elements that derive the different aspectual predicate types; i.e. to derive a syntactic typology of aspectual predicate types.

In this vein, I propose that eventive predicates (i.e. achievements, accomplishments and activities) vs. non-eventive predicates (i.e. statives) can be syntactically differentiated in English by the presence or absence of an aspectual projection (AspP) between vP and VP.[19] Thus, eventives minimally project AspP, resulting in the structure in (16a), while statives do not project AspP, resulting in the structure in (17b).[20]

(16)  a. EVENTIVES                    b. STATIVES
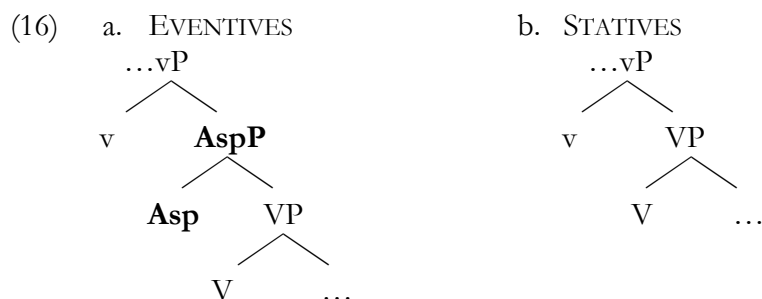


I argue that Agree with Asp° syntactically instantiates the object-to-event mapping. This captures one basic difference between statives and eventives. Furthermore, I assume that the different aspectual interpretations of BPs and MNs come from different relations that they establish with AspP; BPs move to Spec,AspP, while MNs Agree with Asp°. Finally, as we will see in Chapter 3, AspP creates a syntactic domain of aspectual interpretation such that in order to contribute to the aspectual interpretation of the predicate an element must be within this domain. Interestingly, though, the time at which these elements are **calculated** is later in the derivation, not until the phase (i.e. at vP).

To differentiate syntactically among the eventive predicate types, I propose the existence of **event features** (e.g. $<ie>$, $<fe>$). Event features indicate whether the event described by

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[18] As we will see in Chapter 3, this generalization is not entirely correct. Time span adverbials can target both the beginning and the end of the event. With respect to the examples in (14), we are concerned with whether the time span adverbial can target the end of the event or not; it can with the BP in (14a), but not with the MN in (14b).

[19] Travis (1991, 2000, in prep) also argues for an aspectual projection between the VP layers, although it does not play the same role as it does here.

[20] McClure (1993) makes a similar proposal in which eventive predicates have aspectual projections present in their underlying syntax, while statives lack these projections. His aspectual projections are a fundamentally different in nature from AspP here.

the predicate has a beginning or an end (*<ie>* and *<fe>* respectively). Event features are the syntactic correspondences to event structure; essentially they map to subevent structure (see Pustejovsky 1991). I assume that for a predicate to be telic, the event it describes needs to be interpreted as having a beginning and an end; syntactically this entails that it will have two event features. If a predicate has anything less than two event features, it will be interpreted as atelic. Thus, an accomplishment has the minimal syntactic structure in (18a) with two event features while activities have the minimal syntactic structure given in (18b), with a single event feature.

(18)    a.   ACCOMPLISHMENT                    b.   ACTIVITY

```
        …vP                                          …vP
        /  \                                         /  \
       v    AspP<ie>                               v    AspP<ie>
            /    \                                       /    \
         Asp      VP<fe>                               Asp      VP
        <ie>      /  \                                <ie>      /  \
                 V    …                                        V    …
                <fe>
```
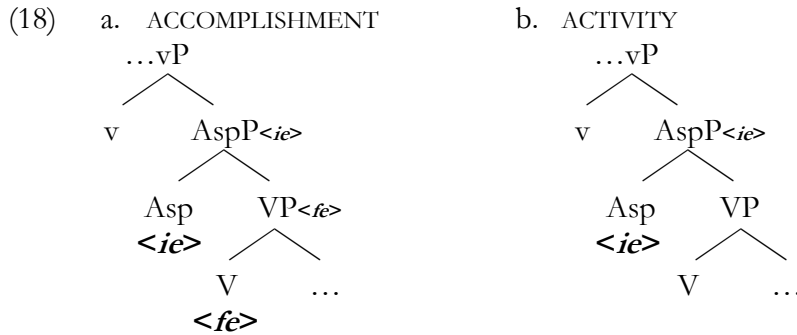
Recall that accomplishments are not the only type of telic predicate. There are also achievements. I propose the minimal syntactic structure for achievements given in (19).

(19)    ACHIEVEMENT

```
        …vP
        /  \
       v    AspP<ie>
            /    \
         Asp      VP
        <ie>      /  \
         /\      V    …
     <fe> <ie>
```
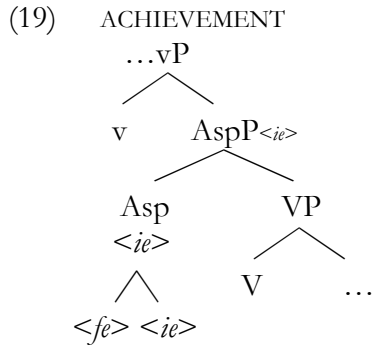
Observe that there are two event features, like accomplishments, thus the predicate is interpreted as telic. In contrast with accomplishments, however, the event features of achievements appear on a single head. This has repercussions for the interpretation of the predicate's event structure. If there is no c-command relation between the heads that bear an *<ie>* and an *<fe>* feature, then no time is interpreted to elapse between the beginning and the end of the event. The event is interpreted as punctual; the predicate is an achievement. If there is a c-command relation between the heads that bear an *<ie>* and an *<fe>* feature, then time is interpreted to elapse between the beginning and end of the event; the predicate is an accomplishment.

Note that these event features are a syntactically active; they project to the XP level of the phrase from the heads they are introduced on. I assume that *almost, it takes x-time* and the *stop* control construction Agree with XPs flagged with an event feature in order to modify the event structure of the predicate. I give a summary of this syntactic typology of aspectual predicate types below in (20).

(20)    **Syntactic Typology of Aspectual Predicate types**

PREDICATE TYPE

NO AspP            AspP PRESENT
|
Statives    **<*ie*> ONLY**        **<*ie*> AND <*fe*>(telic)**
|
Activities    **SAME HEAD**        **DIFF. HEAD**
|                    |
Achievements    Accomplishments
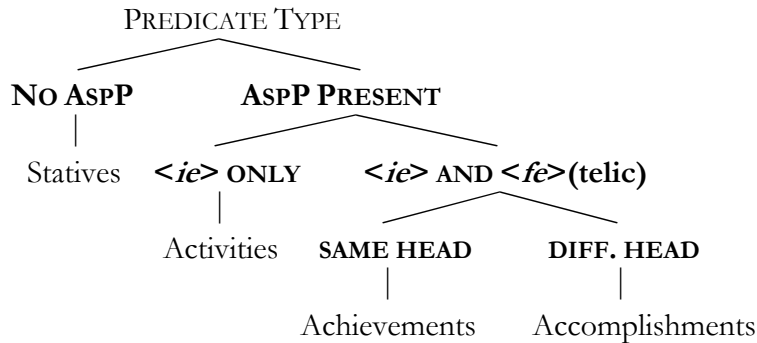
At the topmost node of the tree in (20) there is a division between statives and eventives. Syntactically, statives differ from eventives by lacking an AspP projection in their syntax. At the next node down, there is a division between atelic and telic eventive predicates; atelic eventives are activities and telic eventives are accomplishments and achievements. Activities have only an <*ie*> feature in their syntax, and therefore are atelic, and accomplishments and achievements have both an <*ie*> and <*fe*> feature, and are therefore telic. At the bottommost branching node there is a division between achievements and accomplishments. Achievements have both features on a single head, which entails that no time elapses between the beginning and the end of the event described by the predicate. Accomplishments have each feature on distinct heads, which entails that time does elapse between the beginning and the end of the event. This derives the syntactic typology of aspectual predicate types.

## 1.4 Previous Syntactic Accounts of Inner Aspect

In this section I review previous syntactic approaches to inner aspect. The main focus in this section is on how well these earlier analyses account for achievements vs. accomplishments and their corresponding linguistic differences. This section is divided into two subsections. In subsection 1.4.1 I outline approaches to the syntax of aspect that do not attempt to account for achievements and accomplishments, but principally focus on the atelic-telic alternation. This first subsection is divided up according to the number of functional projections used: 2, 1, or 0. In subsection 1.4.2, I address accounts that specifically discuss the syntax of achievements and accomplishments, and I show where their proposals are problematic.

*1.4.1 No Account of Achievements and Accomplishments*

This subsection is organized in the following way. I first look at approaches to the syntax of aspect which employ two functional projections, and then at those that employ a single functional projection. We will see that with respect to the question of accounting for achievements and accomplishments, the multiple functional projection approaches can be reduced to a single projection approach, because ultimately there is only one projection involved in the determination of the telicity of the predicate. Once reduced to a single projection, it becomes less clear how these accounts can handle the linguistic differences between achievements and accomplishments. In the final subsection, I look at an alternative account that does not employ a functional projection. It too has difficulty accounting for achievements vs. accomplishments.

*1.4.1.1 Double Functional Projection Approaches*

In double functional projection approaches, two functional projections are implicated in the event structure of a predicate. Ritter and Rosen (1998, 2000), and Borer (1994, 1996) exemplify this approach.[21] One projection is responsible for the delimitation, or telicity of the event described by the predicate and the other is responsible for the initiation or origination of the event. The projection responsible for initiation typically merges above vP, while the projection responsible for delimitation is above vP in Borer (1994, 1996)[22] but between vP and VP in Ritter and Rosen (1998, 2000).[23] The movement of a DP through the specifier of the delimitation phrase is responsible for the telic interpretation of the predicate. This DP is interpreted as the object that measures out the event (i.e. the one that participates in the object-to-event mapping). The movement of a DP through the specifier of the initiation phrase results in the interpretation of that DP as the initiator or causer of the event expressed by the predicate. The structure proposed by Ritter and Rosen (1998) for the sentence in (21a) is given in (21b).[24]

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[21] Note that Sanz (1999, 2000) has a syntactic approach to the syntax of lexical aspect that employs two functional projections, although in a fundamentally different way from Ritter and Rosen (1998, 2000), and Borer (1994, 1996). Sanz claims that there is an Aktionsart phrase responsible for the telicity of the predicate and a Transitive phrase with a [±measure] feature which is responsible for the measuring out of an argument, a la Tenny (1987). I do not discuss this proposal in detail, for as Sanz herself observes "it does not account for transitive atelic events." (Ibid:14-15). This is a minimal necessity for any syntactic account of lexical aspect.

[22] This is not exactly precise, as Borer's aspectual account is embedded within a theory in which the argument structure of a verb is not lexically specified, and arguments associated with a verb are in no hierarchical configuration; that is, there is no distinction between internal and external arguments. Each argument enters the syntax and moves to functional projections above the verb phrase with which they merge. Given that they move outside the verb phrase altogether, within a more Chomskian (1995, 2001) framework in which the external argument merges in Spec,vP and moves to a position above it, I assume that the functional projections in Borer's account are essentially above vP.

[23] Note that Ritter and Rosen (1998) assume that when a delimiting PP merges, the functional projection is merged as an extended projection of the PP, and as such, it is not between vP and VP. This will not affect the focus of the discussion of their account here.

[24] The structure in (8) is from Ritter and Rosen (1998:159).

(21)  a.  John built a house.
      b.  FP(-initiation)

```
            FP(-initiation)
           /        \
        Spec         F'
                   /    \
                  F      VP
                       /    \
                     DP      V'
                     △      /   \
                    John   V     FP-delimitation
                           /        \
                        Spec         F'
                                   /    \
                                  F      VP
                                       /    \
                                      V      DP
                                    built    △
                                          a house
```
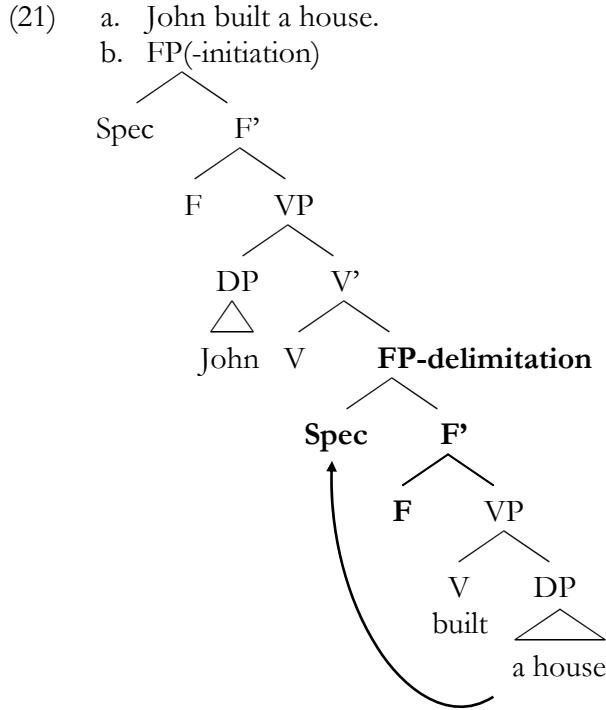
The DP *a house* originates as the complement of V and raises to Spec,FP-delimitation and becomes associated with the delimitation of the event; it measures out the event. *John* originates in Spec,VP and raises to Spec,FP-initiation and becomes associated with the initiation of the event.

The example in (21a) is an accomplishment. The structure (21b) proposed by Ritter and Rosen for this accomplishment offers a potential way to capture the *almost* ambiguity with accomplishments: *almost* could modify different portions of the phrase structure. We can hypothesize that when it modifies the initiation FP the result is a counterfactual interpretation, and when it modifies the delimitation FP, the result is an incompletive interpretation. Although this is a tempting move to make, it cannot work. For Ritter and Rosen (1998) claim that initiation is only available when there is a delimitation. Consider the data in (22).

(22)  a.  John drove a car.
      b.      FP(topic)

```
            FP(topic)
           /       \
        Spec        F'
                  /    \
                 F      VP
                      /    \
                   John     V'
                          /    \
                         V      a car
                       drove
```

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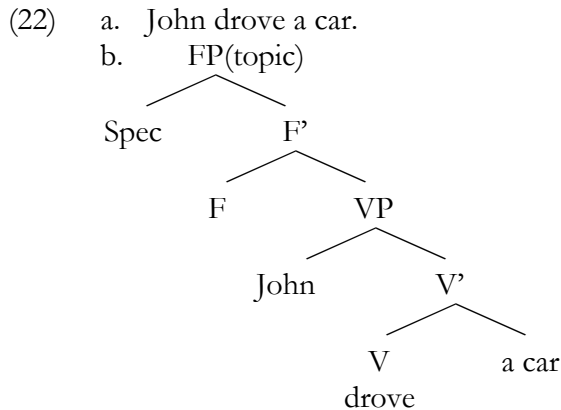
The sentence in (22a) is an atelic transitive predicate. Ritter and Rosen (1998) assign to it the structure in (22b) in which there is no delimitation phrase, and therefore an atelic interpretation. Furthermore, according to their assumptions regarding the interpretation of the predicate, there is no initiation because there is no delimitation phrase; thus they assume that the phrase is a topic phrase. If the counterfactual interpretation resulted from modification of the initiation FP by *almost*, then there should be no counterfactual interpretation for the sentence in (23a). Observe in (23a), however, that there is a counterfactual interpretation.

(23)    a.   John **almost** drove a car.
          b.   John **almost** drove a car into the water.

There is a counterfactual interpretation even though, according to Ritter and Rosen the initiation FP is no longer present. Thus, the counterfactual interpretation cannot arise from the presence of the initiation FP in the structure. Thus, the only possible source of the counterfactual interpretation is the delimitation FP. This reduces the account to a single functional projection which is responsible for telicity. Thus, for a predicate to be telic, as are achievements and accomplishments, the FP-D phrase should be present in both achievements and accomplishments. Nevertheless, it is not clear how this single functional projection can handle the two interpretations of *almost* in accomplishments and the single interpretation of *almost* with achievements at the same time. A similar conclusion can be drawn for Borer's (1994) account.

*1.4.1.2 Single Functional Projection Approaches*
In single functional projection approaches to inner aspect, there is a single functional projection that plays a role in the aspectual calculation of the predicate. Borer (2005), Ramchand (1993), Travis (1991,2000) exemplify this approach, although each employ the aspectual functional projection in technically distinct ways.
Travis (1991) argues for a syntactic position between vP and VP based on derived objects from Kalagan and reduplication facts from Tagalog. She claims that this position is associated with the aspectual interpretation of the predicate and argues for the presence of an aspectual projection there, i.e. AspP. Ultimately, I adopt a similar proposal, that there is an aspectual projection between vP and VP; however, I differ from Travis in the role that this aspectual projection plays. In fact, Travis is not explicit about how the aspectual head she proposes actually determines the aspectual character of the predicate.[25] Therefore I do not discuss her proposal in any more detail here.
Borer (2005) and Ramchand (1993) propose a functional projection between VP and TP that is responsible for the calculation of the aspectual character of the predicate. The way in which these functional projections work is different for each.

Ramchand (1993) proposes a structure like the one in (24), based on overt morphological and word order evidence from Scottish Gaelic.

---

[25] In Travis (2000), the aspectual head between vP and VP is retained. She adds another aspectual projection above vP calling it an event phrase. Both projections are involved in the determination of the aspectual character of the predicate, AspP at an l-syntax level and EP at an s-syntax level, however, again the exact way in which these projections determine the aspectual character of a predicate is not entirely clear.

(24)

```
                              IP
                     ┌────────┴────────┐
                    I'                 SPEC
              ┌──────┴──────┐
              I            AspP
                    ┌────────┴────────┐
                  SPEC              Asp'
               (-internal)    ┌──────┴──────┐
                             Asp            VP
                                     ┌───────┴───────┐
                                   SPEC             V'
                                (+internal)   ┌─────┴─────┐
                                 (Patient)    V          XP
                                                      (+internal)
                                                     (non-Patient)
```
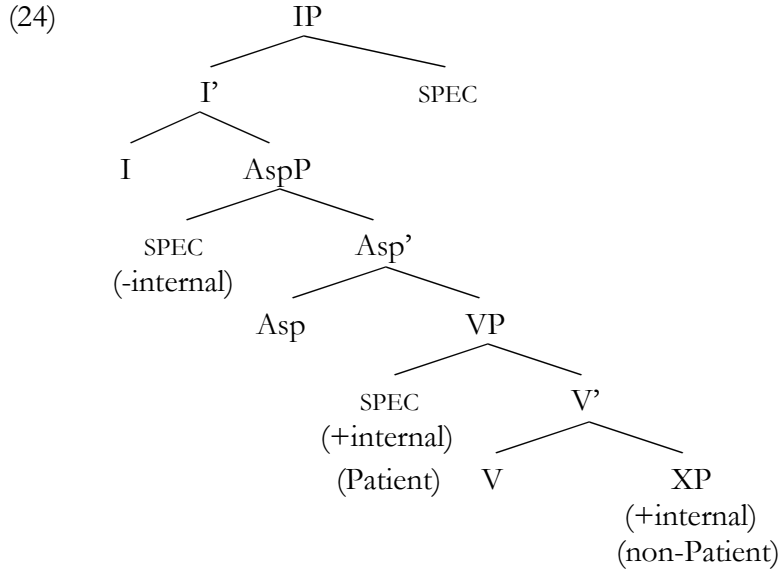
Essentially, an argument governed by Asp, in Spec,VP is what she calls a **Patient**, or a completely affect argument. An argument governed by V is a **non-Patient**. The patient interpretation of a argument results when there is perfective morphology present and the predicate is telic, and the non-patient interpretation of an argument results when there is imperfective morphology present and the predicate is atelic.    Ramchand shows that there is a difference between the positions of arguments that are interpreted as patients and non-patients in Scottish Gaelic.

Unfortunately, Ramchand (1997) does not specifically address the syntactic differences between achievements and accomplishments, and it is not immediately apparent in the structure in (24) how to handle the distinct interpretations of the event structure modifiers when there is only a single projection responsible for aspectual interpretation.

Borer (2005) proposes the structure corresponding to a telic interpretation in (25b) for the sentence in (25a). [26]

(25)    a.  John built a house.
        b.  …TP

```
              ┌────────┴────────┐
              T               AspP
                       ┌────────┴────────┐
                     Spec              Asp'
                               ┌────────┴────────┐
                              Asp               VP
                                                 │
                                                 V
```

_____
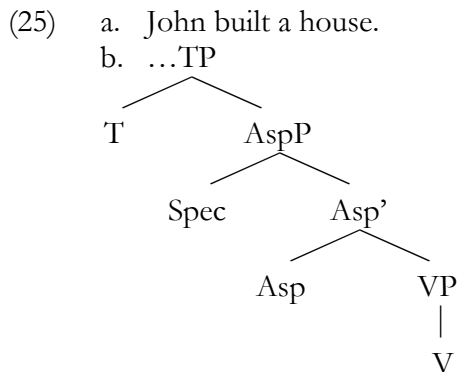
[26] I am simplifying the structure and Borer's (2005) assumptions regarding the interpretation of this structure. Borer's account of telic and atelic interpretations is embedded within a larger theory of argument projection that goes well beyond the scope of the discussion of the syntax of inner aspect. I focus here on the syntactically relevant portions of her account alone and simplify the structure accordingly.

The telic interpretation arises from the DP having a particular property $\alpha$ ($\alpha$ for Borer is *quantity*[27], $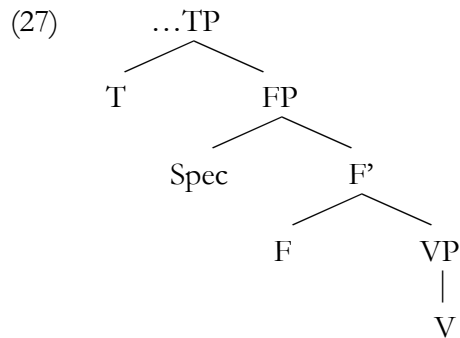\alpha$ for Krifka is quantizedness, $\alpha$ for Verkuyl is specific quantity of A) and moving into Spec,AspP. Only a DP with property $\alpha$ in the specifier of AspP can trigger a telic interpretation of a predicate.

Thus, sentences as in (26) cannot have the structure given in (25b), for the internal arguments do not possess property $\alpha$. Therefore, were they to move to Spec,AspP, the derivation would crash and result in ungrammaticality.

(26)    a.  John built houses.
        b.  John drank beer.

For the sentences in (26), Borer proposes the structure in (27) in which AspP does not project.

(27)        …TP
           /    \
          T      FP
                /   \
             Spec    F'
                    /   \
                   F     VP
                         |
                         V

In its place there is a functional projection that assigns partitive case to the DP that moves into its specifier.[28] This is also the structure proposed for atelic transitives such as those in (28).

(28)    a.  John dragged the log.
        b.  John carried the bag.

Thus for an atelic interpretation of a predicate, FP must merge in the structure and an argument must move to specifier FP to license the structure. For a telic interpretation of a predicate, AspP must merge in the structure and a DP with the right property must move to its specifier to license the structure.

Borer (2005) addresses the question of the linguistic legitimacy of achievements as a separate class of aspectual predicate types from accomplishments. She makes two general conclusions: 1. Achievements and accomplishments do not differ with respect to event structure. Both achievements and accomplishments have the structure in (25b), projecting AspP; and 2. The only difference between achievements and accomplishments is that the telicity of achievements does not depend on the nature of the internal argument, while it

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[27] For Borer (2005) when a DP has the property $\alpha$ (i.e. *quantity*) there are corresponding structural consequences within the DP itself. I ignore these structural differences as it is not crucial to the present discussion.

[28] Again note that this is a simplification of the structure that Borer (2005) proposes.

does so for accomplishments; this entails that achievements always project AspP while accomplishments optionally project AspP.

I am sympathetic to Borer's (2005) first conclusion that with respect to event structure both achievements and accomplishments are underlyingly the same, for as noted in section 1.3, I assume that underlyingly both achievements and accomplishments have an <*ie*> and an <*fe*> feature; that is, they both describe events that have a beginning and an end (see also Pustejovsky 1991). However, there are robust linguistic differences between achievements and accomplishments as well. For example, in the *stop* control construction, achievements consistently elicit an iterative interpretation, while accomplishments can elicit a single event interpretation (see section 1.2.2; see also Mittwoch 1991). Also, as noted above in section 1.2.2, *almost* and *it takes x-time* elicit two interpretations with accomplishments and only one with achievements.[29] It is not clear how the structure in (25b), proposed to be the same for both achievements and accomplishments in Borer (2005) can account for these facts.

With respect to Borer's (2005) second conclusion, that the telicity of achievements does not depend on the nature of the internal argument, this simply cannot be the case.[30] Observe that the achievements in (29) have a [+q]NP internal argument and they are telic, and as such the durative phrase is odd.[31]

(29)    a.  John caught the raccoon    # for ten minutes.
        b.  John broke the mug          # for ten minutes.

Observe in (30) that when a [-q]NP surfaces as the internal argument, the durative phrase becomes compatible; the predicate is interpreted as atelic.

(30)    a.  John caught wildlife    for an hour.
        b.  John broke glass         for an hour.

Achievements are a legitimate aspectual predicate type separate from accomplishments, and their telicity does depend on the nature of the internal argument.

*1.4.1.3 A Non-functional Projection Approach*

Harley (2005) exemplifies a non-functional projection approach to the syntax of inner aspect. In this approach, no functional projections are used at all.[32] She focuses her

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[29] Borer (2005:330) states that "…the 'anticipatory' reading of 'it took x time' can be overridden…" The 'anticipatory' reading seems to be the amount of time expressed before the event begins, i.e. the start-time interpretation; it is not clear to me that this reading can be overridden.

[30] To be fair, Borer (2005) makes this claim referring to verbs such as *spot, notice, find, discover* and their respective direct objects. In Chapter 6, section 6.4, I specifically discuss these predicates and analyze them as having two internal arguments. The surface direct object does not participate in the object-to-event mapping as Borer notes, however, the surface subject does. I analyze the surface subject as derived from a position from below AspP, essentially occupying the position of the argument that participates in the object-to-event mapping.

[31] Note that the durative in (29a) only elicits an iterative interpretation, which in fact indicates that the predicate is telic. The durative is semantically odd on a single event interpretation in these sentences. See Chapter 2, section 2.1 for a more detailed discussion of the aspectual effects of the durative phrase.

[32] Properly speaking, this is an L-syntax approach to inner aspect. See Hale and Keyser (1993) and Harley (1995, 2005) for details of the nature of L-syntax.

discussion on denominal verbs. She assumes an account of them based on Hale and Keyser (1993) in which a noun root in object position incorporates into the 'light' verb that selects it. Thus for a sentence as in (31a) the l-syntactic structure would be as in (31b).[33]

(31)    a.   The mare foaled.
        b.       ...vP
                 /    \
               DP      v'
              /\      /  \
        The mare    v    √P
                    ↑     |
                    └──── √
                          foal
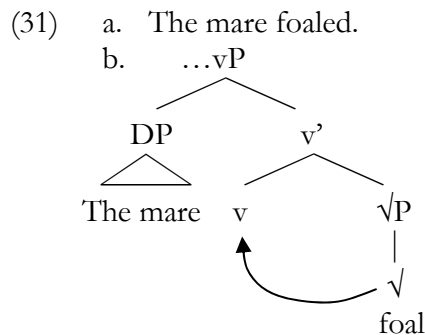
Crucially Harley claims that what regulates the aspectual interpretation of the predicate as telic or atelic is the inherent boundedness or unboundedness of the root that incorporates. Since the root *foal* is inherently bounded, the resulting verb form is telic. Thus, the durative phrase is incompatible with the verbal form and the time span adverbial can express when the event ends (32).

(32)        The mare foaled        in 2 hours/#for 2 hours.

On the other hand, the mass noun root *drool* is inherently unbounded, and as such the resulting verb form is atelic. Thus, the durative phrase is compatible and the time span adverbial cannot express when the event ends (26).

(33)        The baby drooled        for 2 hours/#in 2 hours.

Harley (2005) does not specifically consider the aspectual class of achievements. However she does account for a class referred to as *semelfactives* which are instantaneous events (Harley 2005, Smith 1991). She claims that the source of the punctual nature of the events described by these predicates is a bounded Event-naming root. Thus, for the semelfactive in (34a), she provides as a structure in (34b).

(34)    a.   Sue hopped.
        b.       ...vP
                 /    \
               DP      v'
               /\     /  \
             Sue    v    √P
                    ↑     |
                    └──── √
                          hop

---
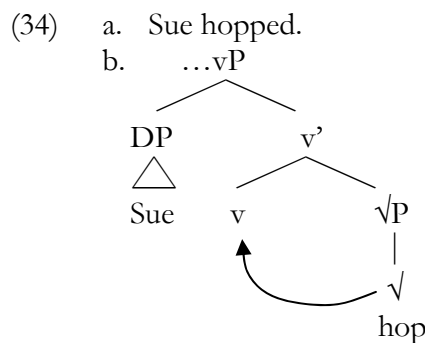
[33] Examples in (31-33) taken from Harley (2005).

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In (34b) *hop* denotes a bounded event. Given that the punctual nature of the predicate is derived via a bounded Event Root it seems possible to extend the analysis to achievement predicates like those in (35).

(35)    a.  John shelved the book        for an hour.
        b.  The sheriff jailed the thief     for a week.

Note that only an iterative interpretation is elicited by the durative phrase, indicating that the predicate is telic.[34] Furthermore, no single event interpretation is available in the *stop* control construction (36), only an iterative interpretation, suggesting that these predicates are indeed achievements.

(36)    a.  John stopped shelving the book.
        b.  The sheriff stopped jailing the thief.

In fact, Harley (2005) does offer an account of these constructions. Thus, the structure corresponding to the sentence in (37a) would be as in (37b).

(37)    a.  John shelved the book.
        b.      …vP
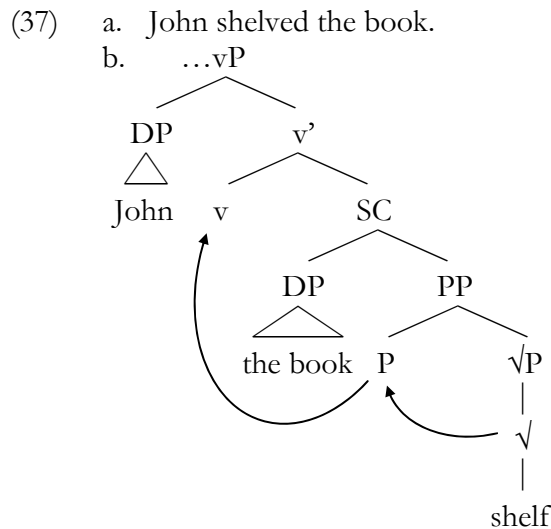


The structure in (37b) is based on Hale and Keyser's own account, and explains a series of other facts relevant to these constructions. The problem with this structure and deriving the punctual nature of achievements in harmony with Harley's previous assumptions is that the Root here is not an Event denoting root at al; it is a thing denoting root. Thus, the punctual nature of an achievement cannot be derived in this way.[35] It is not clear how achievements can be derived in this system.

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[34] See footnote 31.

[35] To be fair, it seems that Harley (2005) treats these verbs as accomplishments. Thus, her intention is not to capture their punctual nature.

*1.4.2 Explicit Accounts of Achievements vs. Accomplishments*

In this section, I discuss three proposals of the syntax of inner aspect that offer ways to account for the syntax of achievements and accomplishments: Megerdoomian (2001), Ramchand (2001), and Travis (in prep).

*1.4.2.1 Megerdoomian (2001)*

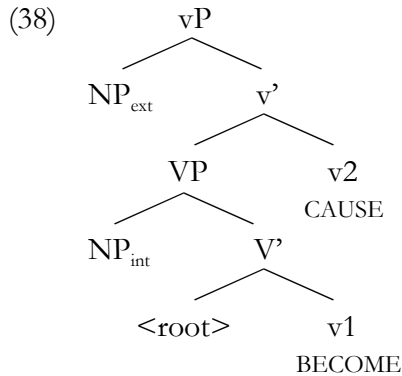Megerdoomian (2001) relies on a structure of the type in (38) to account for Persian complex predicates.

(38)
```
                vP
         _____/_____
       NP_ext          v'
                  _____/\_____
                VP            v2
           ____/\____        CAUSE
         NP_int      V'
                 ___/\___
             <root>      v1
                        BECOME
```

She assumes that little v (i.e. v2) is a functional head that denotes the event CAUSE and the lower functional head (v1) represents the change of state event. She also assumes that a predicate like the one in (39) below is interpreted as an achievement because of the presence of the BECOME event introduce by v1.

(39)        The snowman melted.[36]

The presence of BECOME elicits an achievement interpretation of the predicate. Moreover, she assumes that the external argument introduced in a predicate like (40), the causative alternate of the inchoative form of (39), is introduced in the specifier headed by v2, which itself introduces the CAUSE-event.

(40)        The sun melted the snowman.

Megerdoomian claims that the presence of both the CAUSE-event and the BECOME-event results in an accomplishment interpretation of the predicate. That is, adding CAUSE to a predicate already containing BECOME results in an accomplishment. However, the interpretation of *almost* with the sentences from (39-40) suggests that this cannot be the case.[37]

Recall that in accomplishment predicates, *almost* and *it takes x-time* elicit two interpretations. Observe that they elicit only one interpretation when with either the inchoative form (41) or the causative form (42).

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[36] The original example from Megerdoomian (2001:110) is in Persian.

[37] In Chapter 3, there is a complete discussion of the lack of contribution of a CAUSE predicate to aspectual interpretation.
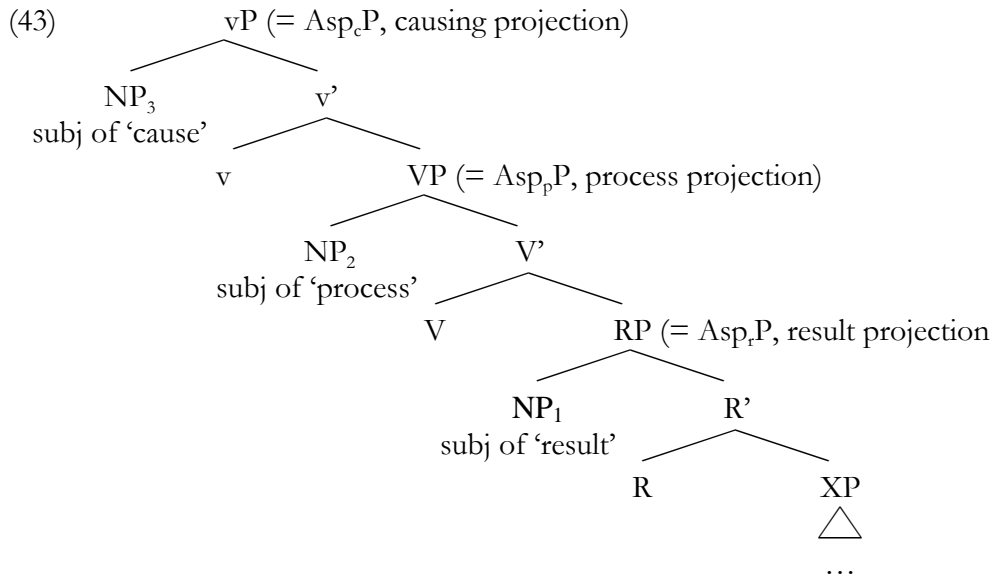
(41)  a.  The snowman *almost* melted.
     b.  The sun *almost* melted the snowman.

(42)  a.  It took the snowman ten minutes to melt.
     b.  It took the sun ten minutes to melt the snowman.

    In (41), *almost* only elicits a counterfactual interpretation and in (42), *it takes x-time* elicits a start-time interpretation. No counterfactual interpretation is available in (41), nor is an end-time interpretation available in (42).

    These facts strongly suggest that if, in fact, the correct analysis of achievement predicates is the presence of a BECOME predicate, accomplishments are not formed merely by the addition of an external argument, i.e. a CAUSE predicate.[38]

*1.4.2.2 Ramchand 2001*

    Ramchand proposes the maximal structure in (43) to account for argument projection as well as inner aspect.[39] The interpretation of (43) is given in (44).[40]

(43)
$$vP\ (= Asp_cP,\ \text{causing projection})$$

      NP$_3$     v'
  subj of 'cause'

          v         VP (= Asp$_p$P, process projection)

               NP$_2$     V'
         subj of 'process'

                  V       RP (= Asp$_r$P, result projection

                        **NP$_1$**       R'
                    subj of 'result'

                                R        XP
                                             …

---

[38] Dowty (1979) proposes two operators DO and CAUSE; accomplishments consist of both, and achievements consist of only become. Mapping these operators to syntax leads to the same problems for accomplishments and achievements that I have discussed in the text body for Megerdoomian (2001); simply replace Megerdoomian's CAUSE with Dowty's DO.

[39] The discussion here focuses on Ramchand (2001), although the arguments extend to Folli (2000, 2001) and Folli and Ramchand (2001) as well, for these latter studies adopt Ramchand's (2001) basic structure and hypothesis. Note also that Ramchand (1998) is a precursor to Ramchand (2001). In Ramchand (1998), there are three syntactically relevant positions corresponding to distinct aspectual roles: an external aspectual role mapping to subject and denoting the initiator; an internal aspectual role mapping to complement of the verb and denoting the 'affected' argument; and a non-aspectual role mapping to complement of preposition in ditransitive structures and playing no aspectual role.

[40] The structure in (43) and the statements in (44) are taken from Ramchand (2001:18-19).

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(44) a.    vP introduces the causation event and licenses different types of external argument ('subject' of cause)
     b.    VP specifies the nature of the change or process and licenses the entity undergoing change or process ('subject' of process)
     c.    RP gives the 'telos' or 'result state' of the event and licenses the entity that comes to hold the result state ('subject' of result).

A DP that moves into the specifier of any of these functional projections receives the event role associated with the semantic content introduced by the head of that projection. Consider the sentence in (45).

(45)    John broke the vase.

The verb merges as the head of R and raises through V to v. The DP *the vase* passes through Spec,RP and ends up in Spec,VP. Thus, *the vase* denotes the object of result and the object of process. Being the object of process, the vase undergoes the action expressed by the verb. Being the object of result, the vase is interpreted as the holder of the final state. The final state being a state of being broken. The DP *John* passes through Spec,vP and is interpreted as the causer or initiator of the event.

Different predicate types are derived from the number of functional projections present in the predicate. Crucially, the order between the functional predicates must be maintained. Thus, for a sentence like (46), the inchoative version of the causative from (45), only VP and RP are present, the vP phrase introducing causation is not.

(46)    The vase broke.

And for a transitive activity like (47), only the vP and VP projections are present, while RP is not.

(47)    John pushed the car.

In fact, Ramchand (2001:19) notes that "the V head, or process portion of the event is the nucleus of the dynamic verbal event syntax and is the only obligatory portion; initiation projections…and result projections…being optional in the general case." Given this, it must be the case that the locus for variation between an achievement interpretation and an accomplishment interpretation is the V head. Indeed Ramchand (2001:19) notes that the "VP is the heart of every dynamic predicate, since it represents change through time, and it is present in *every* dynamic verb. The process in question can be extended, i.e. consisting of an indefinite number of transitions, or may be a single minimal transition such as that found with 'achievement' verbs."

Thus, the V head can be specified as extended or non-extended. In the first instance there is an accomplishment and in the second, an achievement. Ramchand does not detail the syntactic mechanisms associated with the (lack of) extension of the process, thus, it is not clear how the extension takes place technically. Even if we assume that there is a feature associated with extension, it is not immediately clear how a [+ext] feature on the V head for accomplishments can result in two interpretations for *almost* and *it takes x-time*, and how a [-ext] feature on the V head for achievements can result in a single interpretation for *almost* and *it takes x-time*.

*1.4.1.3 Travis (in prep)[41]*

In order to account for the four distinct aspectual predicates: *statives, activities, accomplishments* and *achievements*, Travis (in prep) adopts a feature specification from Vendler (1967) resulting in the table in (48).[42]

(48)

|  | **-Process** | **+Process** |
|---|---|---|
| **-Definite** | State | Activity |
| **+Definite** | Achievement | Accomplishment |

With respect to the mapping to syntax, Travis (Ibid:275) claims that "…the feature +/-process...[is]...represented in $V_1$ and is what distinguishes Achievements from States on one hand from Accomplishments and Activities on the other…The +/-telic(definite) feature distinguishes accomplishments and achievements from activities and states. This feature is a computed feature that appears in ASP." Thus, she proposes the structure in (49) as the basic phrase structure that she adopts.[43]

(49)
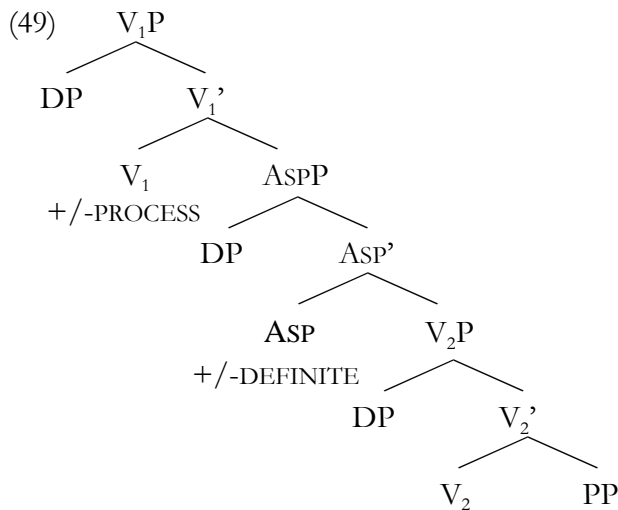


Accomplishments and achievements share the feature +/-definite on ASP,[44] and differ in that accomplishments have a +process feature on $V_1$ while achievements have a –process feature on $V_1$. It seems possible to attribute the two interpretations elicited by *almost* and *it takes x-time* with accomplishments to the two +features. One could argue that when +process is present on $V_1$ and is modified by *almost*, the result is a counterfactual

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interpretation, and when modified by *it takes x-time*, the result is a start-time interpretation. When +definite is present on ASP and it is modified by *almost*, the result is an incompletive interpretation, and when modified by *it takes x-time*, the result is an end-time interpretation. This works for accomplishments, but it is not clear that it works for achievements; for as we noted above, achievements elicit a counterfactual interpretation with *almost*, and a start-time interpretation with *it take x-time*. In the structure in (49), these interpretations elicited by the event structure modifiers would entail that achievements have a +process feature, which is not how achievements are specified in her system.

