Dutch and Swedish *Again*

On Interaction between Object Movement and *Again*-Ambiguities

Thesis

submitted in partial fulfillment of the
requirements for the degree of

Research Master of Arts
in
Linguistics

Author :	Roger Yu-Hsiang Lo
Student ID :	s1583360
Supervisor :	Dr. Crit L. J. M. Cremers
2^{nd} reader :	Dr. Ronny J. U. Boogaart

Leiden, The Netherlands, August 15, 2016

Cover illustration: http://rightbrainrevival.com/inspiration/learning-a-language-with-zen/

To my loving family.

Contents

Abstract

This study attempts to devise a unified account for three linguistic phenomena – object type, object movement, and *again*-ambiguities – that can be observed in Dutch and Swedish. Specifically, this study tries to untangle the interaction between theses three phenomena, as illustrated in the following Dutch sentences (in their literal reading):

(1) a. Jan heeft weer **de deur** geopend. (repetitive/*restitutive)
John has again the door opened
'John opened the door again.'

b. Jan heeft **de deur** weer geopend. (rep/res)
John has the door again opened

(2) a. * Jan heeft weer **hem** geopend.
John has again it opened

b. Jan heeft **hem** weer geopend. (rep/res)
John has it again opened
'John opened it again.'

(3) a. Jan heeft weer **een deur** geopend. (rep/*res)
John has again a door opened
'John opened a door again.'

b. * Jan heeft **een deur** weer geopend.
John has a door again opened

Comparing these three sets of sentences, it seems that the availability of the repetitive/restitutive ambiguity associated with the adverb *weer* 'again' lies in both the type of the object and its position relative to the adverb.

The unified account developed in this study has as its backbones the Mapping Hypothesis proposed by Diesing and Jelinek (1995) and a structural theory on *again*-ambiguities advocated by von Stechow (1995, 1996). The Mapping Hypothesis partitions a syntactic tree into the Nuclear Scope and the Restriction Clause and handles the interpretation of different object types by the object's syntactic position at LF. When the object is moved to the Restriction Clause by some object movement rule, it receives a specific reading, whereas when the object remains in the Nuclear Scope, it gets a non-specific reading. The structural theory on *again*-ambiguities claims that the repetitive/restitutive opposition has a syntactic origin. This theory relies heavily on a semantico-syntactic decompo-

sition of verbs into an *action* and a *state* component, with the repetitive reading resulting from *again* modifying a syntactic constituent that represent an action and the restitutive reading from *again* a constituent that denotes a state.

The current study argues that either the Mapping Hypothesis or the structural theory alone can explain only part of the data, and that only by integrating the two can we have a unified account that justifies the whole data. This unified account allows the position of the object (i.e., whether object movement applies or not) and the dual readings of *again* to be govern by two different mechanisms, but it also permits the two mechanisms to interact with each other so that ungrammatical constructions can be successfully ruled out. To explain the Dutch data above, we first move the objects that have a specific reading, as is often the case for definite descriptions like *de deur* 'the door' and definite pronouns like *hem* 'it', to the Restriction Clause and leave the objects with a non-specific reading, such as the indefinite *een deur* 'a door' in the Nuclear Scope. Then we let *weer* 'again' adjoin to different constituents that map onto either an action (which leads to the repetitive reading) or a state (the restitutive reading). The whole derivation just described can be represented as follows (NS stands for Nuclear Scope):

(4) a. Jan heeft weer [$_{NS}$ **de deur** geopend]. (rep/*res)
John has again the door opened

b. Jan heeft **de deur**$_o$ [$_{NS}$ weer t$_o$ geopend]. (rep/res)
John has the door again opened

(5) a. * Jan heeft weer [$_{NS}$ **hem** geopend].
John has again it opened

b. Jan heeft **hem**$_o$ [$_{NS}$ weer t$_o$ geopend]. (rep/res)
John has it again opened

(6) a. Jan heeft weer [$_{NS}$ **een deur** geopend]. (rep/*res)
John has again a door opened

b. * Jan heeft **een deur**$_o$ [$_{NS}$ weer t$_o$ geopend].
John has a door again opened

(5a) and (6b) are rejected because the objects in them are in the wrong domain. Although (4a) is grammatical, this sentence does receive a slightly different interpretation than (4b) due to the position of the definite *de deur* in the Nuclear Scope. The same principles can be applied to Swedish as well, albeit only at LF instead of at S-structure as in Dutch.

In future research, it will be useful if more data, especially from Icelandic, can be brought in and if we consider verbs beyond a simple *open*.

Keywords: Dutch, Swedish, object movement, Scrambling, Object Shift, *again*, ambiguity

Acknowledgements

This thesis is the crystal of much independent work on my own and, more importantly, contributions from many people. Without their help, this thesis wouldn't have been possible. Therefore, gratitude is in order now.

First and foremost, I'd like to genuinely thank my supervisor Crit Cremers and my second reader Ronny Boogaart. Crit has broken all the stereotypes I held for "supervisors." He was always willing to have a discussion even without appointments. I usually just went knock on his door, and if he was there, and he was always happy to discuss with me. He gave me a lot of freedom on the choice of my thesis topic as well as the approaches I adopted to the topic. He had his stand on semantic theories but was still happy every time I argued against his stand. Most importantly, his enthusiasm for linguistics and research really kept my spirits up when I was struggling during the writing process. Being supervised by Crit was like working with a friend; there were only exchanges of ideas, and nothing was forced upon. I also have to thank Ronny for his timely and insightful feedback, in spite of my very short notice. He pointed out some pitfalls of my approach and indicated very interesting directions to which this study could be extended. His comments gave this study a more complete look. A special thank-you has to go to Lisa Cheng as well, for it's a paper which I read in her syntax course that has inspired this work.

Not a native speaker of either Dutch or Swedish myself, there are naturally many other people, who acted as my language consultants, that I feel indebted to. I'd like to say a big "Dank je wel!" to Wei-wei Lee (who had to judge over 100 sentences for me...), Thijs van Mourik (who I had a long and deep discussion with in an Italian restaurant), Maxime Tulling, Gouming Martens, Cody Orth, and Astrid Gilein for letting me bother them with my weird Dutch sentences. A big "Tack!" also goes to my Swedish friends Kenneth von Zeipel and Rickard Gustavsson for their assistance with the Swedish examples in this thesis. Their linguistic instinct and judgement are what made this thesis possible. Edwin Schenkel, Angelika Kiss, and Jan Meyer are three other people to whom I'd like to express my gratitude: Edwin and Jan had been bombarded by me with many tricky German sentences, and Angelika gave me many useful references on event semantics.

I also would like to take this opportunity to thank several people that made my two-year stay in the Netherlands such an enjoyable experience. Again, Gouming, Maxime, Astrid, Wei-Wei, Thijs, and Cody must be on this list. Then Mario van der Velden (my

very first crazy Dutch friend), Luisa Seguin, Chris Deacon, and Rebekka Roe, people who I got to know when following courses at the University of Amsterdam, also added many colors to my life here. And of course, a big "Xiexie!" must go to Jiang Wu and my fellow Taiwanese students in Leiden and beyond! Without them, I wouldn't have had a such comfortable and almost homesickness-free stay in this constantly raining land. Finally, I'm forever indebted to my parents, whose unconditional love and support are what make everything it is now.

This thesis marks the end of the two-year Research Master Program in Linguistic at Leiden University, but it's only the beginning of my ongoing inquiry into the field of linguistics. The road ahead is still long, but I'm never alone.

CHAPTER 1

Prelude

Ambiguity is prevalent in language. Since the early days of Generative Semantics, the ambiguity of sentences like (1) in which the adverb *again* combines with a verb like *open* has long been noticed (McCawley 1971, Morgan 1969).

(1) John opened the door again. (rep/res)

The example (1) is ambiguous between a *repetitive* reading, in which the entire action encoded by the verb has occurred before, and a *restitutive* reading, which conveys that the result state is restored by the action encoded by the verb, even though the entire action may not necessarily have taken place previously.

The majority of analyses on *again*-ambiguities resorts either to a purely lexical approach, the idea that the ambiguity arises from *again* having a counterdirectional meaning as well as a repetitive one (Fabricius-Hansen 2001), or to a syntactic approach, which still relies on a lexical decomposition framework on verbs but accounts for the ambiguity by enabling *again* to syntactically adjoin to a number of constituents. Both approaches will be discussed in more detail in chapter 2.

1.1 Motivation and Aims of the Study

English is not the only language where sentences with *again* may give rise to ambiguities. The same ambiguities associated with *again* are manifested in other West Germanic languages like Dutch and Scandinavian languages like Swedish as well, as exemplified in (2a) and (2b) respectively:

(2) a. Jan heeft de deur weer geopend. (rep/res) [Dut.]
John has the door again opened

b. Johan öppnade dörren igen. (rep/res) [Swe.]
John opened door.the again
'John opened the door again.'

At first sight, it may appear that, apparent different word order aside, Dutch and Swedish are not different from English. However, this picture changes when we take into consideration that, compared with English, object determiner phrases (DPs) in other Germanic languages enjoy more freedom in their position relative to other elements in the sentence. For example, in Dutch, the object *de deur* 'the door' can either precede or follow the adverb *weer* 'again', as shown in (3):[1]

(3) Jan heeft (^{OK}de deur) weer (^{OK}de deur) geopend. [Dut.]
John has the door again the door opened

Although putting the object DP in both positions is grammatical, the availability of the repetitive/restitutive ambiguity is conditional on these positions. When the object DP follows the adverb, only the repetitive reading is present:[2]

(4) Jan heeft weer de deur geopend. (rep/*res) [Dut.]
John has again the door opened

However, when the object DP precedes the adverb, as we have seen in (2a), both the repetitive and restitutive readings are possible.

For Scandinavian languages, there are more constrains on the movability of object DPs, as we will soon see in the next chapter. Here I will use one Swedish example just for the purpose of illustration. Since the Swedish 'again' is a clause-final adverb, and only pronominal objects are allowed to move at S-structure in Swedish, I add the clause-medial negative marker (i.e., *inte* 'not', about which I will have more to say in chapter 3.) and change the object to a pronoun (i.e., *den* 'it') to highlight the movability of the object:

---

[1]The sign '^{OK}' indicates that the element in question can be at that position, and '*' otherwise. The sign '$^{\%}$' indicates that the element at that position is acceptable in some dialects.

[2]The second reader pointed out that the availability of the repetitive/restitutive reading also depends on intonation. When the adverb *weer* carries a prominent stress, it is the repetitive reading that surfaces. If, on the other hand, the object *de deur* has prominence, then the restitutive reading becomes possible. I acknowledge the intriguing effect intonation having on the interpretation but will leave this complex issue for future research, as this phenomenon touches upon the interface between phonology, syntax, and semantics, which is clearly beyond the scope of the current study. He also raised an interesting question that, when *open the door again* is used metaphorically with a following prepositional phrase (PP), the expression seems to have an inherently restitutive reading, as illustrated by the following Dutch example:

(1) Aan de andere kant heeft de internetrevolutie dan **weer de deur geopend** voor concurrentie
at the other side has the internet.revolution then again the door opened for competition
uit een heel andere richting. ($^{?}$rep/res) [Dut.]
from a very different direction
'On the other hand, the internet revolution has then opened the door again for competition from a very different direction.'

Here I would like to draw attention to the difference between metaphorical and literal usage. When used metaphorically, the whole expression is treated as a single unit. In fact, it is the expression *open the door (again) for*, instead of just *open the door (again)*, that carries the metaphoric sense. Due to this indivisible nature of fixed expressions, adverbial elements like *again* cannot be freely inserted between the verb and the object. For example, when the adverb *weer* is instead inserted between *de deur* and *geopend* in (1), the construction becomes rather marked for the intended metaphorical sense. Like intonation, to fully understand the effect of metaphoric usage on *again*-ambiguities is a huge enterprise that exceeds the goal of this study. I will therefore assume that all the examples in this study should be understood in their literal sense.

(5) Johan öppnade (^{OK}den) inte ($^{\%}$den) igen. (rep/res) [Swe.]
John opened it not it again
'John didn't open the door again.'

Here both the repetitive and the restitutive readings are available regardless of where the pronominal object is.

The object movement in German and Dutch as seen in (3) is commonly referred to as *Scrambling*, and that in Scandinavian languages like (5) is traditionally labeled as *Object Shift* (OS). Much ink has been spilled over the nature of Scrambling and OS, and various accounts, ranging from phonological to semantic, have been proposed to explain them. Covering all these accounts is clearly beyond the scope of the current study; therefore, I will only discuss one semantico-syntactic account developed in Diesing 1992, 1996, 1997 and Diesing and Jelinek 1995 in chapter 2.

To further complicate the picture, the application of Scrambling and OS is also dependent on the type of objects. For instance, if we change the object *de deur* 'the door' in (3) to its corresponding pronominal form *hem* 'it', then only one of the two positions is grammatical in the neutral context, where the pronoun is not stressed:

(6) Jan heeft (^{OK}hem) weer (*hem) geopend. (rep/res) [Dut.]
John has it again it opened
'John opened it again.'

Moreover, when *hem* occurs in the grammatical position, the repetitive/restitutive ambiguity observed earlier is still preserved. Now let us see what would happen if this time we replace *de deur* in (3) with its indefinite counterpart:

(7) Jan heeft (*een deur) weer (^{OK}een deur) geopend. (rep/*res) [Dut.]
John has a door again a door opened
'John opened a (non-specific) door again.'