## 1.5 The Structure of the Dissertation

In Chapter 2, I begin to develop the syntactic typology of aspectual predicate types by arguing for the syntactic difference between eventive and stative predicates. Eventive predicates have AspP in their syntax between vP and VP, and statives do not. Evidence for this comes from the distinct aspectual interpretations and distributions of BPs and MNs. This account of statives and eventives fits well within a recent independently motivated syntactic account of the *do so* construction. In Chapter 3, I focus on eventive predicates and develop a system to account for their different interpretations with respect to the event structure modifiers. I propose that there are event features (<*xe*>) that specify whether the event described by the predicate has a beginning and/or end. We will also see that there is a syntactic domain of aspectual interpretation defined as everything dominated by AspP. Only when event features are within this domain, can they contribute to the aspectual interpretation of the predicate. In Chapter 4, I discuss the autonomous nature of inner aspect. We will see that the aspectual interpretation of a predicate is independent of both the thematic relations expressed by a verb and the lexical meaning of verbs and prepositions themselves. We will also see that syntactically, aspect is independent from case. This falls out directly from the system of aspect developed in Chapter 2 and contrasts with many recent assumptions (Borer 1994, 2005, Kiparsky 1998, Kratzer 2004, Ramchand 1997, Ritter and Rosen 1998, 2000 among others). We will see that aspect is a relation between an NP and Asp° and case is a relation between a DP and v°/T° (Chomsky 2001). This has implications for the structure of languages like Finnish which are often put forth in support of a direct syntactic relation between case and aspect. In Chapter 5, I discuss the domain of cross-linguistic variation in the syntax of inner aspect. I suggest that the presence of AspP in one language and its absence in another is a locus of parametric variation in inner aspect. English is representative of a language that possesses AspP and Russian is representative of a language that lacks AspP. In Chapter 6, I apply the system to a larger range of data that have been noted to be aspectually relevant. These include resultatives, fake-reflexive constructions, conatives, and psych-achievements.

# Chapter 2
# The Syntax of Statives vs. Eventives

As we saw in Chapter 1, there is an object-to-event mapping such that the nature of the internal argument can affect the aspectual interpretation of the predicate (see Krifka 1989, Verkuyl 1972, Tenny 1987, 1994 among others). We also saw that the compatibility with durative phrases and time span adverbials made these aspectual effects apparent. In fact, it is standardly assumed that when a predicate expresses a telic event, the predicate is compatible with a time span adverbial and incompatible with a durative phrase (Dowty 1979, Tenny 1987, 1994 among others). This is shown below in (1).

(1) a. The kid ate an apple           in ten minutes/#for ten minutes.
    b. The farmer built a barn       in two hours/#for two hours.
    c. The lady drank a glass of wine  in ten minutes/#for ten minutes.

For an atelic predicate, on the other hand, the opposite pattern is assumed to hold: an atelic predicate is incompatible with a time span adverbial and compatible with a durative phrase (Dowty 1979, Tenny 1987, 1994 among others). This is shown below in (2).

(2) a. The kid ate apples/cake           #in ten minutes/for ten minutes.
    b. The farmer built barns/farm equipment  #in two hours/for two hours.
    c. The lady drank glasses of wine/wine    #in ten minutes/for ten minutes.

Given that the presence of a BP or MN internal argument can make the durative phrase compatible (2) where previously it was not before (1), the majority of researchers working on inner aspect have assumed that BPs and MNs behave in the same way aspectually (Borer 1994, 2005, Dowty 1979, Pustejovsky 1991, Ritter and Rosen 1998, Tenny 1987, 1994 and Vendler 1967 among others). These conclusions have been based on data of the type in (1-2). However, as will be seen below, these data are more complex than have been initially assumed. There are several properties that converge in each of these sentences that blur the aspectual contribution of not only BPs and MNs, but also of the durative phrase. It is the goal of this chapter to determine what these individual contributions are.

This chapter is organized in the following way: In section 2.1 I discuss durative phrases and what they tell us about the aspectual interpretation of a predicate. Contrary to several assumptions, we will see that durative phrases are syntactically compatible with all predicate types. Duratives simply elicit distinct interpretations depending on whether the predicate is telic or atelic. In section 2.2, I discuss the aspectual interpretation and distribution of MNs. MNs elicit an atelic interpretation of the predicate and only in a single syntactic position. In section 2.3, I discuss the aspectual interpretation and distribution of BPs. BPs elicit a telic iterative interpretation and do so in a wider range of syntactic positions than MNs. In section, 2.4, I provide a formal syntactic account of the aspectual distributions of BPs and MNs. BPs move to Spec,AspP and MNs Agree with Asp°. In fact, I propose that

Agree with Asp° is the syntactic instantiation of the object-to-event mapping. In section 2.5, I discuss the structure of stative predicates. We see that BPs and MNs systematically behave differently in statives than in eventives. I propose that their behavior is the result of the lack of AspP in stative predicates. We will see that this proposal of statives accounts straightforwardly for the well-known aspectual constraints on the *do so* construction.

## 2.1 The Durative Phrase

Much argumentation regarding the distribution and interpretation of MNs and BPs in this dissertation comes from the interpretation of predicates in the presence of a durative phrase. As such, I dedicate this section to laying out some facts about the durative. I provide evidence that shows that the durative phrase is syntactically compatible with all aspectual predicate types (i.e. achievements, accomplishment, activities and states). We will see that the durative elicits different interpretations of a predicate depending on whether the predicate is telic or atelic (Alsina 1999 makes a similar point). With atelic predicates, the event is interpreted as continuing essentially uninterrupted for the length of time expressed by the durative. With telic predicates, the event is interpreted as continuously iterating for the length of time expressed by the durative. We will see that the incompatibility of the durative in some predicates arises in part because of this iterative interpretation and in part because of the type of action expressed by the verb itself. If the type of action expressed by the verb is such that the object undergoing this action cannot undergo the action more than once, the durative, which forces the action to repeat on the object, will be incompatible with the predicate.

Traditionally the durative phrase has been argued to be incompatible with telic predicates (Dowty 1979, Filip 1999, Tenny 1987, Vendler 1967 among others). Data that suggest this conclusion are given below in (3).

(3) a. The kid ate an apple         #for ten minutes.
    b. The farmer drank a jug of beer   #for an hour.

It as also been suggested that durative phrases are only compatible with atelic predicates (Dowty 1979, Tenny 1987, Vendler 1967 among others). Observe in (4) that adding a MN internal argument to the sentences in (3) creates an atelic predicate and the durative is compatible.

(4) a. The kid ate cake             for ten minutes.
    b. The farmer built farm equipment    for two hours.

Other atelic predicates include transitive activities (5), intransitive activities (6) and statives (7). All are compatible with the durative phrase.

(5) a. The mechanic towed the car    for an hour.
    b. The worker carried the bag     for an hour.

(6) a. John screamed          for an hour.
    b. Bill laughed           for an hour.

(7) a.  The boy loved the girl          for a year.
    b.  The lawyer owned a Lexus     for a year.

These facts support the standard conclusion that the durative phrase is incompatible with telic predicates and only compatible with atelic predicates. However, observe the two types of telic predicates in (8-9). They are what I term *PP-accomplishments* (8) and *psych-achievements* (9), respectively.[1]

(8) a.  The farmer dragged a log into the barn      for ten minutes.
    b.  The child pushed a ball into the closet       for ten minutes.
    c.  The girl drove a car to the beach              for three hours.

(9) a.  The captain spotted a plane        for an hour.
    b.  The musician detected a sound     for ten minutes.

These predicates are grammatical with a durative phrase on an interpretation that the events they express repeat an indefinite number of times for the amount of time specified by the durative. Thus, (8a) expresses that a farmer dragged a log into the barn over and over again for ten minutes. Pragmatically, there may be an inclined plank leading into the barn such that each time the farmer got the log to the top, and therefore inside the barn, it rolled back down. Likewise, in (9a), the captain could have been looking to the skies when a plane passed into and out of view continuously for the period of an hour. Thus, under an iterative interpretation, a durative phrase is compatible with these telic predicates.[2]

This iterative interpretation serves to show what the durative is actually modifying; the durative phrase modifies the entire event (Alsina 1999, Larson 2001), specifying that it continue for a certain length of time. An iterative interpretation results because it forces a telic predicate to continue for some amount of time creating subevents that iterate for the amount of time specified by the durative. Observe a similar situation in (10) below with a BP internal argument.

(10)    a.  John ate apples        for an hour.
        b.  John spotted planes   for an hour.

There is an iterative interpretation elicited by the BP here, and what happens for an hour is that John ate one apple, then another and so on. These apple eating subevents make up the entire event that continues for an hour. The same goes for plane spotting in (10b). Thus, the durative phrase modifies the entire event, and when the predicate is telic, the durative forces the repetition of this telic predicate resulting in subevents that repeat for the length of time specified by the durative. Consider the interpretive effect of the durative with atelic predicates from (4-7) above.

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[1] I discuss PP-accomplishments in more detail below. I discuss psych-achievements in more detail in Chapter 6.

[2] Alsina (1999), Jackendoff (1996), Schmitt (1998), Smith (1991), Verkuyl (1972), and Vanden Wyngaerd (2001) observe this fact as well. Schmitt (1998) notes also that generally when a predicate expresses a telic event, the telic event can be iterated. In her words, "terminative readings will allow repetition of the VP in the general case." (Ibid:280)

With atelic predicates there is no iterative interpretation elicited.[3] This follows from the fact that the predicates are atelic (i.e. they have no endpoint) and can continue for the length of time specified by the durative without coming to an endpoint. The durative phrase modifies the entire event, but there are no subevents in an atelic predicate that can iterate and as such the predicate is interpreted as continuing essentially uninterrupted for the length of time specified by the durative.[4]

The durative phrase modifies the entire event described by the predicate and elicits distinct interpretations depending on the telicity of the predicate. Thus, it should be the case that the durative is compatible with all predicates. Reconsider the data from (3), repeated below in (11); they seem to be counterexamples to this conclusion.

(11)    a.  The kid ate an apple          #for ten minutes.
          b.  The farmer drank a jug of beer   #for an hour.

In order to explain the incompatibility of the durative in these sentences, observe an interesting fact about the iterative interpretations of the telic predicates in (8-9) from above; they require that the same object undergo the action expressed by the verb in each of the iterated subevents. That is, in (8a), it must be the same log dragged into the barn each time. In theory, given that the direct object is a singular indefinite, there is the possibility that there be a different log for each of the iterated subevents, but this is not the case. Likewise in (9a), the plane that is spotted for each of the iterated subevents must be the same plane.

With this fact in mind, consider the predicates in (11) again. They express telic events, and as such, in the presence of the durative, the result is an iterative interpretation. With the iterative interpretation there is a requirement that the same object undergo the action expressed by the verb more than once. The problem that arises with the predicates in (11) is that the objects that undergo the action expressed by the verbs cannot undergo the action more than once, given the nature of the action expressed by these verbs. That is, once an apple is eaten, given normal pragmatic circumstances, it cannot be eaten again. Likewise, once a jug of beer is drunk, it cannot be drunk again.[5] Thus, the durative is incompatible with these predicates because of the nature of the actions expressed by these verbs, not simply because these predicates describe events interpreted as telic.[6]

Given these facts, I conclude that, syntactically, durative phrases are compatible with all predicate types in English and they modify the entire event described by the predicate

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[3] More concretely, there is no sequence of similar events (SSE) interpretation that the presence of a BP can elicit. See section 3.2.1 below.

[4] By uninterrupted, I mean that there is no linguistically encoded endpoint expressed. Of course in the real world, when one eats cake, for example, there can be a moment during the cake eating event in which the person goes to the other room and turns on music, returning to continue eating the cake, and thereby interrupting the cake eating event. Nevertheless, no end to the cake eating event is linguistically encoded, and as such, there is no interpretation that the cake eating event is repeated; there is no iterative interpretation.

[5] Jackendoff (1996) observes this fact about the influence of the durative as well.

[6] Consider the sentence: *John built a barn for two weeks.* You might ask if we take the barn apart and put it back together in exactly the same way with the exact same pieces, is it still be the same barn? If this is still the same barn, then the durative should be compatible. If this is not the same barn, then the durative should not be compatible. Regardless of this metaphysical issue, the linguistic facts are predicted to pattern as described above.

expressing that the event continues for the length of time specified by the durative.[7] When the predicate is telic, an iterative interpretation results. When the predicate is atelic, no iterative interpretation results

Given that the durative phrase modifies the whole event described by the predicate (Alsina 1999, Larson 2001), I assume that syntactically, the durative adjoins to the vP (or at an EP above vP; see Borer 2005, Travis 2000, in prep.) and can therefore modify the entire event described by the predicate. This is illustrated in (12).

(12)

```
            …vP
          /      \
        vP         PP
       /  \       /  \
      v    VP   for ten minutes
          /  \
         V    …
```
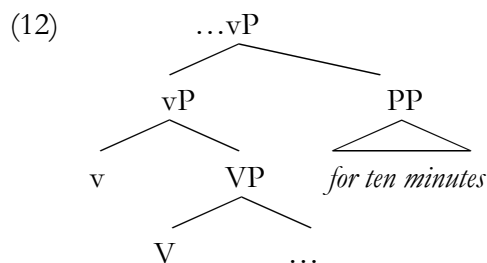
Evidence for the high adjunction site of the durative comes from *do so* construction facts. The durative phrase is perfectly grammatical in *do so* constructions (13).

(13)   a.   The kid ate cake for ten minutes and the goat did so for twenty.
       b.   The farmer drank beer for ten minutes and the soldier did so for twenty.

Adjoined to vP, the durative phrase modifies the event described by the predicate. The resulting interpretation elicited by the durative phrase depends on the telicity of the predicate. We will see in the next section that the telicity of the predicate is determined by an aspectual projection (AspP) which is located between vP and VP. Thus, syntactically AspP is contained with vP and determines the telicity of the predicate. When the durative phrase modifies the vP it is sensitive to the information contained within the predicate, within vP, at AspP.

## 2.2 Mass Nouns: Aspectual Interpretation and Distribution

In this section I focus on the aspectual interpretation and distribution of MNs in a variety of predicates. As is standardly assumed we will see that MNs elicit an atelic interpretation of a predicate (Borer 2005, Dowty 1979, Pustejovsky 1991, Verkuyl 1972 among others). This results because, as we saw, there is a mapping from the object to the event, such that a certain property of the internal argument affects the aspectual interpretation of the predicate. I refer to this property as a [q] feature (*q* for *quantized* (Krifka 1989) or for *specific quantity of A* (Verkuyl 1972)). MNs have a [-q] feature. As a result of the [-

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[7] There does seem to be some cross- and intra-linguistic variation with respect to what the durative phrase modifies. For example in Russian it seems that the durative cannot modify the entire event described by the predicate, but just the beginning of the event (i.e. the initial subevent) (see Chapter 5 for more details). Additionally, there do seem to be some speakers that find sentences like the one in (11a) to be grammatical under the interpretation that the apple was not finished (Alsina 1999 notes similar judgments), as if the durative modified only the beginning of the event. For me, the sentences in (11) are ungrammatical. Although, I do get an interpretation in which the beginning of the event seems to be modified in the following sentence: *John pushed the car for an hour to the store.* I leave an account of these facts for future research.

q] feature, MNs induce an atelic interpretation of the predicate. This is a well-known fact about the aspectual affect of MNs.

The object-to-event patterns observed in Chapter 1 with standard accomplishments are also observed with another type of accomplishment predicate I term **PP-accomplishments** (accomplishments formed by the addition of a goal PP).[8] Observe that a durative phrase elicits an iterative interpretation when the internal argument is a [+q]NP (15) (see also Alsina 1999, Smith 1991).

(15)   a.   The farmer dragged **a log** into the barn        for an hour.
       b.   The kid pushed **a stereo** into the garage      for an hour.
       c.   The girl carried **a bag** into the store        for an hour.

The events described by these predicates occur iteratively, one after the other an indefinite number of times over the length of an hour. Furthermore, note that the object in motion that arrives at the goal must be the same object undergoing the motion in each of the iterated events.[9] Thus, (15a) expresses that there was a single log that the farmer dragged into the barn over and over for an hour. (15b) expresses that there was a single stereo that the kid pushed into the garage over and over again for an hour. A parallel interpretation is available for (15c). I will refer to this telic iterative interpretation of an event in which the same object is implicated in each of the iterated subevents as a sequence of identical events, an **SIE interpretation**.[10] Now let us consider these sentences with a MN internal argument (16).

(16)   a.   The farmer dragged **kindling** into the barn            for an hour.
       b.   The kid pushed **stereo equipment** into the garage     for an hour.
       c.   The girl carried **sand** into the store                for an hour.

In the presence of a MN, no telic iterative interpretation results; as expected, there is only an atelic interpretation available. This results from the [-q] feature of the MN internal argument, which does not denote a specific quantity of material. Let us consider the syntactic positions in which a MN elicits an atelic interpretation of the predicate. This will allow us to determine the aspectual distribution of the MN. Where the MN does not elicit an atelic interpretation of the predicate, we expect an SIE interpretation. Observe the

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[8] I should note that this predicate is only an accomplishment when there is a [+q] internal argument. If a [-q] internal argument surfaces, the predicate behaves like an activity. Thus, PP-accomplishments with a MN internal argument are not accomplishments at all. I retain the use of *PP-accomplishment* in these cases for ease of exposition.

[9] It is also worth noting that all singular arguments in these predicates are interpreted as involved in each of the iterated events in the presence of the durative (Carlson 1977 observes this wide scope effect as well). This is a mysterious fact given that an indefinite in theory can behave as a variable and it is logically possible that a variable interpretation be involved such that there is a different object per event interpretation in the presence of the durative. Regardless, I am only interested in the internal argument here as it is the only argument relevant to the present argument.

[10] There are at least two types of telic iterative interpretations, the *SIE* interpretation described above, and an *SSE* interpretation elicited by a BP. In the SSE interpretation, there are iterated subevents, however, there is a distinct object that undergoes the action expressed by the verb in each subevent; there are a sequence of similar events. This is discussed in more detail in section 2.3.

interpretation of the predicates below in (17) in which a MN is the complement of a goal preposition.

(17)   a.  The farmer dragged a 10ft. 2x4 onto **pavement**     for an hour.
         b.  The kid pushed a sofa onto **grass**                for an hour.
         c.  The girl carried a ladder onto **asphalt**        for an hour.

    The only interpretation available for these sentences is an SIE interpretation. That is, in (17a), the farmer dragged the same 10ft.2x4 onto pavement over and over again for an hour. Likewise in (17b), there is only an interpretation in which the same sofa was pushed onto grass over and over for an hour.[11] No atelic interpretation results because the MN as a complement of the goal preposition does not affect the aspectual interpretation of the predicate. Since the MN does not affect the aspect of the predicate the predicate is not interpreted as atelic.

    Observe in (18) below that a MN subject does not have any aspectual effect on the predicate either. Only an SIE interpretation is available.

(18)   a.  **Wildlife** dragged the bag of trash into the forest     for an hour.
         b.  **Moving equipment** pushed the sofa into the garage   for an hour.
         c.  **Livestock** carried the logs into the barn         for an hour.

    As further evidence that MN external arguments in general do not affect the aspectual character of the predicate, observe that if we take a standard accomplishment predicate in which the durative phrase is incompatible (The incompatibility arises for pragmatic reasons. See section 2.1 above.), and put a MN in subject position, there is no effect on the compatibility of the durative phrase (19).

(19)   a.  **Livestock** drank a tub of water        #for an hour.
         b.  **Wildlife** ate the garden             #for an hour.
         c.  **Computerized equipment** built a bicycle  #for an hour.

    If the MN had an aspectual effect on the predicate, we would expect that the durative phrase would become compatible as occurs when there is a MN internal argument of similar verbs. MNs, and [-q] NPs more generally, have an aspectual effect on the predicate only as an internal argument. The aspectual effect is that the event described by the predicate is interpreted as having no endpoint; it is interpreted as atelic. MN subjects and complements of goal prepositions do not have an aspectual effect on the predicate.

## 2.3 Bare Plurals: Aspectual Interpretation and Distribution

    In this section I discuss the aspectual distribution and interpretation of BPs. BPs prove to be ambiguous between a MN interpretation and a BP interpretation. Our focus is the BP interpretation; that is, a specific type of telic iterative interpretation of a predicate. BP internal arguments and complements of goal phrases can elicit this telic iterative interpretation. We will see in section 2.4, that this is because BPs are quantificational and

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[11] The MN as the complement of a goal preposition might be slightly odd here for some. However, in the context of a competition, for example, in which no part of the 2x4 can be on pavement, these sentences are perfectly fine.

raise to Spec,AspP to elicit this interpretation. The aspectual interpretation and distribution of BPs is distinct from the aspectual interpretation and distribution of MNs. These aspectual facts have not been specifically addressed before.

*2.3.1 Aspectual Interpretation of Bare Plurals*

In this section, I discuss the aspectual interpretation specific to BPs. Let us begin with a comparison between BPs and MNs. Consider again the vague denotation of the MN in (20). In (20a), for example, *beer* could denote a single sip, a lone bottle, or an entire keg.

(20)    a.   The guy drank **beer**.
         b.   The girl ate **pizza**.
         c.   The kid built **safety equipment**.

Consider the denotation of the BPs in (21) below.

(21)    a.   The guy drank **shots** (when he went out).
         b.   The girl ate **cookies** (in the afternoon).
         c.   The kid built **bikes** (in his free time).

The contexts in parentheses allow for more of a habitual interpretation of the sentences in (21), which in turn allows for an interpretation of the BPs which I refer to as an **MN interpretation (of a BP)**. Under this MN interpretation of the BP in (21a), it does not have to be the case that the guy drank multiple shots when he went out. He could have sat the entire night sipping on a single shot each time he went out. The BP has a vague denotation here and as such there is a salient activity interpretation. This is also the case in (21b). There is no determinate amount of cookies that need to be eaten in the afternoon by the girl for (21b) to be true. It could be the case that she has only half a cookie that she nibbles on; she does not have to eat several cookies, nor even one. [12]

In this sense, BPs have a vague denotation like MNs. This is most likely the interpretation that has motivated the majority of the authors working on inner aspect to assume that MNs and BPs have the same aspectual effect on the predicate (see Borer 1994,2005, Dowty 1979, Pustejovsky 1991, Ritter and Rosen 1998, Tenny 1987,1994 and Vendler 1967 among others). However, when we add a durative phrase to the sentences in (21), we see that there is another aspectual interpretation available for the BPs. Consider the data in (22).

(22)    a.   The guy drank **shots**  for an hour.
         b.   The girl ate **cookies**  for an hour.
         c.   The kid built **bikes**   for three hours.

In (22a), there is an interpretation in which the guy drank one shot, finished it, drank another shot, finished it and continued this way for an hour, drinking an indefinite number of shots. Similarly in (22b), there is an interpretation in which the girl ate one cookie, then another and continued this way for an hour, eating an indefinite number of cookies. Essentially there is a telic iterative interpretation in which there is a distinct object

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[12] Thanks to Paolo Acquaviva for pointing this available interpretation of BPs out to me. Note that Carlson (1977) observes similar facts.

undergoing the action expressed by the verb in each of the iterated subevents; there is a sequence of similar subevents. I refer to this interpretation elicited by the BP as an **SSE interpretation**.

Evidence for a telic interpretation in the presence of a BP comes from the compatibility of time span adverbials (23). Recall that time span adverbials are compatible with telic predicates (Dowty 1979, Tenny 1987,1994 among others).[13]

(23)  a.  The guy drank **cans of beer** in ten seconds     for an hour straight.
      b.  The girl ate **apples**          in three minutes  for an hour of the competition.
      c.  The kid built **bikes**          in an hour         for the first week with Downtube.

Observe, moreover, that no such interpretation is available with MNs (24).

(24)  a.  The guy drank **beer**          # in ten seconds    for an hour straight.
      b.  The girl ate **cake**           # in three minutes  for an hour of the competition.
      c.  The kid built **equipment**     # in an hour        for the first week with Downtube.

This follows from the fact that the presence of a MN elicits an atelic interpretation of the predicate. BPs and MNs have distinct aspectual interpretations.

BPs elicit an SSE interpretation of a predicate in which there are a sequence of similar events. With this interpretation in mind, let us consider the aspectual distribution of BPs. Where the BP elicits an SSE interpretation, the BP has an aspectual effect on the predicate.

*2.3.2 Aspectual Distribution of Bare Plurals*

Consider the sentences in (25).

(25)  a.  The farmer dragged **logs** onto a tarp     for an hour.
      b.  The kid pushed **stereos** into a garage    for an hour.
      c.  The girl carried **bags** into a store       for an hour.

There are two possible interpretations of the BPs in (25): a MN interpretation, and a BP interpretation (i.e. an SSE interpretation). Consider the MN interpretation of the BP first. The farmer could drag a single log, multiple logs, or a group of logs onto a tarp for an hour (25a).[14] This vague denotation of the quantity of material denoted by the BP is indicative of a MN interpretation. This MN interpretation is available in (25b-c) as well. Let us ignore this interpretation and focus on the SSE interpretation.

Under the SSE interpretation of (25a), there is a group of logs in which each log is dragged one by one onto the same tarp over the course of an hour. An SSE interpretation is available for the sentences in (25b-c) as well. Consider the interpretation of BPs as complements of goal prepositions (26).

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[13] Time span adverbials are also good with atelic predicates, although they elicit a different interpretation. With telic predicates, the most salient interpretation of the time span adverbial is that it expresses the amount of time that passes before the event ends. With atelic predicates they express the amount of time that passes before the event begins. See Chapter 3 for more details.

[14] I assume that this is the same group reading of BPs that Carlson (1977) observed.

(26)  a.  The farmer dragged a log onto **tarps**                for an hour.
      b.  The kid pushed a stereo onto **pieces of plywood**  for an hour.
      c.  The girl carried a bag under **palm trees**          for an hour.

An SSE interpretation is available for the BPs in (26). Thus, in (26a), there is a single log that is dragged onto distinct tarps one after the other over the course of an hour. In (26b), there is a single stereo that is pushed onto distinct pieces of plywood one after the other over the course of an hour. BPs affect the aspectual interpretation of the predicate as complements of a goal phrase as well. Let us consider BP external arguments (27).

(27)  a.  **Farmers** dragged a log onto a tarp  for an hour.
      b.  **Kids** pushed a stereo into a garage  for an hour.
      c.  **Girls** carried a bag into a store     for an hour.

Although at first blush it does seem like there is an SSE interpretation available due to the presence of the BP external arguments, this is not so. I contend that the apparent SSE interpretation is a result of the MN interpretation of the BP. Given that on a MN interpretation the BP has vague denotation, there is a possible interpretation of the sentence in (27a) in which multiple farmers participate in dragging a log onto a tarp for an hour. Moreover, the temporal relation between these apparent multiple events is also vague and can be construed as occurring one after another, resulting in an apparent SSE interpretation. The same goes for (27b-c).

If the apparent SSE interpretation in the sentences in (27) is only a result of a MN interpretation of the BP, which allows for a vague multiple event interpretation, then if we control for this MN interpretation, there should no longer be the apparent SSE interpretation available. If, on the other hand, the SSE interpretation is not a result of the MN interpretation, then controlling for this MN interpretation should not affect the apparent SSE interpretation of the sentence. We can test these competing hypotheses by appealing to data we have seen above in section 2.2, repeated below in (28).

(28)  a.  **Livestock** drank a tub of water        #for an hour.
      b.  **Wildlife** ate the garden                #for an hour.
      c.  **Computer equipment** built a bicycle   #for an hour.

The data in (28) illustrate that MN external arguments cannot elicit an atelic interpretation of a predicate. Thus, if we replace the MN external arguments of (28) with BP external arguments, we can control for the MN interpretation, as it should not be available. Once the MN interpretation is controlled for, we can determine whether there is an SSE interpretation or not. The data in (29) show that there is no SSE interpretation elicited by a BP external object.

(29)  a.  **Guys** drank a bottle of wine     #for an hour.
      b.  **Girls** ate a slice of pizza       #for an hour.
      c.  **Kids** built a bicycle             #for a week.

If the BP external argument were the source of the supposed SSE interpretation from the sentences in (27), then we would expect that the SSE interpretation would be available for these predicates as well. But it is not the case that (29a) means that one guy drank a

bottle of wine, then another guy drank a bottle of wine, and so on for an hour; there is no SSE interpretation elicited by the BP external argument. If the SSE interpretation were available, the durative phrase would be compatible, as it is when the BP is an internal argument of the verb (see 25). BP external arguments do not result in an SSE interpretation; BP external arguments do not affect the aspectual interpretation of the predicate.[15]

Before providing a formal account of the distinct aspectual interpretations and distributions of BPs and MNs in section 2.4, let us take a closer look at the SSE interpretation elicited by the BP and see exactly what the contribution of the BP is.

*2.3.3 The Contribution of the BP to the SSE interpretation*
Recall that the SSE interpretation is a sequence of similar events. That is, an event interpreted as telic occurs over and over an indefinite number of times and the object undergoing the action expressed by the verbal predicate is a distinct object in each of the iterated subevents, although the same type of object. Thus, for an SSE interpretation, a telic event is required, an indefinite number of repetitions of the subevents is required and an indefinite number of objects participating in the iterated subevents is required. We will see that the contribution of a BP to the SSE interpretation is that of introducing an indefinite number of objects on which the action expressed by the verb can take place.

The telicity of a predicate, as observed above, depends in part on the nature of the internal argument for some predicates. There are predicates, however, (i.e. transitive activities) in which the nature of the internal argument does not affect the aspectual interpretation of the predicate (30).[16]

(30)  a. The farmer dragged **wood/the log**          for an hour.
      b. The kid pushed **the stereo/equipment**      for an hour.
      c. The girl drove **the car/farm equipment**    for an hour.

Regardless of the [+/-q] feature of the internal argument, the predicate is interpreted as describing an atelic event; no SIE interpretation is available as expected. When a BP internal argument is present in these predicates, no SSE interpretation is available either (31).

(31)  a. The farmer dragged **logs**     for an hour.
      b. The kid pushed **stereos**      for an hour.
      c. The girl drove **cars**         for an hour.

A MN interpretation is available for each of the BPs in (31). That is, an interpretation in which one of the objects denoted by the BP undergoes the action throughout the hour, or

---

[15] Note that the SSE interpretation is a multiple event interpretation. Observe that distributive interpretations result in a multiple event interpretation as well: i) *Each guy drank a bottle of wine.* ii) *John carried every bag into a bedroom.* However, the multiple events of a distributive interpretation do not have the same aspectual effect as an SSE interpretation. For observe that the durative is incompatible with the sentence from i): iii) *Each guy drank a bottle of wine #for an hour.* Also, note that although the durative phrase is compatible with the sentence from ii), iv) *John carried every bag into a bedroom for an hour;* the only interpretation available is one in which for each bag John carried, he carried it repeatedly into and out of a bedroom for an hour. The quantifier gets wide scope over the durative.

[16] A formal account of transitive activities is given in Chapter 3.

an interpretation in which multiple objects undergo the same action as well as an interpretation in which a group of the objects denoted by the BP undergoes the action expressed by the verbal predicate. However, since the event is atelic, there is no SSE interpretation. Thus, for an SSE interpretation, a telic interpretation of the predicate is required.[17]

Another part of the SSE interpretation is the indefinite number of repetitions of the telic event. This seems to be the contribution of the durative phrase alone. For as noted above in section 2.1., the durative phrase forces the event to continue for the amount of time the durative specifies, such that if a predicate is telic, it repeats an indefinite number of times. The relevant data is repeated below in (32).

(32)   a.   The farmer dragged the log into the barn     for an hour.
       b.   The girl carried the puppy into the office     for an hour.
       c.   The man spotted the plane                      for an hour.

The telicity of the predicate is controlled by the predicate in question. The indefinite number of repetitions results from the durative forcing the telic event to continue for the amount of time the durative specifies. Thus, the contribution of the BP to the SSE interpretation is the introduction of an indefinite number of objects that can participate in each of the iterated subevents. Therefore, in an sentence like (33), the predicate is telic, the durative phrase forces an indefinite number of repetitions, and the BP introduces an indefinite number of cookies to match the indefinite number of repetitions.

(33)        The girl ate cookies for an hour.

## 2.4 A Syntactic Aspectual Account of BPs and MNs

In section 2.3, we saw that there is an aspectual interpretation specific to BPs: an SSE interpretation. BPs elicit this interpretation as internal arguments and as complements of goal prepositions, but not as external arguments. In section 2.2, we saw that MNs elicits an atelic interpretation of the predicate as internal arguments alone; they cannot do so as complements of goal prepositions nor as external arguments. MNs and BPs have distinct aspectual distributions and interpretations. Their distinct aspectual distributions are depicted in the tree in (34).

(34)        …vP
       *BP/*MN      v'
                 v       VP
              √BP/√MN      V'
                       V       PP
                            P     √BP/*MN

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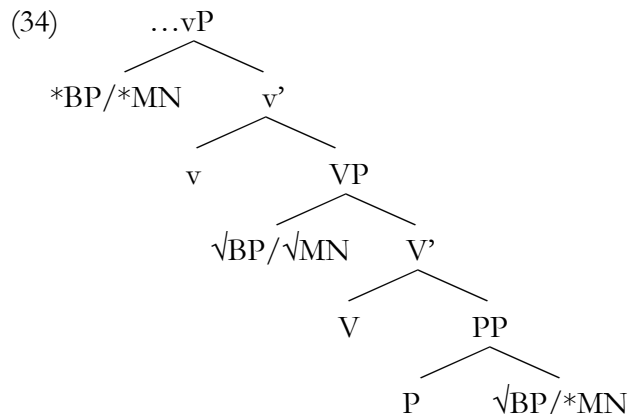
[17] Likewise, as we will see in section 2.5, BPs in statives do not elicit an SSE interpretation.

To account for this distribution of BPs and MNs, I propose that there is an aspectual projection (AspP) between vP and VP (see also Travis 1991, 2000) with which MNs and BPs establish distinct relations. MNs establish an Agree relation with Asp°, while BPs move into Spec,AspP. Let us consider BPs first.

For the sentence in (35a), I propose the structure in (35b), and for the sentence in (36a), I propose the structure in (36b).

(35)  a.  A kid dragged **logs** into a barn.   (36)  a.  A kid dragged the log into **barns**.

b. vP tree:
- vP
  - DP: *a kid*
  - v'
    - v
    - AspP
      - Asp'
        - Asp
        - VP
          - DP: *logs* (moves to Spec,AspP)
          - V': V *drag*
            - PP
              - P *into*
              - DP: *a barn*

b. vP tree (36):
- vP
  - DP: *a kid*
  - v'
    - v
    - AspP
      - Asp'
        - Asp
        - VP
          - DP: *the log*
          - V': V *drag*
            - PP
              - P *into*
              - DP: *barns* (moves to Spec,AspP)
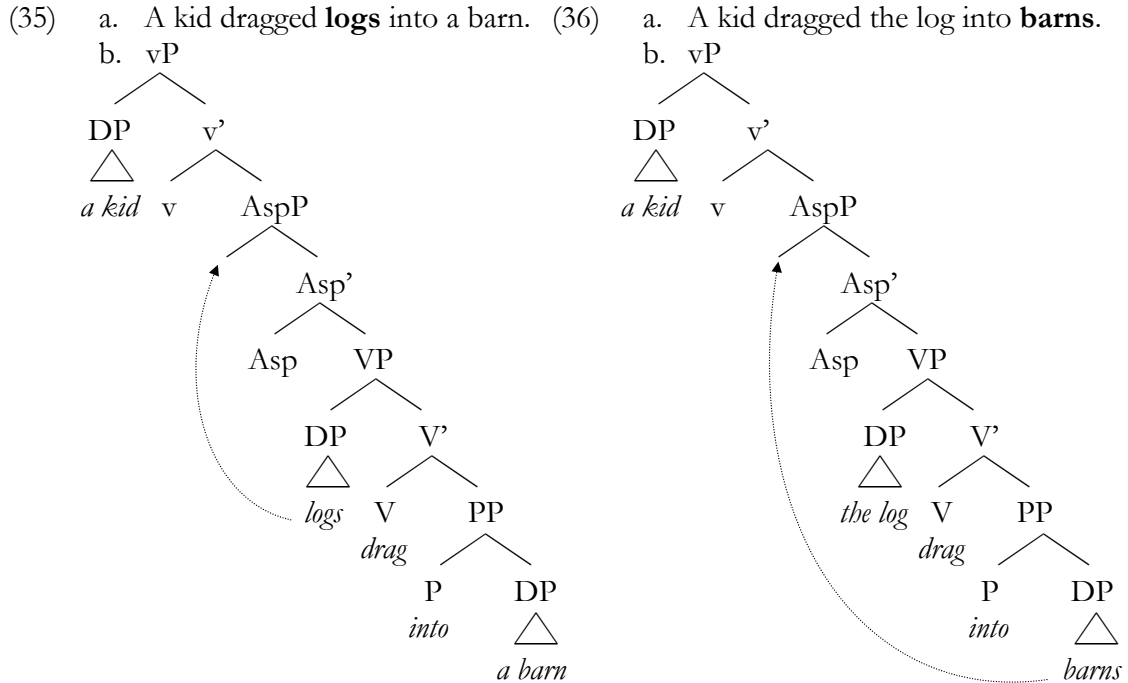
The dashed arrows represent the movement relation established between the BPs and Spec,AspP. Given the nature of movement, we can explain the aspectual distribution of BPs straightforwardly; as long as a BP is c-commanded by Asp° it, in theory, can move into Spec,AspP. Evidence for the movement of BPs comes from a possible island for BP movement in (37).

(37)  a.  John smoked **a box of cigars**    #for ten hours.
      b.  John destroyed **a row of houses**  #for a day.
      c.  John wrote **a book of poems**    #for a week.

No SSE interpretation is elicited in (37). That is, (37a) does not mean that John smoked one cigar then another and so on for ten hours. (37b) does not mean that John destroyed one house then another and so on for a day. The same goes for (37c). As such the durative phrase is incompatible. These facts can be explained quite straightforwardly if we assume that BPs must move to Spec,AspP to elicit the SSE interpretation and that the complex NP in (37) does not allows this movement.[18] Let us consider why BPs move.

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[18] Observe that these complex NPs seem to be islands for WH-movement as well: ?*What did John smoke a box of?* ?*What did John destroy a row of?* ?*What did John write a book of?*. These are a bit strange for me, although some speakers find them to be grammatical. Regardless of the status of the WH in these questions, the point here is

I claim that BPs are quantificational when they induce an SSE interpretation. They introduce existential quantification and must move above AspP to bind a variable inside the aspectual domain of interpretation.[19] The domain of aspectual interpretation is a syntactic domain defined as everything dominated by AspP. For an element to contribute to the aspectual interpretation of the predicate, it must be within this aspectual domain of interpretation.[20] In Chapter 3, section 3.3, I motivate the existence of an aspectual domain of interpretation. For now, I simply assume it.

In fact, I claim that a BP interpretation (i.e. an SSE interpretation, when a BP introduces existential quantification) is only available in a very restricted environment. Recall from section 2.3.2 above that for a BP interpretation to be available, the predicate must be telic. There is no SSE interpretation elicited in atelic predicates. Additionally, observe in the generic sentence below, no BP interpretation is available (38).

(38)  a.  Unicycles have wheels.
      b.  Students read books.
      c.  Termites destroy homes.

The distribution of an SSE interpretation of a BP seems to be quite restricted. The data in (38) suggest that a BP existential quantifier is not allowed in the scope of a generic operator. Thus, although the existential quantifier interpretation of BPs is not ubiquitous, I still maintain that as existential quantifiers BPs move to Spec,AspP to elicit an SSE interpretation.

Let us consider the formal account of the aspectual distribution of MNs. For a sentence as in (39a), in which there is a MN internal argument, I propose the corresponding structure in (39b).

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that the BP does not affect the aspectual interpretation of the predicate in this complex NP construction, and as such the durative is incompatible here.

[19] Note that this fits in well with proposals of BPs in which they must be obligatorily low-scope; necessarily moving to Spec,AspP, they will always be in the scope of any other quantifier.

[20] The domain of aspectual interpretation can be smaller. The domain of aspectual interpretation is discussed in detail in Chapter 3.

(39)  a.  A kid dragged **wood** into a barn.
      b.        vP
            ┌────┴────┐
           DP        v'
           △      ┌───┴────┐
         *a kid*  v      AspP
                      ┌────┴────┐
                           Asp'
                     ┌──────┴──────┐
                    Asp           VP
                    [-q]     ┌─────┴─────┐
                            NP          V'
                            △      ┌─────┴─────┐
                          *wood*   V          PP
                           [-q]  *drag*   ┌────┴────┐
                                          P        DP
                                        *into*     △
                                                 *a barn*
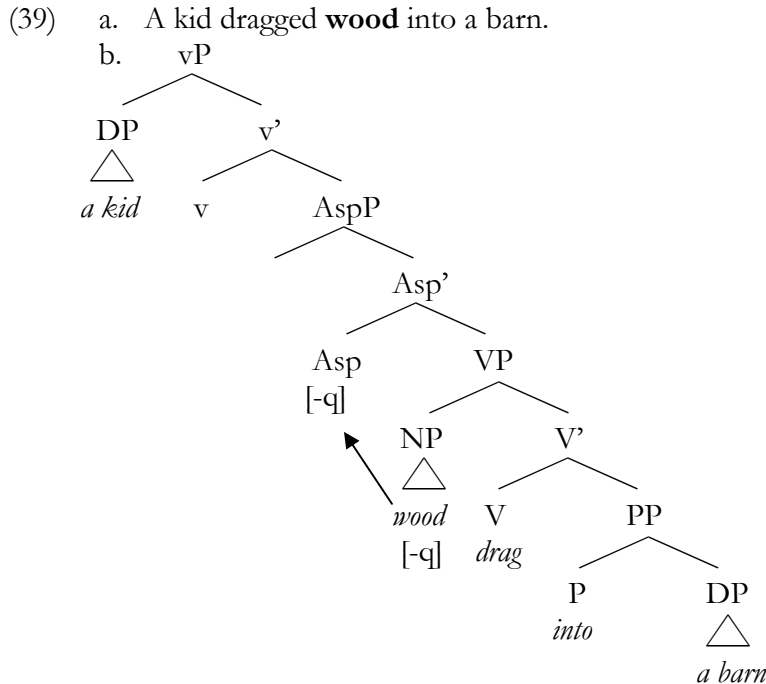
I assume that the MN Agrees with Asp° and values it; the arrow indicates this valuing relation. Given the nature of Agree, only the closest NP to Asp° can value it. Thus, given that Asp merges with VP, only the internal argument of the verb can value Asp°. This explains quite straightforwardly the aspectual distribution of MNs.

In fact, more generally I assume that the Agree relation with Asp° is the syntactic instantiation of the object-to-event mapping introduced in Chapter 1. Ignoring transitive activities for the time being, if a [-q] NP (i.e. a MN) values Asp°, the event will be interpreted as atelic. The event will be interpreted as if it had no endpoint. If a [+q] NP values Asp° the event will be interpreted as telic. The event will be interpreted as if it had an endpoint.

Note that the Agree relation captures a local relation between an NP and the verb phrase.[21] The effect of this local relation is that the [+/-q] feature of an NP determines the core aspectual type of a predicate, i.e. telic vs. atelic. This local relation with the verb phrase and its affect on the core aspectual type of the predicate parallels the effect that an internal argument has on the core meaning of a predicate, as noted by Marantz (1984). Some examples that show this are given in (40).[22]

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[21] Note that an incorporation account of MNs would seem to account for the aspectual distribution of MNs. However, there seems to be a relation between incorporation and an indefinite interpretation of the NP that incorporates that is independent of the aspectual interpretation of a predicate. Observe that a telic predicate can have an indefinite NP: *John ate an apple #for an hour*. And an atelic predicate can have a definite NP: *John drank the beer for an hour*. (See Chapter 4 for a more complete discussion of these latter data). Also, see Filip (1999) for a discussion of the independence of indefiniteness and aspect in Slavic languages. Moreover, observe that an NP that is introduced by a secondary predicate can participate in the object-to-event mapping: *John walked **the letter** *(to the post office) for an hour. John walked **wildlife** *(into the forest) for an hour*. It is not clear how wildlife can incorporate from a specifier position of secondary predicate. These facts are easily handled under an Agree account.

[22] Examples taken from Kratzer (1996).

(40)  a. take a book from the shelf
      b. take a bus to New York
      c. take a nap
      d. take an aspirin
      e. take a letter in shorthand

## 2.5 The Syntax of Statives

We just saw in section 2.4 that BPs and MNs establish distinct relations with an aspectual projection between vP and VP: AspP. BPs move to Spec,AspP to elicit an SSE interpretation and MNs Agree with Asp° to elicit an atelic interpretation of the predicate. More generally, the object-to-event mapping is established syntactically though the Agree relation with Asp°, such that the NP that values Asp° determines the core aspectual type of the predicate. Essentially, the SSE interpretation and the object-to-event mapping depend on the presence of AspP in a predicate. To put it another way, the aspectual interpretations of BPs and MNs serve as a diagnostic for the presence of AspP. Using this diagnostic we will see that stative predicates lack AspP.

Observe in (41), that stative predicates are atelic regardless of the [+/-q] feature of the internal argument. There is no object-to-event mapping with statives.

(41)  a. John owned stereo equipment/a T.V.   for a month.
      b. John knew the answer/game software   for a while.
      c. John loved a woman/peanut butter       for a year.

Observe, moreover, that BPs do not elicit an SSE interpretation in statives either (43).

(42)  a. John owned books    for a month.
      b. John knew Spaniards  for a year.
      c. John loved olives      for ten years.

(42a) does not mean that John owned one book then another and so on for a month. (42b) does not mean that John knew one Spaniard and then another and so on for a year.

If, in fact, the SSE interpretation and the object-to-event mapping are available only when AspP is present in the predicate, then the straightforward conclusion to draw from these data is that statives lack AspP in their structure.[23] Thus, for a stative predicate like the one in (43a), I propose the structure in (43b).

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[23] One could argue that there is no SSE interpretation because only because statives are atelic. This is an alternative explanation, however, this does not explain the lack of interpretation of *almost* and *it takes x-time* with statives. See Chapter 3 for more details.

(43)  a.  Luke owned a car.
      b.      ...vP

```
              ...vP
             /     \
           DP       v'
          /△\      /    \
        Luke      v      VP
                  own   /    \
                       V      DP
                      own    /△\
                            a car
```

The main portion of the structure to focus on is the lack of AspP between vP and VP.[24] This accounts for the lack of SSE interpretation as well as the lack of object-to-event mapping.

This proposal for stative predicates also fits in well with an account of *do so* from Hallman (2004). Hallman (2004:304) argues, on independent grounds, that the *do* of *do so* is an "...overt reflex of a functional head that licenses the external argument in eventive VPs...", and *so* replaces the constituent selected by this *do* which "...must be marked as [+eventive]." (Ibid:306). Essentially, eventive predicates (i.e. activities, accomplishments and achievements) can participate in *do so* constructions, and statives cannot; this is a well known fact about *do so*. This is shown in (44a-c) for activities, accomplishments and achievements respectively and in (45) for statives.

(44)  a.  John drove the car and Frank  did so too.
      b.  John ate a cake and Frank did so too.
      c.  John caught a raccoon and Frank did so too.

(45)      *John knew a Spaniard and Frank did so too.

This fact about eventive predicates vs. stative predicates can be explained quite straightforwardly if we assume that statives do not have an AspP, while eventive predicates do. Thus, the *do* in *do so* selects for AspP (i.e. the "[+eventive]" VP of Hallman). I take this as independent support for the proposal that eventive predicates project AspP and statives do not.

## 2.6 Chapter Recap

In this chapter we saw that BPs and MNs have distinct aspectual interpretations and distributions. To account for these aspectual differences, I claimed that they establish distinct relations with AspP, an aspectual head between vP and VP. BPs move to Spec,AspP to elicit an SSE interpretation and MNs Agree with Asp° to elicit an atelic interpretation of the predicate. BPs move because they are existential quantifiers (on a BP interpretation) and must bind a variable inside the domain of aspectual interpretation. Agree with Asp° is the syntactic instantiation of the object-to-event mapping, such that if the NP that values Asp° is [+q] the predicate can be interpreted as telic, and if the NP that values Asp° is [-q] the

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[24] I assume that there is a non-agentive vP here, as *a car* must receive accusative case.

predicate is interpreted as atelic. Essentially, the SSE interpretation elicited by BPs and the object-to-event mapping in which MNs participate are dependent on the presence of AspP in the syntax. To understand it in a different way, the availability of the SSE interpretation and the object-to-event mapping serve as a diagnostic for the presence of AspP.[25] Using this diagnostic we saw that stative predicates lack AspP in their syntax; this explains the lack of SSE interpretation and lack of object-to-event mapping, as well as the inability to participate in the *do so* construction. Eventives project AspP, statives do not. This provides us with the beginnings of a syntactic typology of aspectual predicate types shown below in (46).

(46)    **Syntactic Typology of Aspectual Predicate Types**

Aspectual Predicate Types

**NO ASPP**          **ASPP PRESENT**
    |                        |
Statives           Eventives(Activities,
          Accomplishments, Achievements)

---
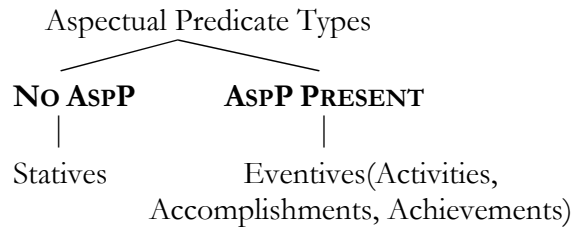
[25] This is true cross-linguistically. In fact, we will see that the presence or absence of AspP is a locus of parametric variation in the domain of inner aspect. English is an example of a language that projects AspP, while Russian is an example of a language that lacks AspP. See Chapter 5 for a proposal of Russian aspect.

# Chapter 3
# The Syntax of Eventives

In this chapter, I focus on the syntactic properties that distinguish activities, accomplishments and achievements from each other. I rely on the interpretations of *almost* and *it takes x-time* as probes into the event structure of these eventive predicates. These facts are well noted in the semantic literature on inner aspect (Dowty 1979, Hay, Kennedy, Levin, 1999, Pustejovsky 1991, Smith 1996 among others), but often neglected in syntactic analyses (although cf. Borer 2005 for a discussion of *it takes x-time*). I also introduce a new probe into the event structure, that I call the *needs* control construction. Together they allow us to understand the syntactic structure of eventives in greater detail.

The chapter is organized in the following way: In section 3.1, I look at the interpretations of *almost* and *it takes x-time* in more detail and its relation to the telicity of a predicate. Essentially, they target the beginning and the end of events; they are event structure modifiers. In section 3.2, I introduce event features (i.e. *<ie>* and *<fe>* ) as formal syntactic elements that indicate the structure of the event described by the predicate. For a predicate to be telic, it must have both an *<ie>* and *<fe>* feature, indicating that it has a beginning and end, respectively. Additionally, the syntactic relation between the heads that bear the event features plays a role in the interpretation of the structure of the event described by the predicate. If there is a c-command relation between these heads, then time is interpreted to elapse between the beginning and the end of the event; this derives accomplishments. If there is no c-command relation between these heads, then no time is interpreted to elapse between the beginning and the end of the event; this derives achievements. In section 3.3, I consider the effect that an NP that values Asp° has on the interpretation of event features. To this end, we discover that there is a domain of aspectual interpretation determined by AspP. Only when an event feature is within this domain can it contribute to the aspectual interpretation of the predicate. Interestingly, however, although an event feature must be located with the domain of aspectual interpretation to be able to contribute to the aspectual interpretation of the predicate, the time at which the **calculation** of these features takes place is not until vP, i.e. not until the phase.

## 3.1 Event Structure Modifiers

Recall from Chapter 1 that with accomplishments, both *almost* and *it takes x-time* elicit two interpretations each. Consider these event structure modifiers with PP-accomplishments (1-2).

(1) a.  The builder *almost* dragged the 10ft.2x4 into the shed.
 b.  The kid *almost* pushed the sofa into the garage.
 c.  The girl *almost* carried the ladder into the bedroom.

(2) a.  It took the builder an hour to drag the 10ft.2x4 into the shed.
   b.  It took the kid an hour to push the sofa into the garage.
   c.  It took the girl an hour to carry the ladder into the bedroom.

Recall that with an accomplishment, *almost* is ambiguous between a counterfactual interpretation and an incompletive interpretation. On the counterfactual interpretation of (1a), the event of dragging the 10ft.2x4 into the shed did not begin. This entails that no part of the 2x4 entered the shed. The builder could have begun dragging the 2x4 toward the shed, away from the shed, or just have thought about dragging the 2x4 into the shed, but as long as no part of the 2x4 enters the shed, the interpretation is a counterfactual interpretation. On the incompletive interpretation of (1a), some part of the 2x4 must have entered the shed, but crucially, not all of it. Similar counterfactual and incompletive interpretations are available for (1b-c) as well.

Recall that with an accomplishment, *it takes x-time* is ambiguous between a start-time and end-time interpretation.[1] In (2a) on the start-time interpretation, only after an hour passes can some part of the 2x4 enter the shed; only after an hour can the event be interpreted to have begun. On the end-time interpretation, only after an hour passes can all of the 2x4 be in the shed; only after an hour passes can the event be interpreted to have ended. Consider the interpretations of *almost* and *it takes x-time* with the transitive activities in (3-4).

(3) a.  The builder *almost* dragged the 10ft.2x4  (but he carried it instead).
   b.  The kid *almost* pushed the sofa          (but he put it on a cart instead).
   c.  The girl *almost* carried the ladder       (but she let the boy do it).

(4) a.  It took the builder an hour to drag the 10ft.2x4.
   b.  It took the kid an hour to push the sofa.
   c.  It took the girl an hour to carry the ladder.

Observe that the PP-accomplishments in (1-2) are related to the transitive activities in (3-4) by the presence of a goal phrase in the PP-accomplishment and its absence in the transitive activity. Moreover, observe that with the absence of the goal phrase in the transitive activities, one of the two interpretations elicited by both *almost* and *it takes x-time* in the transitive activities is lost: the incompletive interpretation and the end-time interpretation respectively. Observe in (3a) that only a counterfactual interpretation is available in which no 10ft.2x4 dragging began at all; the event never began. Observe in (4a), that only a start-time interpretation is available in which an hour passed before any 10ft.2x4 dragging began. The same goes for the data in (3b-c) and (4b-c). Thus, the goal phrase introduces a property into the syntax that allows for the incompletive interpretation of *almost* and the end-time interpretation of *it takes x-time*; when the goal phrase is not present, these interpretations are not available. Consider the interpretation of *almost* and *it takes x-time* with the stative predicates in (5-6).

(5) a.  The girl (\**almost*) loved a dog     (#but she loved a cat instead).
   b.  The man (\**almost*) owned a bike  (#but he owned a scooter instead).

---

[1] The time-span adverbial elicits the same aspectual interpretation as *it takes x-time* (Dowty 1979). In discussing English, I use primarily *it takes x-time*, although I assume the same interpretation and formal account for the time span adverbial.

(6) a. *It took the man a year to love a woman.
    b. *It took the woman a year to own a car.

   With stative predicates, *almost* does not elicit a counterfactual (nor an incomplete) interpretation and *it takes x-time* does not elicit a start-time (nor an end-time) interpretation.[2] Thus, transitive activities posses a property that statives lack, that allow for a counterfactual interpretation and a start-time interpretation.

   From these data it is clear that certain predicates introduce certain properties that are directly related to whether the event described by the predicate has a beginning or end. We have just seen that statives have neither a beginning or an end, that transitive activities have a beginning and (PP-)accomplishments have a beginning and an end.

   Observe that there is a correlation between the availability of the incompletive and end-time interpretations and a telic interpretation of the predicate. With transitive activities, the event structure modifiers do not elicit a counterfactual or an end-time interpretation and these predicates are telic (7).

(7) a.   The builder dragged the 10ft.2x4      for an hour.
    b.   The kid pushed the sofa              for an hour.
    c.   The girl carried the ladder          for an hour.

   With (PP-)accomplishments, the event structure modifiers **do** elicit an incompletive and an end-time interpretation and these predicates are **telic** (8).

(8) a.   The builder dragged the 10ft.2x4 into the shed      for an hour.
    b.   The kid pushed the sofa into the garage            for an hour.
    c.   The girl carried the ladder into the bedroom        for an hour.

   There is a clear correlation between the interpretations elicited by *almost* and *it takes x-time* and the telicity of the predicate. As has been noted by many, the presence of an end to the event is necessary for a telic interpretation of the predicate.

## 3.2 Event Features: Deriving Eventives

   In this section I provide a formal account of the properties discussed in the previous section that allow for modification by the event structure modifiers. I propose that these properties are syntactically represented as event features. For a predicate to express that the event it describes has a beginning, an <*ie*> feature (i.e. an initial subevent feature) must be present in the syntax. For a predicate to express that the event it describes has an end, an <*fe*> feature (i.e. a final subevent feature) must be present in the syntax. Let us consider the syntactic aspectual structure of eventives in more detail.

---

[2] There may be some interpretation available of *almost* with certain statives: *This bridge almost reaches to the other side. The chair and the table almost touch.* (William McClure p.c.). Although note that these statives with *it takes x-time* are out all together. *It took the bride ten minutes to reach the other side. *It took the chair and the table ten minutes to touch.* Given that *almost* and *it takes x-time* diverge in these cases, I assume that whatever interpretation elicited by *almost* here is not relevant to the event structure of statives.

*3.2.1 Transitive Activities and (PP-)Accomplishments*

For a transitive activity as in (9a), I propose the structure in (9b) with the corresponding event feature.

(9) a.  The girl carried the ladder.
    b.

```
              …vP
            /      \
         DP          v'
        /  \        /    \
    the girl   v      AspP<ie>
                     /       \
                  Asp          VP
                  <ie>        /    \
                            V        DP
                          carry     /  \
                                  the ladder
```
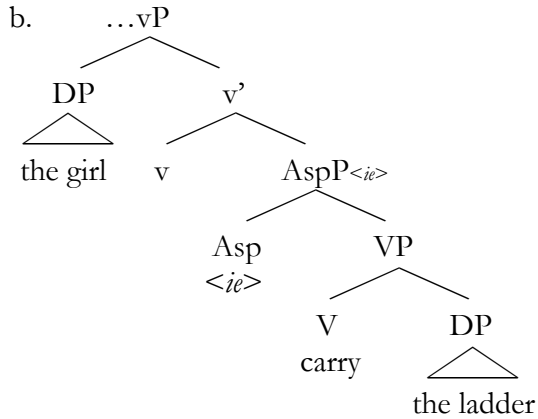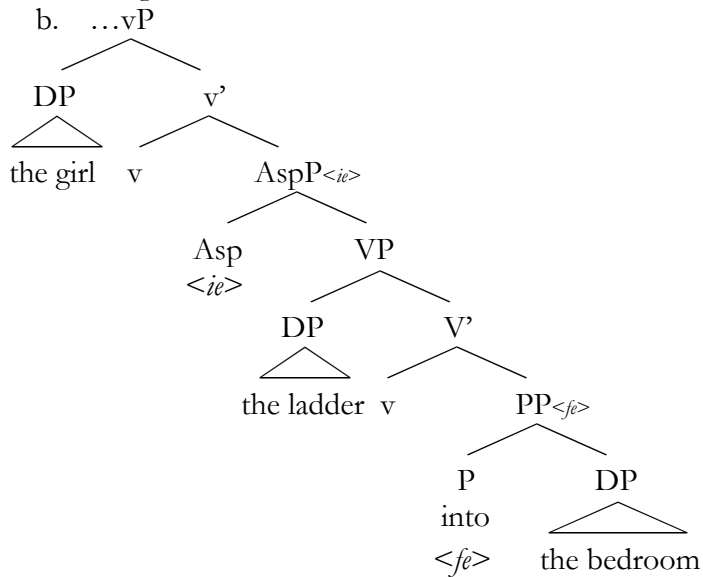
For a PP-accomplishment as in (10a), I propose the structure in (10b) with the corresponding event features.

(10)   a.  The girl carried the ladder into the bedroom.
       b.  …vP

```
              …vP
            /      \
         DP          v'
        /  \        /     \
    the girl   v      AspP<ie>
                     /        \
                  Asp           VP
                  <ie>         /    \
                            DP        V'
                           /  \      /    \
                      the ladder  v     PP<fe>
                                        /     \
                                      P         DP
                                    into       /  \
                                   <fe>     the bedroom
```

For a standard accomplishment as in (11a), I propose the structure in (11b) with the corresponding event features.

(11)  a.  Luke drank a beer.
      b.  …vP

```
            …vP
          /      \
        DP        v'
         △       /    \
       Luke    v      AspP<ie>
                     /        \
                  AspP        VP<fe>
                  <ie>       /      \
                           V         DP
                         drink       △
                         <fe>      a beer
```
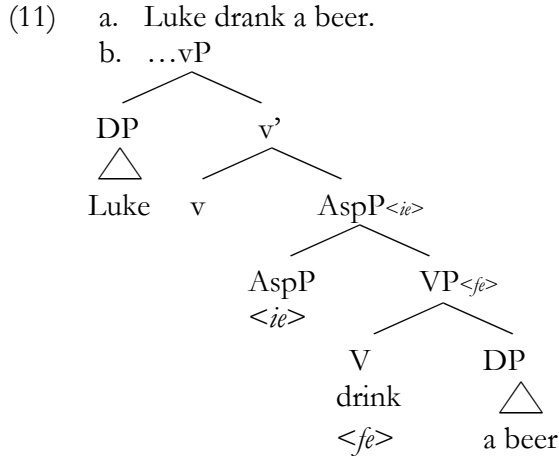
I assume that these event features are autonomous lexical units that are associated with items in the lexicon before entering into the syntax, in a way similar that tense may be associated with T, or person/number may be associated with D. Thus, in the structure in (11b) *drink* in the lexicon will be marked as being associated with an <*fe*> feature; the same goes for *into* in the structure in (10b). Not all lexical items are associated with these features (e.g. *carry* in 9b). Furthermore, I assume that there is no way to predict, based on the lexical meaning of item whether or not it will be associated with an event feature. I motivate this assumption in Chapter 4. For now, note that there seems to be three possibilities for an item in the lexicon: 1. It is always associated with an event feature, 2. It is never associated with an event feature, and 3. It is optionally associated with an event feature.

Once an item from the lexicon that has an event feature associated with it merges onto a bare node and projects, I assume that the event feature projects to the XP level, and the XP level of this projection is marked as bearing an event feature. This is indicated in the trees in (9-11). It is precisely these XPs flagged with event features that the event structure modifiers interact with. I claim that *almost* and *it takes x-time* Agree with XPs marked with event features and modify the relevant portion of the event structure of the predicate.[3] That is, if *almost* Agrees with an XP that is marked with an <*ie*>, then the result will be a counterfactual interpretation; if it Agrees with an XP marked with an <*fe*>, then the result will be an incompletive interpretation.[4] If *it takes x-time* Agrees with an XP that is marked with an <*ie*>, the result is a start-time interpretation. If *it takes x-time* Agrees with an XP that is marked with an <*fe*>, then the result is an end-time interpretation.

Informally, event features map to subevent structure (a la Pustejovsky 1991). An <*ie*> feature indicates that there is a beginning to the event; the beginning of the event is similar to a process subevent. An <*fe*> feature indicates that there is an end to the event; the end of the event is similar to a final state subevent. There is a parallel here, however, it is not complete. An <*ie*> feature indicates that the event has a beginning, and an <*fe*> features indicates that the event has an end. I assume that the only role that subevent structure plays is to describe the beginning and end of the event, in the same way that a snap shot of the beginning of a race describes the beginning of the race, and a snap shot of the end of the
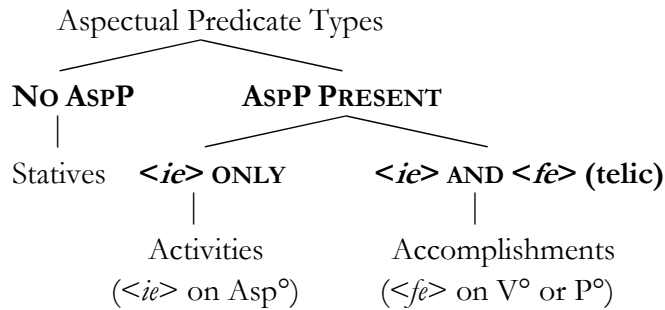
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[3] I also assume that the time span adverbial Agrees with XPs flagged with an event feature. See footnote 1.

[4] Observe that *almost* cannot scopally interact with itself: #*John almost almost returned to the party. #John almost almost drove the Harley.* There is no interpretation in which either of the *almost* takes scope over the over.

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race describes the end of the race. We can target the beginning and the end of the event and modify it, but it is only just the beginning and end of the event; I do not assume that there is any process portion, or final state required as part of these subevents.

Given the structures in (9-11) we can add to the syntactic typology of aspectual predicate types by attaching another node resulting in the tree in (12).

(12)     **Syntactic Typology of Aspectual Predicate Types**

Aspectual Predicate Types

**NO ASPP**          **ASPP PRESENT**

Statives    **$<ie>$ ONLY**          **$<ie>$ AND $<fe>$ (telic)**

Activities          Accomplishments

($<ie>$ on Asp°)      ($<fe>$ on V° or P°)

Within eventive predicates, (i.e. predicates projecting AspP), we can make a general division between telic and atelic predicates. Atelic predicates are predicates that have only one $<ie>$ feature, introduced on Asp°. Telic predicates have both an $<ie>$ feature introduced on Asp°, and an $<fe>$ feature introduced either on V° (standard accomplishments) or on P° (PP-accomplishments). Observe that statives do not have any event features, which explains the lack of interpretation with *almost* and *it takes x-time*.[5] Given the tree in (12) we have only to determine the syntactic structure of achievements to complete our syntactic typology of aspectual predicate types. Before doing so, I take a moment to comment on the presence of the $<ie>$ feature on Asp°.

I assume that every time Asp° merges into a derivation, it introduces an $<ie>$ feature. Likewise, in a language that has AspP as part of its inventory of projections,[6] every time $<ie>$ is present in the syntax, Asp° is present, having introduced the feature. This seemingly unmotivated assumption finds some motivation from the perspective of language acquisition and parameter setting. For, by restricting $<ie>$ to Asp° alone reduces the number of logical syntactic relations between $<ie>$ and $<fe>$. As we will see in 3.2.2 these relations play a role in the interpretation of the predicate. Additionally, by reducing the number of possible relations, we make the language acquisition process easier. For if there is evidence for an object-to-event mapping there is evidence for AspP and $<ie>$ both in the structure. Likewise, if there is evidence for the beginning of an event, there is evidence for an $<ie>$ and AspP (and an object-to-event mapping) in the structure. The same holds for the SSE interpretation as well. This facilitates the acquisition process by reducing the number of

---

[5] Statives are assumed to lack event structure (Borer 2005, Ritter and Rosen 1998, Richardson 2004 among others). Thus it follows that there should be no interpretation for these event structure modifiers. These facts fall out from the lack of AspP in the syntax of statives, for as we will see below in section 3.3, AspP creates a domain of aspectual interpretation in which event features must be located in order to contribute subevent structure to the predicate. Since statives lack AspP, there is no domain of aspectual interpretation and no possibility for subevent structure.

[6] We will see that Russian patterns as a language that lacks AspP in its inventory of projections, and as such, it is not subject to this constraint on the presence of the $<ie>$ feature. See Chapter 5 for more details.

logical possibilities and by increasing the amount of evidence available to the language acquirer. This is related to parameter setting as well, for once there is evidence for an object-to-event mapping, or an SSE interpretation, there is evidence for the presence of AspP and the consequent structures that follow. We will see in Chapter 5 that a locus of parametric variation in the syntax of inner aspect is the presence or absence of AspP in the predicate.
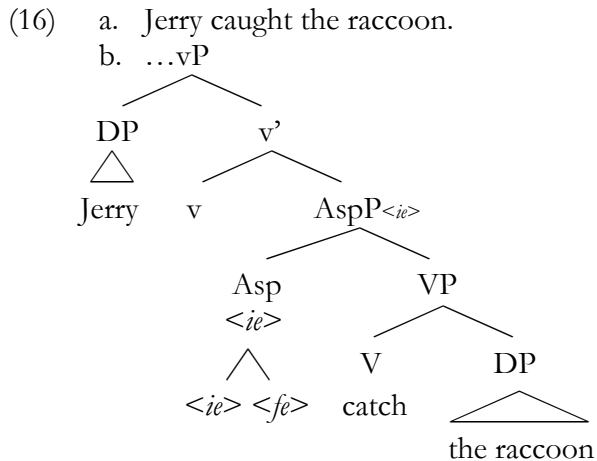
*3.2.2 Achievements*

Achievements are telic predicates, as indicated by the telic iterative interpretation in the presence of the durative phrase (13).

(13)   a.   Jerry caught the raccoon        for an hour.
       b.   George shelved the book        for an hour.

What this entails for the system developed so far is that achievements, like their telic sisters accomplishments, have an *<ie>* and an *<fe>* feature in their syntax. However, recall from Chapter 1, that achievements elicit only a counterfactual interpretation from *almost* and only a start-time interpretation from *it takes x-time*. This is illustrated again in (14-15).

(14)   a.   Jerry *almost* caught the raccoon.
       b.   George *almost* shelved the book.

(15)   a.   It took Jerry ten minutes to catch the raccoon.
       b.   It took George ten minutes to shelve the book.

To accommodate these facts, I propose for the achievement in (16a) the structure in (16b) with its corresponding event features.

(16)   a.   Jerry caught the raccoon.
       b.   …vP

```
              vP
             /  \
           DP    v'
           △    /  \
         Jerry v    AspP<ie>
                   /    \
                 Asp     VP
                 <ie>   /  \
                 /\    V    DP
           <ie><fe> catch  △
                          the raccoon
```

Observe that both event features are present in the syntax, thus the predicate is interpreted as telic. In this respect, achievements and accomplishments have the same event structure (see also Borer 2005 and Pustejovsky 1991). Observe that the event features are in a particular configuration on Asp°, and that only the *<ie>* feature projects to AspP. This explains the event structure modifier facts. Since, only *<ie>* projects to the XP level, only the

beginning of the event can be modified, and there will only be a counterfactual and a start-time interpretation available.

Let us consider the motivation behind such an event feature configuration. It comes from a consideration of two facts of English compounds: 1. the non-projecting component does not participate in syntactic operations, and 2. the non-projecting component contributes to interpretation. Consider the example in (17).

(17)  a.
$$V_1$$
$$V_2 \quad V_1$$
drop   kick
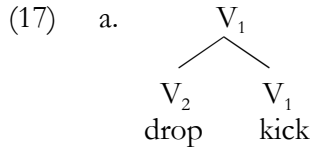
  b.  John *droppedkick/dropkicked the ball.

The component of the compound that projects is *kick* (17a). As such, only this component is available for tense lowering (17b). The non-projecting *drop* is invisible to this syntactic process. Although the non-projecting element is invisible to syntactic processes, the non-projecting element does contribute to the interpretation of the sentence. For kicking a ball and dropkicking a ball are two distinct ways to set the ball in motion.

I take a parallel approach to the event feature configuration in achievements (16b). Given that these event features are autonomous lexical units, they are free to interact in the lexicon. I assume that the event feature configuration is formed prior to entering the syntax. This configuration is associated with Asp°, and then Asp° merges into the derivation. Given that only the <*ie*> feature of the feature configuration projects, it is the only feature available for syntactic processes (like *kick* in 17). The relevant syntactic process is the projection of the feature to the XP level; in English achievements, only <*ie*> projects. Although <*fe*> does not project, I assume, that it does contribute to the interpretation of the predicate (like *drop* in 17), providing an end to the event, resulting in a telic predicate.

Consider again another difference between achievements and accomplishments made salient in the *stop* control construction pointed out in Chapter 1 and repeated below in (18-19).

(18)  a.  John stopped catching the raccoon.
  b.  Bill stopped leaving (the basement).

(19)  a.  Phil stopped drinking the pitcher of beer.
  b.  Sal stopped eating the slice of pizza.

Achievements only elicit an iterative interpretation in this construction (18), while accomplishments can elicit an episodic interpretation (19). Recall that the iterative interpretation in the achievements is a result of the lack of time that passes between the beginning and the end of the event described by the predicate. Since no time passes between the beginning and end of the event, as the event begins, it ends, and the event is interpreted as punctual in time. Recall that the single event interpretation with accomplishments is a result of the time that elapses between the beginning and end of the event. I claim that this temporal difference between achievements and accomplishments falls out naturally from the relation of the heads that introduce the event features into the syntax such that if there is a c-

command relation between these heads, time is interpreted to pass between the beginning and the end of the event described by the predicate; this derives the interpretation that accomplishments are extended in time. If there is no c-command relation between the heads that introduce the <*ie*> and the <*fe*> feature, no time is interpreted to elapse between the beginning and the end of the event; this derives the interpretation that achievements are punctual in time.

Note that if we understand the punctual nature of achievements in this way, that the beginning of the event occurs at the same time as the end of the event, a valid question arises about the claimed counterfactual interpretation of *almost* and the claimed start-time interpretation of *it takes x-time* in achievements: How do we know that the beginning of the event is modified if the beginning and the end take place at the same time? To answer this question consider what I call the *needs* control construction (20).

(20)    a.   John needs ten minutes to drink the pitcher of beer.
         b.   John needs ten minutes to drag the log into the barn.

(21)    a. *John needs ten minutes to drive the car.
         b. *John needs ten minutes to carry the bag.

(22)    a. *John needs ten minutes to arrive.
         b. *John needs ten minutes to break the window.

Only accomplishments are grammatical in the needs control construction (20); activities (21) and achievements (22) are not.[7] This can be explained straightforwardly if we assume that in contrast to the *stop* control construction, which Agrees with XPs flagged with an <*ie*> feature, the *needs* control construction Agrees with XPs flagged with an <*fe*> feature. Activities and achievements only have XPs flagged with <*ie*>, and therefore are not grammatical in the *needs* control construction. Accomplishments have XPs flagged with both an <*ie*> and an <*fe*> feature and as such are grammatical in both constructions.[8]
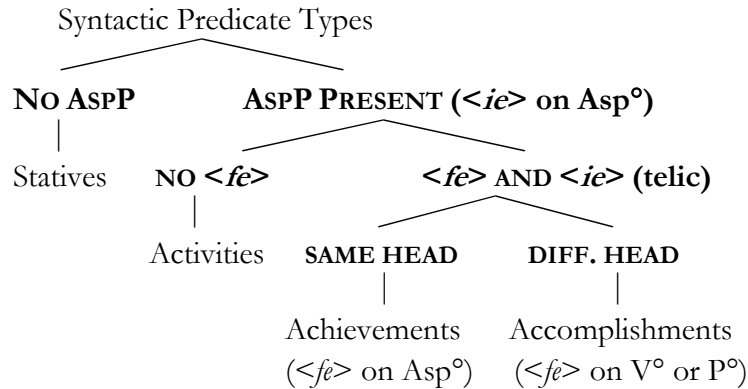
With achievements in place, we have the complete syntactic typology of aspectual predicate types, illustrated below in (23):

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[7] When we remove *ten minutes* these predicates are perfectly grammatical: *John needs to drive the car. John needs to carry the bag. John needs to arrive. John needs to break the window.* I assume that these are distinct constructions and can be paraphrased as something like *It needs to happen that John drive the car, It needs to happen that* ...

[8] We will see that Russian perfectives are punctual in nature like English achievements. They differ from English achievements in that <*fe*> projects. Evidence comes from the opposite pattern with respect to the *stop* control and the *needs* control constructions: Russian perfectives are incompatible with the *stop* control construction and compatible with the *need* control construction. See Chapter 5 for more details.

(23)  **Final Syntactic Typology of Aspectual Predicate Types**

Syntactic Predicate Types

**NO AspP**      **AspP Present (<*ie*> on Asp°)**

Statives    **NO <*fe*>**            **<*fe*> AND <*ie*> (telic)**

Activities   **SAME HEAD**     **DIFF. HEAD**

Achievements    Accomplishments
(<*fe*> on Asp°)    (<*fe*> on V° or P°)

The last portion added is below the node that derives telic predicates. To be interpreted as telic, a predicate must have two event features. In order to be interpreted as an accomplishment, the event features must be introduced on distinct heads; in order to be interpreted as an achievement the event features must be introduced on the same head.

## 3.3 Valuing Asp° and Interpreting Event Features

In this section, I discuss the interaction between the object-to-event mapping and the event structure of the predicate. Within this system this translates to the interaction between valuing Asp° and the interpretation of the event features. The interpretation of event features depends on how Asp° is valued. How Asp° is valued determines the extent of a domain of aspectual interpretation. The minimal domain of aspectual interpretation is the Asp°-AspP projection itself (i.e. the head and maximal projection). This domain can be extended to everything dominated by AspP if Asp° is valued by a [+q]NP. This alters initial assumptions about the nature of event features. We discover that underspecified event features (i.e. <_*e*>) exist, and their interpretation depends on their syntactic environment, much like PRO. Only when <_*e*> is within the domain of aspectual interpretation is it interpreted as contributing to the aspectual interpretation of the predicate.

*3.3.1 Domain of Aspectual Interpretation*

The interaction between the object-to-event mapping and the interpretation of event features is typified by the alternations in (24-26).

(24)   a.  Jessica carried **the bag** into the room    for an hour.
       b.  Jessica carried **sand** into the bedroom   for an hour.

(25)   a.  Jon drank **a glass of wine**      # for ten minutes.
       b.  John drank **wine**               for ten minutes.

(26)   a.  Curro caught **the prawn**     for an hour.
       b.  Curro caught **seafood**       for an hour.

In the (a) examples there is a [+q]NP and the predicates are telic, as evidenced by the iterative interpretation in (24a and 26a) and the incompatibility of the durative in (25a). That

the predicate is telic, indicates that there is an <*fe*> feature present in their underlying syntactic structure (see 10,11 and 16 above).[9] In the (b) examples, the predicates are atelic as a result of the presence of a [-q]NP. Given the presence of an <*fe*> feature, which should result in a telic interpretation of the predicate, why is there no telic interpretation? What happens to the <*fe*> feature in the presence of a [-q]NP? In order to answer this question, we must first consider the following data that suggest that there is a syntactic domain of aspectual interpretation.

There are three pieces of evidence that suggest that for an element to contribute to the aspectual interpretation of a predicate, it cannot be structurally higher than AspP: 1. the lack of aspectual contribution of the CAUSE predicate that introduces an external argument; 2. the lack of aspectual contribution of external arguments; and 3. the lack of aspectual contribution of location prepositional phrases. Let us consider the CAUSE predicate first.

Hay, Kennedy, and Levin (1999) argue that CAUSE is outside the aspectual representation of the predicate, based on causative inchoative alternations. As they observe, the inchoative form of the causative inchoative pair varies aspectually between a telic and an atelic interpretation.[10] Evidence for this alternation in telicity comes from the compatibility of both the durative phrase and the time span adverbial (27).[11]

(27)    a.  The soup cooled          for an hour/in an hour.
        b.  The kingdom expanded   for a week/in a week.

Observe that when the external argument (i.e. causer) is added to these sentences, there is no change in the aspectual variability of these predicates (28). Both the durative phrase and the time span adverbial are still compatible with no change in aspectual interpretation.

(28)      a.  Neal cooled the soup          for an hour/in an hour.
          b.  Neal expanded the kingdom  for an hour/in an hour.

Hay, Kennedy and Levin (1999) rightly conclude from this that the telicity of these predicates does not depend on the presence of the external argument, as these predicates can still receive a telic or an atelic interpretation in the presence of the external argument. Syntactically CAUSE has been argued to introduce an external argument (Harley 1995, Megerdoomian 2001, Pylkkänen 2002). The telicity of these predicates does not depend on the presence of CAUSE. CAUSE does not contribute to the aspectual interpretation of the predicate. Observe that CAUSE is structurally higher than AspP (29).

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[9] There is also an <*ie*> feature; however, let us focus on the <*fe*> feature for now.

[10] In particular the variation is typically assumed to be between an achievement and an activity interpretation (Dowty 1979), although Hay, Kennedy, and Levin (1999) claim that the variation is between an activity and accomplishment interpretation. I assume the variation is between an achievement and an activity interpretation. See Chapter 6 for more details. Regardless the exact nature of the ambiguity is independent of the main point here.

[11] The time span adverbial expresses the amount of time before the event begins, before the soup is considered cool (27a) and before the kingdom is considered expanded (27b).

(29)
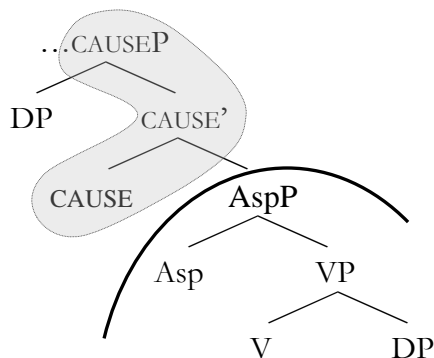


Recall the BP-MN external argument facts from Chapter 2. The conclusion was that neither BP or MN external arguments affected the aspectual interpretation of the predicate. Observe below in (30-32) that the only subjects that can affect the aspectual interpretation of the predicate are derived subjects.

(30)  a.  **The boy** arrived       for an hour
      b.  **The girl** escaped       for an hour.

(31)  a.  **Kegs of beer** arrived for an hour.
      b.  **Animals** escaped       for an hour.

(32)  a.  **Beer** arrived          for an hour.
      b.  **Wildlife** escaped      for an hour.

The predicates in (30-32) are unaccusatives. When the derived subject is a [+q] NP (30), the durative phrase elicits an SIE interpretation. When the derived subject is a BP, the durative phrase elicits an SSE interpretation (31). When the derived subject is a MN, the durative elicits an atelic interpretation (32)

Derived subjects of passives show the same patterns as derived subjects of unaccusatives.[12] This is shown in (33-35)

(33)  a.  **The bottle of beer** was drunk     # for an hour
      b.  **The car** was built                # for an hour.

(34)  a.  **Bottles of beer** were drunk       for an hour.
      b.  **Stereos** were built               for an hour.

(35)  a.  **Beer** was drunk                   for an hour.
      b.  **Stereo equipment** was built       for an hour.

---

[12] Essentially what we see with passives is that if the transitive counterpart is an accomplishment or achievement, the passive counterpart is an accomplishment or achievement respectively, with the direct object of the transitive playing the same aspectual role as the subject of the passive. Note that these facts are particularly difficult for an account of the syntax of aspect that takes case and aspect to be intimately related. See Chapter 4 for more details.

When the derived subject is a [+q] NP (33), the durative is incompatible because of the nature of the type of event expressed by these verbs. When the derived subject is a BP (34), the durative elicits an SSE interpretation of the predicate. When the derived subject is a MN (35), the durative elicits an atelic interpretation of the predicate.

Furthermore observe that there is an internal-external argument asymmetry with respect to WH-questions (36-39). Consider first the internal arguments (36-37).

(36)   a.  What did **the raccoon** eat \_\_\_\_   for an hour/in an hour.
        b.  What did **the robot** build \_\_\_\_   for an hour/in an hour.

(37)   a.  What did **wildlife** eat \_\_\_\_                 for an hour/in an hour.
        b.  What did **computer equipment** build \_\_\_\_ for an hour/in an hour.

The WH-word can be specified as either [+q] or [-q].[13] For this reason both the durative phrase and the time span adverbial are compatible regardless of whether the external argument is [+q] (36) or [-q] (37). Consider the WH-external arguments in (38-39).

(38)   a.  What \_\_\_\_ ate **a pile of trash**     #for an hour/in an hour.
        b.  What \_\_\_\_ built **the bicycle**       # for an hour/in an hour.

(39)   a.  What \_\_\_\_ ate **trash**               for an hour/#in an hour.
        b.  What \_\_\_\_ built **stereo equipment**   for an hour/#in an hour.

The durative is only compatible when the internal argument is [-q] (39) and the time span is only compatible when the internal argument is [+q] (38). These facts simply reinforce the previous conclusions that external arguments do not contribute to the aspectual interpretation of the predicate. Observe that external arguments are structurally higher than AspP (40).

(40)
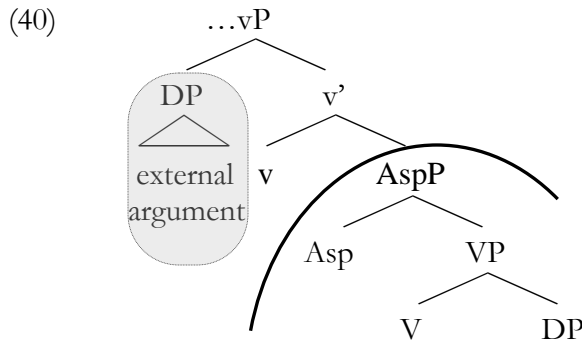


Finally, let us consider location prepositional phrases. Observe that their presence does not affect the aspectual interpretation of the predicate (41)

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[13] Note that another logical possibility is that a WH-word is not specified as either [+q] nor [-q]. This seems unlikely, for this would entail that Asp° is not valued, and we would expect there to consistently be an atelic interpretation of the predicate, as there always is in unergatives, predicates in which no NP values Asp°. However, this is not how the facts play out.