It seems that (7) shows the reverse pattern of (6): In the neutral context, the sentence with an indefinite object (with a non-specific reading) in its unscrambled position is strongly preferred over the one with a scrambled object.[3] Note also that, in the case of indefinite objects, only repetitive interpretation is available.

Turning our gaze to comparable examples (with negation) in Swedish, our representative of Scandinavian languages, the pattern on the surface is seemingly simpler, in comparison with the Dutch examples above:

(8) a. Johan öppnade (*dörren) inte (^{OK}dörren) igen. (rep/res) [Swe.]
John opened door.the not door.the again
'John didn't open the door again.'

b. Johan öppnade (^{OK}den) inte ($^{\%}$den) igen. (rep/res)
John opened it not it again
'John didn't open it again.'

c. Johan öppnade (*en dörr) inte (^{OK}en dörr) igen. (rep/*res)
John opened a door not a door again
'John didn't open a door again.'

[3]The ungrammaticality of the indefinite-adverb (*een deur - weer*) word order in (7) is actually a swift conclusion. In chapter 3, we will discuss the specific reading of indefinites that would render this word order grammatical.

However, as more detailed structures of the sentences in (8) are laid out in the following chapters, it will soon become apparent that the Swedish sentences above are no less complicated, and therefore no less intriguing, than the previous Dutch examples.

Given our Dutch and Swedish examples above, it appears that there is an interweaving relationship between *again*-ambiguities, Scrambling in the case of West Germanic languages and OS in Scandinavian languages, and object types. This study aims to unknit the interplay between these three linguistic phenomena. Specifically, the following issues will be addressed in this study:

I At the descriptive level, how *again*-ambiguities vary as a function of Scrambling in Dutch/OS in Swedish, and what is the role that object type (e.g., definites, pronouns, and indefinites) plays in connection with these ambiguities?

II At the explanatory level, can we have a unified account that integrates *again*-ambiguities, Scrambling/OS, and object type?

It is therefore the ultimate goal of the current study to crystallize a linguistic mechanism that can elucidate *again*-ambiguities and movement rules like Scrambling/OS jointly based on previous research.

1.2 Organization

This thesis is organized as follows. In chapter 1, we have seen the motivation and the aims of the present study. In chapter 2, the empirical points and one analysis on Scrambling/OS are reviewed. Chapter 3 summarizes two main approaches on *again*-ambiguities. In chapter 4, some problems about the semantico-syntactic account of Scrambling/OS and the structural theory of *again*-ambiguities are discussed upon presentation of more linguistic data, and I argue that these questions can be circumvented by reconciling the structural theory with the semantico-syntactic account, with some adaptations. We will also see how the new account can explain our Dutch and Swedish data at hand. Finally chapter 5 concludes the current study.

CHAPTER 2

On the Move

Object movement is rather common in Germanic languages. In this study, I restrict the discussion only to the object movement in West Germanic languages, such as German and Dutch (with focus on Dutch) and that in Scandinavian languages, including Icelandic, Swedish, Norwegian, and Danish (with most attention given to Swedish). As mentioned in chapter 1, object movement in German and Dutch is often referred to as Scrambling while in Scandinavian languages it is labeled as Object Shift (OS).

The relevant constructions in Icelandic and German are exemplified in (9) and (10) respectively:[1]

(9) a. Nemandinn las ekki **bókina**. [Ice.]
student.the read not book.the

b. Nemandinn las **bókina**$_o$ ekki t$_o$.
student.the read book.the not
'The student didn't read the book.'

(10) a. Der Student hat nicht **das Buch** gelesen. [Ger.]
the student has not the book read

b. Der Student hat **das Buch**$_o$ nicht t$_o$ gelesen.
the student has the book not read
'The student hasn't read the book.'

Under the assumption that clause-medial adverbial elements like the negative marker[2] (i.e., *ekki* in Icelandic and *nicht* in German) mark the left boundary of a verb phrase (VP), it is obvious from Icelandic (9) and German (10) that objects in both languages seem to be able to either stay in their base position inside VP ((9a) and (10a)) or move leftward across the negative marker and therefore outside VP ((9b) and (10b)).

[1] I assume derivational accounts and movement rules when presenting linguistic data and analyses, as most of the literature on these topics does.

[2] Following Haegeman and Zanuttini (1996), I assume that the negative markers in Germanic languages to be adverbial elements which occupy the specifier position of some projection dominating VP.

In spite of the surface similarity between West Germanic Scrambling and Scandinavian OS, the two types of object movement are in fact rather different, as we will see in the later sections of this chapter. The survey here on OS and Scrambling closely follows the relevant discussion presented in Thráinsson 2001 and Vikner 2006. This chapter has the following organization. Section 2.1 and section 2.2 outline some of the basic properties of OS and Scrambling respectively in a relatively theory-neutral fashion, and apparent similarities and differences between them are highlighted. Section 2.3 shortly discusses the landing sites of objects in OS and Scrambling, and section 2.4 briefly summarizes the topics covered in previous section. In section 2.5 are some words on adverbial positions as adverbial positioning is commonly used as a diagnosis for OS and Scrambling. Finally, in section 2.6 the semantico-syntactic account on OS and Scrambling typified in Diesing 1992, 1996, 1997 and Diesing and Jelinek 1995 is reviewed.

2.1 Scandinavian Object Shift

2.1.1 Movable Object Constituents

Consider first the following constructions in (11) in three Scandinavian languages where the object is in the form of a simple, unstressed definite pronoun.

(11) a. Nemandinn las (^{OK}hana) ekki (*hana). [Ice.]
student.the read it not it

b. Studenten læste (^{OK}den) ikke (*den). [Dan.]
student.the read it not it

c. Studenten läste (^{OK}den) inte ($^{\%}$den). [Swe.]
student.the read it not it
'The student didn't read it.'

As illustrated above, with the exception of Swedish, pronominal objects tend to undergo OS obligatorily in Scandinavian languages. With respect to full DP objects, Icelandic is the only Scandinavian language that allows them to undergo OS at S-structure. The example (12) below shows the cases where the DP objects are definite.

(12) a. Nemandinn las (^{OK}bókina) ekki (^{OK}bókina). [Ice.]
student.the read book.the not book.the

b. Studenten læste (*bogen) ikke (^{OK}bogen). [Dan.]
student.the read book.the not book.the

c. Studenten läste (*boken) inte (^{OK}boken). [Swe.]
student.the read book.the not book.the
'The student didn't read the book.'

Even though full definite DP objects can undergo OS in Icelandic, OS of indefinite DP objects is prohibited unless they receive a special interpretation, as will be discussed in section 2.6. Icelandic sentences like (13) are therefore generally ill-formed when the indefinite DP object is shifted leftward.

(13) Hún keypti (*kaffi) ekki (^{OK}kaffi). [Ice.]
she bought coffee not coffee
'She didn't buy coffee.'

In short, Icelandic is most generous in that it allows both pronominal and full DP OS whereas other Mainland Scandinavian languages only permit OS when the object is in the form of a pronoun. It turns out that OS in Scandinavian languages is further constrained by the movement of the main verb in the same clause, as we will see in the next section.

2.1.2 Structural Constraints on Object Shift

Holmberg (1986) is the first to point out the relationship between the position of the main verb and the shiftability of the object in Scandinavian languages: OS is blocked if the main verb which selects for the object stays at its base position in V^0. This link between verb movement and OS in Scandinavian languages has then come to be known as *Holmberg's Generalization*. Like all other Germanic language except for English, Scandinavian languages have verb-second (V2) word order. One context in which OS is licensed is a main clause where the finite main verb has to leave V^0 and move to C^0, as demonstrated in all the examples presented so far.

Holmberg's Generalization can be illustrated by contrasting the two sentences in Icelandic (14) below:

(14) a. Af hverju **las**$_V$ Pétur (^{OK}þessa bók) aldrei [$_{VP}$ t$_V$ (^{OK}þessa bók)]? [Ice.]
why read Peter this book never the book
'Why did Peter never read this book?'

b. Af hverju hefur$_V$ Pétur (*þessa bók) aldrei t$_V$ [$_{VP}$ **lesið** (^{OK}þessa bók)]?
why has Peter this book never read the book
'Why has Peter never read this book?'

In (14a) the main finite verb *las* 'read' has moved out of the VP, so OS is applicable. In (14b) the main verb *lesið* 'read' apparently stays at its base position, thus OS fails to apply. The same constraint can be observed in other Mainland Scandinavian languages as well. Compare, for example, Swedish (15a) and (15b) where the object is a pronoun. (Remember that full DPs, definite or not, do not undergo OS at S-structure in Swedish.)

(15) a. Varför **läste**$_V$ studenterna (^{OK}den) inte [$_{VP}$ t$_V$ ($^{\%}$den)]? [Swe.]
why read students.the it not it
'Why didn't the students read it?'

b. Varför har$_V$ studenterna (*den) inte t$_V$ [$_{VP}$ **läst** (^{OK}den)]?
why has students.the it not read it
'Why haven't the students read it?'

Scandinavian OS is not limited to simple transitive constructions above. However, OS in other types of constructions, such as particle constructions and double object constructions, are subject to different structural constraints. As the OS in these constructions is not of immediate concern to us in this study, the interested reader is referred to works by Thráinsson (2001) and Vikner (2006).

2.2 Germand and Dutch Scrambling

2.2.1 Movable Object Constituents

The term Scrambling was first coined by Ross (1967) and used to account for stylistic variation in word order in so-called free word order languages like Latin. In recent literature, the term is used in a narrower sense and refers to *fronting* (or *raising*) of constituents like direct objects, indirect objects, or even prepositional phrases (PPs) in different languages.

At first glance, Scrambling might appear the same as Scandinavian OS. Consider, for instance, the following examples (16) and (17) from German[3] and Icelandic respectively, both of which involve leftward movement of an object DP from inside VP to outside VP.

(16) a. Peter hat$_V$ ohne Zweifel nie [$_{\text{VP}}$ **Bücher** gelesen] t$_V$. [Ger.]
Peter has without doubt never books read

b. Peter las$_V$ **die Bücher**$_o$ ohne Zweifel nie [$_{\text{VP}}$ t$_o$ t$_V$].
Peter read the books without doubt never

c. Peter las$_V$ **sie**$_o$ ohne Zweifel nie [$_{\text{VP}}$ t$_o$ t$_V$].
Peter read them without doubt never

(17) a. Pétur hefur$_V$ eflaust aldrei t$_V$ [$_{\text{VP}}$ lesið **bækur**]. [Ice.]
Peter has doubtlessly never read books

b. Pétur las$_V$ **bækurnar**$_o$ eflaust aldrei [$_{\text{VP}}$ t$_V$ t$_o$].
Peter read books.the doubtlessly never

c. Pétur las$_V$ **þær**$_o$ eflaust aldrei [$_{\text{VP}}$ t$_V$ t$_o$].
Peter read them doubtlessly never

Scrambling also parallels OS in that unstressed definite pronouns almost always scramble obligatorily, as exemplified in (18a), and that indefinite objects prefer to stay at the unscrambled position, as shown in (18b).[4] Like Icelandic, but unlike other Mainland Scandinavian languages, definite objects can either scramble or remain at the base position, as in (18c).

(18) a. Ik heb ($^{\text{OK}}$hem) gisteren (*him) gebeld. [Dut.]
I have him yesterday him called
'I called him yesterday.'

b. De politie heeft (*een kraker) gisteren ($^{\text{OK}}$een kraker) opgepakt.
the police has a squatter yesterday a squatter arrested
'The police arrested a squatter yesterday.'

c. Sonja heeft ($^{\text{OK}}$de kaas) gisteren ($^{\text{OK}}$de kaas) opgegeten.
Sonja has the cheese yesterday the cheese eaten
'Sonja ate the cheese yesterday.'

[3]For this thesis, I adopt the traditional assumption that German and Dutch are OV languages and therefore assume Scrambling to have taken place only when the relevant constituents have shifted to the left across at least one adverbial element. But see Kayne 1994, Roberts 1997, and Zwart 1993, 1997 for the argument that all languages are underlyingly VO.

[4]Indefinite objects are actually allowed to scramble, but only when they undergo a shift in interpretation, as we will see in section 2.6.

Scrambling, however, differs from Scandinavian OS in that it applies not only to DPs but also PPs. Compare, for instance, the following German (19a), Dutch (19b), and Icelandic (19c) examples:

(19) a. … dass Jan (^{OK}auf meine Bemerkung) kaum (^{OK}auf meine Bemerkung)
that John on my remark hardly on my remark
reagierte [Ger.]
reacted
'… that John hardly reacted on my remark'

b. … dat Jan (^{OK}op mijn opmerking) nauwelijks (^{OK}op mijn opmerking)
that John on my remark hardly on my remark
reageerde [Dut.]
reacted
'… that John hardly reacted on my remark'

c. Jón talaði (*við Maríu) ekki (^{OK}við Maríu). [Ice.]
John spoke to Mary not to Mary
'John didn't speak to Mary.'

Having compared the movable constituents in Scrambling and in OS, we now turn to the structural constraints that condition the application of Scrambling.

2.2.2 Structural Constraints on German and Dutch Scrambling

As illustrated in section 2.1.2 and section 2.2.2, Scandinavian OS requires a prior verb movement and is restricted to DPs. Therefore, if the finite verb of a clause is an auxiliary verb, and the main verb is non-finite and stays inside VP, then OS would fail to apply. Scrambling, in contrast, is not subject to this constraint; it may take place regardless of whether or not the main verb has left its VP. Contrast the two German sentences in (20):

(20) a. Warum **liest**$_V$ Peter dieses Buch$_o$ oft [$_{VP}$ t$_o$ t$_V$]? [Ger.]
Why reads Peter this book often

b. Warum hat$_V$ Peter dieses Buch$_o$ oft [$_{VP}$ t$_o$ **gelesen**] t$_V$?
Why has Peter this book often read

The grammaticality of (20b) shows that Scrambling does not fall under Holmberg's Generalization, which states that the object may only move if the main verb has moved in the first place. So far we have seen that the constituents that can be moved by Scrambling (i.e., DPs and PPs) are more broad than those by Scandinavian OS (i.e., only DPs), and that the structural conditions on these two types of object movement also differ. One related question that naturally arises in connection with these differences is then whether or not the landing sites of the moved constituents could be the same. I will address this question in the following section.

2.3 Landing Sites of Object Shift versus Scrambling

Before we dive into the question of what are the landing sites that OS and Scrambling target, it might be useful to contrast them with the movement involved in topicaliza-

tion. One standard claim that distinguishes OS and Scrambling on the one hand and topicalization on the other is that OS and Scrambling are *clause-bounded*. In other words, the OS and Scrambling rules cannot move constituents out of the same clause. See, for instance, German (21) and Icelandic (22) examples below:

(21) a. María telur ekki [að **Harald** vanti peninga]. [Ice.]
Mary.NOM believes not that Harold.ACC needs money.ACC
'Mary does't believe that Harold needs money.'

b. * María telur **Harald**$_o$ ekki [að t$_o$ vanti peninga]. (OS)
Mary.NOM believes Harold.ACC not that needs money.ACC

c. **Harald**$_o$ telur María ekki [að t$_o$ vanti peninga]. (Top.)
Harold.ACC believes Mary.NOM not that needs money.ACC
'Harold, Mary doesn't believe needs money.'

(22) a. Ich glaube nicht [dass jeder **den Max** kennt]. [Ger.]
I believe not that everybody.NOM the Max.ACC knows
'I don't believe that everybody knows Max.'

b. * Ich glaube **den Max**$_o$ nicht [dass jeder t$_o$ kennt]. (Scra.)
I believe the Max.ACC not that everybody.NOM knows

c. **Den Max**$_o$ glaube ich nicht [dass jeder t$_o$ kennt]. (Top.)
the Max.ACC believe I not that everybody.NOM knows
'Max, I don't believe that everybody knows.'

Both Icelandic (21b) and German (22b) show that the embedded DPs cannot move out of the embedded clause and across the matrix negative marker, though they can be topicalized by moving out of such a clause and to the matrix-initial position in (21c) and (22c).

Although both OS and Scrambling involve moving object DPs leftward and across adverbial elements, there is some evidence, however, that Scrambling may move object DPs to a higher position then OS does. Observe the following Icelandic (23) and German examples (24):

(23) a. Þá máluðu allir strákarnir stundum bílana rauða. [Ice.]
then painted all boys.the.NOM sometimes cars.the.ACC red.ACC
'Then all the boys sometimes painted the cars red.'

b. Þá máluðu (*bílana$_o$) allir strákarnir (^{OK}bílana$_o$) stundum t$_i$
then painted cars.the.ACC all boys.the.NOM cars.the.ACC sometimes
rauða.
red.ACC

(24) a. … dass der Schüler nicht den Lehrer überzeugt [Ger.]
that the student.NOM not the teacher.ACC convinces
'… that the student does not convince the teacher'

b. … dass ($^{?}$den Lehrer$_o$) der Schüler (^{OK}den Lehrer$_o$) nicht t$_o$ überzeugt
that the teacher.ACC the student.NOM the teacher.ACC not convinces

c. … dass die Antwort nicht den Lehrer überzeugt
that the answer.NOM not the teacher.ACC convinces
'… that the answer does not convince the teacher'

d. … dass (^{OK}den Lehrer$_o$) die Antwort ($^{?}$den Lehrer$_o$) nicht t$_o$ überzeugt
that the teacher.ACC the answer.NOM the teacher.ACC not convinces

e. … dass den Max$_o$ jeder t$_o$ kennt
that the Max everybody knows
'… that everybody knows Max'

Sentences (24b), (24d), and (24e) indicate that Scrambling of the object across the subject is possible in German, with acceptability depending on the nature of the subject and the object. However, when we try to shift the object across the subject in Icelandic, as shown in (23b), the resulted sentence turns out to be ungrammatical. It thus appears that German Scrambling is able to move constituents further up the syntactic tree than Icelandic OS. One proposal that responses to this observation is that German Scrambling can adjoin object DPs to tense phrase (TP) in addition to VP where as Icelandic OS can only adjoins object DPs to VP.[5] So far we only know that when objects undergo Scrambling or OS, they move out of the VP, but we have not formally addressed the question of *where* they end up. To this end, two general approaches – adjunction analysis and specifier analysis – have been put forth to explain the whereabout of the moved object constituents, as will be reviewed below in more detail.

2.3.1 Movement as Adjunction

Earlier structural analyses of Scrambling and some analyses of OS take the position that the movement rules move constituents out of VP and adjoin the moved constituents to some maximal projection, such as VP or TP. Whether moved constituents can be adjoined to only VP, or higher TP and even CP, is parameterized according to languages. Some recent proposals in the light of adjunction analysis are summarized below:

I Scandinavian OS adjoins moved constituents to (the highest) VP (e.g., Vikner 1994, Holmberg and Platzack 1995).

II German Scrambling can adjoin moved constituent to VP or TP (e.g., Grewendorf and Sternefeld 1990, Müller and Sternefeld 1994) or just to TP (e.g., Fanselow 1990, Czepluch 1990).

III Dutch Scrambling may be adjunction to VP (e.g., Zwart 1997).

These proposals are visualized with syntactic trees below. For Proposal (I), I will use an Icelandic example (25) to illustrate this derivation process, assuming the VP-Internal Subject Hypothesis (I omitted the little *v*P shell here for simplicity, but it can be easily

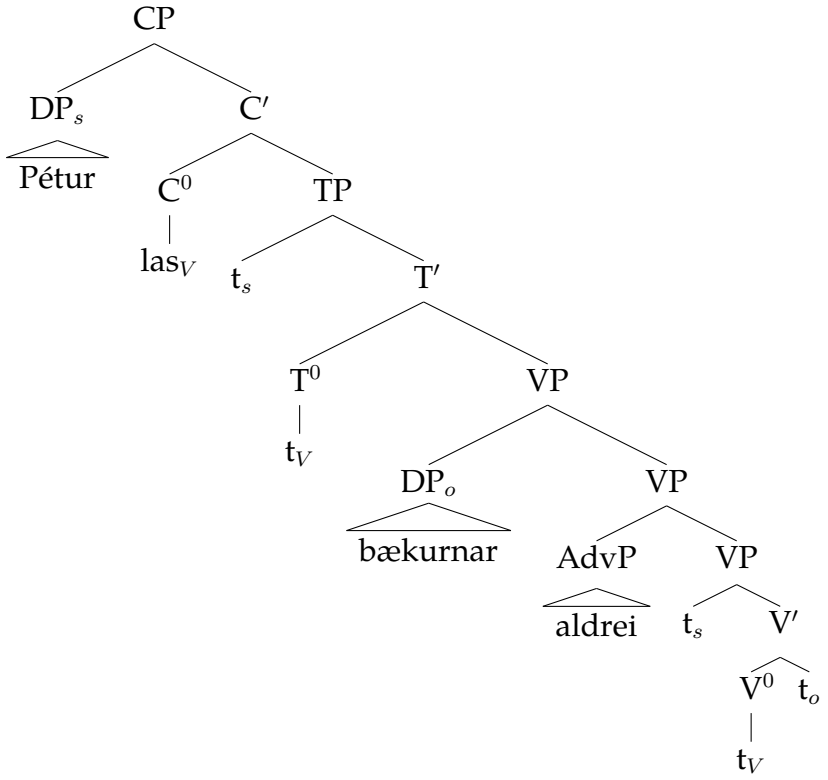
[5] Dutch Scrambling is different from German Scrambling in this respect: Scrambling of an object across a subject is allowed apparently only when a special *focus* reading is intended. Consider the example (1) below, where only the object *zulke boeken* 'such books', as opposed to *die boeken* 'the books', can scramble across the subject *zelfs Jan* 'even John'.

(1) a. … dat (*die boeken$_o$) Jan (^{OK}die boeken$_o$) niet t$_o$ koopt. [Dut.]
that the books John the books not buys

b. … dat (^{OK}zulke boeken$_o$) zelfs Jan (^{OK}zulke boeken$_o$) niet t$_o$ koopt.
that such books even John such books not buys

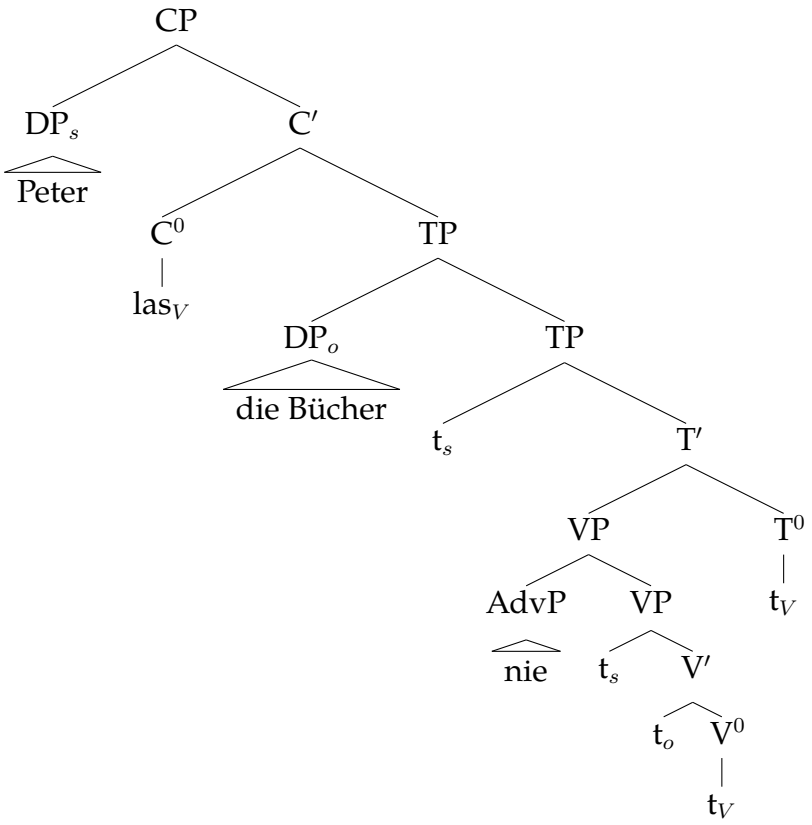
incorporate into the tree). Here the object *bækurnar* 'the books' has left its base position within the VP and adjoined to the VP maximal projection.

(25) Pétur las$_V$ bækurnar$_o$ aldrei [$_{VP}$ t$_V$ t$_o$]. [Ice.]
Peter read books.the never
'Peter never read the books.'



The German example (26) is used to illustrated Proposal (II). Again I assume the VP-Internal Subject Hypothesis and disregard the *v*P shell. Note in this case, instead of adjoining to the VP shell as in Icelandic, the displaced object *die Bücher* 'the books' adjoins to the higher TP shell.

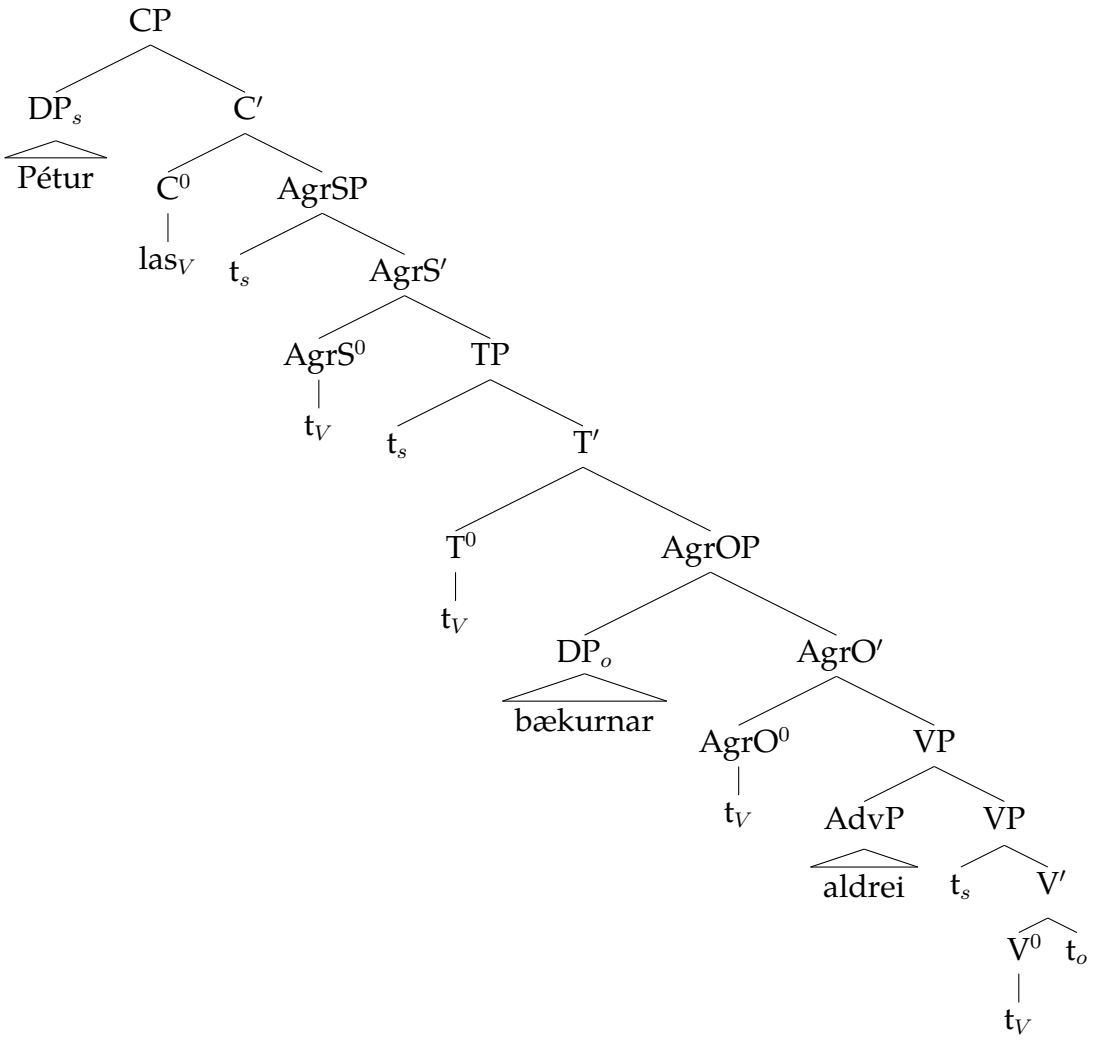
(26) Peter las$_V$ die Bücher$_o$ nie [$_{VP}$ t$_o$ t$_V$]. [Ger.]
Peter read the books never
'Peter never read the books.'