(41)  a. John drove the car (at the park)      for an hour.
      b. John pushed the cart (in the hallway)   for an hour.

Contrast the locatives with the goal prepositional phrases (42).

(42)  a. John drove the car to the park        for an hour.
      b. John pushed the cart into the hallway   for an hour.

The only interpretation available in the presence of the goal phrase is an iterative interpretation, which is not available with the locative phrases. Goal phrase can elicit a telic interpretation of a predicate that is otherwise atelic. This is a well-known fact (Borer 2005, Dowty 1979, Pustejovsky 1991). Now observe another divergence in behavior between goal and location prepositional phrases that points to a structural difference. Goal prepositions are ungrammatical in *do so* constructions (43a) and location prepositions are perfectly grammatical (43b).

(43)  a.??John pushed the cart into the hallway and Frank did so into the store.
      b. John pushed the cart in the hallway and Frank did so in the store.

These *do so* facts suggest that locative prepositions are adjoined to vP while goal prepositions are lower in the verb phrase. If we assume that there is a domain of aspectual interpretation defined by AspP and only elements within this domain can contribute to the aspectual interpretation of the predicate, we can explain why locatives cannot affect the aspectual interpretation of a predicate. Locatives are structurally higher than AspP. This is shown in (44).

(44)
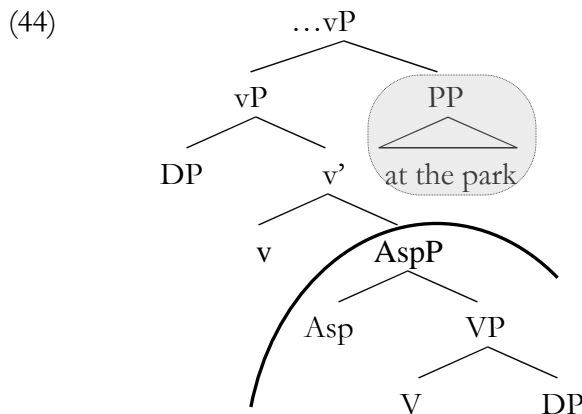


Approaching the aspectual differences between location prepositional phrases and goal prepositional phrases as a difference in structural configuration suggests a straightforward approach to ambiguous goal-location prepositional phrases (45).

(45)  a. John drove the car under the bridge.
      b. John pushed the cart outside the store.

Aspectually the sentences in (45) are ambiguous. On a goal interpretation, an iterative interpretation results from the presence of a durative phrase in which John was repeatedly

going under the bridge (46a), and on a location reading only an atelic interpretation results in which John was always driving under the bridge (46a). Parallel aspectual interpretations are present in similar contexts for the sentence in (46b).

(46)  a.  John drove the car under the bridge     for an hour.
      b.  John pushed the cart outside the store   for an hour.

Note also that in the presence of a time span adverbial, a telic interpretation is preferred over an atelic interpretation (47).

(47)  a.  John drove the car under the bridge     in ten minutes.
      b.  John pushed the cart outside the store   in ten minutes.

In contrast note that in a *do-so* construction, only the location interpretation is available (48).

(48)  a.  John drove the car under a bridge, and Frank did so under an awning.
      b.  John pushed the cart outside the store and Frank did so outside the church.

These facts show that on a location interpretation, these ambiguous prepositional phrases behave like unambiguous location prepositional phrases, and on a goal interpretation they behave like unambiguous goal prepositional phrases. Assuming an aspectual domain of interpretation together with different structural positions for these prepositional phrases offers a simple syntactic account of the distinct aspectual effects. Goal prepositional phrases can affect the aspectual interpretation of the predicate because they merge within the domain of aspectual interpretation and location prepositional phrases cannot affect the aspectual interpretation of a predicate, because they merge outside the domain of aspectual interpretation. The ambiguity between the goal and location interpretation of these prepositional phrases is structural.

A similar account has been proposed for Norwegian ambiguous goal-location prepositional phrases in Tungseth (2002). Tungseth observes that the Norwegian prepositional phrases in the sentences in (49) are ambiguous between a location interpretation and a goal interpretation.[14]

(49)  a.  Jon syklet i grøfta.
          Jon biked in ditch-DEF

      b.  Hans kastet ballen i stua.
          Hans threw ball-DEF in living room-DEF

      c.  Spionen gikk på taket.
          Spy-DEF walked on roof-DEF

Not only are the prepositional phrases ambiguous between a location interpretation and a goal interpretation, on the location interpretation the predicate is atelic and on the goal

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[14] These data are taken as is from Tungseth (2002:1).

interpretation the predicate is telic. Moreover, Tungseth (2002) shows through a variety of tests that locative prepositional phrases are adjoined to vP while goal prepositional phrases merge as complements of the verb. The facts in Norwegian are parallel to those in English.

Based on these facts Tungseth (2002) argues that the ambiguous goal-location prepositional phrases are fundamentally the same, and that the properties corresponding to the goal interpretation fall out from being a complement of the verb, and the properties corresponding to the location interpretation fall out from adjoining to vP, very much in the same spirit of the proposal here.[15]

The Norwegian facts and the English facts together suggest that the aspectual interpretation of the ambiguous goal-location prepositional phrases can be a result of its syntactic position. If so, these data lend more support to a syntactic generalization of aspect that is forming: anything above AspP is outside the domain of aspectual interpretation.

The lack of contribution to the aspectual interpretation of the CAUSE predicate, external arguments, and location prepositional phrases can be explained under a single assumption which is that they are structurally higher than AspP, and as such they cannot contribute to the aspectual interpretation of the predicate. In fact, more specifically I claim that there is an aspectual domain of interpretation such that for an element to contribute to the aspectual interpretation of the predicate, it must be within this domain. This domain is determined by AspP. Let us now consider the interaction of this domain and the aspectual contribution of event features.

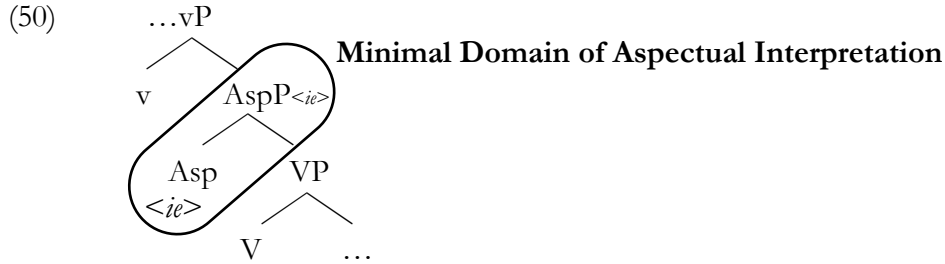*3.3.2 The Domain of Aspectual Interpretation and the Interpretation of Event Features*

In order to account for the alternations in (24-26), I propose that the <*fe*> feature introduced on Asp° in achievements, on V° in standard accomplishments and on P° in PP-accomplishments is actually an underspecified event feature (i.e. <_*e*>) that receives its interpretation according to its syntactic environment. If it is within the domain of aspectual interpretation, it will be interpreted as contributing to subevent structure, as an <*fe*> feature. If it is not within the domain of aspectual interpretation then it will be interpreted within the next higher domain defined by vP (or EP; see Borer 2005, Travis 2000, in prep). I assume that this domain is no longer the subevent domain, but the (macro) event domain itself. I claim that the minimal domain of aspectual interpretation is defined as the aspectual projection Asp°-AspP itself (i.e. the head and its maximal projection alone) each time the projection is merged into a predicate. Furthermore, I claim that the domain can be extended if Asp° is valued by a [+q]NP. In this case, it extends from just the Asp°-AspP projection itself to everything dominated by AspP. Let us consider the minimal domain of aspectual interpretation first.

The minimal domain of aspectual interpretation is illustrated in the tree in (50).

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[15] Tungseth (2002) argues that these prepositional phrases are complements of a functional projection which bears an uninterpretable feature. When this FP is below the verb there is a *directed motion* interpretable feature of the verb that values the uninterpretable feature on the FP, such that the prepositional phrase is interpreted as a goal phrase. When the FP is above this *direct motion* feature of the verb, the prepositional phrase is not licensed as a goal phrase, although it is not clear what values its feature when adjoined to vP.

(50)　　　…vP　　　**Minimal Domain of Aspectual Interpretation**

```
          …vP
         /  \
        v   AspP<ie>
            /    \
          Asp     VP
          <ie>   /  \
                V    …
```

Observe that when the domain of aspectual interpretation is minimal, only the *<ie>* feature can contribute to aspectual interpretation, as it always merges with Asp° in the syntax.[16] This entails that the event described by the predicate will be interpreted as only having a beginning; the predicate will be interpreted as atelic. Note that if a [-q]NP values Asp° the domain will not extend and the predicate will be interpreted as atelic. Moreover, if there is no NP to value Asp°, the domain will likewise remain minimal, and the predicate will be interpreted as atelic as well, for only when Asp° is valued by a [+q]NP can the domain extend. The first case we have seen several times throughout the dissertation; this is the case of a MN internal argument. The second case has yet to be discussed; the second case is exemplified by **intransitive activities**, a well-known set of data that show that when there is no internal argument the predicate is interpreted as atelic (Dowty 1979, Tenny 1984, among others). Examples of intransitive activities are given in (51).

(51)　a.　John drove　for an hour.
　　　b.　John danced　for an hour.
　　　c.　John sang　for an hour.

　　　d.　John ate　for an hour.
　　　e.　John drank　for an hour.
　　　f.　John ran　for an hour.

　　　g.　John laughed　for an hour.
　　　i.　John cried　for an hour.
　　　j.　John screamed　for an hour.

In each of the cases in (51), there is no overt internal argument to value Asp°. I assume in this case, Asp° receives a default [-q] value, which ultimately does not affect the domain of aspectual interpretation. It remains minimal and the result is an atelic interpretation of the predicate. However, this is not the only possibility. I briefly discuss two other possibilities below, ultimately disregarding them both.

Two other possible accounts of the atelic intransitives are in (51): 1. There is no *<fe>* present at all in these structures, so the predicate is atelic regardless of the [+/-q] feature of the NP that values Asp°; and 2. These intransitives are underlying transitives (Chomsky

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[16] It may be the case that the feature that always merges with Asp° is an underspecified feature as well, but since it merges directly onto Asp°, it always surfaces as an *<ie>* feature. There might be an algorithm that interprets the highest *<_e>* in the structure as an *<ie>* and all other as *<fe>*. It is not exactly clear to me how to formalize this algorithm, considering the event feature configuration in achievements. Although I do not rule out this possibility, I simply assume that there is always an *<ie>* feature on Asp° each time it enters the syntax.

1995, Hale and Keyser 1993) with a null [-q] NP internal argument. Let us briefly explore both of these possibilities.

If no <*fe*> feature is present, even if there is a [+q] NP internal argument, the event will still be interpreted as atelic. This is what we see for one group of these verbs (52).

(52) a. John drove a car        for an hour.
     b. John danced the tango   for an hour.
     c. John sang a melody      for an hour.

However, not all of the intransitive activities show this pattern. Consider the data in (53).

(53) a. John ate an apple          #for an hour.
     b. John drank a carton of milk  #for an hour.
     c. John ran a mile            #for an hour.

In the presence of a [+q] NP internal argument, these predicates describe telic events. They can only describe events interpreted as telic if there is an <*fe*> feature present. Thus, it may be the case that some intransitive activities do not posses an <*fe*>, but this approach cannot account for all of them.[17] Let us consider the second possibility.

It has been suggested that these intransitive verbs are underlying transitives (Chomsky 1995, Hale and Keyser 1993). If this is so, we might assume that the null internal argument is a [-q] NP. In this case, even for the predicates in (53) in which there seems to be an <*fe*> feature present, an atelic interpretation will result. Thus, the sentences in (51) might be equivalent to the sentences in (54).

(54) a. John ate food        for an hour.
     b. John drank beverage  for an hour.

Although this is a logical possibility, it is not clear what the underlying null internal argument should be in all cases (55).

(55) a. John ran distance          for an hour.
     b. John laughed  a laugh      for an hour.
     c.??John cried a cry          for an hour.
     d.??John screamed a scream  for an hour.

Note that with what would seem to be the corresponding version of the null internal argument many of these sentences are ungrammatical,[18] and the internal argument seems like it would be a [+q] NP anyway.

If in fact, there were null [-q] internal arguments, we might expect that there might also be null [+q] internal arguments. This would predict the existence of telic unergatives.

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[17] I am assuming that verbs like *eat, drink* and *run* always introduce an <*fe*> on big V. Another approach is to assume that sometimes <*fe*> is present on big V and sometimes it is not. It is present when there is a [+q] NP internal argument and it is not when there is no argument at all. I am attempting to avoid this approach as it seems ad hoc.

[18] Although there is some improve when an adjective is added: *John laughed a hardy laugh. John screamed a loud scream. ?John cried a sorrowful cry.*

However, as far as this author is aware predicates of this aspectual type do not exist. Furthermore, it is well observed that the lack of an internal argument results in an atelic interpretation of a predicate (Dowty 1979, Tenny 1984, among others). Given that the existence of a null [+q] internal argument is suspect, we must explain that gap, or abandon the idea of a [-q] internal argument. I abandon the idea of null [-q] internal arguments and assume that when there is no internal argument, Asp° receives a default value of [-q], resulting in an atelic interpretation of the predicate. Let us now consider the extended domain of aspectual interpretation.

When Asp° is valued by a [+q]NP, the aspectual domain of interpretation extends from the aspectual projection Asp°-AspP alone to everything dominated by AspP. The extended domain of aspectual interpretation is illustrated in the tree in (56).

(56)

...vP

**Extended Domain of Aspectual Interpretation**

v    AspP*<ie>*

Asp    VP
*<ie>*

V    ...
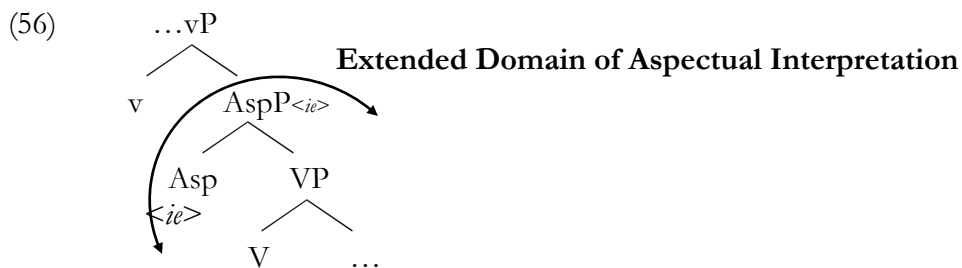
Any event feature dominated by AspP will enter into the extended domain of aspectual interpretation and contribute to the aspectual interpretation of the predicate. Recall that when a goal phrase is added to a transitive activity, it allows for a telic interpretation of the predicate when the internal argument is [+q]. I argued that this results because the goal phrase introduces an <*fe*> feature into the predicate, providing an end to the event and a telic interpretation. Consider the interpretation of this event feature when the internal argument is a [-q]NP (57).

(57)   a.   The kid carried **sand** into the bedroom          for an hour.
       b.   The girl pushed **furniture** into the bedroom     for an hour.

When a [-q]NP is present in these predicates, the result is an atelic interpretation of the predicate. The event feature introduced on the goal preposition is no longer interpreted as providing an end to the event. In this respect the goal phrases in (57), with the [-q]NP, behave like the directional prepositional phrases in (58) which do not affect the aspectual interpretation of the predicate at all.

(58)   a.   The kid carried the bag (**toward the bedroom**)     for an hour.
       b.   The girl pushed the sofa (**toward the garage**)      for an hour.

The directional phrases in (58) are interpreted as modifying the macro event. They do not contribute subevent structure. This is confirmed by the presence of event structure modifiers with directional prepositions (59-60).

(59)   a.   The kid *almost* carried the bag (toward the bedroom).
       b.   The girl *almost* pushed the sofa (toward the garage).

(60)   a.   It took the kid ten minutes to carry the bag (toward the bedroom).
       b.   It took the girl ten minutes to push the sofa (toward the garage).

In (59) only a counterfactual interpretation is available, regardless of the presence of the directional preposition; there is no incompletive interpretation. Likewise in (60) only a start-time interpretation is available regardless of the presence of the directional preposition; there is no end-time interpretation available. Observe similar effects when a [-q] internal argument surfaces in the presence of a goal phrase (61-62).

(61)   a.   The kid *almost* carried **sand** into the bedroom.
       b.   The girl *almost* pushed **furniture** into the garage.

(62)   a.   It took the kid ten minutes to carry **sand** into the bedroom.
       b.   It took the girl ten minutes to push **furniture** into the garage.

In (61) only a counterfactual interpretation is available, regardless of the presence of the goal phrase; there is no incompletive interpretation available. In (62) only a start-time interpretation is available, regardless of the presence of a goal phrase; there is no end-time interpretation available. In this respect, the goal phrase behaves like the directional phrase and does not contribute to the aspectual interpretation of the predicate.

In order to account for the effect of the [-q]NP on the interpretation of the event feature, I propose that the $<fe>$ feature is not in fact an $<fe>$ feature, but an underspecified event feature (i.e. an $<\_e>$) that receives its interpretation according to its syntactic environment. When an $<\_e>$ feature falls within the aspectual domain of interpretation, i.e. when Asp° is valued by a [+q]NP and the domain is extended, it is interpreted as contributing to the aspectual interpretation of the predicate. When an $<\_e>$ feature falls outside the domain of aspectual interpretation, it is interpreted in the next higher domain, i.e. the macro event domain of the predicate introduced at the vP level (or at an EP above vP; see Borer 2005, Travis 2000, in prep); the $<\_e>$ will be interpreted as modifying the entire event described by the predicate.

The motivation for this move comes from a consideration of PRO, the interpretation of which depends on its syntactic environment. Consider the data in (63).

(63)   a.   John expected Frank$_k$ to want PRO$_k$ to drink a beer at the party.
       b.   John$_i$ expected PRO$_i$ to want PRO$_i$ to drink a beer at the party.

The interpretation of PRO depends on the closest c-commanding NP. In (63a) because *Frank* is present the most embedded PRO receives its interpretation from that NP. If *Frank* is removed from the sentence, the most embedded PRO ultimately receives its interpretation from an NP higher in the structure, i.e. *John* in (63b). Underspecified event features work in the same way. If they are interpreted in the lower domain, the domain of aspectual interpretation, they receive an interpretation in which they contribute subevent structure to the predicate. If the aspectual domain is not available, the underspecified event feature is

interpreted in the next higher domain, the event domain, and it is interpreted as modifying the entire event.

Let us briefly consider a prediction that the interpretation of event features and the domain of aspectual interpretation make for stative predicates. Stative predicates are claimed to not have AspP in their syntax. Consequently, there should be no domain of aspectual interpretation. This predicts that goal prepositions cannot contribute to the aspectual interpretation of a stative predicate. That is, the stative will be atelic regardless of the presence of a goal preposition. There are limited examples of stative predicate that can appear with a goal preposition, but consider two examples in (64) below.

(64)    a.  John loved the game  (to the core)   for a month.
        b.  Carl owed money     (to the bank)   for a year.

The presence of the goal phrase does not affect the telicity of the stative. They are atelic regardless. If statives lack AspP and there is a domain of aspectual interpretation determined by it in which event features must enter to be interpreted as event features, then we predict furthermore that the event feature should not be visible for modification by event structure modifiers. This expectation is shown to be met in (65-66).

(65)    a.  John(#*almost*) loved the game to the core.
        b.  Carl (#*almost*) owed money to the bank.[19]

(66)    a.# It took John ten minutes to love the game to the core.
        b.# It took Carl ten minutes to owe money to the bank.

I take these event structure modifier facts as evidence that statives lack AspP and that AspP is responsible for creating a domain of aspectual interpretation that determines the aspectual contribution of event features.

*3.3.3 Syntactic Derivations of Aspectual Predicate Types*
In this section I walk through the syntactic derivation of a PP-accomplishment with a [+q]NP internal argument and with a [-q]NP internal argument, as well as the derivation of an achievement with a [+q]NP internal argument and a [-q]NP internal argument. What holds for the derivation of a PP-accomplishment, holds for the derivation of an accomplishment in general. Note that for now I simply assume that the time at which the elements that contribute to the aspectual interpretation of the predicate are calculated is at the phase, i.e. at vP.  Evidence for this assumption is provided in the next section, section 3.3.4. Consider the sentence in (67a) and a portion of its derivation in (67b).

---

[19] There may be an interpretation that seems to be related to a counterfactual interpretation in these sentences, but what is being modified by *almost* here is something that almost happened resulting in Carl owing money to the bank. And more importantly this is not related to the presence of an overt goal phrase: *Carl (#almost) owed money.*

(67)  a.  Ron carried the bag into the bedroom.
      b.     …PP$_{<\_e>}$

```
           PP<_e>
          /      \
         P        DP
       into      /  \
      <_e>   the bedroom
```
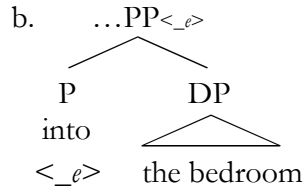
In the lexicon, the lexical item *into* is associated with an underspecified event feature (i.e. <_e>). It seems that *into* is always associated with an <_e> feature, such that every time it enters the syntax, it introduces an <_e>.[20] Thus, *into* merges with the DP *the bedroom* and projects its P category label as well as the event feature. At this point of the derivation, the interpretation of the underspecified event feature has yet to be determined. Consider another portion of this derivation (68).

(68)     …VP

```
              VP
            /    \
          DP      V'
         /  \    /   \
   the bag  V   PP<_e>
    [+q]        /    \
               P      DP
             into    /  \
            <_e>  the bedroom
```
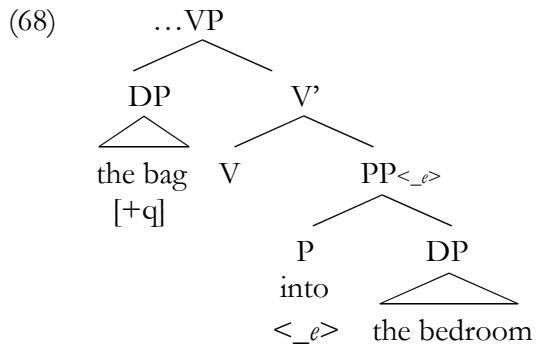
At this point of the derivation the <_e> feature introduced on P still does not receive an interpretation although the internal argument has merged and it is a [+q] NP. Likewise, the [+q] feature on the internal argument does not play any aspectual role until Asp° is merged. Consider the next step in the derivation in (69).

(69)

```
           ...AspP<ie>
          /          \
       Asp            VP
      <ie>           /    \
                   DP      V'
                  /  \    /   \
            the bag  V   PP<_e>
             [+q]        /    \
                        P      DP
                      into    /  \
                     <_e>  the bedroom
```

---
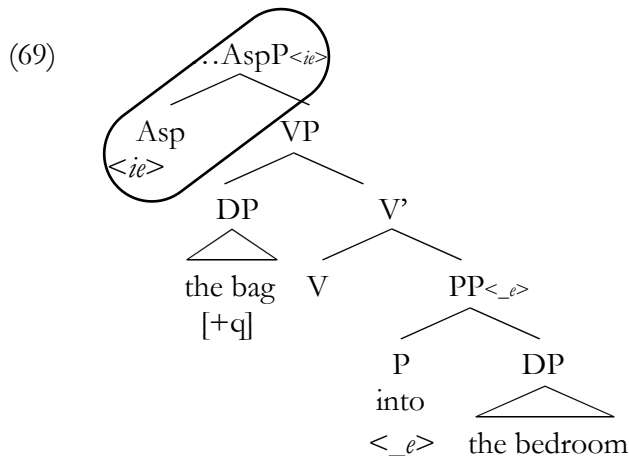
[20] It seems to be the case that in English, all goal phrases are consistently associated with an <_e> feature. This is at least one important difference between goal prepositions and directional prepositions (e.g. *toward*) in English; directional prepositions are never associated with an <_e> feature. Not all goal phrases in all languages are associated with and <_e> feature. See Chapter 4 and 6. See also Beck and Snyder (2000) and Snyder (1995).

Recall that minimally the domain of aspectual interpretation is the aspectual projection Asp°-AspP itself; this is shown above in the portion of the derivation in (69). However given that the NP that values Asp° is a [+q]NP, the domain of aspectual interpretation extends to everything dominated by AspP. Once the domain extends, the $\langle\_e\rangle$ feature introduced on P° falls within this domain, and when the aspect of the predicate is calculated (at vP, at the phase), it is interpreted as contributing to aspectual interpretation. This is illustrated in (70).

(70)

```
            ┌─────────────→ …AspP_d<ie> ◄
            │                  ╱    ╲
          Asp                 ╱      VP
          <ie>               ╱      ╱  ╲
            │               DP        V'
            │              △         ╱  ╲
            └────→     the bag  V      PP<_e>_d
                       [+q]   carry    ╱  ╲
                                      P    DP
                                    into    △
                                   <_e>_d  the bedroom
```
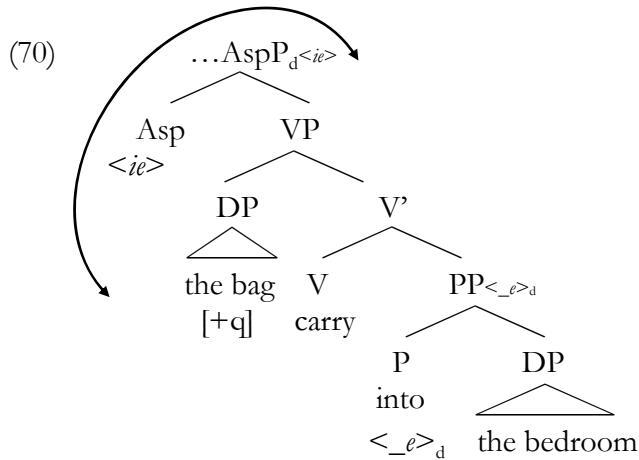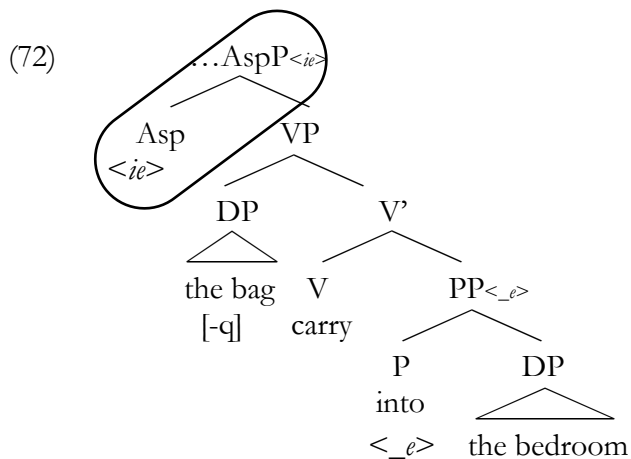
Observe that the $\langle\_e\rangle$ feature is coindexed with AspP to indicate the domain in which it is interpreted. The derivation proceeds normally; v° merges, then the external argument. The aspectual interpretation of the predicate is then calculated at vP. Consider the derivation of the sentences in (71).

(71)        Ron carried sand into the bedroom.

This sentence is the same as the sentence from (67a) except that the internal argument NP is [-q]. Thus, aspectually, the derivation of this sentence is exactly the same until the point where Asp° merges into the syntax. Consider this point of the derivation in (72) below.

(72)

```
            ⬭…AspP<ie>⬭
           ╱    ╲
         Asp     VP
         <ie>   ╱  ╲
               DP    V'
              △     ╱  ╲
          the bag  V    PP<_e>
          [-q]   carry  ╱  ╲
                       P    DP
                     into    △
                    <_e>   the bedroom
```

64

At this point, when Asp° merges, Asp°-AspP defines the domain of aspectual interpretation. Given that the NP that values Asp° is [-q], the domain of aspectual interpretation does not extend. The result is that the $<\_e>$ feature introduced on P° does not contribute to the aspectual interpretation of the predicate, as it falls outside the domain of aspectual interpretation. As it falls outside the domain of aspectual interpretation, it is interpreted in the next higher domain. This is the macro event domain, and it is interpreted as modifying the entire event. The interpretation of the $<\_e>$ within the macro event domain is illustrated in (73) by the coindexation of $<\_e>$ and vP.

(73)

```
                    …vP_d
                   /    \
               DP        v'
               /\       /  \
             Ron      v    AspP_<ie>
                          /      \
                     Asp          VP
                    <ie>         /    \
                              DP       V'
                              /\      /   \
                         the bag  V      PP_<_e>_d
                          [-q]  carry    /     \
                                       P        DP
                                      into      /\
                                    <_e>_d   the bedroom
```
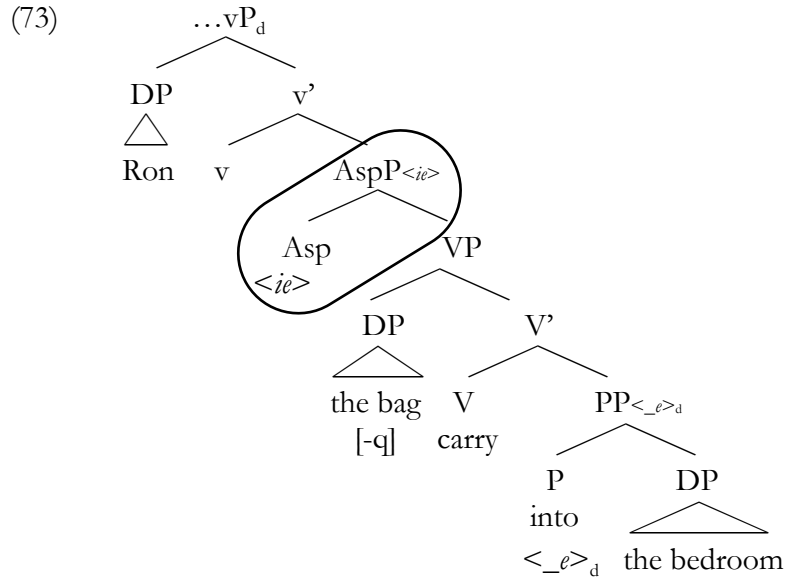
Since only $<ie>$ is within the domain of aspectual interpretation the event described by a predicate in the presence of a [-q]NP internal argument is interpreted as atelic. The derivation for a standard accomplishment proceeds the same way as the derivation of a PP-accomplishment, except that the $<\_e>$ feature is introduced on V°, not on P°. Given that their derivations are essentially identical, I do not walk through the derivation of a standard accomplishment. However, it is worth considering in detail the derivation of an achievement predicate. Let us first consider the derivation of the sentence in (74) in which the internal argument is a [+q]NP.

(74)      Tom caught the beast.

Recall that achievements have two event features that enter into the syntax as an event feature configuration. Let us begin the derivation at this point (75).

(75)

$...\text{AspP}_{d<ie>}$

Asp           VP
$<ie>$

             V        DP

$<\_e>_d$  $<ie>$  catch

                  the beast
                    [+q]
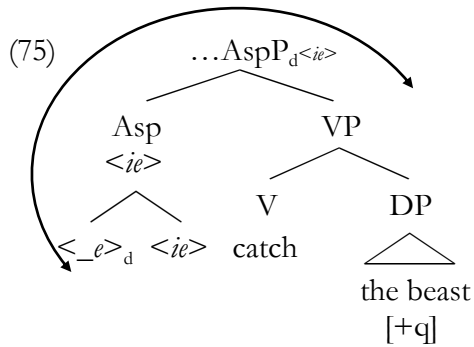
Because the internal argument NP is [+q], the domain of aspectual interpretation is extended to everything dominated by AspP, and when the aspect of the predicate is calculated, the $<\_e>$ feature on Asp° will be interpreted 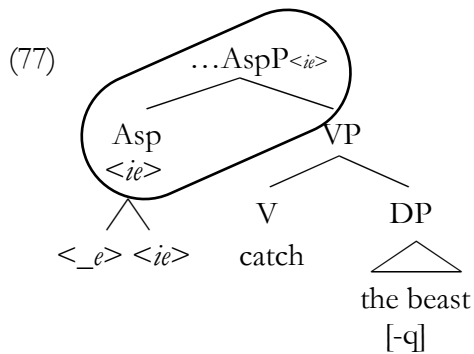as contributing to the aspectual interpretation of the predicate; thus, $<\_e>$ is coindexed with AspP. Let us now consider the derivation of the sentence in (76).

(76)      Tom caught wildlife.

(76) differs from (74) in that there is a [-q]NP present in (76). Let us consider the derivation at the point when Asp° merges (77).

(77)

$...\text{AspP}_{<ie>}$

Asp           VP
$<ie>$

             V        DP

$<\_e>$  $<ie>$  catch

                  the beast
                    [-q]

The minimal domain of aspectual interpretation is the projection Asp°-AspP and since the NP valuing Asp° is [-q], the domain is not extended. The crucial question here is whether or not the $<\_e>$ feature falls within the minimal domain of aspectual interpretation given that it forms an event feature configuration with $<ie>$ which is introduced on Asp°. I assume that the $<\_e>$ feature does not fall within the minimal domain of aspectual interpretation. I assume that the minimal domain is limited to the feature that projects because this feature is syntactically active in a way that the non-projecting feature is not. Thus, the result is an atelic interpretation of the predicate.

*3.3.4 Aspectual Calculation Takes Place at the Phase*
In this section, we will see that although there is a syntactic domain in which elements must enter in order to contribute to the aspectual interpretation of the predicate, the time at which these elements are calculated does not takes place until later in the derivation, until the vP, until the phase (Chomsky 2001, 2004, 2005). Essentially, this entails that a piece-meal

derivational approach to the aspectual calculation of a predicate cannot be correct. Consider the data in (78).

(78)   a.   Will walked into the store      for an hour.
       b.   Jack ran into the forest        for an hour.
       c.   Dan drove onto the grass        for an hour.

The durative phrase elicits an iterative interpretation, thus these predicates are telic; yet there is no internal argument. Moreover consider the data in (79).

(79)   a.   **Girls** walked into the store      for an hour.
       b.   **Animals** ran into the forest      for an hour.
       c.   **Boys** drove onto the grass        for an hour.

The presence of a BP subject elicits an SSE interpretation of the predicate. Observe that a MN subject elicits atelic interpretation as well (80).

(80)   a.   **Livestock** walked into the store          for an hour.
       b.   **Wildlife** ran into the forest             for an hour.
       c.   **Racing equipment** drove onto the grass    for an hour.

These facts suggest that the subject is in a position to affect the telicity of a predicate; the subject seems to enter into the object-to-event mapping. These facts seem to be counterexamples to the proposal argued for here. However, observe that when these predicates take an overt internal argument the internal argument controls the telicity of the predicate (81-82).

(81)   a.   Will walked **the cow** into the barn     for an hour.
       b.   Jack ran **the bear** into the woods      for an hour.

(82)   a.   Will walked **livestock** into the barn   for an hour.
       b.   Jack ran **wildlife** into the woods      for an hour.

The predicates in (81) are telic because the direct object is [+q] and the predicates in (82) are atelic because the direct objects are [-q]. Following a proposal from Ritter and Rosen (1998), I claim that there is more structure in the sentences in (78) than is immediately apparent. I claim that there is a PRO present whose [+/-q] feature is controlled by the subject. I assume that the presence of the prepositional phrase is responsible for the presence of this PRO. Observe that the verb alone cannot license an internal argument (Ritter and Rosen 1998 observe this fact), suggesting that PRO is introduced with the PP (83-84).

(83)   a.   John walked the letter to the post office.
       b.   John ran the letter to the post office.
       c.   John drove the letter to the post office.

(84)    a. *John walked the letter.
        b. *John ran the letter.
        c. *John drove the letter.

I capture this range of facts by assuming that there is a small clause that takes the prepositional phrase as a complement and PRO as subject (Ritter and Rosen 1998 make a similar proposal).[21] I assume that P° introduces an <_e> feature, resulting in the structure in (85).[22]

(85)

```
            vP
           /  \
         DP     v'
         /\    /  \
       John   v    AspP<ie>
                   /    \
                 Asp     VP
                <ie>    /  \
                       V     XP
                      ran   /  \
                         PRO    X'
                               /  \
                              X    PP<_e>
                                   /  \
                                  P    DP
                                 <_e>  /\
                                into  the forest
```
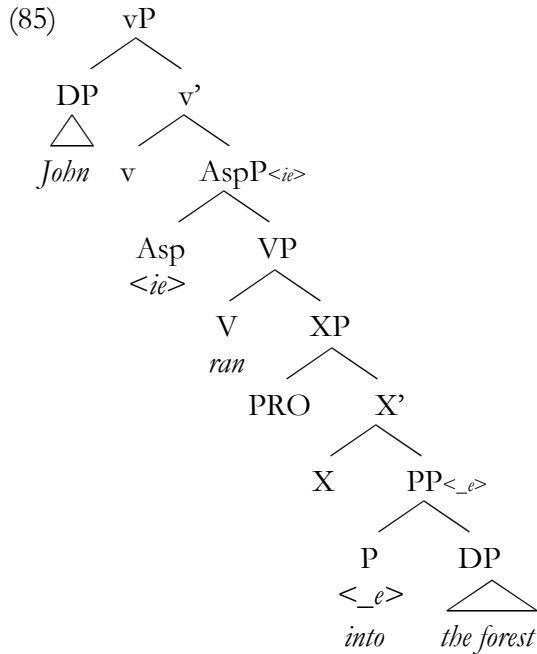
Under this account when these verbs take this small clause complement the [+/-q] nature of the subject controls the [+/-q] nature of PRO which in turns values Asp° accordingly. This structure captures the intuition of Levin and Rappaport Hovav (1995) that these verbs in intransitive form pattern with unergatives, while when they take a prepositional complement, they pattern with unaccusatives. They pattern with unaccusatives in the presence of the PP, because the subject controls PRO and PRO patterns here with other internal arguments.

If this is the correct analysis of these data, then they are significant for determining when the aspect of a predicate is calculated. For if the [+/-] feature of PRO is controlled by the subject, then Asp° cannot be valued until the subject merges with the structure. Thus, although an element must be below AspP in order to contribute to the aspectual interpretation of the predicate, the aspectual contribution of this element is not calculated until later in the derivation, or otherwise, it would be underdetermined for these sentences. The same timing of aspectual calculation becomes salient when considering the

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[21] It could also be the case that the PP has a specifier into which PRO merges. This option does not seem to have any aspectual relevance.

[22] Note that these structures pattern with PP-accomplishments as expected with respect to the *stop* control construction and with respect to the interpretations elicited by *almost* and *it takes x-time*.

underspecified event feature introduced on P° in these sentences. Again since the [+/-q] feature of PRO is not determined until the subject merges, it cannot be until the subject merges that it is determined whether the $<\_e>$ feature contributes to the aspectual interpretation of the predicate or not. These data show that the time at which the aspect of the predicate is calculated takes place later in the structure than when AspP merges, minimally not until the subject merges. Therefore, I assume that it is not calculated until vP, until the phase. These data are classic cases that show the compositional nature of inner aspect, and they pose a difficult problem for a piece-meal derivational approach to syntactic derivations.

## 3.4 Chapter Recap

In this chapter we have completed the syntactic typology of aspectual predicates types. We saw that the eventive predicates can be distinguished by the presence and configuration of event features that determine the structure of the event described by a predicate. We also saw that the interpretation of these event features depends on a domain of aspectual interpretation determined by AspP. If they are inside this domain of aspectual interpretation they contribute to the aspectual interpretation of the predicate. If they are not they simply modify the entire event described by the predicate. Additionally, we saw that, although there is a syntactic space in which elements must be located to contribute to the aspectual interpretation of the predicate, the calculation of these elements does not take place until later in the derivation until the phase.

# Chapter 4
# The Autonomy of Inner Aspect

In this chapter I focus on inner aspect as an autonomous system within natural language. In section 4.1, I focus on the independence of the aspectual interpretation of a predicate from its other semantic contributions. Aspectual interpretation is independent of the thematic relations expressed by a predicate. That is, based on thematic relations, the aspectual interpretation of a predicate cannot be predicted. Additionally, based on the lexical semantic contribution of verbs and prepositions, we cannot predict the aspectual interpretation of the predicate either. This has implications for the association of event features with items in the lexicon. In section 4.2, I discuss one way in which aspect exerts syntactic autonomy as well. This is a direct consequence of the system developed in Chapter 2: case and aspect are independent syntactic relations. This conclusion has consequences for the structure of languages like Finnish in which a direct relation between case and aspect has been claimed.

## 4.1 The Independence of Lexical Meaning and Aspect

In this section I provide evidence that suggests that the semantic contribution of aspect to the predicate is independent from the thematic relations expressed by a predicate as well as the specific lexical meaning contributed by verbs and prepositions. This is in line with recent assumptions regarding the relation between aspect and lexical meaning (Borer 2005, Ritter and Rosen 1998).

*4.1.1 The Independence of Thematic Relations and Aspectual Interpretation*

The thematic relations expressed by a predicate and the aspectual interpretation of the predicate seem to be independent of each other. Consider the data in (1-2).

(1) a.  The boy spotted the plane        for an hour.
     b.  The boy enjoyed the music       for an hour.


(2) a.  The brute struck the beast (with a stick)      for ten minutes.
     b.  The brute beat the beast (with a stick)        for ten minutes.


In (1) there are two sentences containing transitive verbs which have an experiencer subject and a theme/stimulus direct object. Yet, (1a) is an achievement, and (1b) is an activity. Evidence comes from the interpretation of the durative phrase. In (1a), the durative phrase elicits an SIE interpretation, and in (1b) there is an atelic interpretation of the event. Thematically these sentences are the same; aspectually they differ. In (2) there are two sentences with an agentive subject and a patient/theme direct object. However, (2a) is an achievement and (2b) is an activity. Evidence, comes from the SIE interpretation in the presence of the durative phrase in (2a), and the atelic interpretation in (2b). Thematically these sentences are the same; aspectually they differ.

Observe the three sentences in (3) below. The subject of each is an agent, and the direct object of each is a theme/patient.

(3) a.  The man drank the bottle of wine      #for ten minutes.
    b.  The man slammed the bottle of wine  #for ten minutes.
    c.  The man sipped the bottle of wine      for ten minutes.

In (3a) and (3b) the durative phrase is incompatible, while in (3c) it is compatible. (3a) and (3b) describe events interpreted as telic, and given the nature of the type of action described by the predicate, the durative phrase is incompatible. (3c) describes an atelic event, and as such, the durative phrase is compatible. More specifically, (3a) is an accomplishment, (3b) is an achievement, and (3c) is an activity. Observe the interpretations of these sentences in the *stop* control construction (4).

(4) a.  The man stopped drinking the bottle of wine.
    b.??The man stopped slamming the bottle of wine.
    c.  The man stopped sipping the bottle of wine.