2.3.2 Movement as Specifier Substitution

The alternative proposal that almost all later analyses take claims that, instead of adjunction, Scandinavian OS and Scrambling involve substitution into the specifier position of some functional projection immediately above VP, especially after the explosion of the inflectional phrase (IP) that came after Pollock 1989 and Chomsky 1991. Most studies suggest that OS moves constituents to the specifier position of object agreement phrase [AgrOP, Spec] (Bobaljik 1995, Chomsky 1993, Collins and Thráinsson 1996, Déprez 1989, Johnson 1991). I will use the Icelandic example (25) above, repeated here as (27), to illustrate this proposal. Here the object *bækurnar* 'the books' has moved from its base position inside the VP to the specifier position of AgrOP that immediately dominates the VP.

(27) Pétur las$_V$ bækurnar$_o$ aldrei [$_{VP}$ t$_V$ t$_o$]. [Ice.]
Peter read books.the never
'Peter never read the books.'



Recall that German Scrambling can move object DPs to a higher position than Scandinavian OS (cf. (23) and (24)), so Déprez (1989) assumes that German Scrambling is able to move constituents to multiple specifier positions above the VP. In spite of intensive studies on the issue, so far there is still no consensus as to how to best characterize the landing site of OS and Scrambling, although there is a growing trend to view it as substitution into a specifier position rather than adjunction to some maximal projection.

2.4 Summary

Throughout the previous sections, we have seen both the similarities and differences between the two movement rules. Table 2.1 summarizes some of the properties discussed above.

Property	Object Shift		Scrambling	
	Icelandic	Mainland Scand.	German	Dutch
Dependent on main verb pos.	√	√	×	×
Moves full DPs	√	×	√	√
Moves pronomimal DPs	√	√	√	√
Moves PPs	×	×	√	√
May move obj. DPs across subj. DPs	×	×	√	×
May cross a clause boundary	×	×	×	×

Table 2.1: Summary of properties of OS and Scrambling

Before we continue to the semantico-syntactic analysis of OS and Scrambling, some words on adverbial positioning is in order, as adverbs play a vital role in detecting whether or not OS and Scrambling have taken place.

2.5 Some Remarks on Adverb Positions

In each and every example of OS or Scrambling we have seen, the sentential adverbials (including the negative marker) in medial position function as landmarks of syntactic structure. Their positioning with respect to the main verb and/or the object is regarded as the indicator of whether the main verb or the object has moved out of the VP. Studies on OS and Scrambling therefore have also forced linguists to take a closer look at issues concerning adverbs.

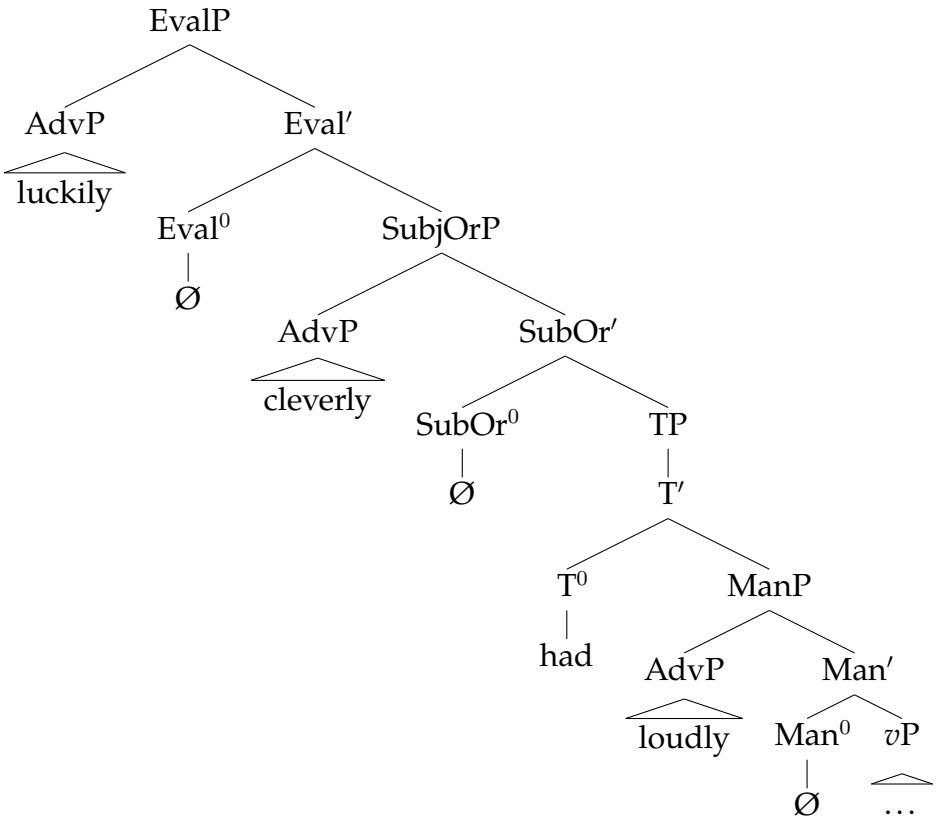
2.5.1 Functional Specifier Theory

The theories concerning adverbial positioning in recent literature are roughly divided between two camps. The *functional specifier* (F-Spec) theory, advocated by Cinque (1999, 2004), views each adverb phrase (AdvP) as occupying the specifier position of a functional head that licenses that particular adverb. The theory also maintains that there is a one-to-one relationship between adverbs and functional heads such that every semantically distinct adverb class has its own licensing head. This one-to-one relationship is crucial to the F-Spec theory as the interpretation of each adverb is dependent on the specific licensing head. The semantics and interpretation of adverbs in this theory therefore rely mostly on purely syntactic components of grammar, with the order of licensing heads (and hence the order of adverbs) governed by universal grammar. The partial rigid hierarchy specifying the relative order of different classes of adverbs is given in (28), with an example (29) and the relevant portion of its syntactic tree below to illustrate the central idea of the theory:

(28) **Speech-act** adverbs (e.g., *frankly*, *honestly*, *briefly*), which characterize the speech act >
Evaluative adverbs (e.g, *amazingly*, *surprisingly*, *unfortunately*), which express the speaker's attitude to a proposition >

Epistemic adverbs (e.g., *probably*, *certainly*, *clearly*), which express epistemic possibility >
Subject-oriented adverbs (e.g., *accidentally*, *deliberately*, *unwillingly*), which indicate properties of the subject >
Manner adverbs (e.g., *softly*, *tightly*, *loudly*), which characterize the fashion in which an event took place

(29) a. **Luckily**, Gretchen had **cleverly** been **loudly** reading up on local customs.
b. * **Cleverly**, Gretchen had **luckily** been **loudly** reading up on local customs.



The order of the adverbs in (29b) is ruled out because the reverse order of the heads Eval^0 and SubjOr^0 can never occur.

2.5.2 Semantically Based Adjunction Theory

The other theory, termed the *semantically based adjunction* (SBA) theory, is typified by Ernst (2002, 2004, 2007) and Haider (2004). This theory holds that adverbs adjoin more freely to various projections and that the order of adverbs is restricted largely by semantic principles. The illicit orders of adverbs are therefore attributed to semantic anomalies. Take (29) for example again. Subject-oriented adverbs like *clearly* is said to select for events that the subject can control (i.e., whether or not to participate in the event), as shown below in (30), and evaluative adverbs like *luckily* take a proposition as the input and form a proposition as the output, as schematized in (31) (PERF and PROG stand for

the aspectual operators realized here as *have* and *be* respectively).[6]

(30) a. λe . [**clever**(e)]
b. **clever**([$_{E1}$ PERF [$_{E2}$ PROG [$_{E3}$ ...]]])

(31) a. λp . [**lucky**(p)]
b. **lucky**([$_{P}$ **clever**([$_{E1}$ PERF [$_{E2}$ PROG [$_{E3}$ ...]]])])

The order of adverbs in (29b) is illicit because the input *cleverly* takes in this case is not a controllable event but a proposition:

(32) * **clever**([$_{P}$ **lucky**([$_{P}$ [$_{E1}$ PERF [$_{E2}$ PROG [$_{E3}$ ...]]])])

Along with most studies on OS and Scrambling, I will adopt the SBA theory to account for the positioning of adverbs in a sentence. The SBA theory is preferred over the F-Spec theory in that, as Ernst (2007) argues, the scope and related patterns of adverbs can be easily handled by the basic semantic principles central to the SBA theory, while the F-Spec theory deals with these issues with significantly more redundancy. The detailed arguments for such a position is beyond the scope of this thesis, and the interested reader is referred to Ernst 2007. In the studies that take the SBA approach (or similar ones), one general and crucial assumption is that adverbs precede the VP headed by the main verb and therefore must be adjoined no lower than to that VP. As a result, in the classic paradigm, if an object or the main verb occurs to the left of such an adverb, then presunably it must have moved out of the VP.

Using the SBA theory, which allows adverbs to join freely to various constituents, along with the assumption that AdvP adjoins to the VP of the main verb (or some maximal projection dominating the VP) is not without its problems. Because of the freedom of occurrence adverbs enjoy, in some cases, we are not able to use the positioning of adverbs as a diagnosis of movement. For example, the Icelandic example (33) that is typically used to argue for the non-shiftablility of the object can well be reinterpreted as an example of OS if we assume the adverb *aldrei* 'never' is adjoined higher than the VP, as shown in (34). We can then reinterpret that both the main verb *lesið* 'read' and the object *bókina* 'the book' have moved out of the VP.

(33) Jón hefur aldrei lesið bókina. [Ice.]
John has never read book.the
'John has never read the book.'

(34) [$_{\text{AgrSP}}$ Jón herfur [$_{\text{TP}}$ aldrei [$_{\text{TP}}$ lesið$_{V}$ [$_{\text{AgrOP}}$ bókina$_{o}$ [$_{\text{VP}}$ t$_{V}$ t$_{o}$]]]]]

To rule out this potential structure, we need a theory of movement that renders this structure deviant. For example, under the checking theory proposed by Chomsky (1993, 1995), there is no motivation for the non-finite main verb *lesið* to move to T^0 because it does not have any feature to be checked at T^0. Therefore, given a theory such as the SBA theory that tolerates several possible positions for adverbs, we need a rich enough syntactic theory to restrict possible interactions between adverbs and other constituents.[7]

[6] I use boldface to indicate the denotation of an expression. For an expression e, **e** is the denotation of e.

[7] An account that details out the semantics and syntax of adverbs is even more crucial if we assume,

Having described the properties of the movable constituents in Scrambling and OS and some constraints that govern the movement rules in the previous sections, in the forthcoming section, I will focus on one particular analysis that aims to account for the motivation of Scrambling and OS.

2.6 Semantico-Syntactic Account of Object Shift and Scrambling

Theoretical approaches ranging from phonological, morphological, syntactic to semantic ones have been proposed to account for the facts about Scandinavian OS and German and Dutch Scrambling presented above. Due to limits on space and the scope of the current study, it is not practical to survey all these accounts here, and I will therefore concentrate on the semantico-syntactic account proposed in Diesing 1992, 1996, 1997 and Diesing and Jelinek 1995. Readers interested in purely syntactic or purely phonological accounts can refer to Chomsky 1993, Nespor and Vogel 2007, and Selkirk 1996.

The semantico-syntactic account rests on one crucial observation: In spite of the apparent differences in the syntactic processes of OS and Scrambling, the semantic effects of the two types of movement are strikingly similar, as we will see below. The semantic similarities thus call for a more broadly applicable account. An explanation based on semantically-driven movement, that is, syntactic movement is induced by interpretation conditions applying at the syntax-semantics interface, is proposed in Diesing 1992, 1996, 1997 and Diesing and Jelinek 1995 to unite OS and Scrambling.