(4a) and (4c) elicit a single event interpretation because they are accomplishment and activity predicates respectively. (4b), on the other hand, only allows an odd habitual interpretation as a result of the iterative interpretation forced due to the achievement status of the predicate. Again, these are predicates that have the same thematic relations, but have different aspectual interpretations. Observe a final set of cases (5-9). These are aspectually variable verbs.[1]

(5) a.  Shirley washed the car        in an hour.
    b.  Shirley washed the car        for an hour.

(6) a.  The cook warmed the meat  in ten minutes.
    b.  The cook warmed the meat  for ten minutes.

(7) a.  Dudley read the book        in an hour.
    b.  Dudley read the book        for an hour.

(8) a.  Bill sprayed the wall with paint   in an hour.[2]
    b.  Bill sprayed the wall with paint   for an hour.

(9) a.  Bill loaded the truck with dirt     in an hour.
    b.  Bill loaded the truck with dirt     for an hour.

Consider the interpretations of the durative phrase and the time span adverbial in these sentences. The time span adverbial in (5a) can express the amount of time that passed before the end of the event, before the car was washed. This is indicative of an accomplishment predicate. The durative phrase in (5b) expresses that the event continued for an hour

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[1] A formal aspectual syntactic treatment of aspectually variable verbs is undertaken in Chapter 6.

[2] Data from Jackendoff (1996).

without necessarily iterating. This is indicative of an activity interpretation. Very clearly in these examples the thematic relations are exactly the same, an agent and a theme, yet the aspectual character varies between an activity and an accomplishment interpretation.

Consider the degree achievement in (6). The time span adverbial expresses in (6a) that ten minutes passed before the meat reached the state of being warm. This interpretation is indicative of achievements.[3] The durative phrase in (6) expresses that throughout ten minutes the meat was continually warming. This is indicative of an activity predicate. In both cases, the thematic relations, agent and theme/patient, remain the same, yet the aspectual type varies. More examples of aspectually variable verbs are given in (7-9). Again it is not clear that there is any difference in thematic relation between the (a) and (b) examples, although clearly their aspectual types vary.

There is an independence between the aspectual interpretation of a predicate and the thematic relations expressed by that predicate. This point becomes even clearer when we abstract the aspectual predicate types away from the examples above. Taking the activity predicates alone, we see that there is no single set of thematic relations across all of them; there is an experiencer and theme/stimulus in (1b) and (7b), agent and theme/patient in (2b), (3c) and (5b), an agent/causer and theme/patient (6b), and an agent and location in (8b) and (9b). Taking the achievement predicates alone, there is an experiencer and theme/stimulus (1a), agent and theme/patient (2a) and (3b), and an agent/causer and theme/patient (6a). Taking the accomplishment predicates alone, there is an agent and theme/patient in (3a) and (5a), an experiencer and theme/stimulus in (7a), and an agent and location in (8a) and (9a). Aspectual interpretation is independent of thematic relations.

Recall from the system of aspect developed in Chapter 2 that there is only a single argument that participates in the object-to-event mapping: the NP closest to Asp°. Thus, perhaps a more focused discussion of the relation between the thematic relations expressed by a predicate and its aspectual interpretation should be restricted to the thematic role assigned to the NP participating in the object-to-event mapping. Perhaps then we will see a consistent thematic role assigned to the NP participating in the object-to-event mapping. This is not the case. We will see that even assuming a broad enough thematic role such as PROTO-PATIENT (Dowty 1991)[4] is not enough to assign a consistent thematic role to the NP participating in the object-to-event mapping. Consider the data in (10).[5]

(10)    a.  John carried the bag into the bedroom   for an hour.
        b.  John carried sand into the bedroom      for an hour.

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[3] Dowty (1979) claims that these predicates vary between and achievement and an activity interpretation as well. But see Hay, Kennedy and Levin (1999) who claim that these do not vary between an activity and an achievement interpretation, but between an activity and an accomplishment interpretation.

[4] Dowty (1991) himself does not claim that any NP that is a PROTO-PATIENT can participate in the object-to-event mapping, but only an INCREMENTAL THEME.

[5] Dowty (1991) claims that the INCREMENTAL THEME of the sentences in (10) is an abstract PATH. It is not clear why an alternation between the [+/-q] value of the internal argument then can affect the telicity of the predicate when he associates the ability of the argument of verbs like *eat* to affect the telicity of the predicate with being an INCREMENTAL THEME. That is "An Incremental Theme…is an NP that can determine the aspect of a sentence." (Ibid:588).

Recall that in the presence of the durative phrase, the sentence in (10a) results in an SIE interpretation. When there is a [-q]NP internal argument present, the predicate is interpreted as atelic. In (10a-b) the internal argument is thematically a theme/patient, arguably, a PROTO-PATIENT. Consider the datum in (11).[6]

(11)     John carried the bag/sand          for an hour.

The only difference between the data in (10) and the datum in (11) is the presence/lack of the goal phrase. Observe in (11) that the [+/-q] value of the internal argument NP no longer affects the interpretation elicited in the presence of the durative. There is only an atelic interpretation available. In this case, the internal argument is no longer affecting the aspectual character of the predicate. However, the internal argument still seems to receive the same thematic role: theme/patient. In this case, it is difficult to appeal alone to the thematic role of the internal argument as a guide to the aspectual interpretation of the predicate. Consider more data in (12).[7]

(12)   a.   Bill loaded a truck with bags      in an hour.
       b.   Bill loaded livestock with bags  #in an hour.

In (12a) there is a [+q]NP object and the time span adverbial can express the amount of time before the event ends, i.e. before the truck was fully loaded with bags. In (12b) there is a [-q]NP object and the time span adverbial no longer can express the amount of time before the event ends. *The truck* and *livestock* are the NPs that enter into the object-to-event mapping and their best characterization is that of a location, or recipient. Locations and recipients are not prototypical PROTO-PATIENTS. Consider the data in (13).

(13)   a.   The animal found the body of water   # for an hour.
       b.   Wildlife found the body of water         for an hour.

In (13a) with a [+q] NP subject, the durative phrase is odd. Only on a pragmatically odd reading in which the animal found and lost the body of water is there an interpretation of the durative phrase (thus the #). In contrast, in (13b) with a [-q]NP subject, the durative phrase improves in compatibility and results in an atelic interpretation of the predicate. In Chapter 6, I analyze the subjects of these predicates as derived from a position below Asp°. The

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[6] Dowty (1991) refers to the role assigned to the argument in (11) as a HOLISTIC THEME. However, it behaves like other INCREMENTAL THEMES when a goal phrase is added to the sentence (10). See footnote 5.

[7] Dowty (1991) discusses these *spray/load* verbs and claims that either of the two non-subject arguments can participate in the object-to-event mapping precisely because they both have PROTO-PATIENT properties and would thus characterize them both as INREMENTAL THEMES. However, if both are possible INCREMENTAL THEMES, it is not clear why the ability to determine the telicity of the predicate is restricted to the internal argument position: *John loaded a tractor with hay in an hour. John loaded a bail of hay onto farm equipment in ten minutes.* There is no reason why only the internal argument position can participate in the object-to-event mapping if the requirement to do so is that an argument be an INCREMENTAL THEME. Dowty claims that "…not all incremental themes are direct objects…subjects, pairs of PPs, and sometimes verbs alone can 'encode' incremental themehood." (Ibid: 589). These facts suggest strongly that the important property for an NP to enter into the object-to-event mapping is not its thematic role, but its syntactic position in the structure, i.e. its proximity to Asp°. See also the discussion of the data in (12).

subjects of these predicates participate in the object-to-event mapping and they are interpreted as experiencers. Experiencers are not prototypical PROTO-PATIENTS.

Given that being a PROTO-PATIENT does not always entail participating in the object-to-event mapping, and given that both locations and experiencers (as well as themes/patients) can participate in the object-to-event mapping, a natural conclusion is that the thematic role assigned to an NP is independent of its ability to participate in the object-to-event mapping. As concluded in Chapter 2, what is crucial for an NP to participate in the object-to-event mapping is its syntactic position, it's proximity to Asp°. Consider data that exemplify this in (14).

(14)    a.  John danced Jane into the barn        for an hour.
        b.  John danced livestock into the barn     for an hour.

(14a) only elicits an iterative interpretation in which John repeatedly danced Jane into and out of the barn. Observe in (14b) that when the mass noun *livestock* is present, the durative elicits an atelic interpretation. More interestingly, observe the datum in (15).

(15)    a.  John danced (*Jane/*livestock).

(15) shows that the argument that participates in the object-to-event mapping is not an argument of the verb itself. The secondary predicate introduces this argument (see Borer 2005, Ritter and Rosen 1998 among others for the same assumption), and is responsible for the thematic role is receives. The main point is that the NP participating in the object-to-event mapping holds no special thematic relation with the verb (Borer 2005 makes this point) and more generally receives no particular thematic role from the verb. What is crucial for an argument to participate in the object-to-event mapping is not its thematic role, but its syntactic position. Only the NP closest to Asp° can participate in the object-to-event mapping.

*4.1.2 Lexical Meaning is Independent of Aspectual Interpretation*

In this section, we will see that lexical meaning is independent of aspect interpretation. That is even if we look at the core meaning of a lexical item, this core meaning cannot be used as a basis to predict the aspectual interpretation of the predicate. In particular, I focus on the lexical meaning of verbs and prepositional phrases and what this entails for being associated with event features.

Of particular interest to the discussion of verbs are the aspectually variable verbs from (5-9), repeated below in (16-20).

(16)    a.  Shirley washed the car        in an hour.
        b.  Shirley washed the car        for an hour.

(17)    a.  The cook warmed the meat    in ten minutes.
        b.  The cook warmed the meat    for ten minutes.

(18)    a.  Dudley read the book        in an hour.
        b.  Dudley read the book        for an hour.

(19) a. Bill sprayed the wall with paint   in an hour.
     b. Bill sprayed the wall with paint   for an hour.

(20) a. Bill loaded the truck with dirt   in an hour.
     b. Bill loaded the truck with dirt   for an hour.

There could potentially be something in the core lexical meaning of *wash*, for example, or something about the action in the real world denoted by *wash*, that it follows that *wash* must appear in a predicate of a particular aspectual type. However, *wash* varies in aspectual interpretation. Thus, there is nothing about the type of action expressed by a verb like *wash* that can predict that the predicate in which it arises should be telic or atelic. Following the same line of reasoning, there is nothing in the action expressed by *warm* (17), *read* (18), *spray* (19), or *load* (20) that inherently determines that the predicate that they head should express a telic or atelic event. For as (16) – (20) show, these predicates can express either an atelic or a telic event.[8]

Aspectually variable verbs provide strong evidence that the type of action expressed by a verb (i.e. its lexical meaning) cannot predict the aspectual type of the predicate. Let us see if a wider range of data also provides support for this conclusion. Consider the standard accomplishments below in (21).

(21) a. John ate an apple    in an hour/*for an hour.
     b. John drank a beer    in an hour/*for an hour.

One might argue that because of the nature of what it means to eat or to drink, these predicates must express a telic event.[9] One might appeal to world facts of the sort that eating and drinking (in most cases) requires a progression through some ingestible material, and once this ingestible material is gone, the eating or drinking event is complete, and therefore telic. An appeal of this nature to the type of action expressed by *eat* or *drink* in order to explain why it is telic (and an accomplishment) is an unsuccessful move; for, if we look at these verbs in Spanish, we see that they are aspectually variable verbs (22).[10]

(22) a. Juan comió una manzana en una hora/durante una hora.
     Juan ate a apple in an hour/for an hour
     'Juan ate an apple in an hour/for an hour.'

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[8] It may be the case that there is something common to the type of action expressed by aspectually variable verbs such that they are aspectually variable verbs. The presence of this common property then, could in theory allow us to predict which verbs are aspectually variable and which are not. It is not clear what that common property is, especially when considering the range of verbs in (16-20). Therefore, I do not purse this line of inquiry.

[9] Of course, if these predicates have a [-q]NP internal argument, and we want to make the argument that there is something about the nature of the action expressed by these predicates that determines their aspectual interpretation, then we run into the same problem that arises with aspectually variable verbs.

[10] The time span adverbial may be preferred here, although the durative is not ungrammatical.

b. Juan bebió una cerveza en una hora/durante una hora.
   Juan drank a beer in an hour/for an hour
   'Juan drank a beer in an hour/for an hour.'

Thus, if we conclude that there is something about the type of action involved in eating and drinking that forces an accomplishment interpretation of this predicate in English, then we are forced to say that in Spanish, eating and drinking is a fundamentally different action. This would be an odd conclusion.[11]

Considering these data, in light of the system of event features proposed in Chapter 3, the conclusion that must be drawn is that based on the lexical meaning of a verb we cannot predict whether or not it is associated with an event feature in the lexicon. This turns out to be an example specific to the mechanisms of the system developed here of a more general consensus that aspectual interpretation and lexical meaning are independent of each other (Borer 1994, 2005, Ritter and Rosen 1998, 2000 among others). Let us consider goal prepositions.

Given that goal prepositions can contribute to the aspectual interpretation of a predicate, there may be a relation between the lexical meaning of a goal preposition and the ability to elicit a telic interpretation of the predicate. Consider the data in (23).

(23)     John carried the bag into the bedroom   for an hour.

Recall that the presence of the goal phrase results in a telic predicate, and as such in the presence of a durative, only an iterative interpretation is available. Observe moreover that the goal phrase expresses the final location of the direct object in motion (23); it marks the end of a path. Marking the end of the path might be the source of lexical meaning that allows a preposition to elicit a telic interpretation of the predicate. However, marking the end of a path of motion does not seem to be required, as the data in (24) show.

(24)     John carried the bag **from** the bedroom for an hour.

In (24) there is no goal phrase, but a source phrase. The source phrase does not express the end of a path of motion, it expresses the beginning of the path of motion. Moreover, in the presence of a source phrase, the durative phrase only elicits an iterative interpretation of the predicate. Thus, a prepositional phrase need not express the end of a path in order to elicit a telic interpretation of a predicate.

Observe, that there is another property present in (23-24) that might be responsible for the ability to contribute to the aspectual interpretation of the predicate: an *on/with* entailment. This *on/with* entailment exists between the direct object and the complement of the preposition. As a result of this entailment, the bag is interpreted as in the bedroom at the end of the path in (23) and in the bedroom at the beginning of the path in (24). Arguably this is a minimal property required for a secondary predicate to elicit a telic interpretation of a predicate. Let us explore this possibility. Consider the effects of reflexive non-argumental clitic pronouns of Spanish on the interpretation of a predicate (25).

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[11] Also, what we will see in Russian in Chapter 5, is that all verbs (except some statives) are both telic and atelic (i.e. perfective and imperfective respectively), and as such it is unclear how an appeal to the lexical meaning of a verb can account for the telicity of the predicate.

(25)  a.  Juan **se**       comió una paella.
          Juan **himself** ate    a   paella
          'Juan ate a paella.'

      b.  Juan **se**       lavó    el   coche.
          Juan **himself** washed  the  car
          'Juan washed his car.'

The presence of the reflexive pronoun results in a telic interpretation of the predicate (MacDonald 2004, Nishida 1994, Sanz 2000, Zagona 1996), as such the durative phrase is incompatible (26).[12]

(26)  a.  Juan **se**       comió una paella    #durante una hora.
          Juan **himself** ate    a   paella     for    an   hour
          'Juan ate a paella for an hour.'

      b.  Juan **se**       lavó    el   coche   #durante una hora.
          Juan **himself** washed  the  car       for    an   hour
          'Juan washed the car for an hour.'

MacDonald (2004) observes furthermore, that in the presence of the reflexive, there is an *on/with* entailment expressed that is not present without it. Consider the data in (27).

(27)  a.  Juan **se**       abrochó la   camisa.
          Juan **himself** buttoned the shirt
          'Juan buttoned his shirt.'

      b.  Juan abrochó la camisa.

In (27a) in the presence of the reflexive, the shirt is interpreted as on the subject during the buttoning event. It cannot be on a hanger, for example. This *on/with* entailment does not hold in (27b) in which there is no reflexive present. Consider the data in (28).

(28)  a.  Juan **se**       lavó    el   coche.
          Juan **himself** washed  the  car.
          'Juan washed his car.'

      b.  Juan lavó el coche.

In (28a), the subject is interpreted as carrying out the washing of the car. He could not have dropped it off at a car wash to let someone else wash it, for example. This results from the *on/with* entailment elicited in the presence of the reflexive pronoun. This *on/with* entailment is not present in (28b) in which there is no reflexive pronoun.

To account for these facts, MacDonald (2004) proposes that these reflexive non-argumental clitic pronouns of Spanish are introduced as the complement of a null goal-like preposition.[13] This is illustrated in (29).

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[12] The durative phrase in Spanish does not seem to be able to elicit an iterative interpretation in (26b) here..

(29)

```
                    …vP
                   /    \
                 DP      v'
                 △      /  \
               Juan    v    VP
                           /   \
                         DP      V'
                         △     /   \
                    the car   V      PP
                            wash    /   \
                                   P      DP
                                  Ø_GOAL  △
                                          self
```

*on/with* & *<_e>* ⟶ (pointing to P Ø_GOAL)
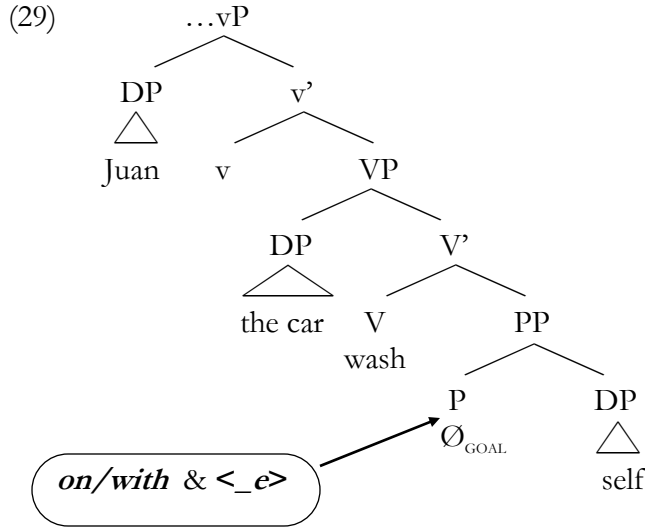
The null goal-like preposition forces the direct object to be interpreted *on/with* the complement of the goal in the same way that overt goal phrases do in English. The reflexive is coindexed with the subject, and as such the direct object is interpreted as *on/with* the subject. Now consider Romanian non-argumental reflexive pronoun constructions in (30).
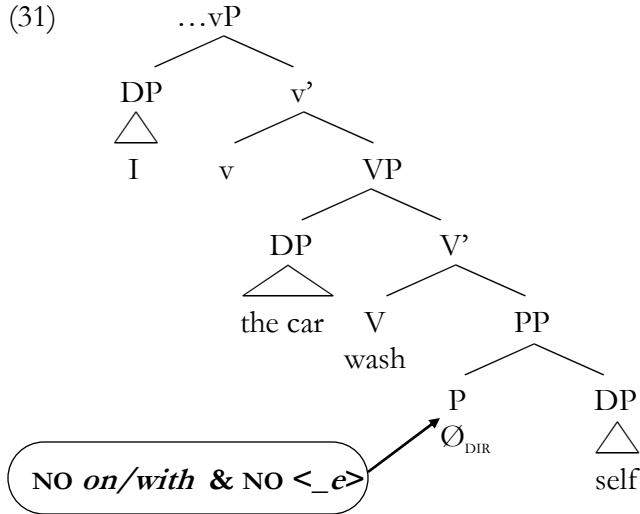
(30)   a.   Eu (**mi**-)am       spălat   maşina   timp de zece minute.
            I   (**myself**-)have washed car-the   time of  ten   minutes
            "I washed my/the car for ten minutes."

       b.   Eu (**mi**-)am       spălat   maşina
            I   (**myself**-)have washed  car-the
            "I stained my/the car."

Observe that the presence of the reflexive does not result in a telic interpretation of the predicate; as such, the durative phrase is compatible (30a). Additionally, observe that when the reflexive pronoun is present, the subject does not have to be carrying out the washing of the car; it could have been dropped off at the car wash for someone else to wash (30b). The Romanian reflexive construction does not elicit an *on/with* entailment and it does not elicit a telic interpretation of the predicate.

To account for these Romanian reflexive non-argumental facts, MacDonald (2006), argues that the Romanian reflexive non-argumental clitic pronoun is the complement of a null directional-like preposition that merges as the complement of the verb. This is illustrated in (31).[14]

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[13] MacDonald (2004) provides other arguments for analyzing these reflexives as merging as the complement of a null goal-like preposition that itself merges as a complement of the verb. He appeals to an inalienable possession restriction and to the ability to prevent idiomatic interpretation as well.

[14] MacDonald (2006) draws a parallel between the aspectual and structural properties of directional prepositions (e.g. *towards*) and the Romanian reflexive, relying on facts from *do so* constructions and idiom prevention to motivate this structure.

(31)

```
            …vP
          /      \
        DP        v'
        /\       /    \
       /__\     v      VP
        I              /    \
                      DP     V'
                      /\    /    \
                     /__\  V      PP
                  the car wash   /    \
                                P      DP
                                Ø_DIR  /\
                                      /__\
                                      self
```

NO *on/with* & NO <_e>

To recap the patterns just outlined, we have seen that English goal prepositions and Spanish non-argumental reflexive pronoun constructions pattern the same; they both elicit a telic interpretation of the predicate and express an *on/with* entailment. On the other hand, Romanian non-argumental reflexive constructions do not elicit a telic interpretation of the predicate, and do not express an *on/with* entailment. These patterns suggest that there is some connection between an *on/with* entailment and the ability of a secondary predicate to elicit a telic interpretation. These facts seem to support a relation between the lexical meaning of a preposition and its aspectual contribution. This conclusion is not fully warranted, however, as the data from French in (32-33) show.

(32)   a.   Jean s'est       boutonné la   chemise.
            Jean himself-is buttoned  the shirt
            'Jean buttoned his shirt.'

       b.   Jean a   boutonné la   chemise.
            Jean has buttoned the shirt
            'Jean buttoned his shirt.

(33)        Jean s'est/a        lavé    la  voiture pendant une heure.
            Jean himself-is/has washed the car        for   an   hour
            'Jean washed his car for an hour.'

In (32a) there is a reflexive pronoun present and there is an *on/with* entailment. The shirt must be on the subject at the time of the buttoning event. When there is no reflexive pronoun present (32b), there is no *on/with* entailment. (33) shows that the presence of the reflexive pronoun does not result in a telic interpretation of the predicate, as the durative phrase is compatible.[15] Assuming an analysis for these non-argumental reflexive pronoun constructions in French in which the reflexive is introduced as the complement of a null preposition, we must conclude that this null preposition can express an *on/with* entailment,

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[15] There is some variation with respect to the compatibility of the durative.

but does not introduce an $<\_e>$ feature. It follows from this that the expression of an *on/with* entailment is not related to the ability to elicit a telic interpretation of a predicate; it cannot be used as basis to predict whether a preposition will be associated with an $<\_e>$ or not.[16]

Considering these data in light of the system of event features proposed in Chapter 3, the conclusion that must be drawn is that based on the meaning of a preposition we cannot predict whether or not it is associated with an event feature in the lexicon. This turns out to be an example specific to the mechanisms of the system developed here of a general consensus that aspectual interpretation and lexical meaning are independent of each other (Borer 1994, 2005, Ritter and Rosen 1998, 2000 among others).

We have discussed the autonomous nature of the aspectual system. Aspectual interpretation is independent of thematic relations. Aspect is also independent of the lexical meaning of a preposition or a verb. Specifically, within the system of event features developed in Chapter 3, this translates to the unpredictability of whether a verb or preposition will be associated with an event feature based on the lexical meaning of the verb or preposition. This unpredictability allows for the possibility of much variation between aspectual predicate types. This is exactly what we find in natural language (Borer 1994, 2005, Hay, Kennedy, and Levin 1999, Jackendoff 1996 among others). How the present system handles this variation is taken up in Chapter 6.

## 4.2 The Independence of Case and Aspect

It has been argued that there is an inherent relation between case and aspect. More specifically it is suggested that the assignment of accusative case is tied to the interpretation of a predicate as telic. The argument that receives accusative case is the argument that participates in the object-to-event mapping (Kiparsky 1998, Kratzer 2004, Ramchand 1997, Ritter and Rosen 1998 among others). In this section I argue that case and aspect are independent syntactic relations. This provides another example of the autonomous nature of aspect.

In section 4.2.1 I argue that the [+/-q] feature involved in Agree with Asp° is closer to the NP layer than the DP layer. In section 4.2.2, I show how the system proposed in Chapter 3 predicts that case and aspect are independent syntactic relations. Passive constructions and unaccusatives provide empirical support. Finally, in 4.2.3 I offer an account of the accusative-partitive case alternation in Finnish, which is often put forth to support a direct relation between the appearance of accusative case on the internal argument and the interpretation of a predicate as telic.

### 4.2.1 Aspect is a Relation with NP

In this section, I discuss data that suggests that the [+/-q] feature that establishes an Agree relation with Asp° as part of the object-to-event mapping is a feature closer to the NP layer than to the DP layer (cf. Borer 2005 and Ritter and Rosen 1998 among others). Following standard assumptions, this would entail that the feature on an argument that establishes an Agree relation with Asp° is a distinct feature from that which establishes an

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[16] See Snyder (1995) and Beck and Snyder (2000) for a host of languages whose goal prepositions do not elicit a telic interpretation of the predicate (i.e. are not associated with a $<\_e>$ feature), yet are goal prepositions. Considering the conclusions drawn above this is not unexpected. See also Chapter 5 for further discussion.

Agree relation with v° for accusative case. This is evidence that case and aspect are independent syntactic relations.

The example in (34) is standardly put forth as an example of a telic predicate.

(34)    John drank the beer.

However, in the right context, the event described by the predicate in (34) can be interpreted as atelic. Consider a party in which several kegs of beer were present all from the same brewery and from the same batch. The next day, the hosts of the party see that there is some beer left and taste it. They find that it tastes a little funny and question its quality. (35) can be uttered in response to their concern.

(35)    John drank the beer   for three hours    and he didn't say anything.

There is a definite determiner in (35) and the event described by the predicate is interpreted as atelic.[17] Observe that the atelic interpretation is more accessible in the presence of a demonstrative (36).[18]

(36)    John drank this beer   for three hours    and he didn't say anything.

Consider another context in which there is a batch of rice made for some large event, and the cook wonders if anyone ate the rice, as it was a new recipe. (37) can be uttered and understood as describing an atelic event, even though the internal argument has a definite determiner.

(37)    June ate the rice   for an hour    she liked it so much.

Schmitt (1996) observes similar facts with relative clause internal arguments (38).[19]

(38)    a.  Bill wrote the junkmail that Sam asked for for years.
        b.  The maid discarded the trash that Mary produced for years.

One possible account of these facts is that there are two types of DPs; one that is [-q] and one that is [+q]. If this were the case, then we might expect that any NP (that can take a definite determiner) could elicit both a telic and atelic interpretation of a predicate. We would only have to merge the NP with a [+q]D for a telic interpretation of the predicate and with a [-q]D for an atelic interpretation of the predicate. However, this does not seem to be the case. For observe that the predicates in (39) only receive a telic interpretation; the NP internal arguments can only be interpreted as [+q], regardless of the context.

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[17] Jackendoff (1996) also makes a similar observation in a footnote. His example is the following: *Bill ate the custard for hours/until he was full.* Nishida (1994) also observe similar facts for Spanish.
[18] Schmitt (1996) observes data of this sort with demonstratives as well.

[19] Examples in (38) taken from Schmitt (1996:196-197).

(39)  a.  John destroyed the city   # for a day.
      b.  John built the doghouse   # for a day.
      c.  John wrote the letter     # for an hour.

Schmitt (1996) observes similar facts as well (40).[20]

(40)  a.  Chomsky wrote that book   #for years.
      b.  Chomsky wrote the book that revolutionized the field   #for years.

These data suggest that the [+/-q] feature that values Asp° cannot be a feature of the definite determiner, but is more likely a feature of the NP complement. There are some NPs (perhaps for ontological reasons) that can more freely alternate between a [-q] interpretation and a [+q] interpretation. That is, some NPs are more likely to bear a [+q] or a [-q] feature than others.[21] We have just seen some NPs that are less likely to bear a [-q] feature (40). Consider some NPs that can bear either feature rather freely. Observe the data in (41).

(41)  a.  John drank a beer        # for an hour.
      b.  The girl ate a cake      # for an hour.
      c.  The woman built a car    #for an hour.
      d.  The man destroyed a city # for an hour.

As the complement of an indefinite determiner, NPs are interpreted as bearing a [+q] feature.  As such, the durative phrase is incompatible. All of the NPs in (41) can take a [+q] feature, although not all of them can take a [-q] feature. As noted above in (39) the NPs in (41c-d) cannot easily bear a [-q] feature. However, recall from (36) that the NP in (41a) can bear a [-q] feature, and observe in (42) below that the NP in (41b) can as well.

(42)      John ate the cake (that was made in mass quantities for his b-day) for an hour.

Not only are there NPs that can only bear a [+q] feature, and NPs that can bear both a [+q] and a [-q] feature, there are NPs that seem to be able to only bear a [-q] feature. Observe that these NPs cannot be the complement of an indefinite determiner (43).[22]

(43)  a. *John built an equipment.
      b. *Mary wrote a junkmail.
      c. *George watched a rain.

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[20] Examples in (40) taken from Schmitt (1996:187).

[21] When we consider the *count/mass* distinction, which is very closely related to the [+/-q] distinction, we find the same patterns. There are some NPs that behave more as count than others. Allen (1980) makes this same point. The discussion here draws heavily from observations made in Allen (1980).

[22] It should be noted that there are strong tendencies for NPs with respect to their ability to bear a certain feature or another. There may be contexts in which a particular NP that typically bears a [-q] feature does bear a [+q] feature. This may be forced by pragmatics.

Observe furthermore, that these NPs can be the complement of a definite determiner or demonstrative and in the presence of a durative phrase an atelic interpretation results (44).[23]

(44)    a.   John built the/that equipment for an hour, before going blind.
          b.   Mary wrote the/that junkmail for a week, before losing her soul.

These data suggest that the [+/-q] feature that enters into the object-to-event mapping of a predicate is closer to the NP layer than to the DP layer.[24] If the DP itself were responsible for introducing the [q] feature, it would not be clear why all NPs could not elicit both a telic and atelic interpretation of a predicate. This is not the case. The definite determiner and the demonstrative seem not to bear a [q].

*4.2.2 Aspect is a Relation with Asp°*
   Many scholars working on inner aspect assume that there is a direct syntactic relation between case and aspect (see Kiparsky 1998, Kratzer 2004, Ramchand 1997 among others), often relegating accusative case assignment to the functional projection responsible for the object-to-event mapping (Borer 2005, Schmitt 1996, Thompson 2006 among others). Conclusions of this nature have been based on data similar to the following from Finnish (45).[25]

(45)    a.   Maija luki **kirjaa**       tunnin.
             M.    read **book-part.** hour-acc.
             'Maija read the book for an hour.'

          b.   Maija luki **kirjan**     *tunnin
             M.    read **book-acc.** hour-acc.
             'Maija read (all) the book for an hour.'

In (45a) the object appears in partitive case and the durative phrase is compatible. In (45b) the object appears in accusative case and the durative phrase is incompatible. It appears that there is a strong correlation between the presence of accusative case on the internal argument and a telic interpretation of the predicate. In this section I show that this apparent direct syntactic relation between accusative case and a telic interpretation of a predicate is only indirect.

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[23] I find a time span adverbial to be odd with these sentences when expressing the amount of time before the event ends: *John built the/that equipment ??in an hour. Mary wrote the/that junkmail ??in an hour.* This is consistent with the conclusion that these NPs can only bear a [-q] feature.

[24] Note that if we assume that the NP is responsible for the [q] feature, then we avoid any discussion of whether or not MNs have a DP layer at all. This is also relevant for the discussion of many Slavic languages where it has been argued that there is no DP level, which in turn has been argued to be relevant to the fact that the internal argument cannot contribute to the aspectual interpretation of the predicate (see Filip 1999). Under the present analysis if NPs lack a DP layer in Slavic languages it is independent of whether or not there is an object-to-event mapping. As we will see in Chapter 5, the reason why the [+/-q] nature of an NP cannot affect the aspectual interpretation of a predicate results from the fact that there is no AspP projection in the syntactic structure of Russian with which to enter into the object to event mapping.

[25] Examples in (45) taken from Heinämäki (1984:154-155).

In Chapter 2, I argued that the object-to-event mapping was syntactically instantiated via Agree with Asp°. Assuming Chomsky (2001), accusative case is instantiated via Agree with v°. Since these are two distinct heads, we can make two specific predictions: 1. The presence of AspP in the syntax and the absence of accusative case should be available, i.e. there should exist the possibility of an object-to-event mapping although there is no accusative case on the argument participating in this mapping; and 2. The presence of accusative case and the absence of AspP should be available, i.e. there should exist the possibility of accusative case on an argument that does not participate in an object-to-event mapping. We will see that both of these predictions are borne out. Let us evaluate prediction number one first. Consider the unaccusatives in (46-48)

(46)  a.  **The keg of beer** arrived (at the party)    #for an hour.
      b.  **The bottle** broke                          # for an hour.

(47)  a.  **Beer** arrived (at the party)    for an hour.
      b.  **Glass** broke                    for an hour.

(48)  a.  **Kegs** arrived (at the party)    for an hour.
      b.  **Bottles** broke                  for an hour.

The [+/-q] nature of the derived subject of an unaccusative affects the telicity of the predicate. Thus, in (46) the derived subject is [+q] and the event described by the predicate is interpreted as telic; as such the durative phrase is incompatible. In (47), the derived subject is [-q] and the event is interpreted as atelic; as such the durative phrase is compatible. There is an object-to-event mapping and the NP participating in it is in nominative case. Moreover, a BP subject elicits an SSE interpretation as well (48), suggesting that AspP is present although v° is not. Passives make the point event stronger. Observe the active form of standard accomplishments in (49-51).

(49)  a.  John drank **the bottle of beer**    # for an hour.
      b.  John built **the stereo**            # for an hour

(50)  a.  John drank **beer**                  for an hour.
      b.  John built **stereo equipment**      for an hour.

(51)  a.  John drank **bottles of beer**       for an hour.
      b.  John built **stereos**               for an hour.

The same object-to-event mapping and BP interpretation observed for the internal arguments in the active form of these accomplishments is observed for the derived subjects in the passive form (52-54).

(52)  a.  **The bottle of beer** was drunk    #for an hour.
      b.  **The stereo** was built            # for an hour.

(53)  a.  **Beer** was drunk                  for an hour.
      b.  **Stereo equipment** was built      for an hour.

(54)   a.  **Bottles of beer**  were drunk     for an hour.
       b.  **Stereos** were built            for an hour.


The derived subjects of passives and unaccusatives participate in the object-to-event mapping (see also Borer 1994). This suggests that AspP is present in the syntax. At the same time, however, these arguments are in nominative case. The lack of nominative suggests that v° is not present (or at least cannot assign accusative case). Predication one is borne out. Let us evaluate prediction number two.

The second prediction is that there should be predicates in which there is no object-to-event mapping, but there is accusative case. Stative predicates show that this prediction is borne out, for as we saw in Chapter 2, there is no object-to-event mapping in statives. These data are repeated below in (55).

(55)   a.  John owned **stereo equipment/a T.V.**    for a month.
       b.  John knew **gaming software/the answer**  for a while.


As argued in Chapter 2, these stative predicates lack AspP in their syntax. This explain the lack of object-to-event mapping (55), as well as the lack of SSE interpretation and the inability to participate in the *do so* construction noted in Chapter 2. Nevertheless, the internal argument here is in accusative case. Prediction two is borne out. Telicity can be present without accusative case and accusative case and can present without telicity.

The patterns we have seen with the unaccusatives, passives and statives are not expected in a language in which there is a direct syntactic relation between case and aspect. Thus, we can conclude that there is no direct syntactic relation between case and aspect in English. Let us consider Finnish.

*4.2.3 Accounting for Finnish Case and Aspect*

If there is a direct syntactic relation between case an aspect in Finnish, then we do not expect to find the same patterns in passives, unaccusatives and statives in Finnish that we find in English.[26]   Consider the active-passive pair in (56) and the unaccusatives in (57) first.[27]

(56)   a.  Hän luki      kirjan.
           s/he read.PST book.ACC
           'S/he read the book (and finished it).'


       b.  Kirja       luettiin.
           book.NOM was-read
           'The book was read (and finished).'

---

[26] Note that Kiparsky (1998) argues for a notion of boundedness that regulates the case patterns in Finnish. He explicitly claims that boundedness is not telicity. If this is true, then Finnish is not an example of a language in which there is a direct relation between case and aspect. Nevertheless, I still provide a discussion of Finnish case and aspect as a way to understand why the conclusion might be drawn that there is a direct relation between case and aspect.

[27] Examples in (56) taken from Pereltsvaig (2000). The example in (57a) is taken from Henänämaki (1984). The example in (57b) is from Kiparsky (1998).

(57)  a.  Vieraat      saapuivat
         guests-nom. arrived
         'The guests arrived.'

      b.  Karhu-t      kuol-i-vat.
         bear-Pl**Nom** die-Pst-3Pl
         'The bears died.'

The internal argument is in accusative in the active construction (56a) and the predicate is interpreted as describing a telic event. In the passive counterpart in (56b), the derived subject is in nominative and the predicate is still interpreted as describing a telic event. This is the same pattern as English. Observe also that the derived subjects of the unaccusatives in (57) are in nominative as well. These patterns are not expected from a language in which there is a direct syntactic relation between case and aspect. Now consider statives in Finnish (58).[28]

(58)  a.  Omist-it **nämä     talo-t**       vuode-n (*vuode-ssa)
         Own-2sg **theseAcc house-PlAcc** year-Acc (year-Iness)
         'You owned these houses for a year (*in an year).'

      b.  Tunnen **hänet**   hyvin epätäydellisesti.
         I-know  **her-acc**. very  incompletely
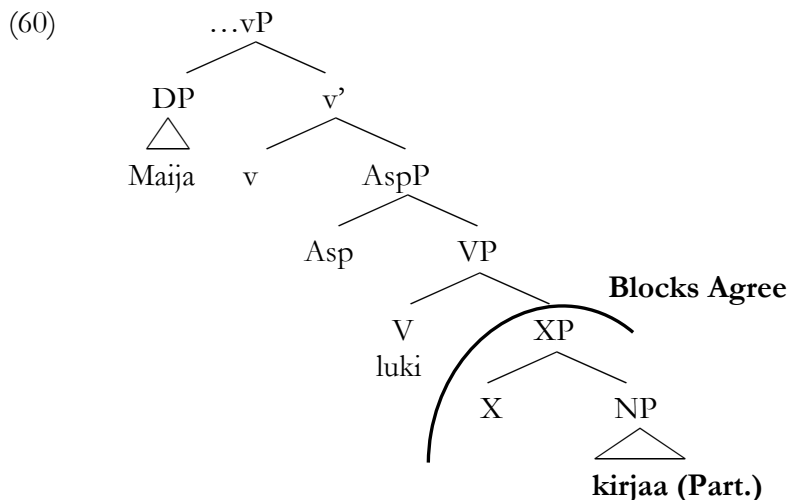         'I know her very incompletely.'

Just as in English, these stative predicates are atelic, and the internal arguments surface in accusative case. The case patterns of the stative predicates (58) and of the passive and unaccusatives (59) in Finnish strongly suggest that case and aspect in Finnish are independent syntactic relations as in English.

To account for the apparent case-aspect relation observed above in (45) from Finnish, I propose the structure in (59) for the *telic-accusative* sentences in Finnish.

(59)



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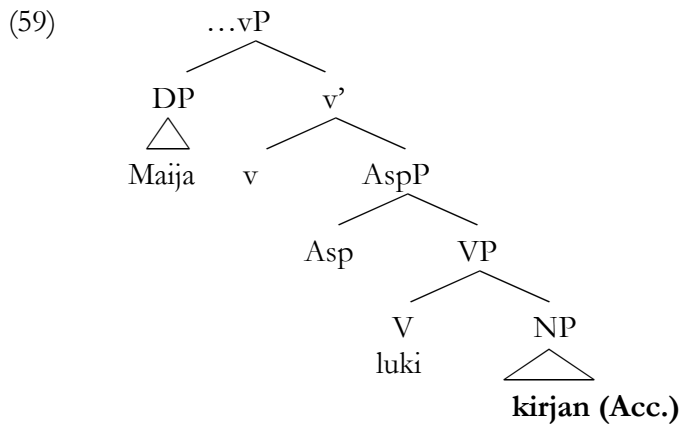
[28] The example in (58a) is from Kiparsky (1998:283). The example in (58b) is from Henämäki (1984:165)

I assume that accusative case is assigned via Agree with v° (Chomsky 2001). In the structure in (59) the internal argument can freely Agree with v°. Given the structural proximity of v° to Asp°, there is no syntactic reason why the internal argument cannot Agree with Asp° as well. Thus, I assume that when accusative case appears on the internal argument, the internal argument NP can Agree with Asp° and does so, valuing it such that the predicate is interpreted as telic. The structure I propose for the *atelic-partitive* constructions of Finnish is given in (60).[29]

(60)

```
            …vP
          /      \
        DP        v'
        △       /    \
      Maija    v     AspP
                   /      \
                 Asp       VP
                         /    \      Blocks Agree
                        V       XP
                       luki    /   \
                             X     NP
                                   △
                              kirjaa (Part.)
```

I assume that the argument in partitive is the complement of a null X° that is in turn a complement of the verb. I assume that this null X° is responsible for partitive case on *kirjaa*. With respect to aspect, I assume that the null XP blocks Agree with Asp°. Minimally, the NP *kirjaa* does not Agree with v°, otherwise it would surface with accusative case; thus, it is likely that it cannot Agree with Asp° either. I assume that the extra structure blocks these Agree relations. Consider sentences in English that have a similar structural configuration with the same aspectual result (61).[30]

(61)  a.  John complained to his boss       for an hour.
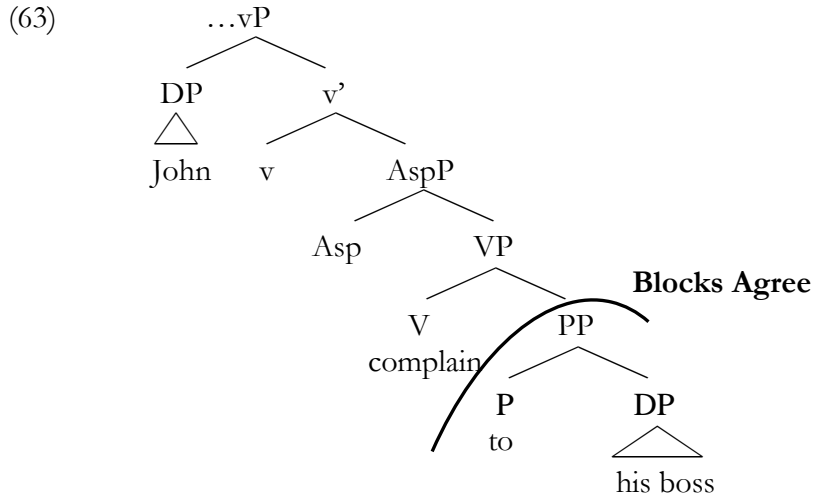      b.  Fred talked to his buddy          for an hour.

The NPs *boss* and *buddy* are [+q]NPs; regardless, the predicates are interpreted as atelic. This is especially telling considering that the presence of a goal preposition typically results in a telic interpretation of the predicate in which it surfaces, as we have seen. Observe another fact about the data in (61); they cannot take internal arguments, regardless of the presence of the goal phrase. This is illustrated in (62).

(62)  a.  John complained (*his pay) to his boss.
      b.  Fred talked (*the story) to his buddy.

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[29] Schmitt (1996) makes a similar proposal, assuming that X° here is P°, although she still assumes a direct relation between case and aspect.

[30] Thanks to Bill McClure for pointing these data out to me and for a discussion of them as well.

I assume that the overt prepositional phrase here has the same blocking effect as the null XP in the Finnish partitive constructions and I propose the structure in (63) to account for the sentences in (61) from English.

(63)

```
                ...vP
               /    \
            DP        v'
            △        /  \
          John      v    AspP
                        /    \
                     Asp      VP
                            /     \         Blocks Agree
                          V        PP
                       complain   /  \
                                 P    DP
                                 to   △
                                    his boss
```

The parallel syntactic configuration resulting in the same aspectual effect lends support to the proposal that the overt PP in English and the null XP in Finnish blocks Agree with Asp°. The result of this blocking is that there is no NP to Agree with Asp°. If no NP Agrees with Asp°, I assume that Asp° receives a default value and the predicate is interpreted as atelic (see the discussion in Ch. 3). Observe that when there is no internal argument present in English, the predicate is interpreted as atelic (64).

(64)  a.  John ate        for an hour.
      b.  John danced    for an hour.

Given these patterns, I conclude that the extra structure in Finnish is responsible for the atelic interpretation of the predicate. I also assume that this extra structure is the source of partitive case as well. This entails that partitive case in Finnish is not structural (cf. Borer 2005). If partitive is not structural, we might expect that an NP that is in partitive can remain in partitive even after movement. Passive-active pairs and unaccusatives show that this expectation is met. They are illustrated in (65-66) respectively.

(65)  a.  Hän luki        **kirjaa**.[31]
          s/he read.PST **book.PART**
          'S/he read the book (for a while).'

      b.  **Kirjaa**       luettiin.
          **book.PART**  was-read
          'The book was read (for a while).'

---

[31] Example in (65) taken from Pereltsvaig (2000).

(66)   a.  **Vieraita**     saapuivat.[32]
           **guests-part**. arrived
           'Guests arrived.'

       b.  **Karrhu-j-a**   kuol-I
           **bear-PlPart** die-pst-3Sg
           'Bears died.'

The derived subjects of passives and unaccusatives in Finnish can remain in partitive. This suggests that partitive is a non-structural case and lends further support to the structure in (60) proposed to account for the Finnish partitive construction.

I have argued that case and aspect are independent syntactic relations. Case is a relation between DP and v° (Chomsky 2001) and aspect is a relation between NP and Asp°. This conclusion does not entail that there is no relation at all between case and aspect. For if we assume that the presence of accusative case indicates a specific syntactic position in the verb phrase, then the presence of accusative case on a particular argument can indicate which argument is in this syntactic position. Given that the argument in this syntactic position enters into the object-to-event mapping with the predicate, accusative case can indirectly be related to the aspectual interpretation of the predicate. However, this case-aspect relation is at best indirect, for, as we saw above, the object-to-event mapping can still be present even though accusative case is not. Thus, while there is an indirect relation between the presence of accusative case and the argument that participates in the object-to-event mapping, case and aspect are still independent syntactic relations. This is another example of the autonomous nature of inner aspect.

## 4.3 Chapter Recap
In this chapter I have discussed the autonomous nature of the aspectual system. We have seen that semantically, aspect is independent from the lexical meaning of the predicate. More specifically we have seen that based on the lexical meaning of a verb or preposition, we cannot predicate whether that verb or preposition will be associated with an event feature or not. Additionally, we have seen a syntactic way in which aspect is autonomous: aspect and case are independent syntactic relations. Inner aspect is highly autonomous.

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[32] Example in (66a) taken from Henämäki (1984). Example in (66b) taken from Kiparsky (1998).

# Chapter 5
# Parametric Variation and Inner Aspect

In this chapter I explore a natural way for language variation to occur within the bounds of the system of aspect developed here. I claim that one macro difference between aspectual systems of distinct languages derives from the presence or absence of AspP in its syntactic inventory. Within a minimalist approach, the presence of a functional projection in one language and its absence in another is one solution to language variation (Sanz 2000, Thráinsson 1996). Languages like English, Spanish, and Finnish have an aspectual projection between vP and VP, while a language like Russian (and other Slavic varieties more generally) does not. The most obvious effect is that a language that lacks AspP lacks the object-to-event mapping as well; that is, the [+/-q] nature of the internal argument will not affect the aspectual interpretation of the predicate. Additionally, BPs will not elicit an SSE interpretation. In this case, the only syntactically relevant elements for the calculation of the aspectual character of a predicate are event features.

There are also micro differences among languages that project AspP. Variation comes in the form of the presence or absence of an event feature associated with a lexical head (see Sanz 2000, Beck 1995, and Beck and Snyder 2000 for similar approaches to language variation). That is, in one language a particular verb may be associated with an $<\_e>$ feature, while in another language the same verb may not be associated with an $<\_e>$ feature. The same goes for P° and Asp° itself. I discuss this type of variation focusing on Spanish, French and English.

The structure of this chapter is the following: In 5.1, I consider what a language should look like if it lacks an AspP projection given the range of properties associated with its presence. I put forth Russian as an example of such a language.[1] In 5.2, I consider the aspectual behavior of particular verbs and prepositions across different languages and suggest that they can be accounted for by being associated with an $<\_e>$ feature in one language and by not being associated with it in another.

## 5.1 Lack of AspP

Given the system of aspect developed in Chapter 3, there are two specific consequences expected from the absence of AspP in the syntax of a predicate: 1. There should be no object-to-event mapping, because there is no Asp° with which to Agree; and 2. BPs should not trigger an SSE (sequence of similar events) interpretation, because there is no Spec,AspP to raise to. Additionally, note that since there is no AspP, there is no domain of aspectual interpretation either. I take this to mean that there can be no underspecified event features. Event features will all only be specified as $<ie>$ or $<fe>$; there are no $<\_e>$.

Before discussing the aspectual facts of Russian, I should note that I will be continuously drawing comparisons between the aspectual interpretation of verbs in the imperfective

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[1] In general, other Slavic varieties show the same pattern as Russian. I assume the same analysis for Slavic more generally.

simplex form and in the prefixed perfective form. In Russian it has been argued that there are two types of prefixes (Babko-Malaya 1996, Svenonius 2004a, 2004b among others): superlexical and lexical prefixes. They exhibit linguistic differences. For example, the meaning of a superlexical prefix added to an imperfective stem is more compositional than the meaning of a lexical prefix (Babko-Malaya 1996, Svenonius 2004a, 2004b). Additionally, superlexical prefixes do not require the presence of an internal argument in the syntax when present, while lexical prefixes do (Babko-Malaya 1996, Svenonius 2004a, 2004b). For more details of the differences, see Babko-Malaya (1996), Svenonius (2004a, 2004b) among others. I am only concerned with lexical prefixes in this discussion. Therefore, when I refer to a verb in the perfective form, I refer to a verb that has been perfectivized by the addition of a lexical prefix only, unless otherwise explicitly noted.

*5.1.1 No AspP in Russian*

The first expectation from the lack of AspP in the syntax of a predicate is that there is no object-to-event mapping. That is, no Agree with Asp° takes place. This means that a predicate should be telic or atelic independently of the [+/-q] feature of the internal argument NP. Consider the sentences in (1) below which contain a verb in the imperfective.

(1) a.  Ja pil       butylku vina/vino      **\*za čas/v tečeniji časa**.
         I drank-imp. a-bottle of-wine/wine **\*in  hour/during hour**
         'I drank a bottle of wine/wine in an hour/for an hour.'

   b.  Mary čitala    knigu/poèziju    **\*za čas/v tečeniji časa**.
       Mary read-imp. a book/poetry    **\*in  hour/during hour**
       'Mary read a book/poetry in an hour/for an hour.'

   c.  Fermer    tasčil      brevno/drova   v    ambar   **\*za čas/v tečeniji časa.**
       The farmer dragged-imp. the log/firewood into the barn **\*in  hour/during hour**
       'The farmer dragged the log/wood into the barn in an hour/for an hour.'

Regardless of whether the internal argument has a [+/-q] feature, these sentences are interpreted as describing atelic events. (Svenonius 2004 cites Vitkova 2004 who makes the same observation for Bulgarian.) Observe that the durative phrase is compatible, but the time span adverbial is not (Smith 1991, Szucsich 2002 observe this, among others). Only an atelic interpretation is available when the verb is imperfective. For example, in (1a) the bottle of wine was not drunk in its entirety, and in (1b) the book was not read in its entirety.[2] The atelic interpretation arises because there is no endpoint to the events described by predicates in which the verb is in the imperfective form.[3] The imperfective form of the verb in Russian

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[2] Note also that there is an habitual interpretation available as well (Filip 2000, Szucsich 2002). I assume that the availability of an habitual interpretation results from extra-aspectual properties of the predicate. A discussion of these properties would take us beyond the scope of the chapter. Filip (2000) also notes that there is an iterative interpretation available in the imperfective in 'a suitable context'(ibid:41). I assume that this is not an SIE interpretation and can only occur within the scope of a habitual interpretation.

[3] Wierzbikcka (1967:2237) notes for Polish that "In a sentence with an imperfective verb the object is treated as an endless 'continuum', as a 'substance without form'."

describes an atelic event (Svenonius 2004, Szuscich 2002 and Filip 1999 for Czech). Compare the data in the imperfective from (1) to the data in the perfective in (2).

(2) a.  Ja vypil        butylku vina/vino  **za čas/*v tečeniji časa**.
        I drank-perf. a-bottle of-wine/win **in hour/*during hour**
        'I drank a bottle of wine/wine for an hour.'

   b.  Mary pročitala    knigu/poetry      **za čas/*v tečeniji časa**.
        Mary read-perf. a book/poetry     **in hour/*during hour**
        'Mary read a book/poetry for an hour.'

   c.  Fermer        pritasčil        brevno/wood v    ambar  **za čas/*v tečeniji časa**.
        The farmer dragged-perf. the log/wood into the barn  **in hour/*during hour**
        'The farmer dragged the log/wood into the barn for an hour.'

Observe that it shows the opposite pattern from the imperfective with respect to the compatibility of the durative phrase and the time span adverbial. The perfective is compatible with the time span adverbial and incompatible with the durative phrase (see also Smith 1991, Szucsich 2002 among others).[4] Note that no SIE interpretation is available as in English. The time span adverbial expresses the amount of time that passes before the event ends. This entails that the events described by these predicates are interpreted as having an endpoint. Predicates in which the verb arises in the perfective form are interpreted as telic (see also Filip 1999 for Czech), because there is an end to the event that they describe.[5]

To recap the facts in (1), regardless of the presence of a [+q] internal argument (e.g. *bottle of wine, a book*) or a [–q] internal argument (e.g. *wine, poetry*), the durative phrase is consistently incompatible while the time span adverbial is consistently compatible. The predicate is interpreted as atelic regardless of the [+/-q] feature of the internal argument. Likewise in (2), regardless of the presence of a [+/-q] internal argument, the durative phrase is consistently incompatible while the time span adverbial is consistently compatible. The predicate is interpreted as telic regardless of the [+/-q] feature on the internal argument. The data in (1-2) strongly suggest that there is no object-to-event mapping in Russian. This follows if we assume that there is no AspP in the Russian verb phrase.

If there is no AspP in Russian, we are led naturally to another expectation: BPs should not elicit an SSE interpretation when present in these sentences. Consider the interpretation of a predicate in which the verb is in the imperfective form and there is a BP internal argument (3).

(3) a.  Mary jela      jabloki.
        Mary ate-imp. apples
        'Mary ate apples.'

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[4] Filip (2000) notes that *na*, a so-called perfective prefix, allows the durative phrase. One wonders if *na* in this case should be treated as a lexical prefix at all. See Szucsich (2002) for a possible explanation of this pattern.

[5] If fact in Chapter 3, I claim that there must be a beginning and end to the event described by a predicate for there to be a telic interpretation of the predicate. I assume that this is true here as well. I discuss the formal properties of perfectives and imperfectives below.

b. Mary čitala    knigi.
   Mary read-imp. Books
   'Mary read books.'

There does seem to be an iterative interpretation available. I claim that this results from the vague denotation of the MN interpretation of the BP. For although there seems to be an iterative interpretation available, there is also a group interpretation available in which the apples were being eaten all at once (3a), (perhaps a bite from one followed by a bite from another), and in which the books are all read at once (3b) (they could have all been laying open on a table and Mary read a paragraph from one followed by a line from another, etc.).[6] Additionally, recall that for an SSE interpretation, the predicate must be telic, and as we just saw, predicates in imperfective in Russian are atelic. Thus, I conclude that there is no SSE interpretation available for BPs in Russian.

If a BP in Russian is to elicit an SSE interpretation, then we expect it to do so in a perfective predicate. Consider the interpretation of the BP internal arguments in predicates in which the verb is in the perfective form (4).

(4) a. Mary sjela    jabloki.
       Mary ate-perf. apples
       'Mary ate apples.'

    b. Mary pročitala   knigi.
       Mary read-perf. books
       'Mary read books.'

The only interpretation available for a BP internal argument in the perfective form is a group interpretation. They are best understood as *the apples* (4a) and *the books* (4b).[7] That is, no SSE interpretation is available. If there is no AspP projection, there is no Specifier position for a BP to move into and elicit an SSE interpretation.[8] Thus, I take the lack of SSE interpretation in telic predicates in the presence of a BP internal argument as evidence that Russian does not project AspP.

The data from (1-2) and (3-4) strongly support the conclusion that there is no AspP projection in the syntax of a Russian predicate. Given the lack of AspP and given the system of aspect developed in Chapter 3, we are left only with event features to calculate the aspectual interpretation of a predicate.

*5.1.2 Event Features in Russian*

If Russian has event features, like English, the same tools to target these events features should also be available. That is, event structure modifiers should interact with these event features. Furthermore, since there is no AspP in Russian, there can be no $<\_e>$ features. The inventory of event features in Russian is $<ie>$ and $<fe>$. I assume the same interpretation of

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[6] Along similar lines, Wierzbicka (1967:2239) notes for BP internal objects of imperfective verbs in Polish that they are "innumerable and ummeasurable."

[7] Asya Pereltsvaig (p.c.). Wierzbicka (1967) also notes this for Polish.

[8] Note also, that if there is no AspP, there is no aspectual domain in which a BP can bind a variable to elicit the SSE interpretation.

these event features as in English. When $<ie>$ is present in the predicate, the event described by the predicate is interpreted as having a beginning. When $<fe>$ is present in the predicate, the event described by the predicate is interpreted as having an end. Additionally, the c-command relation between the heads bearing these event features determines whether or not time is interpreted to pass between the beginning and the end of the event.

To uncover event features in English, we used three event structure modifiers: *almost*, *it takes x-time* and the *stop* control construction. For locating the event features in the Russian predicates, I use the Russian counterparts of *almost*, and the *stop* control construction. I also use the time span adverbial, and what I term the *needs* control construction. Based on the interpretation of these event structure modifiers, we will see that Russian imperfective verbs behave aspectually like English activities; they have only an $<ie>$ feature present in the syntax. Russian perfective verbs behave aspectually like English achievements (cf. Babko-Malaya 1996, Filip 2000 among others who claim that Russian perfective forms can form accomplishment predicates) in that an event feature configuration is merged on a single head. Russian perfectives differ aspectually from English achievements by projecting $<fe>$ to the XP level on which the head is merged, and not $<ie>$ as in English.[9]

### 5.1.2.1 'Almost' in Russian

Consider the interpretation of *počti* 'almost' with verbs in the imperfective form (5).

(5) a.  Ja **počti** pil        butylku vina.
     I almost drank-imp. a-bottle of-wine
     'I almost drank a bottle of wine.'

   b.  Mary **počti** čitala       knigu.
     Mary almost read-imp. a book
     'Mary almost read a book.'

   c.  Fermer       **počti** tasčil        brevno v     ambar.
     The farmer **almost** dragged-imp. the log  into the barn
     'The farmer almost dragged the log into the barn.'

The only interpretation available is a counterfactual interpretation. (5a) can only mean that no amount of wine was drunk from the bottle at all. (5b) can only mean that no amount of the book was read at all. (5c) can only mean that no dragging of the log took place at all. That only the counterfactual interpretation is available even with the addition of the goal phrase suggests that the goal phrase does not play any aspectual role (5c), that the goal phrase does not introduce an $<fe>$ feature (see Beck and Snyder 2000 and Snyder 1995 for a similar conclusion). Consider the interpretation of *počti* 'almost' with perfective verbs (6).

(6) a.  Ja **počti** vypil        butylku vina.
     I almost drank-imp. a-bottle of-wine
     'I almost drank a bottle of wine.'

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[9] A natural question arises as why $<fe>$ projects in Russian perfectives and why $<ie>$ projects in English achievements. I offer a possible answer based on a Hale and Keyser (1993) style lexical derivation in section 5.1.2.4.

b. Mary **počti** pročitala knigu.
Mary almost read-imp. a book
'Mary almost read a book.'

c. Fermer **počti** pritasčil brevno v ambar.
The farmer **almost** dragged-perf. the log into the barn
'The farmer almost dragged the log into the barn.'

With perfective verb forms, only an incompletive interpretation is available. (6a) can only mean that the bottle of wine was started, but that is was not completely drunk. (6b) can only mean that the book was started, but was not completely read. (6c) can only mean that the dragging of the log began, but no part of the log entered the barn.[10]

The facts of interpretation with *počti* 'almost' suggest that in the imperfective form, verbs have an <*ie*> that projects to an XP level with which it can Agree, and modify the beginning of the event. Perfective verb forms, on the other hand seem only to have an <*fe*> that projects to an XP level with which *počti* can Agree and modify the end of the event.

*5.1.2.2 The 'stop' Control Construction in Russian*

Observe a well known set of facts about Russian aspect (and Slavic aspect in general) in (7-8).

(7) a. Mary perestala jest' jabloko.
Mary stopped eat-imp apple
'Mary stopped eating the apple.'

b. Mary perestala čitat' knigu.
Mary stopped read-imp the book
'Mary stopped reading the book.'

c. Mary perestala pit' pivo.
Mary stopped drink-imp beer
'Mary stopped drinking the beer.

(8) a. *Mary perestala sjest' jabloko.
Mary stopped eat-perf apple
'Mary stopped eating the apple.'

b. *Mary perestala pročitat' knigu.
Mary stopped read-imp the book
'Mary stopped reading the book.'

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[10] The interpretation of *počti* 'almost' in the sentences with *v*, translated as 'into', is different from the English examples with *into*. The goal phrase in (5c) and (6c) is behaving more like English *to*. Observe that in *John almost drove the car to the garage*. on a counterfactual interpretation no driving took place at all, and on an incompletive interpretation driving took place but no part of the car made it to the garage. This results from the lexical semantic contribution of the goal preposition itself. Russian *v* behaves like English 'to' with respect to the interpretation of *počti* 'almost'.

c. *Mary perestala vypit' pivo.
   Mary stopped drink-imp the beer
   'Mary stopped drinking the beer.

Only imperfective verbs are compatible in the *stop* control construction (see Schoorlemmer 1994 and Smith 1991 for Russian, and Filip 1999 for Czech). This suggests that only in the imperfective is an <*ie*> feature visible for modification.

### 5.1.2.3 The 'needs' Control Construction in Russian

Consider another construction in Russian that I refer to as the *needs* control construction (9-10).[11]

(9) a. *Mary nužno 10 minut  čtoby jest' jabloko.
      Mary needs 10 minutes that  to-eat the apple
      'Mary needs ten minutes to eat an apple.'

   b. *Mary nužno 10 minut  čtoby chitat' knigu.
      Mary needs 10 minutes that  to-read the book
      'Mary needs ten minutes to read the book.'

(10)  a. Mary nužno 10 minut  čtoby sjest' jabloko.
         Mary needs 10 minutes that  to-eat the apple
         'Mary needs ten minutes to eat an apple.'

      b. Mary nužno 10 minut  čtoby prochitat' knigu.
         Mary needs 10 minutes that  to-read  the book
         'Mary needs ten minutes to read the book.'

In this construction we find the opposite pattern from the *stop* control construction: when the infinitival complement is in imperfective, the sentence is ungrammatical (9), and when the infinitival complement is in perfective the sentence is grammatical (10).[12] It seems that *need* in the *need* control construction in Russian Agrees only with an XP<*fe*>. If we make the assumptions that there is an <*ie*> present in the syntax of an imperfective verb form in Russian that projects to an XP level, and that there is an <*fe*> present in the syntax of a perfective verb form in Russian that projects to an XP level, we can explain the range of facts just discussed. The *stop* in a *stop* control construction Agrees only with an XP<*ie*>, while the *need* in a *need* control construction only Agrees with an XP<*fe*>.

### 5.1.3 The Syntax of Russian Lexical Prefixes

Considering the range of facts discussed above, the natural proposal for the minimal syntactic aspectual structure of a verb in the imperfective form in Russian is given in (11), in which there is a single <*ie*> feature which I assume is introduced on big V.

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[11] Thanks to Roksolana Mykhaylyk for drawing my attention to this construction in Russian.

[12] There does seem to be some variation with respect to the grammaticality of the imperfective infinitival form. For some, it is grammatical and elicits an interpretation in which a certain amount of time is needed before the event begins. This variation is consistent with the assumption that in the imperfective verb forms in Russian, there is an <*ie*> feature that projects to an XP level.

(11)
```
        vP
       /  \
      v    VP₍ie₎
           /  \
          V    (XP)
         <ie>
```
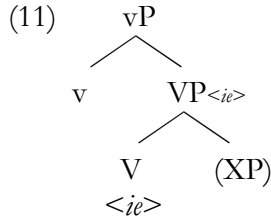
     This event feature is most likely introduced on big V because it is the minimal amount of verbal structure necessary for a verb phrase to be present in the syntax.[13] As in English, the *<ie>* feature projects and allows *počti* 'almost' and *perestat'* 'stop' to Agree with VP*<ie>*, modifying the beginning of the event.

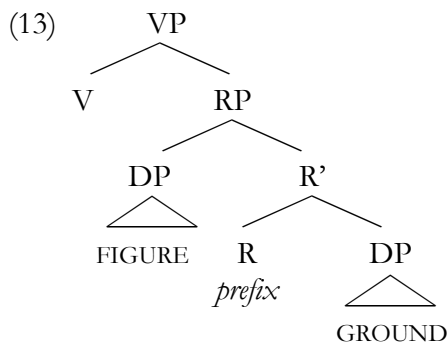     Following the assumptions from the system developed in Chapter 3, there must be two event features present in order for the predicate to be interpreted as telic. However, as just discussed, the *almost* interpretation and the *needs* control construction facts support the presence of only an *<fe>* feature in the syntax. Nevertheless, given the discussion on English achievements from chapter 3, I assume that an *<ie>* feature is also present. If this assumption is correct, then *<ie>* and *<fe>* must be in a configuration such that only *<fe>* is visible for Agree with *almost* and *needs*. These requirements point to an event feature configuration parallel to that found in achievements in which only one of the event features projects to the XP level. Therefore, I propose that a predicate in Russian in which there is a perfective verb as a result of the presence of a lexical prefix has the minimal syntactic aspectual structure shown in (12).

(12)
```
        vP
       /  \
      v    VP₍fe₎
           /  \
          V    XP…
        <fe>
         / \
      <ie> <fe>
```
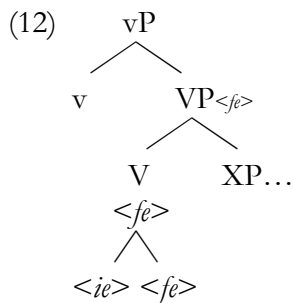
     Now consider a simplified version of the structure proposed for lexical prefixes in Svenonius (2004a) in (13).

(13)
```
           VP
          /  \
         V    RP
             /  \
           DP    R'
          /\    /  \
    FIGURE  R      DP
          prefix   /\
               GROUND
```

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[13] Additionally, it seems natural that aspectual interpretation of the predicate is not dependent on the presence of little v or any of its properties, given the discussion from Chapter 3.

Svenonius (2004a) proposes that these lexical prefixes are introduced as the head of a result phrase that is the complement of the verb. He puts the abstract notions FIGURE and GROUND in the predicate as a way to appeal to the historical development of these prefixes. Slavic prefixes in general are derived from spatial prepositions, and in many cases often retain similar meanings (Filip 1999, 2000, Svenonius 2004a and references therein). In many other cases, nevertheless, a non-compositional idiosyncratic meaning results. This can be seen in the partial list from Svenonius (2004a:214) below in (14).[14]

(14)  a.  iz-pravitj
          *out.of-drive*
          'repair'

      b.  pod-pravitj
          *under-drive*
          'correct'

      c.  pri-pravvitj
          *by-drive*
          'spice'

      d.  ot-pravitj
          *away-drive*
          'send'

      e.  v-pravitj
          *in-drive*
          'set'

The low merger of the RP to the verb accounts for the idiosyncratic interpretations in the presence of prefixes. His intuition appeals to Marantz's (1984) observations that only elements local to the verb can contribute to idiomatic interpretation.

Moreover, by proposing a structure similar to that in (13) he draws a parallel to the structure of English verb-particle constructions proposed in Ramchand and Svenonius (2002) in which the abstract notions FIGURE and GROUND, and an RP, play an important role.[15] In this way, Slavic prefix constructions are brought in line with verb particle constructions.

Svenonius (2004a) draws another parallel between verb particle constructions and the Slavic verbal prefixes. These are cases in which the presence of a particle forces the presence of another argument (15).[16]

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[14] Svenonius (2004a) bases this list on Matushanksy (2002).

[15] Svenonius (2004a) assumes that RP is a result phrase with result semantics as proposed in Ramchand (2003). The nature of the phrase of which the prefix is a head is not important for the present discussion as will become clear below.

[16] Example in (15) from Svenonius (2004a:217).

(15)  a.  Ivan wrote a letter.
      b.  Ivan wrote up *(a letter).

In Russian there are cases in which the presence of a prefix forces the presence of another argument. This is shown by the Russian data in (16-18) from Babko-Malaya (1996:21)

(16)  a.  Ivan stroil      (ploščadku).
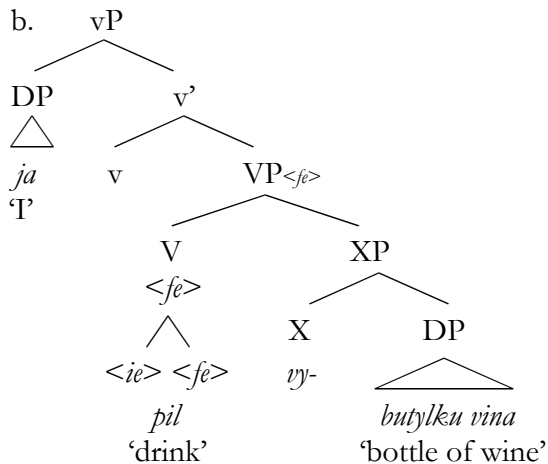          Ivan built-imp. (area)
          'Ivan was building an area.'

      b.  Ivan zastroil  *( ploščadku).
          Ivan built-per. (area)
          'Ivan built up an area.'

(17)  a.  Ivan pisal      (pis'mo).
          Ivan wrote-imp. (letter)
          'Ivan was writing a letter.'

      b.  Ivan napisal    *(pis'mo).
          Ivan wrote-perf.  (letter)
          'Ivan wrote a letter.'

The minimal aspectual structure I proposed in (12) accounts for the aspectual properties surrounding the Russian prefix. The structure proposed by Svenonius (2004a) in (13) accounts for the non-aspectual properties surrounding the Russian prefix. To accommodate this range of aspectual and non-aspectual facts, I propose that the structure for an sentence with a perfective verb in Russian as the one in (18a) is as in (18b).

(18)  a.  Ja vypil       butylku  vina.
          I  drank-perf. a-bottle  of-wine
          'I drank a bottle of wine.'
      b.      vP
           ╱    ╲
         DP      v'
         △     ╱   ╲
         ja   v     VP<fe>
         'I'      ╱      ╲
               V          XP
             <fe>       ╱    ╲
             ╱ ╲      X      DP
        <ie> <fe>    vy-     △
           pil           butylku vina
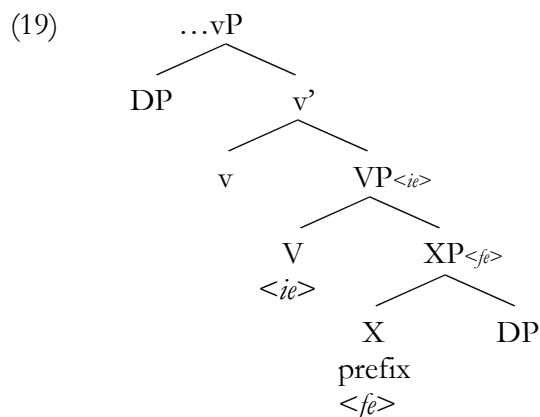         'drink'        'bottle of wine'

As the structure in (18b) shows, following Svenonius (2004a), I assume that there is some phrase of which the prefix is the head. I have labeled this phrase XP as its label is

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independent of the present discussion of aspect.[17] I assume that the presence of the phrase is responsible for any lexical semantic idiosyncratic contribution that results from the presence of the prefix (see 14 above). Additionally, I assume that the phrase itself requires an argument, which accounts for the obligatory presence of another argument in the presence of a lexical prefix (see 16-17 above). Furthermore, I assume that the prefix has an affixal feature that requires it to move to V, resulting in the correct morpheme order.[18]

I assume that the $<\!fe\!>$ feature which is responsible for the resulting telic interpretation of the predicate is not directly introduced by the prefix itself. As noted above, and in line with the assumptions about English achievements, I claim that the feature complex on the head of V in (21b) is formed before entering syntax, is associated with the verb and then merged with the structure. Recall that in English achievements only the event feature that projects to the XP level is syntactically active. I assume the same thing here for the Russian perfective forms, which entails that only $<\!fe\!>$ is syntactically active. This is why only $<\!fe\!>$ projects to the VP level. Furthermore, I claim that big V with an $<\!fe\!>$ on it selects for the XP of which the prefix is a head. That is, the XP with the prefix as a head needs to be selected by a V$<\!fe\!>$. Thus, every time the prefix is present, the event feature will be present as well, resulting in a telic interpretation of the predicate.

Given that the relation between the presence of the Russian prefix and the $<\!fe\!>$ feature that induces the telic interpretation of the event is not a direct one in the proposal I have made in (18b), let us explore two other alternatives: 1. The $<\!fe\!>$ feature is introduced by the prefix on the head of the null X°; and 2. The prefix itself is introduced on big V° (either syntactically or lexically) already bearing the event feature configuration itself.

If we assume that the prefix itself introduces the $<\!fe\!>$ into the syntax on the head of X° the resulting structure would be as in (19) below.

(19)

```
              …vP
            /     \
          DP       v'
                 /    \
               v       VP<ie>
                     /     \
                    V       XP<fe>
                   <ie>    /     \
                          X       DP
                        prefix
                         <fe>
```

I focus on two problems that result from the structure in (19) both related to the event feature incorporating into V which introduces an $<\!ie\!>$ feature.[19] The first obvious problem

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[17] Svenonius (2004a) labels it RP and assumes that it has result semantics following Ramchand (2003).

[18] Svenonius (2004a) recognizes the head movement option as a possibility. He suggests also a phrasal movement possibility as well. I do not discuss the phrasal movement option here.

[19] There are other problems as well. Why are there not two interpretations given that both event features project? How is the punctual nature of these predicates calculated? I ignore them because they are strictly theory internal problems.

is the resulting configuration between *<ie>* and *<fe>*. Given standard assumptions on incorporation and head movement (Baker 1988), if the event feature moves from a position below *<ie>* and merges with it, *<ie>* should project and not *<fe>*, resulting in the same configuration as English achievements. However, as the *almost*, *stop* control and *need* control constructions in Russian show, this cannot be the configuration of these event features. This suggests that syntactic incorporation is not the correct analysis.

The second problem arises when we consider the implications of an incorporation account. Baker (1988) observes that incorporation does not affect the idiomatic interpretation of an sentence. Thus, the idiomatic interpretation of the non-incorporated sentence in (20a) is maintained in the incorporated sentence in (20b).[20]

(20)  a.  Mphunzitsi a-na-uz-a    atsikana kuti a-tch-e     makutu.
          teacher    SP-PAST-tell  girls     that SP-set-SUBJ ears
          'The teacher told the girls to pay close attention.'
          [*kutcha makutu* 'set the ears (as a trap)' = pay attention]

      b.  Mphunzitsi a-na-tch-ets-a         makutu atsikana.
          teacher    SP-PAST-set-cause-ASP ears     girls
          'The teacher had the girls pay close attention.'

Assuming that the configuration of the event features in Russian results from a lexical process similar to the lexical process resulting in the configuration of the event features of achievements in English, we can test whether or not this resulting event feature complex is the result of incorporation or not. Recall that degree achievements are ambiguous between an achievement interpretation and an activity interpretation, as evidenced by the compatibility of both the durative phrase and the time span adverbial. One example is given below in (21).

(21)      John cooled the water for an hour/in an hour.

Observe that when this same verb is used in an idiomatic construction, the durative phrase is compatible, while the time span adverbial is incompatible (22). That is, only on a non-idiomatic interpretation does the time span adverbial elicit an interpretation.

(22)  a.  John cooled his jets outside    for ten minutes/#in ten minutes.
      b.  John cooled his heels outside   for ten minutes/#in ten minutes.

Recalling the discussion from Chapter 3, the only difference between an activity interpretation and an achievement interpretation is the presence of an *<fe>* feature in the configuration on the same head. If that configuration resulted from syntactic incorporation of the *<fe>* feature into the *<ie>* feature, we might expect that an achievement interpretation would be available without preventing idiomatic interpretation. However, this is not the case. Thus, I conclude that the feature configuration that results from the presence of a prefix in Russian is not from syntactic incorporation of that feature from a lower phrase.

---

[20] These are examples from Chichewa taken from Baker (1988:153).

The second alternative to the structure proposed in (18) is the structure proposed in (23).

(23)

```
            ...vP
           /     \
         DP       v'
                 /  \
                v    VP<fe>
                    /    \
                  V<fe>   DP
                  /  \
              prefix   V
               <fe>
               / \
            <ie> <fe>
```
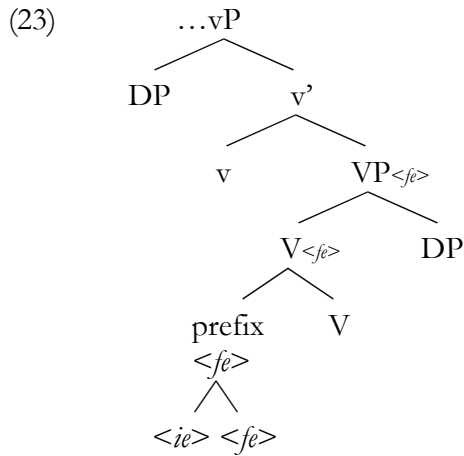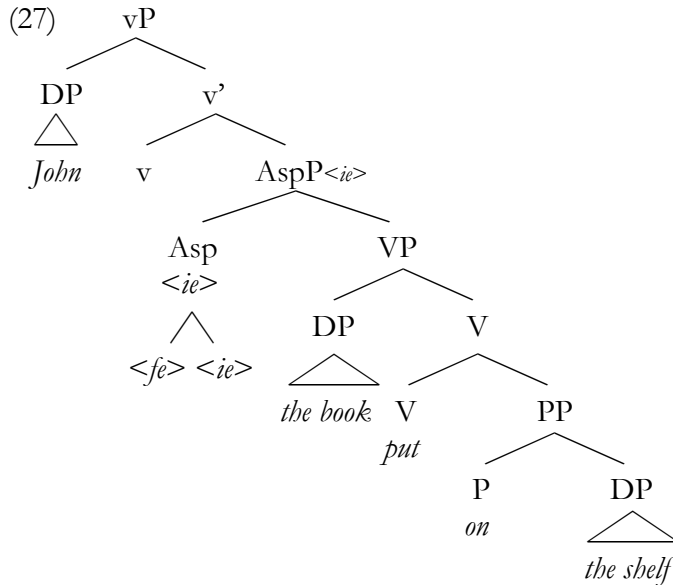
This structure in (23) is intended to represent a case in which the prefix associated with the event feature configuration itself merges onto the head of V. Assuming that the *<fe>* feature can actually project, there is (at least) one potential problem for a structure of this sort. It is not clear that such a configuration is attested anywhere else. In contrast, there do seem to be sentences in English that have a parallel configuration to the one in (18). I refer to them as **PP-achievements**. These are ditransitive structures that are interpreted as achievements. Evidence for their achievement interpretation comes from the presence of the durative phrase in which only an SIE interpretation is available (24), when *almost* is present (25), only a counterfactual interpretation is available in which the object never arrives at the goal, and in the *stop* control construction (26) only an iterative interpretation is available.

(24)  a. John put the book on the shelf      for an hour.
      b. John put the glass on the counter    for an hour.

(25)  a. John *almost* put the book on the shelf.
      b. John *almost* put the glass on the counter.

(26)  a. John stopped putting the book on the shelf.
      b. John stopped putting the glass on the counter.

These ditransitive constructions are reminiscent of PP-accomplishments in which the goal preposition is responsible for the introduction of an *<fe>* feature and the telic interpretation of the predicate. In fact, at some level the preposition in these PP-achievements may very well be responsible for the introduction of the *<fe>* feature considering a Hale and Keyser (1993) lexical derivational approach in which the ditransitives above derive similar transitive predicates with the same aspectual interpretation via incorporation of a P° (e.g. *John shelved the book for an hour. John almost shelved the book. John stopped shelving the book.*). The *<fe>* feature introduced by a P° may incorporate into a structurally higher *<ie>* feature on Asp° in the lexicon resulting in the event feature configuration similar to the one in (27) below.

(27)

```
            vP
          /    \
        DP      v'
        /\     /  \
      John    v    AspP<ie>
             / \   /    \
           Asp    VP
          <ie>   /   \
          /\    DP     V
    <fe> <ie>  /\     /  \
          the book  V     PP
                   put   /   \
                        P     DP
                        on    /\
                          the shelf
```

This is the structure required for these PP-achievements. At some level the preposition may be responsible for the presence of the *<fe>* feature, like the Russian prefix is, although syntactically the relation may not be entirely direct. Given the structure in (27), it is not entirely surprising that the *<fe>* feature in Russian perfectives is not introduced directly by the prefix, as a similar aspectual configuration exists in English. I take this as support for the structure proposed for Russian perfectives in (18).
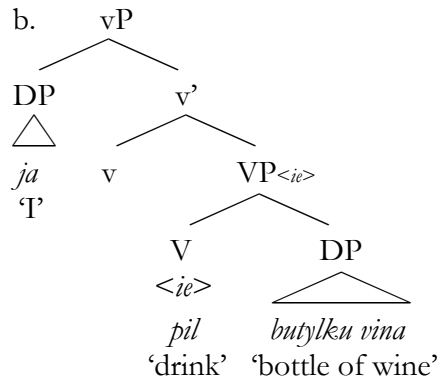
Note that the proposal in (18) can easily extend to Russian perfectives that do not require the presence of a prefix. In this case, V*<fe>* selects for a null XP, which would otherwise be introduced by the prefix. Observe, that as expected, non-prefixed perfectives pattern exactly the same as prefixed perfectives (28).

(28)  a.  Ja **počti** kupil        pivo.
          I  **almost** bought-perf. beer
          'I almost bought a beer.'

      b. *Mary **perestala** kupit'       pivo.
          Mary **stopped**   to-buy-perf. beer
          'Mary stopped buying beer.'

      c.  Mary **nužno** 10 minut    čtoby kupit'       pivo.
          Mary **needs** 10 minutes that  to-buy-perf. beer
          'Mary needed 10 minutes to buy beer.'

In (28a) *počti* 'almost' elicits only a counterfactual interpretation. The *stop* control construction is ungrammatical (28b), while the *needs* control construction is perfectly grammatical.

For the sake of thoroughness the final structure for a Russian imperfective verb as in (29a) is given below in (29b).

(29)  a.  Ja pil        butylku  vina.
          I  drank-imp. a-bottle  of-wine
          'I drank a bottle of wine.'
      b.       vP

```
              vP
             /  \
           DP    v'
           /\   /  \
          /__\ v    VP<ie>
          ja       /    \
          'I'     V      DP
               <ie>      /\
                        /__\
               pil    butylku vina
             'drink'  'bottle of wine'
```

     As concluded above, the Russian simplex imperfective patterns with English activities; as such, it has a single event feature in its syntax, like English activities.

*5.1.4 The Durative Phrase and Time Span Adverbial in Russian*

     Given these articulated structures for the imperfective and perfective verbs, we can begin to make sense of the behavior of time span adverbials and durative phrases in Russian. Both of these modifiers show a slightly different behavior from their English counterparts. The durative phrase seems to be compatible only with an sentence in the imperfective (see Szucsich 2001,2002 among others). This is shown in (30) below.

(30)  a.  Ja pil        butylku vina     **\*za čas/v tečeniji časa.**
          I  drank-imp. a-bottle  of-wine  **in hour/during hour**
          'I drank a bottle of wine in an hour/for an hour.'

      b.  Mary čitala     knigu      **\*za čas/v tečeniji časa.**
          Mary read-imp. a book        **in hour/during hour**
          'Mary read a book in an hour/for an hour.'

      c.  Fermer     tasčil       brevno v   ambar   **\*za čas/v tečeniji časa.**
          The farmer dragged-imp. the log into the barn   **in  hour/during hour**
          'The farmer dragged the log into the barn in an hour/for an hour.'