2.6.1 Semantic Background

One background assumption in their proposal is that the syntactic category of DP maps onto a family of semantic types, as argued in Partee 2002. Examples of DPs and their typically associated semantic type are given below:

e	"referential"	*John*, *she*
<*e*,*t*>	"predicational"	*a door*
<<*e*,*t*>,*t*>	"quantificational"	*most windows*

One idea central to their proposal is that various semantic types differ in their interpretative requirements when the semantic interpretation is mapped from the syntax, as we

like Kayne (1994), that all languages are underlyingly VO. Consider the Dutch example (1) from Zwart 1997, where he assumes that Dutch is a VO-language.

(1) a. … dat Jan gisteren Marie$_o$ gekust t$_o$ heeft [Dut.]
that John yesterday Mary kissed has

b. … dat Jan Marie$_o$ gisteren gekust t$_o$ heeft
that John Mary yesterday kissed has
'… that John has kissed Mary yesterday'

The Dutch as underlyingly VO assumption has forced Zwart (1997) to conclude that the object in both (1a) and (1b) has undergone Scrambling, and therefore the question becomes why the adverb *gisteren* 'yesterday' shows up in different places. When taking this languages-as-universally-VO assumption, a theory of adverbs has to explain the distribution of adverbs as exemplified in this example.

will discuss in more detail below. Following Heim (1982), they assume that DPs of the type <*e*,*t*> and the type *e* introduce free variables. They also assume that multiple interpretations, and therefore multiple type assignments, are possible. For instance, indefinite DPs can acquire a predicational interpretation (i.e., <*e*,*t*>) or a quantificational interpretation (i.e., <<*e*,*t*>,*t*>) (Diesing 1992). Indefinite DPs having a predicational reading can be seen in (35) below:

(35) a. There are some cookies on the table
b. $\exists x$ [**cookie**(x) $\wedge$ **on table**(x)]

In example (35), the variable introduced by the indefinite DP is bound by a default process of *existential closure* and thus gives an existential interpretation of the indefinite DP. Example (36), on the other hand, illustrates a quantificational reading of *turtles*.

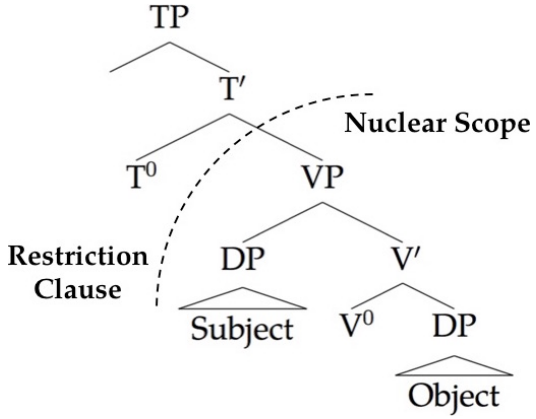
(36) a. Turtles usually eat a banana.
b. **USUALLY**x [**turtle**(x)] $\exists y$ [**banana**(y) $\wedge$ **eat**(x, y)]

Here the indefinite *turtles* is not inherently quantified but takes its quantificational force from another element in the sentence, that is, the quantificational adverb *usually* in this case. The semantic representation of this example takes a *tripartite structure*, which consists of an operator (i.e., **USUALLY**x), a restrictive clause (i.e., [**turtle**(x)]) quantified over by the operator, and a nuclear scope (i.e., $\exists y$ [**banana**(y) $\wedge$ **eat**(x, y)]).

2.6.2 Semantic Conditions on Interpretations

One question that arises accordingly then is how the tripartite semantic representation is translated from the syntactic structure. The mapping between syntactic structures and their tripartite semantic representation is handled by Diesing's (1992) *Mapping Hypothesis*, which derives the tripartite structure by splitting the syntactic tree into two parts:

(37) The Mapping Hypothesis:
1. VP maps into the Nuclear Scope (i.e., the domain of existential closure)
2. TP maps into the Restriction Clause (of an operator)

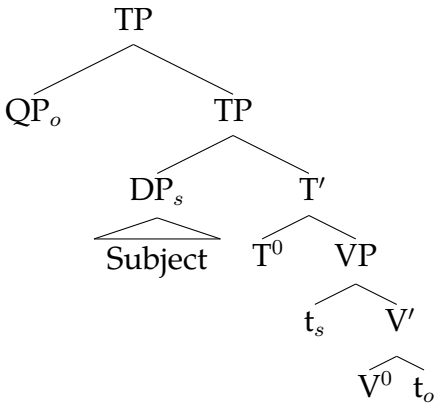


According to the Mapping Hypothesis, the VP forms the domain for default existential closure, and thus variables not bound by an operator has to be closed here. On the other

hand, variables introduced above VP are necessarily bound by an operator. Therefore, the mapping hypothesis implies that different DP readings are linked with distinct syntactic positions in the tree.

Two semantic conditions that drive movement at LF are the products of the Mapping Hypothesis combining with the multiple DP types. The first semantic condition, termed *Type Mismatch Repair*, is basically the principles of semantic composition that force movement to repair type match. Here Diesing and Jelinek (1995) assume with Heim and Kratzer 1998 that only a very restricted set of composition principles, such as function application (for combinations of predicates and their arguments) and lambda-abstraction (for dealing with traces and modification), is available. For example, quantificational DPs (QPs) of type <<*e*,*t*>,*t*> necessarily combine with a predicate of type <*e*,*t*> to output a truth-value (type *t*). When QPs are in object position, however, a type mismatch occurs because QPs (type <<*e*,*t*>,*t*>) cannot directly combine with transitive verbs (type <*e*,<*e*,*t*>>, which must combine with an argument of type *e*). To repair this type mismatch and yield a well-formed derivation, the quantifier must undergo Quantifier Raising (QR) and adjoin to TP or VP (May 1985), leaving behind a trace:

(38)



The raising of the QP makes it possible for the predicate TP (type <*e*,*t*>) to combine with the QP (type <<*e*,*t*>,*t*>) and to yield a truth-value. Note that, because of QR, inherently QPs are always out of the domain of VP at LF.

The second semantic condition, referred to as *Scope Fixing*, concerns the properties of the existential closure operation. Diesing and Jelinek 1995 assume that existential closure is genuinely unselective in that, at LF, any free variables that fall within the scope of existential closure (i.e., within VP) are existentially quantified. This also means that DPs introducing a free variable (i.e., DPs of type <*e*,*t*> and type *e*) but not receiving an existential interpretation have to move out of the scope of the existential closure by LF. However, QPs and traces left by movement like *wh*-movement do not introduce a free variable, so they are not necessarily affected by this condition.

For languages like English, these two semantic conditions are collapsed into one, where QR at the abstract level of LF resolves both Type Mismatch Repair and Scope Fixing requirements. German, on the other hand, allows the two semantic conditions to be satisfied in different stages of derivation. Specifically, the Scope Fixing condition has to be fulfilled at S-structure by overt movement whereas the Type Mismatch Repair can be delayed until LF by the abstract syntactic rule of QR. To see how these two semantic conditions work in German, consider the following example:

(39) a. … weil ich selten [$_{VP}$ **jedes Cello** spiele] [Ger.]
since I seldom every cello play
'…since I seldom play every cello'

b. … weil ich **jedes Cello**$_o$ selten [$_{VP}$ t$_o$ spiele]
since I every cello seldom play
'…since I play every cello (only) seldom'

The grammaticality of both (39a), where the quantificational object remains in its base position, and (39b), where the object scrambles out of the VP, indicates that the resolution of the type mismatch can wait until LF. However, the scope of the quantificational object relative to the adverb *selten* 'seldom' has to be fixed at S-structure, as can be seen in the English translations: In (39a), the quantificational object is within the scope of the adverb, whereas in (39b), the quantificational object takes scope over the adverb.

2.6.3 Semantic Factors on Object Shift and Scrambling

In this section, we will see how the semantic conditions introduced above account for Scrambling and OS. First consider the following German example (40) with an indefinite DP object, which is of type <*e*,*t*> and introduces a free variable:

(40) a. … weil Elly immer [$_{VP}$ **Lieder** singt] [Ger.]
since Elly always songs sings
'… since Elly always sings songs'

b. … weil Elly **Lieder**$_o$ immer [$_{VP}$ t$_o$ singt]
since Elly songs always sings
'… since, (generally) if it's a song, Elly will sing it (instead of playing it)'

In (40a), the indefinite DP *Lieder* 'songs' appears in its base VP-internal position; it is therefore bound by existential closure and receives an existential interpretation, as predicted by the Mapping Hypothesis. Note also that it has a narrower scope compared with the quantificational adverb *immer* 'always'. In (40b), in contrast, the indefinite object has scrambled out of the VP and receives an essentially quantificational reading (see the English translation). In this case, the indefinite is bound by the adverb and gets its quantificational force from it.

In Icelandic, we can also observe a similar semantic distinction as in German. OS of an indefinite DP (with an emphatic stress on the main verb) results in either a definite or quantificational reading for that DP, and if the indefinite object remains at base position, then it receives an existential interpretation, as shown in the following example:

(41) a. Hann las$_V$ ekki [$_{VP}$ t$_V$ **bækur**]. [Ice.]
he read not book
'He didn't read books.'

b. * Hann las$_V$ **bækur**$_o$ ekki [$_{VP}$ t$_V$ t$_o$].
he read books not

c. Ég LES$_V$ **bækur**$_o$ ekki [$_{VP}$ t$_V$ t$_o$].
I read books not
'I don't READ books (I only BUY them).'

Here we see that in both Scrambling and OS, the surface position of an indefinite object is determined by its scope, and hence its interpretation, relative to the existential closure operator. When the indefinite object receives an existential/non-specific reading, it has to lie within the scope of the existential closure; when the indefinite object needs to be interpreted as specific/generic, then it has to move out of the existential closure. In other words, whether or not an indefinite object undergoes Scrambling/OS appears to be dependent on its interpretation.

We now turn to the scenario in which the object is in the form of a definite DP – either a definite description like *the cat* or a pronoun like *him*. To begin with, consider German (42) and Icelandic (43) examples that exemplify objects of definite descriptions (the adverb *vel* ''thoroughly' in Icelandic can occur only clause-finally, which is why (43c) is ungrammatical):

(42) a. ? ... weil ich selten [$_{VP}$ **die Katze** streichle] [Ger.]
since I seldom the cat pet

b. ... weil ich **die Katze**$_o$ selten [$_{VP}$ t$_o$ streichle]
since I the cat seldom pet
'... since I seldom pet the cat.'

(43) a. ? Hann las$_V$ ekki [$_{VP}$ t$_V$ **bókina**] vel. [Ice.]
he read not book.the thoroughly

b. Hann las$_V$ **bókina**$_o$ ekki [$_{VP}$ t$_V$ t$_o$] vel.
he read book.the not thoroughly
'He didn't read the book thoroughly.'

c. * Hann las$_V$ ekki vel [$_{VP}$ t$_V$ bókina].
he read not thoroughly book.the

Diesing and Jelinek (1995) claim that the oddity associated with (42a) and (43a) arise from the violation of the Novelty Condition that variables bound by existential closure must be new to the discourse (Heim 1982). According to the Novelty Condition, the definite objects *die Katze* 'the cat' and *bókina* 'the book' receive a referential interpretation (which is *old* information), and therefore the variables introduced by them cannot be felicitously existentially bound. As a result, definite objects have to move out of the scope of the existential closure operator at S-structure, as seen in (42b) and (43b). It should be mentioned, however, that (42b) and (43b) are not absolutely ill-formed: The sentences become more acceptable if the DPs receive a contrastive interpretation – 'since I seldom pet the cat (not the dog)' and 'he didn't read the book thoroughly (not the newspaper)'. According to Diesing and Jelinek 1995, a contrastive reading indicates a novel referent and thus prevents the violation of the Novelty Condition.[8]

[8] Another situation in which definite descriptions can felicitously remain in their base position (and therefore within the domain of existential closure) is when they allow a quantificational (<<*e*,*t*>,*t*>) reading. Observe the following German example (1):

(1) ... weil ich selten [$_{VP}$ **die kleinste Katze** streichle] [Ger.]
since I seldom the smallest cat pet
'... since I seldom pet the smallest cat'

On this *attributive* (rather than referential) reading, the DP *die kleinste Katze* 'the smallest cat' roughly means 'whichever cat is the smallest', which is essentially quantificational. Since QPs do not introduce a

Finally, let us examine the cases where the other type of definite DP, namely, pronouns, is involved. Although pronouns are simply variables, by virtue of their definiteness nature (thus their discourse status as old information), they are predicted not to occur within the domain of existential closure/VP, as dictated by the Novelty Condition. This prediction is also borne out. This prediction is borne out. As illustrated in the German (44) and Icelandic (45) examples below, unless the pronominal objects are focused or contrasted, they must moved out of VP.

(44) … weil ich (^{OK}sie) selten [$_{VP}$ (*sie) streichle] [Ger.]
since I her seldom her pet
'… since I seldom pet her'

(45) Hann las$_V$ (^{OK}þær) ekki [$_{VP}$ t$_V$ (*þær)]. [Ice.]
he read them not them
'He didn't read them.'