     The time span adverbial is only compatible with perfectives (see Szucsich 2001,2002 among others).[21,22] This is shown in (31).

---

[21] When imperfectives are interpreted habitually, the time span adverbial is fine (Filip 2000, Szucsich 2002). I ignore the habitual interpretation for the purposes of the present discussion, as I assume a proper treatment of a habitual interpretation goes beyond a discussion of aspect. Additionally, Filip (2005) notes that a secondary perfective is used in these cases as well. The secondary perfective is outside of the scope of the present discussion.

[22] Filip (1999:179) observes that in Czech the time span adverbial is acceptable "if the intended interpretation is inchoative (meaning that the denoted situation started after the indicated time interval)…". It seems like the Czech time span adverbial behaves more like the English time span adverbial than the Russian time span adverbial does.

(31)  a.  Ja vypil       butylku vina      **za čas/*v tečeniji časa.**
          I  drank-perf. a-bottle of-wine  **in hour/during hour**
          'I drank a bottle of wine in an hour/for an hour.'

     b.  Mary pročitala   knigu        **za čas/*v tečeniji časa.**
          Mary read-perf. a book        **in hour/during hour**
          'Mary read a book in an hour/for an hour.'

     c.  Fermer       pritasčil       brevno v    ambar   **za čas/*v tečeniji časa.**
          The farmer dragged-perf. the log into the barn  **in  hour/during hour**
          'The farmer dragged the log into the barn in an hour/for an hour.'

We can account for the behavior of the Russian time span adverbials by assuming, like the English time span adverbial, that it also Agrees with an XP<*xe*>. The difference for the Russian time span adverbial, however, is that it is more restricted than in English. The Russian time span adverbial can only Agree with an XP<*fe*>, while the English time span adverbial can Agree with both an XP<*fe*> and an XP<*ie*>. This explains why the time span adverbial in Russian is only compatible with perfective verbs; only in the perfective form of a verb does an <*fe*> project to the XP level.

As for the durative phrase in Russian, I claim that it can only modify XP<*ie*>.[23] In English, recall that the durative phrase was argued to modify the entire event, and as such was compatible with all aspectual types. In Russian, this is not the case.
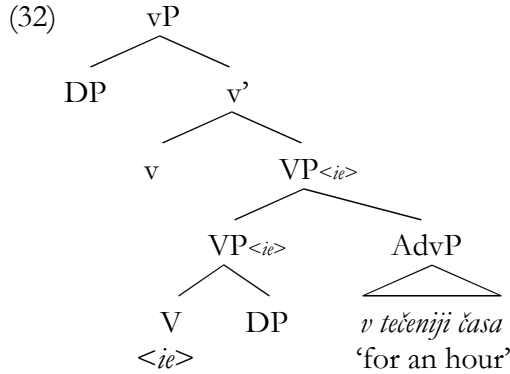
Technically one way to account for the Russian durative is to assume that there is an Agree relation between the durative phrase and an XP<*ie*>, similar to the Agree relation between the time span adverbial and an XP<*fe*> in Russian. However, another approach, more in line with Szucsich's (2002) proposal is that the durative phrase adjoins to the XP that bears the correct feature. Szucsich (2002) claims that there is an AspP projection above vP, and when AspP has a [-pf] (i.e. – perfective) feature the durative phrase can adjoin to it.[24] Furthermore, he assumes that the durative receives accusative case because it adjoins to this aspectual projection that has accusative case to assign (see also Pereltsvaig 2000). In some sense, Szucsich's [–pf] feature corresponds to my <*ie*> feature in the syntax. Thus, if the durative adjoins to the XP with the correct feature, then the durative should adjoin to VP in the system developed here, resulting in the structure in (32).

---

[23] Note that in English there are constructions in which a durative phrase can target the beginning of the event alone (i.e. the <*ie*> feature of the predicate) although the predicate is telic: (i) *John pushed the cart for an hour to the store.* The durative here can express that the pushing of the cart lasted for an hour, after which time the cart was at the store. The durative here has a function parallel to the function of the Russian durative. It is not clear what the structural position that the durative occupies in (i); however, I assume that it is a different durative from the one discussed in Chapter 2 above. I assume that it behaves the same as the Russian durative. Additionally, Alsina (1999) claims that the durative phrase in English can target the initial subevent of a telic predicate in any position. I do not agree with his judgments.

[24] In a similar account, Pereltsvaig (2000) assumes that the durative in Russian merges into the specifier of an aspectual phrase AspP.

(32)

```
              vP
           ╱      ╲
         DP        v'
               ╱       ╲
              v          VP<ie>
                      ╱        ╲
                  VP<ie>        AdvP
                 ╱    ╲        ╱    ╲
                V      DP    v tečeniji časa
               <ie>          'for an hour'
```

Assuming the case assigning mechanisms in Chomsky (2001), in which v° assigns accusative case under a probe goal relation, that durative phrases have accusative case in Russian falls outs from the structural configuration proposed in (32). AdvP is closer to v° than the internal argument DP. Therefore, AdvP is in a position to receive case from v°. Given that it does not have a full set of phi-features, there cannot be a full match between v° and the AdvP, and as such, v° can still act as a probe for DP and assign it accusative case as well. This is a positive consequence of this analysis as it is often assumed that case on the durative phrase in Russian is structural in nature (Pereltsvaig 2000, Szucsich 2002).

*5.1.5 Russian Perfectives are Achievements*

If the analysis of Russian perfective forms is correct, there is at least one major consequence worth mentioning; Russian has only two aspectual predicate types: activities and achievements.[25] This conclusion conflicts with many assumptions regarding the aspectual predicate types in Russian. In particular, accomplishments are claimed to exist in Russian (Filip 1999, 2000, Babko-Malaya 1996, Yadroff 1996 to name a few). An example typically assumed to have an accomplishment interpretation when in the perfective in Russian corresponds to predicates in English that are incremental theme verbs, like *eat* or *drink*. An example of this predicate is given in Russian in (33a) and in English in (33b).

---

[25] In theory, there is a possible third type of predicate in which there are no event features: statives. Filip (1999:201) notes for Czech that "Static state verbs have no corresponding derived perfective counterparts at all." Dickey (2000:10) notes for Russian (and claims for Slavic more generally) that, "A small number of other verbs are *imperfectiva tantum* (all of which are stative verbs), which have no pv partners, e.g. *znat'* 'know', *nenavidet'* 'hate', *otsutstvovat'* 'be absent', etc." This may result from the inability of the big V, on which these static state verbs are introduced, to bear any event feature at all, resulting in the lack of subevent structure for statives. If this is the case, then the XP of which the perfective prefix is the head cannot be selected for by the appropriate V<fe> head. Some evidence for this possibility comes from the lack of interpretation elicited by *počti* 'almost' with these statives: *Mary počti znala fermera. 'Mary almost knew a farmer.' *Mary počti nenavidela pivo. 'Mary almost hated beer.' If there were no <ie> present, we can explain these facts. However, we would also expect that statives are not compatible in the *stop* control construction, as there should be no VP<ie> with which to Agree. However, not all stative predicates are incompatible: *Mary perestala znat' fermera. Mary stopped knowing the farmer. But, *Mary perestala nenavidet' pivo*. Mary stopped hating beer. It may be the case that the ungrammaticality with *almost* is simply a semantic oddity. If this were so, then semantic facts should also come into play in the *stop* control construction. I leave the discussion open ended for now, and suggest that we might consider statives in Russian generally the same as other imperfectives by introducing an <ie>. The reason that some do not allow a perfective form is that they might be specified as only projecting an <ie> to VP. I leave any further development of these facts and this possible approach for future research.

(33)  a.  Ja vypil      butylku vina.
          I  drank-perf. a-bottle of-wine
          'I drank a bottle of wine.'

      b.  I drank a bottle of wine.

It is tempting to assume that these predicate types should be of the same aspectual type, but there is no reason for them to be. As argued in Chapter 4, there is no link between the lexical meaning of a verb and its aspectual predicate type (see also Borer 1994, 2005, Ritter and Rosen 1998, 2000); there is nothing in the type of action expressed by the verb that tells us whether it should be an accomplishment or an achievement when telic. Observe in English that there is more than one way to express the action of ingesting liquids (34).

(34)      Geoffrey had a bottle of wine (with lunch).

In this case the event described by the predicate is interpreted as instantaneous. This predicate is an achievement. Observe the different interpretations elicited in the presence of *almost* (35).

(35)  a.  Geoffrey *almost* drank a bottle of wine.
      b.  Geoffrey *almost* had a bottle of wine.

There are two interpretations available in (35a) with the verb *drink*, a counterfactual and an incompletive. There is only one interpretation available with *have* in (35b), a counterfactual interpretation. Moreover, note the difference of interpretation in the *stop* control construction (36).

(36)  a.  Geoffrey stopped drinking the bottle of wine.
      b.??Geoffrey stopped having the bottle of wine.

With *drink* a single event interpretation is available (36a), while with *have* only an iterative interpretation is available, if it is available at all (36b).

On the present account, all Russian verbs in the perfective are achievements. I take the *almost* interpretation facts, the *stop* control construction facts and the *needs* control construction facts as evidence for the aspectual structure of the perfective verb forms proposed here. Furthermore Filip (1999:185) notes in a footnote that:

> Dahl (1985), for example gives the following characterization of the perfective aspect along these lines: "A PFV verb will typically denote a single event, seen as an unanalyzed whole…More often than not, the event will be punctual or, at least, it will be seen as a single transition from one state to its opposite, the duration of which can be disregarded (p.13). Comrie (1976:16) sums up the 'totality' characterization of the perfective in the following way: "…perfectivity indicates the view of a situation as a single whole, without distinction of the various separate phases that make up that situation…"

These intuitions regarding the aspectual interpretation of the perfective form of verbs reflects the punctual nature of the event described by predicates in which the verb is in perfective. This punctual nature falls out from the configuration of the event features in the syntax of Russian perfective verbs proposed here.

Russian perfectives are achievements. Recall, however, that the configuration of the event features in the syntax is distinct from the configuration of the event features of English achievements. One possibility to explain this difference may be related to morphology. In Russian there is a morpheme typically present every time there is a telic interpretation of the predicate. Given that the presence of <*fe*> is tied to the presence of the morpheme, <*fe*> may project. In English, on the other hand, there is no overt morpheme that is present every time an event is interpreted as telic, and as such, there may be no requirement that <*fe*> project. I leave the discussion open here without further pursuit.[26]

## 5.2 Presence or Absence of <*fe*>

In this section, I focus on languages that project AspP and a way in which these languages show variation with respect to aspectual interpretation.[27] Their variation can be accounted for by the presence or absence of an event feature on a particular head in the syntax. I have assumed that if a language projects AspP in the syntax, it will project an <*ie*>. I will maintain this assumption and not consider cases in which there is no <*ie*> on AspP. Thus, this discussion essentially reduces to which heads bear an <*fe*> feature or not in the syntax.[28] If this type of variation exists, then we expect alternations between accomplishments and activities and between achievements and activities.[29] This range of cross-linguistic variation matches the range of variation in aspectual predicate types found in English. Note that this micro variation comes in the form of a feature that is present or not on a particular head (see Snyder 1995, and Beck and Snyder 2000). This is in line with certain assumptions about the available type of variation that different languages can exhibit within a minimalist approach to syntax (see Sanz 2000, Thráinsson 1996).

---

[26] Another possibility is that lexically in Russian the derivational process for event feature compounding is not the same as in English. For example, if we take a Hale and Keyser (1993) style lexical derivational process in which a lower preposition incorporates into a 'light' v that selects it as is argued for denominal and deadjectival verbs, we can imagine a possible lexical derivation of the event features of English achievements; their configuration might result from a lexical incorporation process. If this lexical incorporation process were not available in Russian, this might explain why <*fe*> projects and not <*ie*>. If this lexical derivational process does not exist, then we might expect there not to be denominal or deadjectival verbs in Russian at all. While it is possible that there may not be any denominal verbs, there do in fact seem to be deadjectival verbs (John Bailyn p.c.). The facts are not yet clear.

[27] It is a logical possibility that there is variation of this sort in a language that does not possess AspP. I do not explore this option here.

[28] Technically, according to the system developed in Chapter 3, the feature is an <*_e*>, and is interpreted as an <*fe*> when within the domain of aspectual interpretation. For the present discussion, I assume that the internal argument is a [+q] NP, and as such, extends the domain of aspectual interpretation, resulting in an interpretation of <*_e*> as an <*fe*>. This is the only way to locate this event feature in the syntax, if it is interpreted as an <*fe*>. Therefore, throughout the present discussion, I refer to this feature as an <*fe*>.

[29] We do not expect to find an alternation between an accomplishment and a state, or between and accomplishment and an achievement. See chapter 6 for more details.
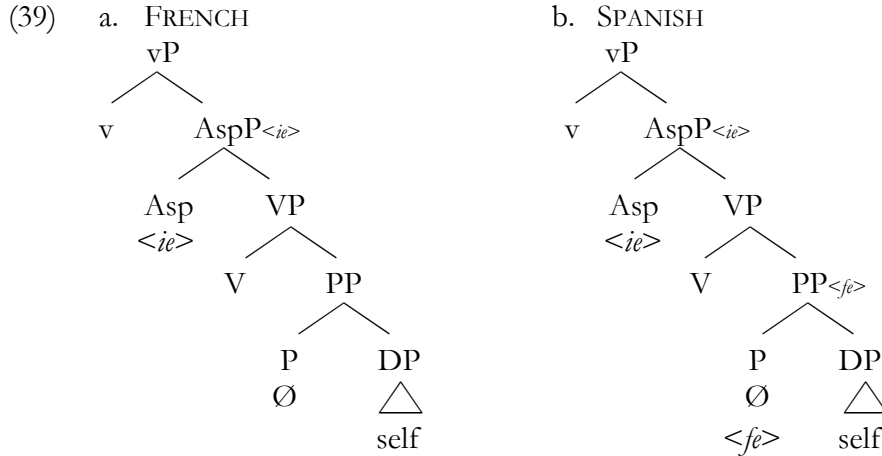
*5.2.1 Prepositions and <fe> Features*

To begin, let us consider the presence or absence of *<fe>* on goal prepositions. Languages vary with respect to whether their goal prepositions introduce an *<fe>* or not. Beck and Snyder (2001), and Snyder (1995) observe that prepositional phrases vary semantically cross-linguistically. In fact, Snyder (1995) proposes that the presence or absence of a null telic morpheme can account for this variation. I contend that we can account for a range of aspectual variation by proposing that the presence or absence of an *<fe>* feature (on par with Snyder's null telic morpheme) is responsible.

Recall the discussion of Spanish non-argumental reflexive pronoun constructions and French non-argumental reflexive pronoun constructions from Chapter 4. Examples of the Spanish reflexives are given in (37) and examples of the French reflexives are given in (38).

(37)　a.　Juan se　　abroché la camisa.
　　　　　Juan himself buttoned the shirt
　　　　　'Juan buttoned his shirt.'

　　　　b.　Juan se　　comió la manzana.
　　　　　Juan himself ate　　the apple.
　　　　　'Juan ate the apple.

(38)　a.　Jean s'est　　boutonné la chemise.
　　　　　Jean himself-is buttoned　the shirt
　　　　　'Jean buttoned his shirt.'

　　　　b.　Jean s'est　　lavé　la voiture.
　　　　　Jean himself-is washed the car
　　　　　'Jean washed his car.'

Recall that the analysis of these constructions places the reflexives as the complement of a null goal-like preposition. Recall furthermore that one way in which the French null goal-like P° differs from the Spanish null goal-like P° was that the French null P° does not elicit a telic interpretation of the predicate while the Spanish null P° does. This difference can be accounted for straightforwardly in the system of event features developed in Chapter 3 in the following way: the French null goal-like P° does not bear an *<fe>* feature and the Spanish null goal-like P° does. This is shown in (39a) and (39b) for French and Spanish respectively.

(39)  a.  FRENCH
          vP
         /  \
        v   AspP*<ie>*
            /    \
          Asp    VP
          *<ie>*  /  \
                 V    PP
                     /  \
                    P    DP
                    Ø    △
                        self

      b.  SPANISH
          vP
         /  \
        v   AspP*<ie>*
            /    \
          Asp    VP
          *<ie>*  /  \
                 V    PP*<fe>*
                     /  \
                    P    DP
                    Ø    △
                 *<fe>*  self

*5.2.2 Big Vs and <fe> Features*

Let us consider the presence or absence of *<fe>* on big V. We saw in English that standard accomplishments like *eat* and *drink* have an aspectual structure in which there is an *<fe>* introduced on big V. The presence of *<fe>* on big V was motivated in part by the telic interpretation of the predicate when a quantized argument was present (40a) and in part by the two interpretations elicited by *almost* (40b).
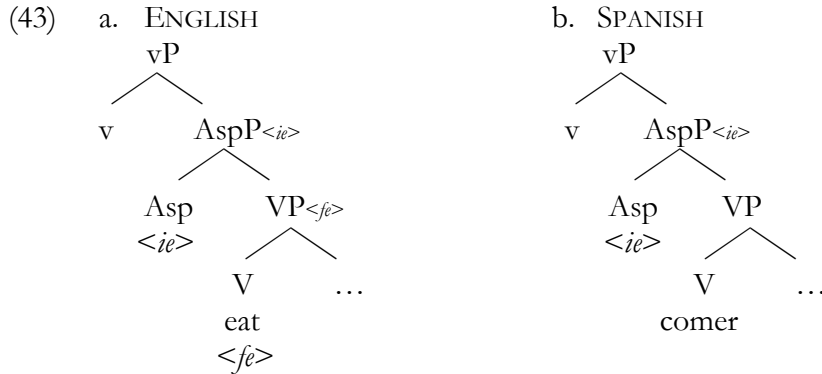
(40)  a.  John ate an apple      # for an hour.
      b.  John almost ate an apple.

Interestingly, we observed in Chapter 3, that the Spanish verbs *comer* 'eat' and *beber* 'drink' allowed an interpretation in which the durative phrase was compatible (41), and furthermore, elicited only a counterfactual interpretation in the presence of *casi* 'almost' (42).[30]

(41)  a.  Juan comió una paella    durante diez minutos.
          Juan ate    a   paella   for     ten   minutes
          'Juan ate a paella for ten minutes.'

      b.  Juan bebió una cerveza    durante diez minutos.
          Juan drank a   beer       for    ten minutes
          'Juan drank a beer for ten minutes.'

(42)  a.  Juan casi    comió la  paella.
          Juan almost ate     the paella
          'Juan almost ate the paella.'

      b.  Juan casi    bebió una cerveza.
          Juan almost drank a   beer
          'Juan almost drank a beer.'

---

[30] There might be some variation with respect to the interpretation of *casi* 'almost' in this Spanish example as a result of *comer* being ambiguous between an accomplishment and an activity interpretation. We are only concerned with the activity interpretation of this predicate, and given that for some only a counterfactual interpretation results suggests that there is no *<fe>* on big V.

These facts suggest that Spanish *comer* 'eat' and *beber* 'drink' do not require the presence of an *<fe>* on big V, resulting in an atelic interpretation.[31] This contrasts with English *eat* and *drink* in which its presence is required. The only difference between these verbs in these different languages is the presence of *<fe>* on big V in English and the absence of *<fe>* on big V in Spanish. The English structure is given in (43a) and the Spanish structure is given in (43b).

(43)  a.  ENGLISH

vP
├── v
└── AspP*<ie>*
    ├── Asp *<ie>*
    └── VP*<fe>*
        ├── V
        │   eat
        │   *<fe>*
        └── …

b.  SPANISH

vP
├── v
└── AspP*<ie>*
    ├── Asp *<ie>*
    └── VP
        ├── V
        │   comer
        └── …

*5.2.3 AspP Projections and <fe> Features*

Let us consider the presence or absence of *<fe>* on Asp°. As noted above, I assume that if Asp° is present in the structure, there is an *<ie>* feature present on it also. Thus we must look for a verb that is interpreted as an activity in one language, and interpreted as an achievement in another.

In English there are pairs of denominal verbs that are ambiguous between an activity interpretation and an achievement interpretation. This is a good place to look, for we need only find these same verbs in another language that are not ambiguous, and we see the possible micro variation due to the presence or absence of *<fe>* on Asp°. Some examples of these ambiguous achievement/activity predicates in English are given in (44).

(44)  a.  The workers widened the street  for a week/in a week.
      b.  Jackie thawed the piece of meet  for an hour/in an hour.

Observe that the durative phrase is compatible on an atelic interpretation and the time span adverbial expresses the amount of time before the event began. Spanish again provides evidence that there is micro variation with respect to the presence or absence of an *<fe>* feature. In Spanish, the verbs corresponding to those in (44) are unambiguously interpreted as achievements.[32] As such, only the time span adverbial is compatible (45).

(45)  a.  Los trabajadores ensanchó la  calle    #durante una semana/en una semana.
         The worker    widened the street   for    a   week /in a   week
         'The workers widened the street for a week/in a week.'

---

[31] Recall from the previous section, all Russian imperfective forms had only an *<ie>* feature present; this includes verbs like *eat* and *drink*.

[32] McClure (1993) claims that Italian *correre* 'run' can be interpreted as an achievement. In English, *run* can be interpreted as an activity. This is another example of this type aspectual variation.

b.  Juana descongeló el    trozo de carne  # durante una hora/en una hora.
    Juana thawed      the piece of  meat       for       an  hour/in an  hour
    'Juana thawed the piece of meat for an hour/in an hour.'

The structure corresponding to these Spanish verbs is given in (46a). The structure corresponding to these verbs in English is given in (46b). The aspectual variation is a result of the presence or absence of <_*e*> on Asp°.

(46)  a.  SPANISH                          b.  ENGLISH
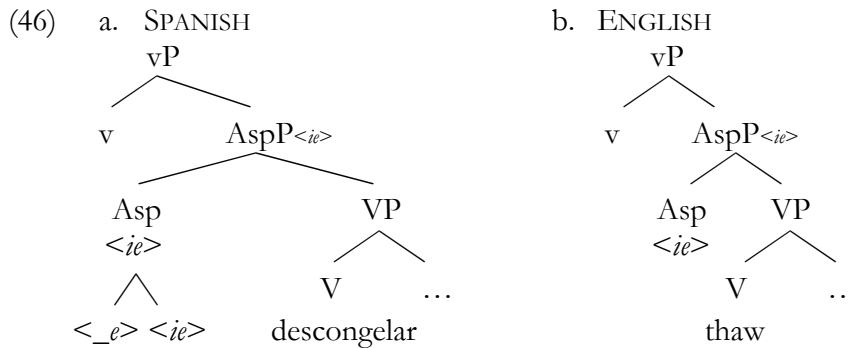


We have seen that language variation can be accounted for by the presence or absence of the <*fe*> feature on particular heads in the syntax. That the presence or absence of a feature is responsible for language variation is an approach that is not only in line with assumptions about language variation within a minimalist framework (Sanz 2000 and Thráinsson 1996), but also more specifically in line with assumptions regarding variation within the domain of aspect (Beck and Snyder 2000 and Snyder 1995). This is a positive consequence of the system of aspect developed in this dissertation.

## 5.3 Chapter Recap

We have discussed the way in which language variation within the system of aspect developed in Chapters 2 and 3 can occur. Some languages may have an AspP projection available and some may not. It was argued that Russian was a language that does not have AspP. This explains a host of aspectual phenomena in Russian. In particular the lack of AspP entails no object-to-event mapping, such that the [+/-q] feature of an NP does not affect the telicity of a predicate. We saw that this was the case in Russian. On the other hand, for languages that do have AspP available, we saw that micro variation can be accounted for by the presence of an <*fe*> feature on a particular head in some languages and is absence on the 'same' head in others.

# Chapter 6
# A Consideration of Other Aspectual Data

In this chapter I show how the approach to the syntax of aspect proposed in Chapters 2-3 can be extended to cover a wider range of aspectual data. In section 6.1, I discuss aspectually variable verbs. These are verbs that appear in predicates that seem to be able to be interpreted both as telic and atelic. Essentially, the different types of aspectually variable verbs reduce to whether big V optionally introduces an *<fe>*, whether Asp° optionally introduces an *<fe>*, or whether AspP is present or not in the structure.[1] We discover that aspectual variability is not free. In section 6.2, I discuss resultative constructions. It turns out that not all result phrases induce a telic interpretation of a predicate; telicity is independent of resultativity. Nevertheless, I discuss data in which a result phrase does have an aspectual affect on the predicate and show how the system of aspect developed here can account for these data. In section 6.3, I offer a way to handle conatives. I propose that the preposition, indicative in a conative construction, merges directly onto Asp° and values it [-q]. In section 6.4, I discuss data that at first sight seems to show that external arguments affect the aspectual interpretation of the predicate. Ultimately, I argue that they do not. I call these predicates *psych-achievements*. In section 6.5, I briefly draw attention to data that suggests that in some cases there may be a property other than the [+/-q] feature of an NP that can affect the telicity of a predicate. I suggest that pragmatics may play a role in these structures.

## 6.1 Aspectually Variable Verbs

There are verbs which can be interpreted as telic or atelic, even though the NP internal argument is [+q]. Evidence that has been put forth to argue that these are aspectually variable verbs is their compatibility with both durative phrases and time span adverbials (Hay, Kennedy, Levin 1999, Borer 2005 among others). The tests that provide evidence for the aspectual variability of these verbs are somewhat limited. However, it is not my intention to explore these limits in detail, but simply explain how the present approach to the syntax of aspect can handle verbs that may be aspectually variable. If, in fact, these verbs do not show aspectual variability consistently across all of the tests, then these facts pose an important problem for all accounts of the syntax of aspect.

In as much as there are truly aspectually variable verbs, the present system can account for them quite straightforwardly. In the case of eventive verbs, the variation reduces to whether a predicate introduces an *<fe>* or not. I have divided this section into three subsections: In 6.1.1, I discuss predicates in which *<fe>* on Asp° is optional, so-called *degree achievements* (e.g. *cool, widen* etc.). In 6.1.2, I discuss verbs that can optionally introduce an *<fe>* of big V (e.g. *read, wash* etc.). In 6.1.3, I discuss the range of aspectual variation occurring with stative verbs. This variation seems to be limited to an activity or achievement interpretation only; there seems to be no cases of alterations between a stative interpretation

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[1] More properly, as discussed in Chapter 3, this event feature is *<_e>*, an underspecified event feature. Nevertheless, I refer to this feature as *<fe>* throughout this discussion.

and an accomplishment interpretation. This seems to be a result of an increased complexity involved in the formation of an accomplishment from a stative, which follows from the mechanisms of the system of aspect developed here.

*6.1.1 Aspectually Variable Verbs 1: Achievement-Activity Alternations*

Observe in (1) an aspectually variable class of verbs, often referred to as degree achievements.

(1) a.  The soup cooled for an hour/in an hour.
    b.  The empire expanded for a month/in an month.

These are argued to vary between an activity and an achievement interpretation (Dowty 1979 among others, cf. Hay, Kenny, Levin 1999). Both the durative phrase and the time span adverbial are compatible under particular interpretations. With the durative, there is a typical activity interpretation, in which the soup underwent cooling for an hour (1a) and the empire underwent expanding for a month (1b); an atelic interpretation. With the time span adverbial the only interpretation available is one in which the amount of time before the event began is expressed. Thus, in (1a), only after an hour passed, the soup could be considered cool; and in (1b) only after a month, could the empire be considered expanded.[2]

Recall from Chapter 3 that the time span adverbial and *it takes x-time* elicit the same interpretations. Recall furthermore, that activities and achievements with *it takes x-time* result in the same interpretation. The only interpretation that should be available, if there is an ambiguity between an achievement and an activity interpretation, is the amount of time that passed before the event began. This seems to be the case (2).

(2) a.  It took the soup an hour to cool.
    b.  It took the empire a month to expand.

For (2a) can only mean that after an hour passed, the soup could be considered cool, i.e. it became cool after an hour. Likewise (2b) can only mean that after a month the empire expanded, i.e. it became 'expanded' after a month. These facts are consistent with an ambiguity between an achievement and an activity interpretation, but do not unequivocally show that there is an ambiguity.

There is a test in which unambiguous achievements pattern differently from unambiguous activities, which can show that degree achievements are ambiguous. This is an entailment from a progressive form to a present perfect form observed in Dowty (1979).[3] Typically, the progressive form (3a) of an achievement does not entail its present perfect form (3b). While the progressive form of an activity (4a) does entail its present perfect form (4b).

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[2] I am purposefully avoiding the so-called causative counterparts of these constructions, as this adds more complexity unnecessarily. See Chapter 3 for a discussion of the lack of aspectual affect that a CAUSE head introducing an external argument has on the predicate

[3] I have not discussed this test until now primarily because there is an added layer of complexity given that these constructions implicate outer aspect as well, and because the relation between outer and inner aspect is not precisely formalized. Nevertheless, this test serves here to differentiate between achievements and activities.
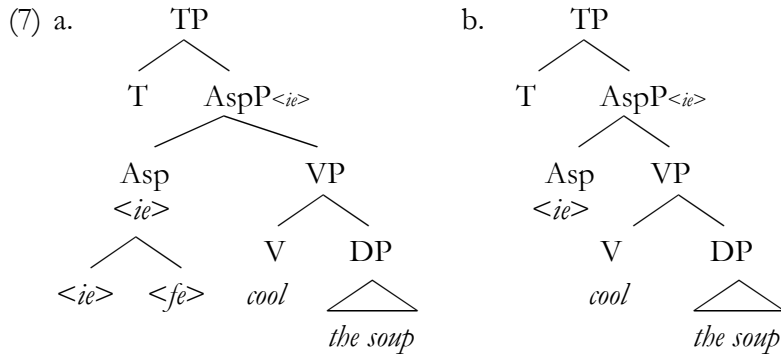
(3) a. John is arriving.
    b. John has arrived.

(4) a. John is driving.
    b. John has driven.

    What we expect in these ambiguous achievement-activity predicates is that there is an interpretation available in which the entailment holds, and one in which the entailment does not hold. Both of these interpretations seem to be available as shown in (5-6), suggesting that an ambiguity is in fact present.

(5) a. The soup is cooling.
    b. The soup has cooled.

(6) a. The empire is expanding.
    b. The empire has expanded.

    According to the system of aspect promoted here, achievements have an AspP in their underlying structure. Thus, I also assume on the achievement interpretation of these degree achievements, an AspP is present with the corresponding event feature configuration, as in (7a). The structure corresponding to the activity interpretation is in (7b).[4]

(7) a.
```
            TP                        b.            TP
           /  \                                    /  \
          T   AspP<ie>                            T   AspP<ie>
              /   \                                   /   \
           Asp    VP                               Asp    VP
          <ie>   /  \                             <ie>   /  \
          / \   V    DP                                  V    DP
      <ie> <fe> cool  /\                                 cool  /\
                   the soup                                   the soup
```

    The difference between these two interpretations reduces to whether Asp° has an <fe> on it or not. On the achievement interpretation is does (7a), and on the activity interpretation it does not (7b).

    Thus, it seems as though there is an aspectual variability between an achievement interpretation and an activity interpretation of so-called degree achievements. This ambiguity is handled straightforwardly within the system of aspect developed here, by allowing Asp° to be optionally associated with and <fe> or not.

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[4] These verbs typically alternate in the causative inchoative construction. It is often assumed that on the causative alternate, a CAUSE predicate introduces the external argument, this predicate is often taken to be some version of v° (Levin and Rappaport Hovav 1995, Megerdoomian 2001 among others). As such, in these inchoative alternates, I have left out v° altogether.

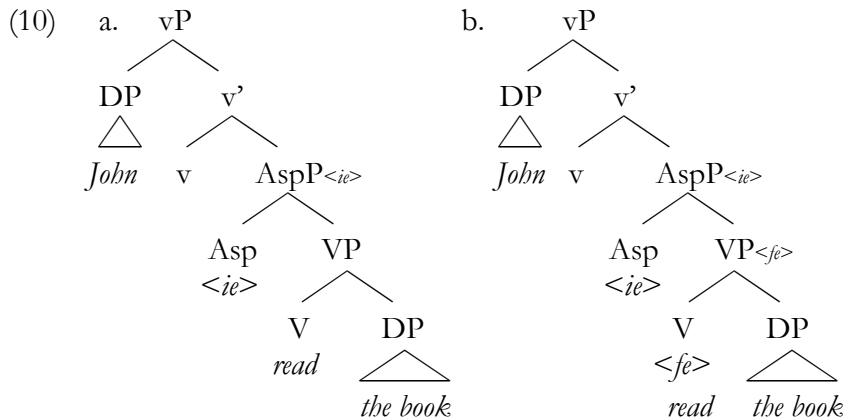*6.1.2 Aspectually Variable Verbs 2: Accomplishment-Activity Alternations*

Observe in (8) another class of predicates that is compatible with both a durative phrase and a time span adverbial (under distinct interpretations of the predicate, of course).

(8) a.  John read the newspaper in an hour/for an hour.
     b.  John washed the car      in an hour/for an hour.

These facts have been taken as evidence that these predicates can be interpreted as telic or atelic; they are aspectually variable (Borer 2005 among others). Observe, moreover that when the internal argument is a [-q] NP (9), the durative phrase is compatible, but the time span adverbial cannot express the amount of time that passes before the event ends.  This suggests that AspP is present in the underlying structure.

(9) a.  John read ancient script    # in an hour/for an hour.
     b.  John washed glass           # in an hour/for an hour.

These data can be handled quite straightforwardly within the system of aspect developed here. On their atelic interpretation, they have the underlying syntax given in (10a), and on their telic interpretation, they have the underlying syntax given in (10b).

(10)   a.   vP                              b.         vP

[Tree diagram a: vP branches to DP (John) and v'; v' branches to v and AspP$_{<ie>}$; AspP branches to Asp $<ie>$ and VP; VP branches to V (read) and DP (the book)]

[Tree diagram b: vP branches to DP (John) and v'; v' branches to v and AspP$_{<ie>}$; AspP branches to Asp $<ie>$ and VP$_{<fe>}$; VP branches to V $<fe>$ (read) and DP (the book)]

When atelic, they introduce no *<fe>* feature on big V, and when telic they do introduce an *<fe>* feature on big V. Observe that on the telic interpretation (10b), this predicate has the structure of an accomplishment. Observe that with *it takes x-time* , there is an ambiguous interpretation (11).

(11)       It took John an hour to read the book.

The end-time interpretation can be expressed. The availability of this interpretation suggests that there is an accomplishment interpretation of this predicate. The start-time interpretation is also available. The ambiguity between these two interpretations is typical of accomplishments (see Chapter 3), but this latter interpretation is also typical of activities (see Chapter 3).

The availability of the start-time interpretation suggests that there is also an activity interpretation available, as predicted by the structure in (10a). However, this is not an entirely

reliable conclusion to draw, as the start time interpretation could be elicited simply as a result of the two interpretations available in accomplishments.[5]

We discussed the progressive to present perfective entailment observed in Dowty (1979) in the previous section. It can also serve here to show that there is truly an ambiguity between the accomplishment and activity interpretation of this class of aspectually variable verbs. What we expect is that these aspectually variable verbs should pattern with both unambiguous accomplishments and unambiguous activities. Activities allow the entailment, while accomplishments do not. This does not seem to be the case, however; for observe in (12-13) that there is no entailment from the (a) sentences to the (b) sentences.

(12)    a.   John was reading the newspaper.
        b.   John has read the newspaper.

(13)    a.   John was washing the car.
        b.   John has washed the car.

According to this diagnostic, this class of predicate patterns with accomplishments only. Therefore, we seem to have conflicting data. According to the durative adverbial, there is an activity interpretation available. However, this activity interpretation does not seem to be available in the progressive to perfective entailment test. Considering these conflicting pieces of data, we can draw at least two conclusions: 1. the entailment test, or the durative phrase tests do not show what has been previously assumed; or 2. for some reason some predicates 'prefer' a particular interpretation in one context over another. If this latter conclusion is correct, we must determine what these contexts are and why not all predicates pattern this way. I leave these concerns for future research.

The way in which the system of the syntax of aspect developed here works, allows for the possibility of verbs to be optionally associated with an <*fe*> feature and consequently introduce it in the syntax or not. This handles cases that seem to show variability between an activity interpretation and an accomplishment interpretation.

### 6.1.3 Aspectually Variable Verbs 3: Stative-Eventive Alternations

In this section, I discuss alternations between stative interpretations of predicates and eventive interpretations of predicates. As claimed in Chapter 2 the major difference in English between stative and eventive predicates is that statives lack AspP in their underlying syntax. This explains quite naturally a host of phenomena surrounding typical stative predicates (see Chapter 2). Given the way in which the system developed here works, the only way in which a stative predicate can vary aspectually, is by the presence or absence of AspP in the syntax. The presence of AspP minimally entails the presence of <*ie*> as well, which immediately results in an activity interpretation. Thus we expect alternations from stative to activity interpretations. Furthermore, we know that AspP can bear an <*fe*> feature too. As such, we also expect alternations between a stative and achievement interpretation of a predicate. The final logical possibility of course is a stative-accomplishment alternation. We will see that—as far as this author is aware—there are no attested cases of this. This fact can be understood as a result of a more complex operation involved in the formation of an

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[5] Observe also that *almost* modification cannot disambiguate between the accomplishment and activity interpretations either: *John almost read the book*, for the interpretation available for an activity is a subset of the interpretations available in an accomplishment.

accomplishment from a stative. That a more complex operation is involved is directly captured by the system of aspect here.

The clearest example of an alternation seems to be between a stative and an achievement interpretation. Observe this in (14).

(14)  a.  The snow covered the field.
      b.  The army surrounded the compound.

On the stative interpretation of (14a), snow is covering the field in its entirety, while not actively in motion. Likewise, on the stative interpretation of (14b), the army could simply be standing in a circle around the compound (14b). On their achievement interpretations we can imagine the snow falling on the field until it is covered (14a), and the army running around the compound until it is surrounded (14b).

Moreover, observe in (15), that on the achievement interpretation, *almost* only receives a counterfactual interpretation as expected. The snow cannot be interpreted as having covered the field in (15a), and the army cannot be interpreted as having surrounded the compound (15b).

(15)  a.  The snow almost covered the field.
      b.  The army almost surrounded the house.

Another way in which this predicate behaves as an achievement comes from the iterative interpretation resulting in the *stop* control construction (16).

(16)  a.  The snow stopped covering the field.
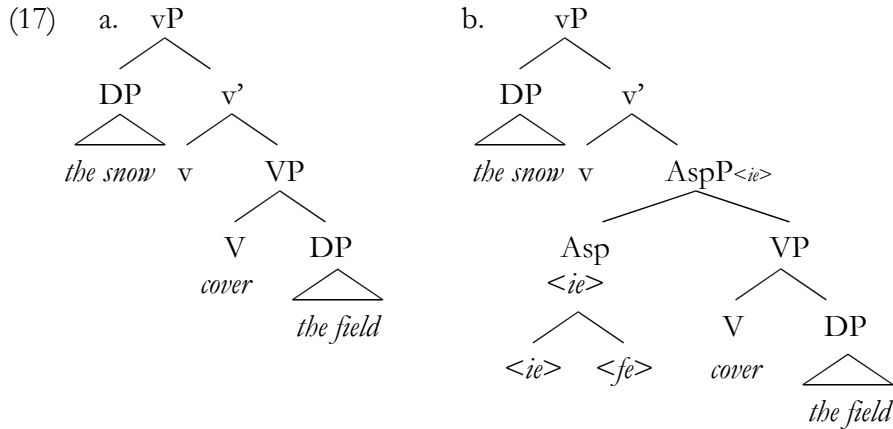      b.  The army stopped surrounding the house.

(16a) can only mean that over the years snow would cover the field, but now it no longer does so. Likewise, in (16b), there is only an interpretation in which the army used to surround the house, but this behavior has now stopped.[6]

In the present system, the ambiguity between a stative interpretation of a predicate and an achievement interpretation can be handled straightforwardly by assuming that on the stative interpretation, there is no AspP present in the syntax (17a), while on the achievement interpretation, there is an AspP with an <*fe*> as well (17b).[7]

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[6] Recall that I have claimed that *stop* selects an XP<*ie*>. Thus, this predicts that there can only be an eventive interpretation of a 'stative' predicate if grammatical in a *stop* control construction.

[7] It is not my intention to argue whether or not the subject is introduced into the syntax by a $v°$ or whether T introduces it directly. From the structures in (17) it is clear what I am assuming, although nothing of the present discussion hinges on this choice, and there is no obvious way in which the account of the aspectual variation would change if the subject were introduced by a v head. Observe, that minimally there is no agent introduced, suggesting that a least *agentive* $v°$ is not in the structure: *The snow (\*deliberately) covered the field.*

(17)  a.  vP
           ┌──────┴──────┐
          DP            v'
        the snow    ┌────┴────┐
                    v        VP
                         ┌────┴────┐
                         V        DP
                       cover    the field

      b.  vP
           ┌──────┴──────┐
          DP            v'
        the snow    ┌────┴────┐
                    v      AspP$_{<ie>}$
                        ┌──────┴──────┐
                       Asp           VP
                      $<ie>$      ┌────┴────┐
                   ┌────┴────┐    V        DP
                 $<ie>$ $<fe>$  cover    the field

Another possible alternation is between a stative and an activity interpretation. These data tend to be more complex than other alternations suggesting that there may be more involved than I can do justice to here. However, I will proceed to show how this approach to the syntax of aspect can account for these data as well. Observe the data in (18).

(18)  a.  John thought that color had a flavor.
      b.  John loved the beach.
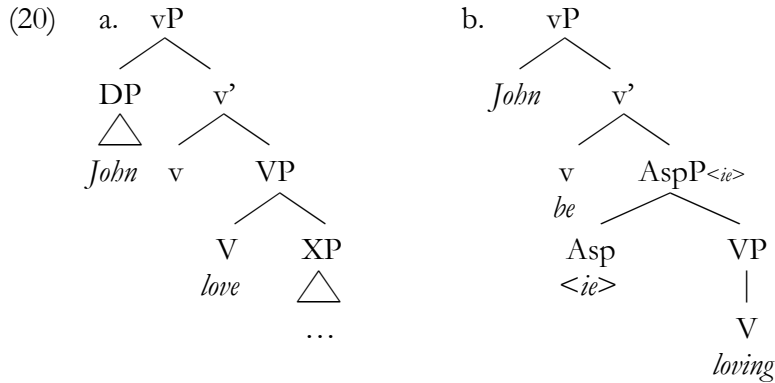      c.  John understood the answer.

There is no eventive interpretation available in these cases. They simply express a certain state of the subject. Observe also, that in (18a) there is a full sentential complement, attesting to the greater complexity that may be involved in these cases. Now consider the data in (19)

(19)  a.  John thought (for a minute) before responding.
      b.  John was loving his time at the beach from day one.
      c.  John was understanding his language teacher better near the end.