To briefly summarize this section, we saw how two semantic conditions at LF – Type Mismatch Repair and Scope Fixing – interact with the various DP types to determine the distribution of objects in Scandinavian and West Germanic languages. Specifically, objects in Scandinavian and West Germanic (except for English) languages undergo OS or Scrambling in order to fulfill the Scope Fixing condition and the Novelty Condition at S-structure, whereas resolution for type mismatch can be procrastinated until LF. The following table summarizes the most important facts discussed so far:

Object type	Object Shift/Scrambling	
	inside VP (Nuclear Scope/existential closure)	outside VP (Restriction)
QPs	√	√
Indefinite DPs	√	Δ(definite/specific)
Definite descriptions	Δ(contrastive/quantificational)	√
Definite pronouns	Δ(contrastive/focus)	√

Table 2.2: Semantic effects on Object Shift/Scrambling

Having focused on OS and Scrambling, let us now turn our gaze to the other important aspect of this thesis – *again* – in the next chapter.

free variable bindable by existential closure, they can remain within existential closure at S-structure.
Parallel examples can also be seen in Icelandic:

(2) a. Hann les$_V$ sjadan [$_{VP}$ t$_V$ **lengstu bókina**]. [Ice.]
he reads seldom longest book.the
'He seldom reads the longest book (whichever it is).'

b. Hann les$_V$ **lengstu bókina**$_o$ sjaldan [$_{VP}$ t$_V$ t$_o$].
he reads longest book.the seldom
'There is a certain book which is the longest, and he seldom reads that book.'

CHAPTER 3

All over *Again*

In this chapter, I will introduce the theories that attempt to account for the ambiguity associated with the adverb *again*. The basic fact to be captured is the repetitive/restitutive ambiguity of sentences like (46), with its two possible readings paraphrased in (47).

(46) John opened the door again.

(47) a. John opened the door, and that had happened before. (repetitive)
b. John opened the door, and the door had been open before. (restitutive)

On either reading, (46) is licensed by some previous eventuality. If the sentence receives the repetitive reading, then the eventuality is a previous opening of the door by John. In contrast, on the restitutive reading, it is the door's being open that is that previous eventuality.

The theories on this repetitive/restitutive ambiguity are roughly divided between two camps, one of which regards the ambiguity as syntactic with the meaning of *again* being constant, and the other attributing the ambiguity to inherently lexical ambiguities of *again* that correspond to the two readings respectively. The former syntactic analysis is typified in Beck 2005, Beck and Johnson 2004, and von Stechow 1995, 1996, while the latter lexical approach is advocated by Fabricius-Hansen (1983, 2001) and Pedersen (2014). In what follows, we will first explore the logical relation between the repetitive and restitutive readings of *again* in section 3.1, and then we will look in more detail at the lexical analysis of the ambiguity of *adverb* in section 3.2 and then turn our attention to the structural analysis of this ambiguity in section 3.3.

3.1 The Logical Relation between the Two Readings

Before we dive into the theories that attempt to locate the source of *again*-ambiguities, it might be useful to first establish the logical relation between the two readings. As just mentioned, both readings require some previous eventuality. In the repetitive reading,

I term this eventuality *action*, and in the case of restitutive reading, this eventuality is commonly labeled as *state*. In simple sentences like (48), both action and state eventualities are at least conceptually present: the action in this example is the opening of the door by John, and the state is the door's being open.

(48) John opened the door.

I argue that, at least with the verb *open*, the associated action and state are involved in an entailment relation such that the state necessarily follows from the action, but not vice versa:

(49) Action ⇒ State

This relation can be roughly paraphrased as *an action necessarily causes a state*. It is not hard to conceive why this relation holds: If John performed the *action* of opening the door, then the door must end in the *state* of being open. Yet when the door is in the state of being open, it does not necessarily imply a corresponding action. On the basis of this, we are now ready to investigate the logical relation between the two possible readings.

I argue that the repetitive and restitutive readings also enter into an entailment relation in that the repetitive reading implies the restitutive reading:

(50) Repetitive ⇒ Restitutive

Let us first depart from the repetitive reading of (46): On this reading, John repeated the action of opening the door once more, so the adverb *again* modifies the action eventuality. Because an action is necessarily followed by a state (i.e., (49)), when the action is repeated, the corresponding state also gets repeated. In other words, when John opened the door twice (i.e., repetitive), the state of the door being open also occurred twice (i.e., restitutive). On the contrary, if we depart from the restitutive reading, we do not always land in the repetitive reading. For instance, even though it is true that John opened the door the had been open before (so that the *state* of the door being open is repeated), it does not necessarily follow that John performed the *action* of opening the door twice.

To sum up, although a sentence with *again* can be ambiguous between a repetitive and a restitutive reading, an entailment relation still holds between these two readings. Specifically, the repetitive reading entails the restitutive reading, but not the other way around. I will put an end to the discussion of the logical relation between *again*-ambiguities here, and in the rest of this chapter, we will look into the origin of the two possible readings.

3.2 Lexical Theory of *Again*

Fabricius-Hansen (1983, 2001) locates the source of the repetitive/restitutive ambiguity in the polysemic nature of *again*. The fundamental idea here is that *again* has two lexical entries, one expressing repetition (hence repetitive *again*) and the other reversal of direction, which leads to the restitutive reading (hence restitutive *again*). The lexical entries for the repetitive *again* and the restitutive *again* are given in (51a) and (51b) respectively (I adopted the definitions for the two *again* from Beck and Johnson 2004, where compositional translation into a formal language is assumed. The e in the entries stands for a event variable Davidson 1967, whose semantic type is <*i*>):

(51) a. $\textbf{again}_1(\text{P}\langle i,t\rangle)(e) = 1$ iff $\text{P}(e) \wedge \exists e' [e' < e \wedge \text{P}(e')]$
$= 0$ iff $\neg\text{P}(e) \wedge \exists e' [e' < e \wedge \text{P}(e')]$
undefined otherwise.

b. $\textbf{again}_2(\text{P}\langle i,t\rangle)(e) = 1$ iff $\text{P}(e) \wedge \exists e' [e' < e \wedge \text{P}_c(e') \wedge \text{res}_{\text{Pc}}(e') = \text{pre}_{\text{P}}(e)]$
$= 0$ iff $\neg\text{P}(e) \wedge \exists e' [e' < e \wedge \text{P}_c(e') \wedge \text{res}_{\text{Pc}}(e') = \text{pre}_{\text{P}}(e)]$
undefined otherwise.

In both interpretations, *again* applies to a property of events (P) and indicates repetition of events that have that property; it therefore relates a property of events and an event. The two interpretations, however, differ in their presuppositions. For entry (51a), it presupposes that there was a previous event characterized by that property and asserts that the property is true of the event. Entry (51b) presupposes:

I A preceding event of which the counterdirectional property P_c of P is true

II A result state res_{Pc} of an event that serves as the starting point

III A prestate pre_{P} for the new event

(52a) and (53a) show the results of applying the two interpretations of *again* to our original example (46) respectively, and (52b) and (53b) their presupposition(s):

(52) a. λe . $\textbf{open}_e(\textbf{the door})(\textbf{John}) \wedge \exists e' [e' < e \wedge \textbf{open}_{e'}(\textbf{the door})(\textbf{John})]$
b. previous event of property P: $\lambda e'$. $\textbf{open}_{e'}(\textbf{the door})(\textbf{John})$

(53) a. λe . $\textbf{open}_e(\textbf{the door})(\textbf{John}) \wedge \exists e' [e' < e \wedge \textbf{close}_{e'}(\textbf{the door})(\textbf{John}) \wedge \text{res}_{\text{Pc}}(e') = \text{pre}_{\text{P}}(e)]$
b. predicate P: λe . $\textbf{open}_e(\textbf{the door})(\textbf{John})$
counterdirectional property P_c: λe . $\textbf{close}_e(\textbf{the door})(\textbf{John})$
possible result states of P, res_{Pc}: λs . $\textbf{open}_s(\textbf{the door})$
possible prestates of P, pre_{P}: λs . $\textbf{closed}_s(\textbf{the door})$

To briefly sum up this section, for a sentence to be ambiguous in the lexical theory, all that requires is for the event in question to be reversible, and therefore a counterdirectional property is conceptually available. The price that comes with this approach is that we have to assume *again* has two lexical meanings.

3.3 Structural Theory of *Again*

Now let us turn to the alternative theory on the repetitive/restitutive ambiguity, which claims that this ambiguity has a purely syntactic underpinning. In this approach, as argued by von Stechow (1995, 1996), *again* has one and only one constant meaning, that is, the one we already saw in (51a), repeated below in (54):

(54) $\textbf{again}_1(\text{P}\langle i,t\rangle)(e) = 1$ iff $\text{P}(e) \wedge \exists e' [e' < e \wedge \text{P}(e')]$
$= 0$ iff $\neg\text{P}(e) \wedge \exists e' [e' < e \wedge \text{P}(e')]$
undefined otherwise.

In the structural account, it is the input on which *again* operates that determines which of the two interpretations surfaces. On the repetitive reading of (46), the input is the property of events given roughly in (55), which can be straightforwardly identified from the syntactic structure of the sentence.

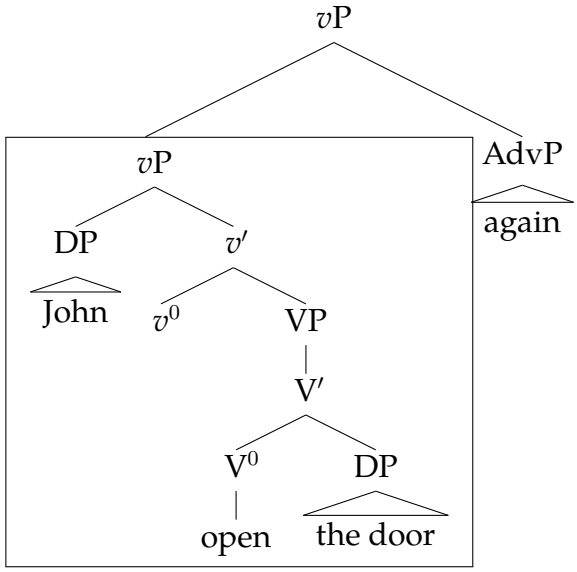
(55) λe . **John opened the door**(e)

On the restitutive reading, on the other hand, only the result state of the opening of the door is repeated. The property of events that is applied to *again* in this case is roughly (56):

(56) λe . **open**$_e$(**the door**)

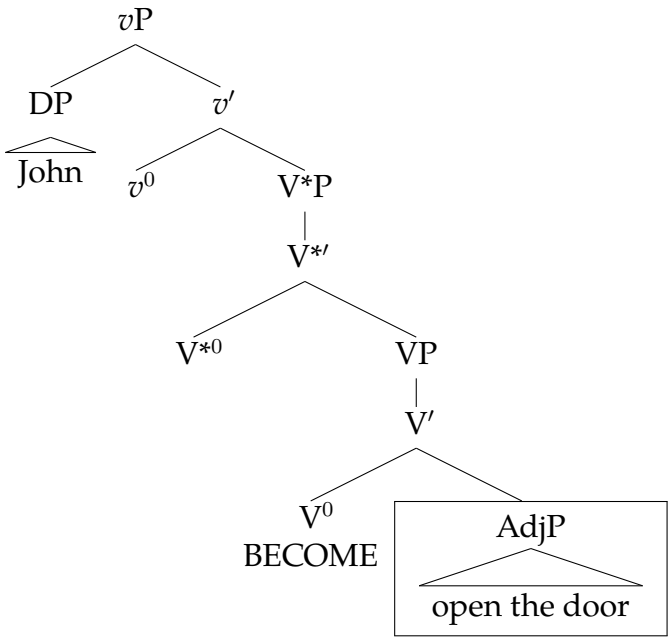
The purely syntactic theory explicitly requires that the property of events that *again* modifies to be present as a constituent in the syntactic structure. For the repetitive reading, this property of events (i.e., (55)) can be easily singled out from the syntactic structure:

(57)



For the restitutive reading, however, the question of how to derive the appropriate property of events from (57) emerges, as no obvious constituent in the sentence corresponds to the property **the door is open**. To solve this problem, decomposition of the verbs in question becomes crucial, and the structural theory relies heavily on this decomposition strategy to derive ambiguities. In our example, the verb *open* is decomposed into the adjective *open*, a CAUSE (roughly corresponds to the *action* eventuality mentined in section 48), and a BECOME (whose combination with the adjective can be thought of as the *state* eventuality) components, each of which has its own syntactic reflex. The example (46) can then be represented syntactically at D-structure in (58), with the denotation for the head V* given in (59).

(58)



(59) **V*** = λQ λx λe . $\exists$P [$\mathrm{P}_e(x) \wedge \exists e'$ [Q(e') $\wedge$ **CAUSE**(e')(e)]]

The property of events for the restitutive reading (i.e., (56)) now has a syntactic incarnation: the AdjP *open the door*.

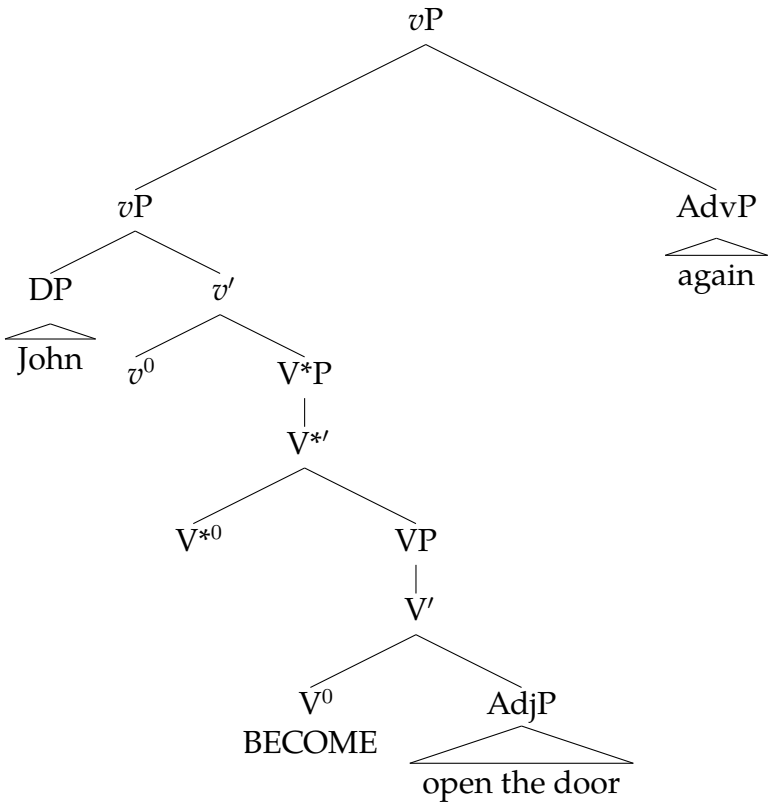
Following Beck and Johnson (2004), informal descriptions of the meanings of the components CAUSE and BECOME are given as follows:

(60) **CAUSE**(e')(e) = 1 iff e' occurred, e occurred and if e had not occurred, then e' would not have occurred.

(61) **BECOME**(P)(e) = 1 iff e is the smallest event such that P is not true of the prestate of e but P is true of the result state of e.

The decomposition of the verb *open* at this abstract level allows us to derive the ambiguity easily: *Again* can adjoin to two different constituents, which results in two different interpretations according to the scope of the adjunction sites. The D-structures of the repetitive and restitutive readings of example (46) are given below in (62) and (63) respectively, along with their denotation and paraphrased meaning:

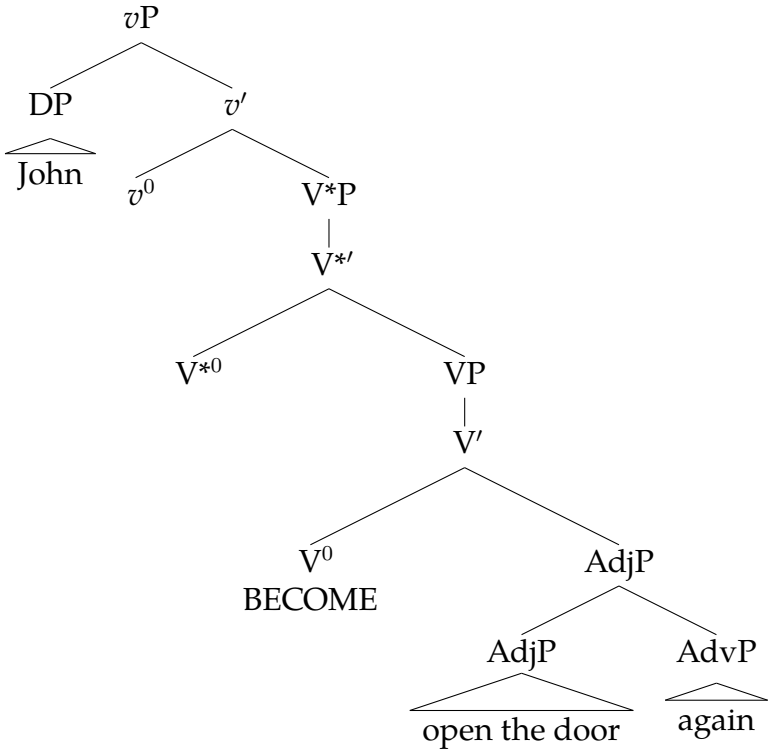
(62) a.



b. $\lambda e''$. **again**$_{e''}$(λe . $\exists$P [P$_e$(**John**) $\wedge$ $\exists e'$ [**BECOME**$_{e'}$($\lambda e*$. **open**$_{e*}$(**the door**)) $\wedge$ **CAUSE**(e')(e)]])

c. Once more, there was an action of John's that caused the door to become open.

(63) a.



b. λe . $\exists$P [P$_e$(**John**) $\wedge$ $\exists e'$ [**BECOME**$_{e'}$($\lambda e''$. **again**$_{e''}$($\lambda e*$. **open**$_{e*}$(**the door**))) $\wedge$

CAUSE(e')(e)]]

c. There was an action of John's that caused the door to become once more open.

Here we see that, although *again* has only one constant meaning, depending on where *again* is syntactically adjoined to, ambiguous meanings follow. One might argue that, even for the structural theory, an abstract lexical decomposition of the verb is necessary to generate adjunction sites for *again*, so this *structural* theory is essentially *semantic*. While the structural theory indeed has a pinch of semantic element, the ambiguity related to *again* is arguably of syntactic nature that is conditional on the constituent *again* adjoins to, with *again* having one constant meaning.

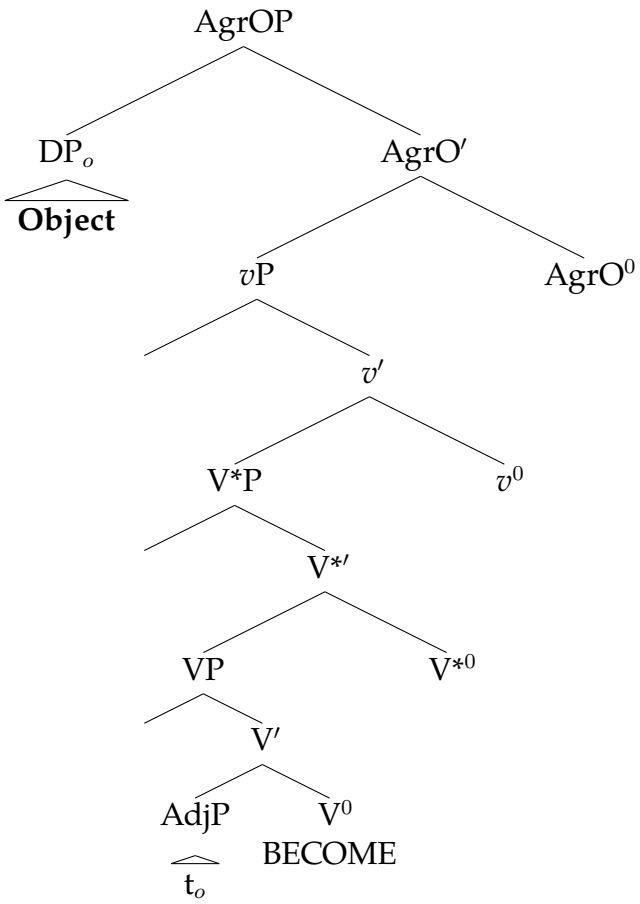
The strongest argument for a syntactic analysis of *again* probably comes from the fact that, in German, the availability of the ambiguity hinges on the position of the object. Observe the following example (64):

(64) a. … weil Jan die Tür wieder öffnete (rep/res) [Ger.]
since John the door again opened

b. … weil Jan wieder die Tür öffnete (rep/*res)
since John again the door opened

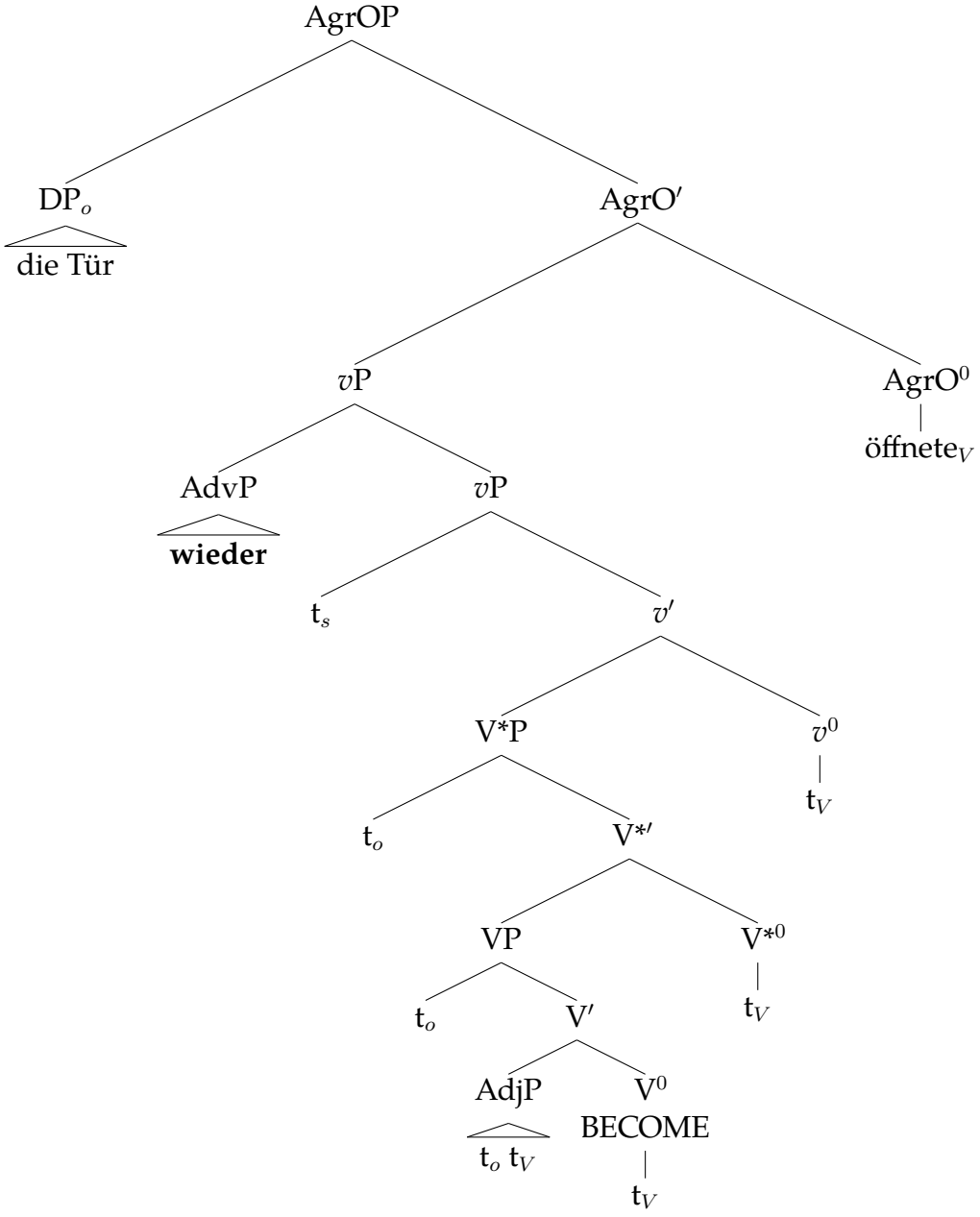
Restitutive reading is only possible when the object *die Tür* falls within the scope of the adverb *wieder*. Von Stechow (1995, 1996) accounts for this set of data by assuming that direct objects in German obligatorily move to [AgrOP, Spec] at S-structure, whose maximal projection AgrOP is structurally higher than the CAUSE and BECOME components:

(65)

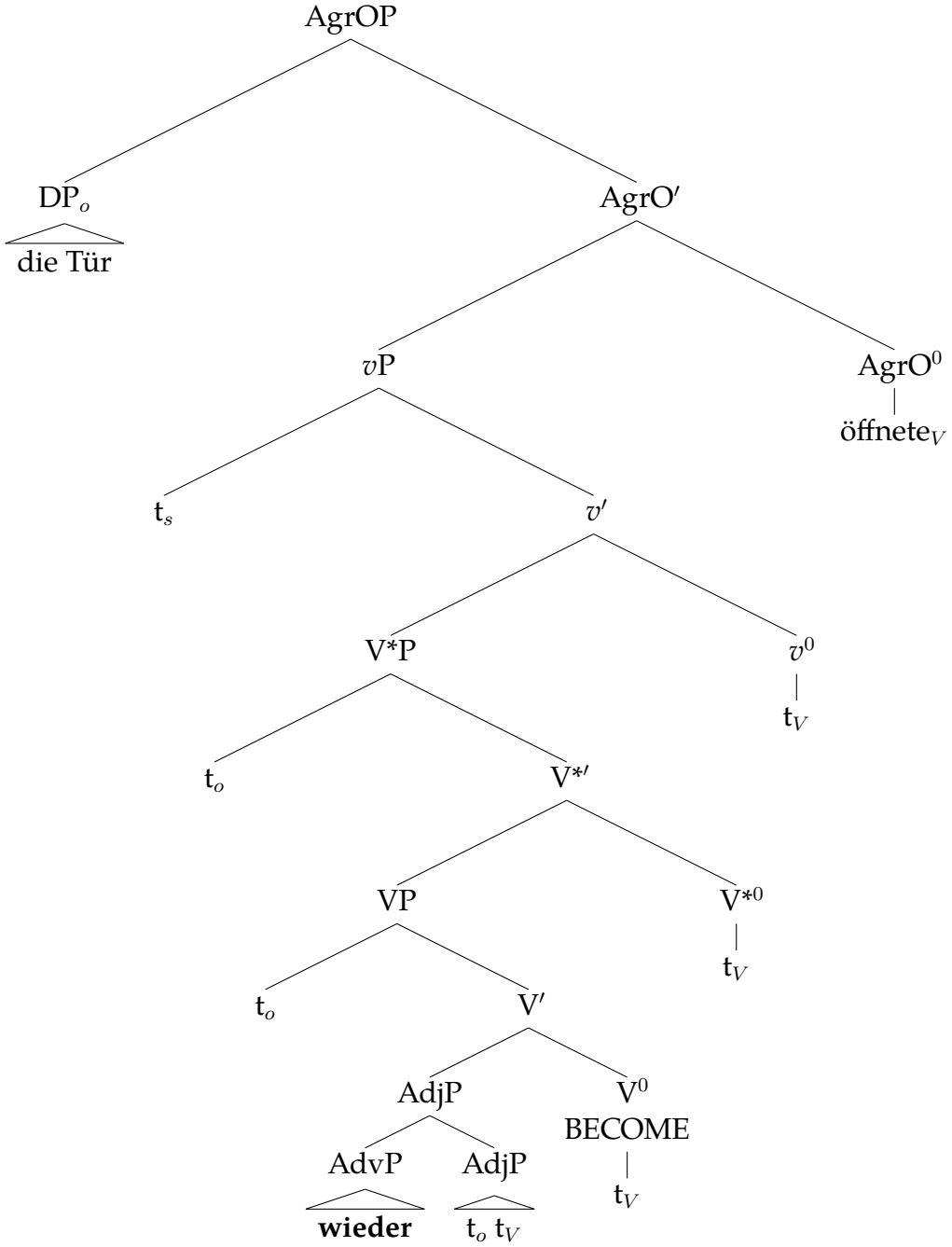


As can be inferred from the structure above, when *wieder* follows the object, it can be adjoined either to the *v*P (66a), which produces the repetitive interpretation, or to the AdjP (66b), which gives the restitutive reading.