Of the three examples in (19), it seems that only (19a) can express an activity interpretation without requiring the verb to be in the progressive form. The others must be in the progressive, and then an activity interpretation is readily available (19b-c). Observe also that *think* no longer requires a full sentential complement.

Given that for most of these statives, a progressive form must be used, there is an added layer of complexity. Because of this added layer of complexity, these data are not exactly parallel cases of aspectual variability to those observed in the stative-achievement alternations just discussed or in those discussed above in previous sections. Therefore, I can only suggest how the technology developed in the present system to the syntax of aspect allows there to be an activity interpretation to alternate with a stative interpretation.
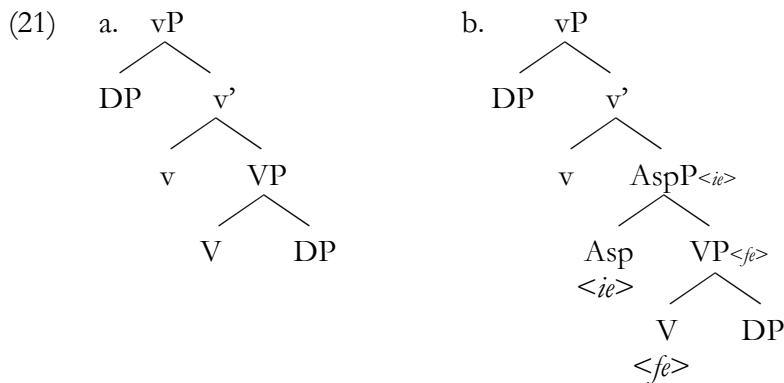
I propose that the presence of *ing* requires the presence of AspP in the structure. Specifically, we can assume that *ing* merges with the verb onto big V and requires that the head that selects it bear an $<ie>$ feature. Thus, when *ing* is present, AspP with $<ie>$ on it must also be present. If $<ie>$ is present in the structure—and assuming that $<fe>$ is not— then the activity interpretation present when these statives are put into the progressive falls out quite naturally. Thus, on the stative interpretation of the predicates in (18) the structure would be as in (20a), and on the activity interpretation of the predicates in (19) the structure would be as in (20b).

(20)  a.   vP
         ╱  ╲
      DP      v'
      △     ╱  ╲
    *John*  v     VP
           ╱  ╲
          V    XP
        *love*  △
                …

b.        vP
        ╱   ╲
    *John*    v'
            ╱   ╲
           v    AspP<sub>*<ie>*</sub>
          *be*  ╱   ╲
             Asp      VP
            *<ie>*     |
                       V
                    *loving*

Here the difference is that on the stative interpretation, there is no AspP presence and therefore, no subevent structure. On the activity interpretation, minimally AspP must be present—which introduces the *<ie>*—resulting in the activity interpretation. For the verb *think*, we need not add *ing* to force the presence of AspP, while for *love*, and *understand*, *ing*'s presence is necessary to force the presence of AspP and the activity interpretation.

Thus, although there is added complexity because of the complementation patterns and the progressive requirement, these facts can be handled well within the design specifications of the mechanisms outlined to account for the different aspectual predicate types.

Before concluding this section, let me briefly discuss the possibility of a stative-accomplishment alternation. It is not clear that this is at all attested. However, that there are no attested cases is not entirely surprising; for, according to the system of aspect developed here, this would require a more complex manipulation of the elements involved in the calculation of aspect. Compare the underlying aspectual structure of a stative (21a) to the underlying aspectual structure of an accomplishment in (21b).

(21)  a.    vP
          ╱   ╲
       DP      v'
             ╱  ╲
            v    VP
                ╱  ╲
               V    DP

b.       vP
       ╱   ╲
    DP      v'
          ╱   ╲
         v    AspP<sub>*<ie>*</sub>
             ╱   ╲
          Asp    VP<sub>*<fe>*</sub>
         *<ie>*  ╱  ╲
                V    DP
              *<fe>*

Observe first that in the stative structure, there is no *<fe>* on big V.[8] Observe second that there is no AspP present either. Compare this to accomplishments in which both AspP

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[8] To be more precise, there is no *<fe>* on big V, which is a possibility in statives, for given that there is no AspP present, *<fe>* might always be interpreted within the scope of the macro event and never be interpreted as contributing to aspectual interpretation. Although this is a logical possibility, it seems unlikely that there is any event feature on big V. For, no stative-activity interpretation would be available at all as the presence of this event feature would force an accomplishment interpretation of the predicate. And as mentioned in this section, it is not clear that any stative-accomplishment variable verb exists. Thus I assume that no event feature is present on big V in these stative predicates.

and an <*fe*> (on big V) are present. In order to create an accomplishment from a stative, two elements involved in the aspectual interpretation of the predicate must be introduced. This is a more complex operation than any of the other alternations that we have discussed thus far. What we have seen is that an alternation between an activity and an accomplishment interpretation depends on the addition of a single <*fe*> feature, an alternation between an achievement and an activity depends on the addition of a single <*fe*> feature, an alternation between a stative and an activity interpretation depends on the addition of a single projection (AspP alone), and an alternation between a stative and an achievement depends on the addition of a single projection (AspP with an <*fe*>)[9] as well.

With respect to an alternation from a stative interpretation to an accomplishment interpretation, two changes to the underlying stative configuration must take place: an extra <*fe*> must be added to big V, and the structure must be merged with AspP. Thus, although it is a logical possibility that there could be alternations from a stative interpretation to an accomplishment interpretation, it is not entirely surprising that there are no attested examples (as far as I am aware), as this operation might simply be too complex.[10]

Furthermore, observe the sentences in (22). The presence of the verb *have* seems to elicit a stative interpretation.

(22)  a.  John had a headache  for an hour.
      b.  John had a virus       for an week.

Naturally, these sentences are odd in the *stop* control construction as expected, given their status as stative predicates (23).[11]

(23)  a.  John stopped having a headache.
      b.  John stopped having a virus.

In addition to its stative interpretation, *have* can have an eventive interpretation when expressing consumption (24).

(24)  a.  John had a Scotch     #for an hour.
      b.  John had a sandwich  #for an hour.

Observe that the durative phrase is incompatible in this case. These express telic sentences. More importantly, these predicates are achievements, not accomplishments. As

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[9] Recall that <*fe*> and <*ie*> form a feature complex before entering the syntax, and as such, Asp° bears this feature complex when it merges into the syntax. This operation is on par with the simple introduction of Asp° bearing only an <*ie*> feature alone.

[10] Note also that as far as this author is aware there are few, if any, cases of achievement-accomplishment alternations. Again this involves the manipulation of two elements: removing <*fe*> on Asp° and adding <*fe*> on big V. If there are no attested cases of achievement-accomplishment or stative-accomplishment alternations, then I take this as support for the system of aspect developed here, as these two alternations are expected to pattern together, given the similar level of complexity of the operation.

[11] Observe that *John stopped having headaches* is perfectly fine. However, there is an eventive interpretation elicited here, such that the sentence means that John stopped **getting** headaches.

such there is only an iterative interpretation available, a habitual interpretation in the *stop* control construction (25).

(25)    a.   John stopped having a Scotch.
           b.   John stopped having a sandwich.

Given the similarities in the type of action expressed between an sentence like *have a sandwich* and *eat a sandwich*, one might assume that they share similar event structure.[12] We might expect that *have* can be in a predicate that is interpreted as stative and in a predicate that is interpreted as an accomplishment. This does not seem to be the case. I have suggested that we can begin to understand these facts by considering the greater complexity involved in an operation creating an accomplishment predicate from a stative predicate.[13,14]

## 6.2. Resultatives

In this section, I discuss how the present system of aspect can handle resultative constructions. We will see that although it is assumed that the addition of a resultative phrase corresponds to changing the aspect of a predicate in such a way as to result in a telic interpretation of the predicate, telicity and resultativity are independent of each other. That is, often a telic interpretation is present even without a result phrase, and in some cases, there is an atelic interpretation available even in the presence of a result phrase (Goldberg and Jackendoff 2005). I discuss four constructions that have at some time been analyzed as resultatives: prepositional phrase resultatives (PP resultatives); adjectival phrase resultatives (AP resultatives); *way* constructions, and fake reflexive constructions.[15] What we will see for each of these predicates is that they show the same aspectual patterns that PP-accomplishments do.

It is not my intention to do full justice to this rich subject area of resultatives, but only to discuss the relevance of these data to the aspectual interpretation of the predicate, and in particular discuss how the present system of aspect can account for aspectual affects attested in resultative constructions.

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[12] See Chapter 4 for arguments against assumptions of this sort.

[13] If this possible explanation for the lack of stative-accomplishment (and achievement-accomplishment) predicates is correctly formulated, then this suggests that certain predicates do have some aspectual specification within the lexicon. For if statives cannot alternate with accomplishments due to a certain level of complexity, then there must be a predicate that is specified as stative, that is, a starting point for the operation, otherwise we would expect precisely this alternation. The same goes for achievement-accomplishment alternations. There must be a predicate that is specified for its aspectual structure that is taken as a starting point for the operation. This suggests that a pure constructionist approach (for example Borer 1994, 2005, Ritter and Rosen 1998) is not on the right track, for it seems that some predicates have a degree of aspectual specification, whether in the lexicon or in the syntax.

[14] McClure (1995) observes (possible) three-way ambiguities between stative, activity and accomplishments. Arguably, the ambiguities are stative-activity, activity-accomplishment.

[15] I group these constructions under the heading of *resultatives* in part because they all seem to have the same underlying aspectual structure. There is no general consensus of what counts as a resultative and what does not. It is not my intention to provide any answer to this question.

*6.2.1 The Independence of Resultivity and Telicity*

Before entering into the discussion of the aspectual affects that the addition of a result phrase may elicit, it is worth mentioning that it is not exactly clear that there is a one-to-one correspondence between the presence of a result phrase and a telic interpretation of a predicate. That is, you can be a result phrase without contributing anything at all to the aspectual interpretation of the predicate. For, in some cases, the predicate is telic irrespective of the presence of the result phrase. In (26), I give some typical examples of resultatives from Simpson (1983), and Goldberg and Jackendoff (2005).

(26)   a.   The pond froze solid          #for an hour.
       b.   The vase broke into pieces    #for an hour.

Observe that they are incompatible with the durative phrase. More interestingly, observe that the durative phrase is still incompatible although the result phrase is no longer present (27).

(27)   a.   The pond froze    #for an hour.
       b.   The vase broke    #for an hour.

These data suggest that the telicity of this predicate does not necessarily depend on the presence of the result phrase. That is, to be a result phrase, you do not have to induce telicity. Observe more data from Goldberg and Jackendoff (2005). They take the following data as examples of resultatives (28).

(28)   a.   Bill floated down the river (for hours).
       b.   Bill pushed Harry along the trail (for hours).

In these cases, these predicates are interpreted as atelic,[16] even though a result phrase is present. As such, in as much as the examples in (28) are resultatives, you can be a resultative phrase whether you induce telicity or not. That is, resultativity is independent of telicity.

Since resultativity is independent of telicity, there may be a large range of phenomena related to resultative constructions that are not directly dependent on the telicity of the predicate. Thus, there are many facets of resultatives that are relevant and important to understanding resultative constructions in more detail that fall outside the scope of the present discussion of their aspectual properties. I only provide an account of their aspectual properties.

*6.2.2 PP and AP resultatives*

According to Goldberg and Jackendoff (2005), there are two major types of resultatives: AP resultatives and PP resultatives. PP resultatives are formed by the addition of a prepositional phrase that describes the location that the internal argument finds itself in as a result of the action expressed by the verb (29).[17]

---

[16] Note that these are examples of ambiguous goal-location phrases, such that there is a telic interpretation available as well. I discuss a possible analysis of goal-location prepositional phrases in Chapter 3.

[17] The a. and b. example in (29) are from Goldberg and Jackendoff (2005).

(29)  a.  Fred tracked the leak to its source.
      b.  Bill followed the road into the forest.
      c.  Bill carried the ball out of the room.

AP resultatives are formed by the addition of an adjective that describes the state in which the internal argument finds itself as a result of the action expressed by the verb (30).

(30)  a.  John wiped the table clean.
      b.  Bill hammered the metal flat.
      c.  They painted the barn yellow.

Focusing first on PP resultatives, observe that only a pragmatically odd iterative interpretation is available in the presence of a durative (31).

(31)  a.  Fred tracked the leak to its source      #for an hour.
      b.  Bill followed the road into the forest   #for an hour.
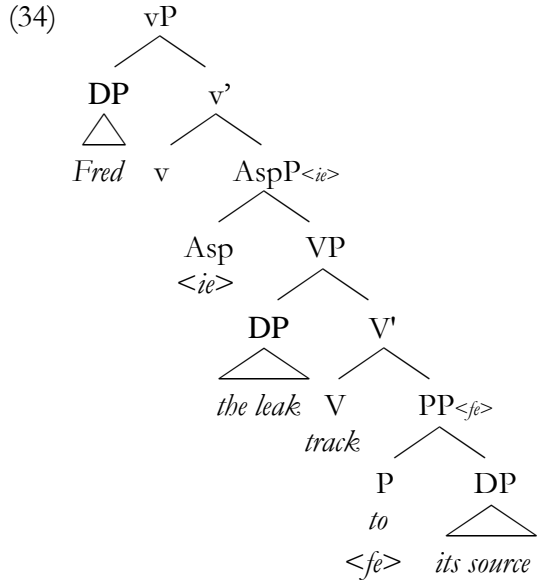      c.  Jack carried the ball out of the room    #for an hour.

When the result phrase is not present, there is an atelic interpretation in the presence of a durative (32).

(32)  a.  Fred tracked the leak      for an hour.
      b.  Bill followed the road     for an hour.
      c.  Bill carried the ball      for an hour.

Furthermore, when a [-q]NP internal argument is present, there is an atelic interpretation of the predicate (33).

(33)  a.  Fred tracked wildlife to the carcass   for an hour.
      b.  Bill followed wildlife into the forest  for an hour.
      c.  Jack carried sand out of the room       for an hour.

These PP resultatives behave just like the PP-accomplishments discussed in chapter 2. As such, I treat them in exactly the same way as PP-accomplishments. Therefore, I assume that the PP in these constructions introduces an <*fe*> into the syntax, as depicted in the structure in (34).

(34)

```
                    vP
                  /    \
              DP         v'
              /\        /  \
            Fred   v        AspP₍ie₎
                          /      \
                       Asp        VP
                       <ie>      /   \
                               DP      V'
                               /\     /  \
                          the leak  V    PP₍fe₎
                                  track   /   \
                                         P      DP
                                         to     /\
                                       <fe>  its source
```

This straightforwardly explains the parallel aspectual behavior between PP-accomplishments and PP resultatives. PP resultatives are PP accomplishments.[18] Consider the aspectual properties of AP resultatives.

AP resultatives are incompatible with durative phrases, as there is no pragmatic situation available to allow an iterative interpretation (35).

(35)  a. John wiped the table clean      #for an hour.
      b. Bill hammered the metal flat    #for an hour.
      c. They painted the barn yellow    #for an hour.

When the result phrase is not present, the durative elicits an atelic interpretation of the predicate (36).
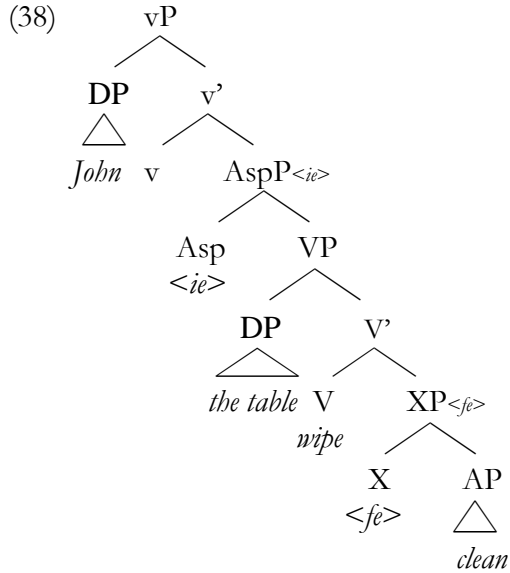
(36)  a. John wiped the table      for an hour.
      b. Bill hammered the metal   for an hour.
      c. They painted the barn     for an hour.

And when there is a non-quantized internal argument, the durative elicits an atelic interpretation of the predicate as well (37).

(37)  a. John wiped **glass** clean       for an hour.
      b. Bill hammered **metal** flat     for an hour.
      c. They painted **siding** yellow   for an hour.

These data pattern aspectually in the same way as PP resultatives, suggesting that the result phrase introduces an *<fe>* into the structure. In fact, I assume that there is a null XP that houses the adjective and which introduces an *<fe>* into the syntax, resulting in the structure in (38).

---

[18] Actually, only this class of PP resultatives are PP-accomplishments. Goldberg and Jackendoff (2005) give examples that they call PP resultatives that are not PP-accomplishments.

(38)

```
              vP
            /    \
          DP      v'
          /\     /  \
        John  v   AspP<ie>
                  /    \
                Asp     VP
                <ie>   /  \
                      DP    V'
                      /\   /   \
                the table V    XP<fe>
                          wipe  /   \
                               X     AP
                              <fe>   /\
                                    clean
```

Thus, AP resultatives, PP resultatives and PP accomplishments have essentially the same underlying aspectual structure. Given this underlying structure, we might expect more ways in which these constructions pattern together. Recall from Chapter 2, that *almost* elicits an ambiguity between a counterfactual and incompletive interpretation in PP accomplishments. We see that with both PP resultatives (39) and AP resultatives (40) there is also an ambiguity.

(39)  a.  Fred *almost* tracked the leak to its source.
       b.  Bill *almost* followed the road into the forest.

(40)  a.  John *almost* wiped the table clean.
       b.  Bill *almost* hammered the metal flat.

Likewise, as expected, both PP resultatives and AP resultatives elicit two interpretations in the *it takes x-time* construction. This is shown in (41) and (42) for PP resultatives and AP resultatives respectively.

(41)  a.  It took Fred 10 minutes to track the leak to its source.
       b.  It took Bill 10 minutes to follow the road into the forest.

(42)  a.  It took John 10 minutes to wipe the table clean.
       b.  It took Bill 10 minutes to hammer the metal flat.

We have just seen that both PP resultatives and AP resultatives show the same aspectual patterns that PP-accomplishments do. Consequently they are analyzed as having the same underlying aspectual structure as PP-accomplishments.

*6.2.3 'Way' and fake reflexives*

In this section I discuss *way* (43), and fake reflexive constructions (44)[19].

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[19] Examples in (43) taken from Tenny (1994:40).

(43)   a.  John insulted his way across the room.
        b.  Mary embraced her way through the reunion crowd.

(44)   a.  Bill cried himself to sleep.
        b.  I laughed myself sick.

Observe that when the result phrase is present in the *way* construction, the durative phrase elicits only an iterative interpretation (45)[20]; it expresses a telic event.

(45)   a.  John insulted his way across the room      for an hour.
        b.  Mary embraced her way through the reunion crowd    for an hour.

When the result phrase is not present, the durative phrase elicits an atelic interpretation (46).

(46)   a.  John insulted Mary    for an hour.
        b.  Mary embraced John for an hour.

This suggests that the result phrase introduces an <*fe*>. Furthermore, observe that the presence of *his way* without the result phrase is ungrammatical (47), suggesting that *his way* is introduced by the result phrase itself.
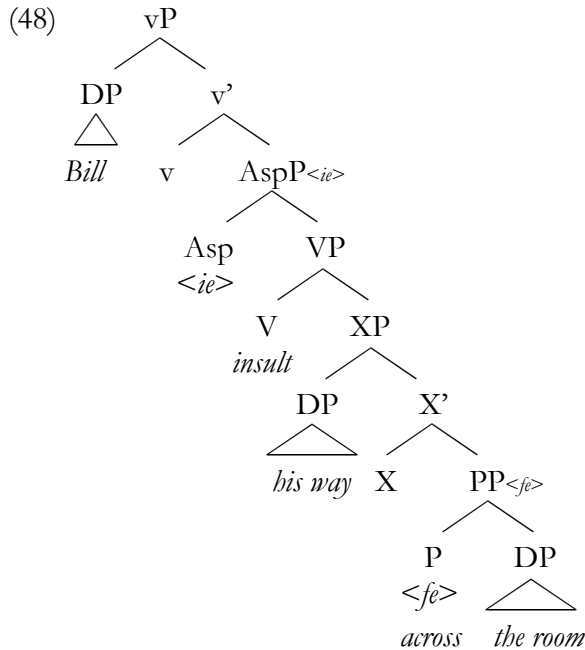
(47)   a. *John insulted his way.
        b. *Mary embraced her way.

In fact I assume that *his way* is the subject of a small clause that takes the prepositional phrase as its complement.[21] Furthermore, I assume that the <*fe*> feature is introduced by the P°, resulting in an aspectual configuration similar to PP-accomplishments. This structure is shown in (48).

---

[20] Note that in (45b) *through* is ambiguous between a goal reading of the prepositional phrase and a location reading of it. Only on the goal reading do we find the telic patterns discussed below.

[21] See also Ritter and Rosen 1998 for similar constructions and a similar proposal.

(48)

```
              vP
          ┌────┴────┐
         DP         v'
          △     ┌───┴───┐
        Bill    v    AspP<ie>
                   ┌────┴────┐
                  Asp        VP
                  <ie>    ┌───┴───┐
                          V        XP
                       insult   ┌──┴───┐
                                DP      X'
                                △   ┌───┴────┐
                             his way X     PP<fe>
                                        ┌────┴────┐
                                        P         DP
                                       <fe>        △
                                      across    the room
```

This structure predicts that *way* constructions should pattern with PP-accomplishments aspectually. This seems to be the case. Observe that *way* constructions in *stop* control constructions allow for an single event interpretation (49), suggesting that they are accomplishments.

(49)  a. John stopped insulting his way across the room.
      b. Mary stopped embracing her way through the reunion crowd.

Moreover, *almost* is ambiguous between a counterfactual and incompletive interpretation (50).

(50)  a. John *almost* insulted his way across the room.
      b. Mary *almost* embraced her way through the reunion crowd.

The fake reflexive construction patterns the same as the *way* construction. It expresses a telic event (51), as evidenced by the incompatibility of the durative phrase, resulting in a pragmatically odd iterative interpretation.

(51)  a. Bill cried himself to sleep          #for an hour.
      b. I laughed myself sick               #for an hour.
      c. Darrell danced himself into a frenzy #for an hour.

When the result phrase is not present, the durative elicits an atelic event (52).

(52)  a. Bill cried       for an hour.
      b. I laughed        for an hour.
      c. Darrell danced   for an hour.

Furthermore, the reflexive is not licensed if the result phrase is not present (53).

(53)    a. *Bill cried himself.
       b. *I laughed myself.
       c. *Darrell danced himself.

Given this similar pattern of behavior, I assign the same underlying structure assigned to *way* constructions to fake reflexive constructions (54).

(54)
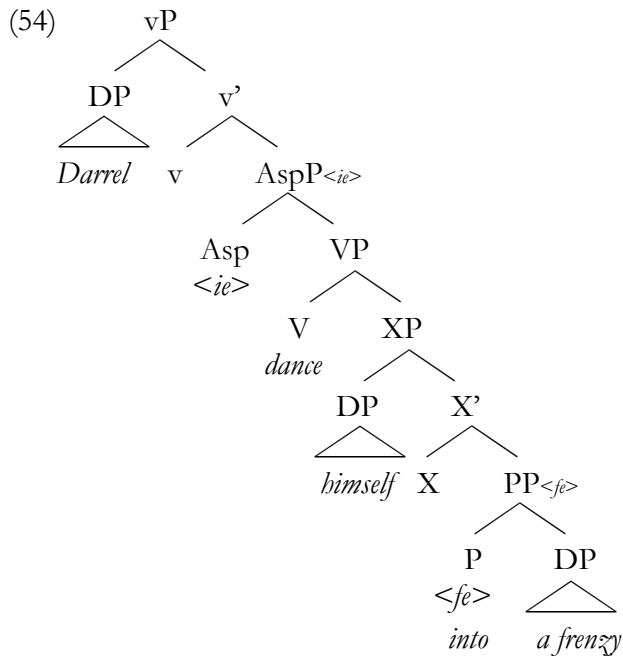


This predicts that fake reflexives should behave like PP-accomplishments as well. Observe that in the *stop* control construction (55), a single event interpretation is available .

(55)    a.  Bill stopped crying himself to sleep.
       b.  I stopped laughing myself sick.
       c.  Darrell stopped dancing himself into a frenzy.

Furthermore, observe that *almost* elicits both a counterfactual and incompletive interpretation (56), although the incompletive interpretation is most salient.

(57)    a.  Bill *almost* cried himself to sleep.
       b.  I *almost* laughed myself sick.
       c.  Darrel *almost* danced himself into a frenzy.

Additionally, in the *it takes x-time* construction, the start-time and the end-time interpretations both are available as well (58), the latter being a more salient.

(58)  a.  It took Bill ten minutes to cry himself to sleep.
      b.  It took me ten minutes to laugh myself sick.
      c.  It took Darrell ten minutes to dance himself into a frenzy.

Thus, we can account for the aspectual interpretation of resultatives very straightforwardly; they have the same aspectual structure as PP-accomplishments.
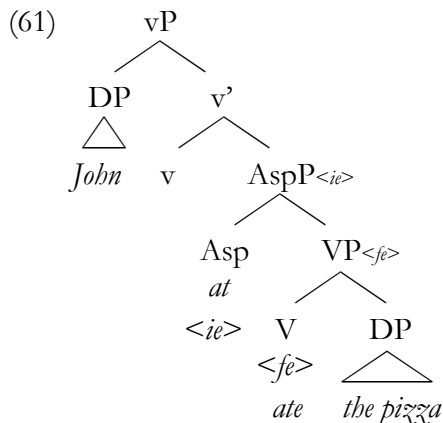
## 6.3. Conatives

In this section I offer a way to account for the so-called conative alternation. I propose that the preposition of conatives merges directly onto Asp° valuing it [-q], resulting in an atelic interpretation of the predicate. Consider the conative alternation in (59-60).

(59)  a.  John slashed the painting      #for an hour.
      b.  John ate the pizza             # for an hour.
      c.  John drank a mug of beer     #for an hour.

In (59) the predicates are telic as evidenced by the incompatibility of the durative phrase. Observe in (60) that when a preposition is introduced before the internal argument, the durative phrase becomes compatible. This is the conative construction.

(60)  a.  John slashed at the painting     for an hour.
      b.  John ate at the pizza           for an hour.
      c.  John drank from a mug of beer  for an hour.[22]

The conative alternate in (60) results in an atelic interpretation of the predicate, and always in the presence of a preposition. I propose that the preposition in these conatives are merges directly on the head of Asp° and values it [-q]. The structure of a conative is given in (61).

(61)     vP

    DP     v'

   *John*   v    AspP$_{<ie>}$

             Asp    VP$_{<fe>}$
             *at*

             *<ie>*  V   DP
                  *<fe>*

                  *ate*   *the pizza*

Because Asp° is valued [-q] the domain of aspectual interpretation will not extend and, the underspecified event feature on big V will not be interpreted as contributing to the aspectual interpretation of the predicate; an atelic interpretation will result.

_____

[22] Typically the preposition associated with a conative alternation is *at*. However, *from* here seems to elicit the same aspectual effects and shows the same patterns as *at*.

Note that the structure in (61) offers an explanation to why the word order between the object and the preposition cannot vary (62), which is a possibility for particles (63).

(62)   a. *John slashed the painting at.
       b. *John ate the pizza at.
       c. *John drank a mug of beer from.

(63)   a.  John ate the pizza up/up the pizza.
       b.  John drank a mug of beer up/up a mug of beer.

## 6.4 Psych-Achievements

Recall that it was concluded in Chapter 3, that only internal arguments (i.e. the NP closest to Asp°) can participate in the object-to-event mapping. External arguments cannot. Now, consider an example that has been put forward as evidence that external arguments can affect the telicity of the predicate (64).

(64)      Tourists discovered that quaint little village for years.[23]

There is a BP subject that seems to be licensing an SSE interpretation. This is an example of a predicate that I refer to as a **psych-achievement**. More examples of psych-achievements are given below in (65).[24]

(65)   a.  John spotted a plane.
       b.  Jane detected a sound.
       c.  Julie found a nugget of gold.
       d.  Jasper discovered a tropical island.

I argue that these seemingly problematic data can be explained within the system of aspect laid out in Chapter 3 and ultimately lend support to the conclusion that NPs above AspP cannot affect the aspectual character of the predicate. Let us explore the properties of psych-achievements.

A psych-achievement is an achievement predicate that has an experiencer subject. Evidence that the subject is non-agentive comes from the incompatibility of adverbs that typically require the presence of an agent (66).

(66)   a.   John (*deliberately/*intentionally) spotted a plane.
       b.   Jane (*deliberately/*intentionally) detected a sound.
       c.   Julie (*deliberately/*intentionally) found a nugget if gold.
       d.   Jasper (*deliberately/*intentionally) discovered a tropical island.

Observe also that purpose clauses are ungrammatical with these psych-achievements, again suggesting that the subject is non-agentive (67).

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[23] Example taken from Dowty (1979:63).

[24] Another example of a psych-achievement may be *overhear*.

(67)   a.  John spotted a plane            *in order to warn his captain.
       b.  Jane detected a sound           *in order to record it.
       c.  Julie found a nugget of gold    *in order to be rich.
       d.  Jasper discovered a tropical island  *in order to start a tourism business.

   Moreover, Levin (1993) categorizes these psych-achievements as *sight* verbs which she notes have a 'perceiver' subject.[25] Therefore, I assume that the subjects of psych-achievements are experiencer subjects. Observe that psych-achievements, in the presence of a durative phrase, results in an SIE interpretation (68).

(68)   a.  John spotted the plane        for an hour.
       b.  Jane detected the sound       for an hour.

   This indicates that they describe events interpreted as telic.[26] Consider the interpretation of these predicates when *almost* is present (69).

(69)   a.  John *almost* spotted a plane.
       b.  Jane *almost* detected a sound.
       c.  Julie *almost* found a piece of gold.
       d.  Jasper *almost* discovered a tropical island.

   Only a counterfactual interpretation is available. In (69a) the only interpretation available is that John did not spot a plane; no spotting event took place. In (69b), the only interpretation is that Jane did not detect a sound at all; no detecting event took place. The same goes for (69c-d). There is only a counterfactual interpretation available.
   One final piece of evidence for the achievement status of these predicates comes from the *stop* control construction (70).

(70)   a.  John stopped spotting a plane.
       b.  Jane stopped detecting a sound.
       c.  Julie stopped finding a piece of gold (at the beach).
       d. #Jasper stopped discovering a tropical island.

   We expect that achievements only elicit an iterative interpretation, often resulting in a habitual reading. This is what we find. The only interpretation of (70a) is that John spotted a plane over and over and this iterative spotting stopped. The only interpretation of (70b) is that Jane detected a sound over and over and this iterative detecting stopped. Likewise, in (70c) only an iterative interpretation is allowed. Pragmatically, these sentences are best interpreted habitually, and they improve on the iterative interpretation. (70d), on the other

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[25] I am not claiming that all *sight* verbs are achievements, but that psych-achievements form a subgroup of *sight* verbs. Note that the fact that there are *sight* verbs that are not achievements constitutes more evidence that the aspectual type of predicate cannot be predicted from the thematic relations expressed by that predicate. See Chapter 4 for more details.

[26] Note that both *discover* and *find* are a bit odd under an iterative interpretation. Pragmatically it is odd to find something over and over, unless of course there is a suitable context in which the object in question is continually lost. It is even more pragmatically odd to discover something over and over again. However, this is not to say that there are no contexts. I leave it up to the reader to find them.

hand is odd simply because it is odd to repeatedly discover the same tropical island. If an episodic interpretation were available, the sentence would not be odd.

Now let us consider in more detail the behavior of BPs and MNs in these psych-achievements (71-72). In the presence of a BP direct object (71) the durative phrase elicits an SSE interpretation of the predicate.

(71)  a. John spotted **planes**            for an hour.
       b. Jane detected **sounds**           for an hour.
       c. Julie found **pieces of gold**     for an hour.
       d. Jasper discovered **tropical islands**  for a week.

Now consider the aspectual interpretation of MN direct object (72).

(72)  a. John spotted **rain**        # for an hour.
       b. Jane detected **noise**      # for an hour.
       c. Julie found **gold**         # for an hour.[27]
       d. Jasper discovered **wildlife**  # for a week.[28]

The presence of a MN direct object does not elicit an atelic interpretation in the presence of the durative phrase. The only interpretation available is an SIE interpretation, which in many of the examples is a bit odd, thus the #. Nevertheless, the only possible interpretation of (72a) is that John repeatedly spotted rain. The only interpretation of (72b) is that Jane repeatedly detected noise. The same interpretations go for (72c-d) although as noted above the iterative interpretation of these predicates in particular are odd due to the lexical semantics of the verbs themselves. Observe another interesting fact about these psych-achievement predicates. A BP subject elicits an SSE interpretation (73).

(73)  a. **Boys** spotted a plane            for an hour (before any girl did).
       b. **Girls** detected the sound        for an hour (before any boy did).
       c. **Animals** found the body of water  for an hour.
       d. **Goats** discovered the bucket of feed  for an hour.

In (73a) there does seem to be an interpretation in which there is a sequence of events of a boy spotting a plane that occurred one after another for an hour. Likewise in (73b), there seems to be an interpretation in which there is a sequence of events of a girl detecting a sound one after another for an hour. More importantly observe in (73c-d) that the presence of the durative phrase is improved with the presence of a BP subject. This strongly suggests

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[27] Filip (1999) takes data of this sort as evidence that a predicate can be interpreted as telic regardless of the nature of the internal argument. In light of the analysis of these data that I provide, they cannot be taken as evidence for that conclusion.

[28] Observe that Dowty (1979) finds the following parallel sentence to be grammatical: *John discovered crabgrass in his yard for six weeks*. I agree that this sentence is not ungrammatical. However, it seems that this is due to the presence of the locative phrase; the durative seems to be modifying *in his yard*, and not the event of discovering. For observe that the compatibility of the durative phrase worsens when the locative is removed: *John discovered crabgrass #for six weeks*. Also observe that the sentence in (72d) improves with the durative when a locative expression is added: *Jasper discovered wildlife in his backyard for a week*. These data suggests that the locative is responsible for the improvement of the durative phrase, not the mass term.

that the BP has an aspectual affect on the predicate, for recall that in these cases, a simple SIE interpretation was odd due to the lexical semantics of the verb in question. Thus, (73c) is interpreted as a sequence of iterated events in which one animal followed by another found the body of water for an hour. (73d) is interpreted as a sequence of iterated events in which one goat followed by another discovered the bucket of feed for an hour.

Observe another interesting fact about these psych-achievements. MN subjects result in an atelic interpretation of the predicate (74).

(74)   a.   **Surveillance equipment** spotted the thief  for an hour.
       b.   **Audio equipment** detected the sound      for an hour.
       c.   **Wildlife** found the body of water        for an hour.
       d.   **Livestock** discovered the bucket of feed   for an hour.

I claim that there is an atelic interpretation elicited by the MN subject of psych-achievements. Observe that there is still a salient partitioned event interpretation even in the presence of the MN subject. First, this may result from the achievement status of the predicate as other achievement predicates that contain a MN that affects their aspectual interpretation also result in a partitioned interpretation of the predicate. This is illustrated in (75).[29]

(75)   a.   John broke stereo equipment    for an hour.
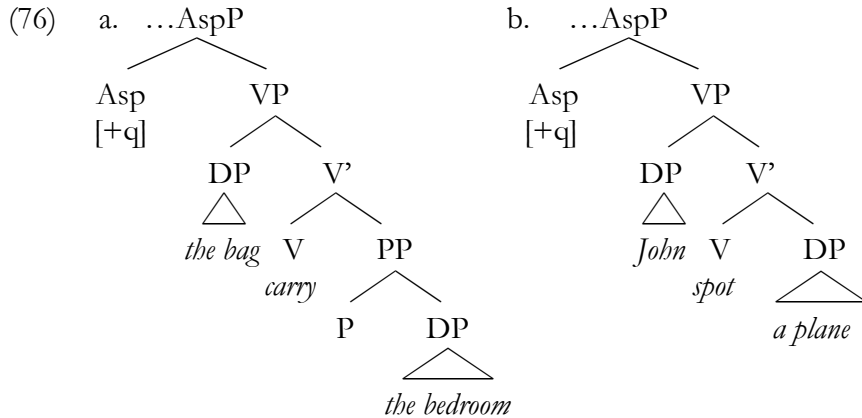       b.   John cut rope                 for an hour.

Additionally, I draw attention to the verbs *find* and *discover* which are quite infelicitous on an iterative interpretation of the predicate. Observe in (74c) and (74d) that the durative phrase improves in compatibility in the presence of a MN subject. This suggests that the MN subject is affecting the aspectual interpretation of the predicate and no iterative interpretation results. Therefore I contend that MN subjects of psych-achievements result in an atelic interpretation of the predicate.

Allow me to summarize these facts. MN subjects elicit an atelic interpretation of the predicate, while MN direct objects do not. Both BP subjects and BP direct objects elicit an SSE interpretation of the predicate. This pattern is reminiscent of the aspectual distribution of BPs and MNs in PP-accomplishment predicates. MN internal arguments elicit an atelic interpretation of the predicate while MN complements of the goal preposition do not. Both BP internal arguments and BP complements of the goal preposition elicit an SSE interpretation of the predicate. These patterns of interpretation elicited by MNs and BPs in psych-achievements fall into place if we recall the proposed structure for PP-accomplishments (76a) and we posit the following structure for psych-achievements (76b).[30]

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[29] The salient partitioned interpretation of the action expressed by the predicate seems also to be available for (almost) any verb that takes an MN internal argument: (i) *John broke glass for an hour.* (ii) *John drank beer for an hour.* (iii) *John carried sand onto the porch for an hour.* This may simply be a result of pragmatic influence; for in the real world can an action be carried out continuously without stopping and restarting? It is uncommon.

[30] I have ignored the position of $<ie>$ and $<fe>$, as they are not immediately relevant to the discussion. As the psych-achievement is an achievement, both $<ie>$ and $<fe>$ are on Asp° in the expected configuration; see Chapter 3 for more details. In the PP-accomplishment, I assume that $<ie>$ is introduced on Asp°, and $<fe>$ is introduced on the goal preposition; see Chapter 3 for motivation of the position of these $<xe>$.

(76)  a.  …AspP

```
        …AspP
        /    \
     Asp      VP
     [+q]    /   \
          DP       V'
          △       /  \
        the bag  V    PP
                carry  /  \
                      P    DP
                           △
                        the bedroom
```

b.  …AspP

```
        …AspP
        /    \
     Asp      VP
     [+q]    /   \
          DP       V'
          △       /  \
        John     V    DP
                spot   △
                     a plane
```

Aspectually, subjects of psych-achievements pattern with subjects derived from a position below the verb. This supports a position of the experiencer subject of psych-achievements that is lower than agentive subjects (which do not affect the aspectual interpretation of the predicate). This is not entirely surprising given that it has been argued that experiencers are derived from a lower structural position than agents (Belletti and Rizzi 1988).[31] Therefore, these data are not counterexamples to the syntactic generalization that NPs above AspP cannot affect the telicity of a predicate.

## 6.5 Another Aspectual Property of NPs

In this section I discuss some data that strongly suggest that there is a property other than the [+/-q] nature of an internal argument that affects the aspectual interpretation of a predicate. Consider the data in (77).

(77)  a.  Sal smoked a cigar       for an hour/in an hour.
      b.  Wendy watched a movie  for an hour/in an hour.

These data behave like the aspectually variable verbs discussed above; both the durative and the time span adverbial are compatible under the relevant interpretations. Considering the general account of this class of aspectually variable verbs, we can conclude that these verbs optionally introduce an <*fe*> (on big V) in the syntax. Consider now these verbs with different internal arguments (78).

(78)  a.  Sal smoked a pipe        for an hour/#in an hour.
      b.  Wendy watched a bird    for an hour/#in an hour.

The time span adverbial can no longer express the amount of time that passes before the event ends. This suggests that there is a forced atelic interpretation of the predicate with these internal arguments. It is interesting that the [+q] internal argument induces an atelic interpretation. This strongly suggests that there is some other property relevant to determining the aspectual choice of these verbs.

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[31] Moreover note that Travis (2000) argues for a lower structural position of the subjects of these achievement predicates in Malagasy and Tagalog. She provides arguments from morphology and syntax that the subjects of verbs corresponding to *find, perceive, see, notice* among others originate in a position structurally lower than a volitional agent.

Intuitively, we can understand these data in the following way. When one smokes a pipe, they do not progress through the pipe in the same way that they do through a cigar, and as such no accomplishment interpretation is available. The same goes for watching birds; there is no progression through the extent of the bird such that a bird can be watched in an hour. On the other hand, when watching a movie, there is a progression through it such that this accomplishment interpretation is available. If this is the correct way to think about and analyze these facts, the result for the present approach to the syntax of aspect must claim that when *a bird* is the internal argument of *watch*, there must be an <*fe*> on big V, and when *a pipe* is the internal argument of *smoke*, there must be an <*fe*> on big V. Unfortunately, there is no obvious mechanism to capture this generalizations. Thus, I shall only suggest here that pragmatics can play a role in the choice of aspectual structure. Given the way the real world is, there are some tendencies such that one aspectual structure may be preferred over others.

## 6.6 Chapter Recap

In this chapter I have shown how the present system of aspect can account for a wider range of aspectual data. The mechanisms developed here can handle aspectually variable verbs in a straightforward way: the presence or absence of <*fe*> accounts for this variability. Additionally, we discussed gaps in the aspectual variability attested in English. Given the way in which aspectual variability is calculated in the present system it was suggested that these gaps could be accounted for in terms of the complexity of the alternations. Gaps exist where the variability entails greater complexity for the operation.

We also discussed a range of constructions I grouped together as resultatives. We saw that these resultative constructions pattern aspectually with PP-accomplishments. This motivated an underlying aspectual structure for these resultatives that is parallel to PP-accomplishments.

Additionally, I proposed a simple way to account for conative constructions in English. The preposition of a conative merges directly onto the head of Asp°, valuing it [-q]. This results in an atelic interpretation of the predicate as well as explains the strict preposition-object word order in conatives.

Finally, I discussed psych-achievements which at first seems to be counterexamples to the generalization made in Chapter 2 that external arguments cannot participate in the object-to-event mapping. We saw that the subject of psych-achievements are derived from a position below Asp° and in fact add support to this generalization.

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