(66) a. … die Tür wieder öffnete (repetitive)

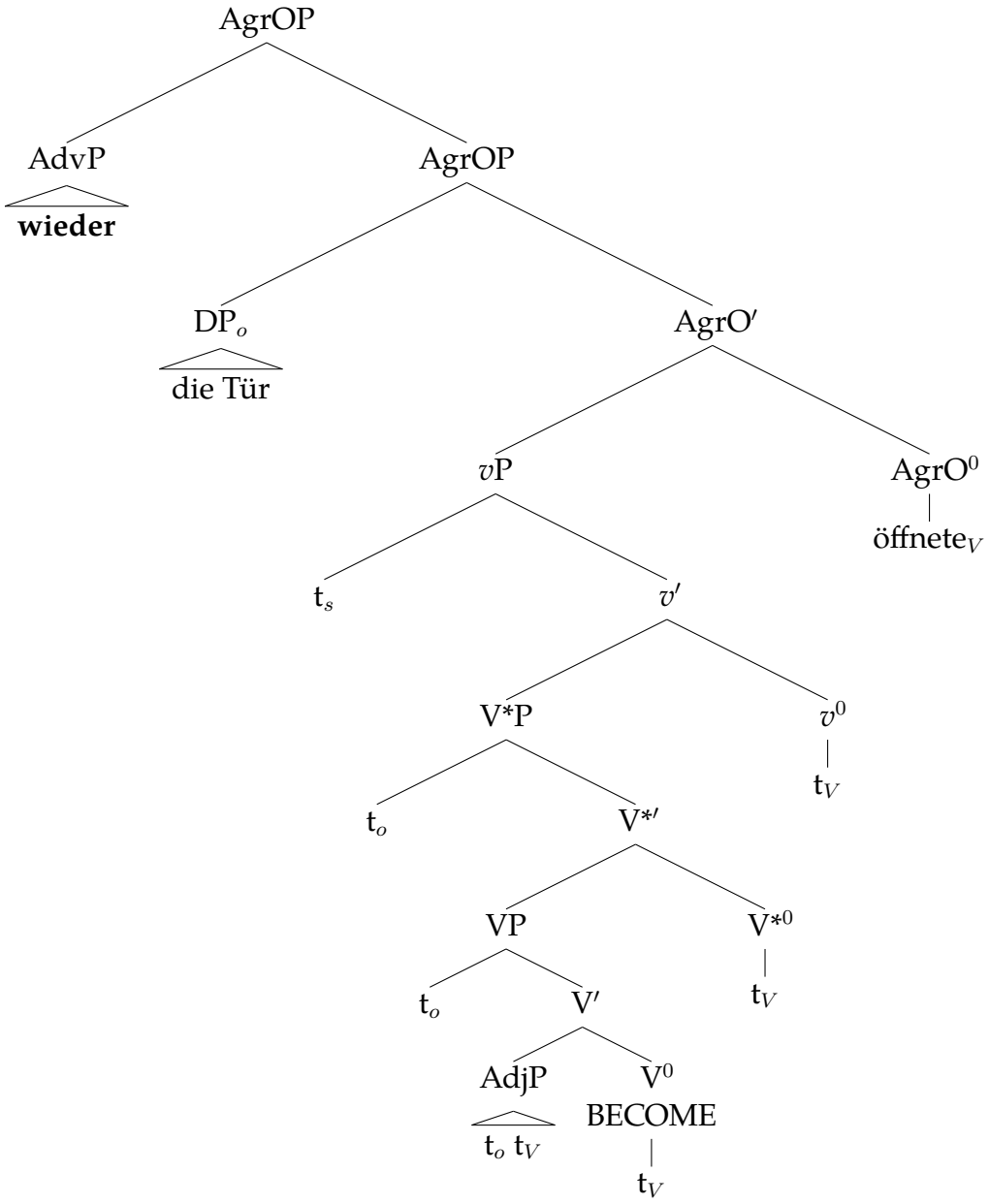


b. … die Tür wieder öffnete (restitutive)



On the contrary, when *wieder* precedes the object, it can only adjoin to a constituent higher than the *v*P, which permits only the repetitive reading:

(67) … wieder die Tür öffnete (rep/*res)



The German word order effect on the ambiguity demonstrates that we have to rely on syntactic structure to have a proper account for the restitutive *wieder*; the conceptual availability in the lexical theory is not sufficient to license the restitutive reading (otherwise (64b) would be predicted to have a restitutive reading as well). Because of this pitfall in the lexical theory, in this study I will adopt the structural theory for *again* to account for relevant facts presented in the following chapters.

In the last two chapters, I have paved the way for the goal of this study by introducing the linguistic phenomena, that is, OS, Scrambling, and *again*-ambiguities, which form the core of the study. In the next chapter, I will set out to tackle some interesting questions that arise when we smash OS/Scrambling and *again*-ambiguities together.

CHAPTER 4

Solving the Puzzle

In chapter 2, we have seen that OS and Scrambling can change the position of objects relative to some adverbial element, and in chapter 3 we also see that, depending on the relative position of the object to the adverb *wieder* 'again', a German sentence may be ambiguous between a repetitive or a restitutive reading. One question that surfaces naturally is then whether OS/Scrambling and *again*-ambiguities can be two sides of the same coin. The goal of this study is to find that coin. More specifically, as brought up in chapter 1, this chapter will formulate an account that attempts to explain the following Dutch and Swedish linguistic phenomena:[1]

(68) a. Jan heeft weer [$_{VP}$ **de deur** geopend]. (rep/*res) [Dut.]
John has again the door opened
'John opened the door again.'

b. Jan heeft **de deur**$_o$ weer [$_{VP}$ t$_o$ geopend]. (rep/res)
John has the door again opened

c. * Jan heeft weer [$_{VP}$ **hem** geopend].
John has again it opened

d. Jan heeft **hem**$_o$ weer [$_{VP}$ t$_o$ geopend]. (rep/res)
John has it again opened
'John opened it again.'

e. Jan heeft weer [$_{VP}$ **een deur** geopend]. (rep/*res)
John has again a door opened
'John opened a door again.'

f. * Jan heeft **een deur**$_o$ weer [$_{VP}$ t$_o$ geopend].
John has a door again opened

[1] The Dutch example (68f) is only ungrammatical when *een deur* 'a door' receives a non-specific interpretation; when the indefinite gets a specific interpretation, the sentence is actually grammatical.

(69) a. Johan öppnade$_V$ inte [$_{VP}$ t$_V$ **dörren**] igen. (rep/res) [Swe.]
John opened not door.the again
'John didn't open the door again.'

b. * Johan öppnade$_V$ **dörren**$_o$ inte [$_{VP}$ t$_V$ t$_o$] igen.
John opened door.the not again

c. % Johan öppnade$_V$ inte [$_{VP}$ t$_V$ **den**] igen. (rep/res)
John opened not it again
'John didn't open it again.'

d. Johan öppnade$_V$ **den**$_o$ inte [$_{VP}$ t$_V$ t$_o$] igen. (rep/res)
John opened it not again

e. Johan öppnade$_V$ inte [$_{VP}$ t$_V$ **en dörr**] igen. (rep/*res)
John opened not a door again
'John didn't open a door again.'

f. * Johan öppnade$_V$ **en dörr**$_o$ inte [$_{VP}$ t$_V$ t$_o$] igen.
John opened a door not again

To anticipate the conclusion, I will argue that the semantico-syntactic account by Diesing and Jelinek (1995) or the structural theory of *again* by von Stechow (1995, 1996) alone cannot fully explain the Dutch and Swedish examples that we just saw. Only when the two accounts are combined, with some modifications and some aspects parameterized to each language, can we have a unified mechanism that justifies the data.

This chapter is organized as follows. In section 4.1, I will make a minor modification to the syntactic hierarchy in von Stechow's (1995, 1996) original structural theory on *again* to remedy the problem of wrong word order when applying this theory to some languages. Section 4.2 reveals the pitfalls of each account alone when we try to apply it to a larger set of linguistic data. In section 4.3.1 and section 4.3.2, I elaborate on a hybrid solution that incorporates the two accounts and show that it can explain our Dutch example (68). Finally, in section 4.3.3, I will demonstrate that this new solution can also be applied to the Swedish data (69) with one difference that is parameterized to the language.

4.1 A Twist on Hierarchy

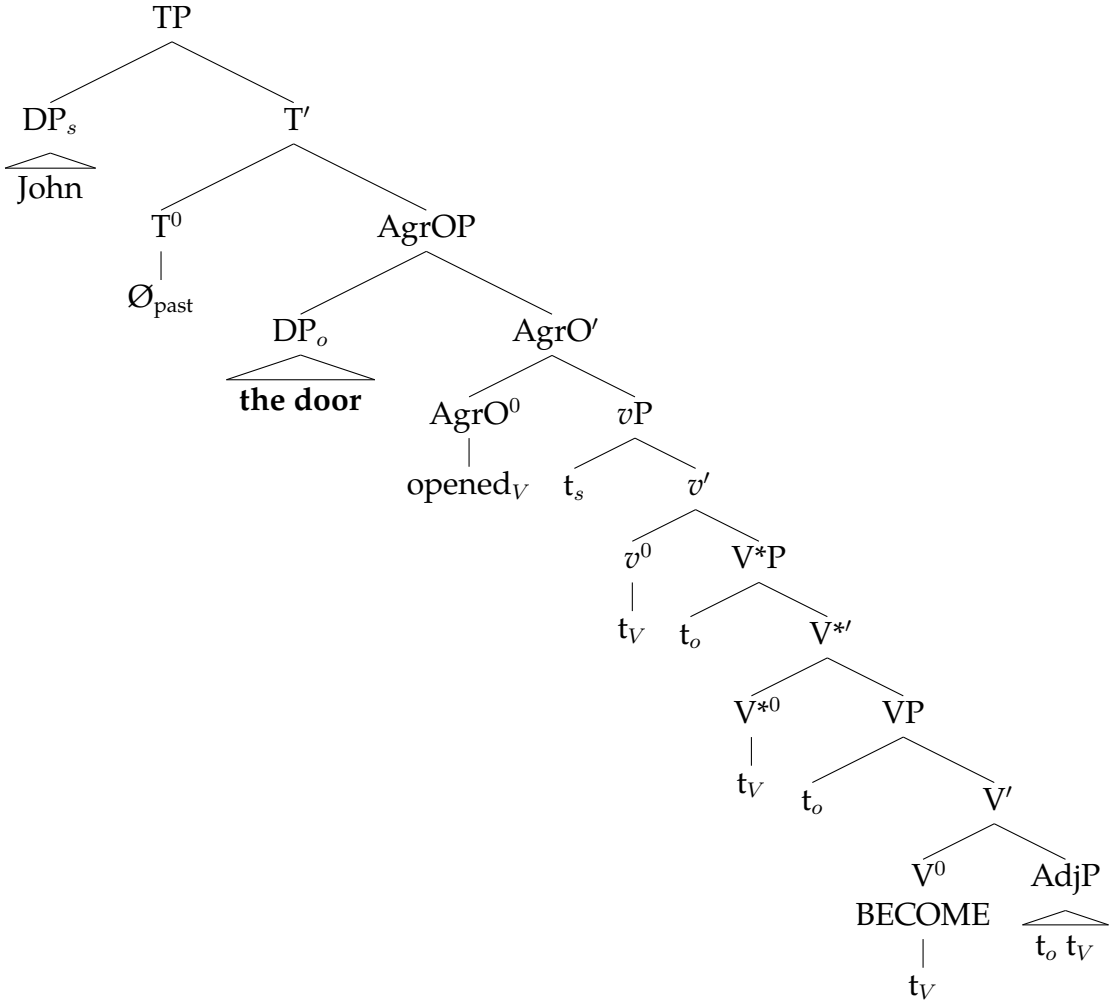
Before we dive into the issues associated with Diesing and Jelinek's (1995) semantic-syntactic account and von Stechow's (1995, 1996) structural theory of *again*, it might be useful to examine the hierarchical order of the different heads in the syntactic structure as proposed in von Stechow 1995, 1996 in more detail. A retouch on the structure may be necessary here. Specifically, instead of having AgrOP dominating *v*P, I argue that the reverse order, that is, *v*P dominating AgrOP, should be the correct order. The evidence for this argument comes from the English counterpart of the German example (64) in the previous chapter:

(70) John opened the door again.

If we take that all (direct) object DPs must move to [AgrOP, Spec] at S-structure in order to have their accusative case checked (and the main verb undergoes head-movement to

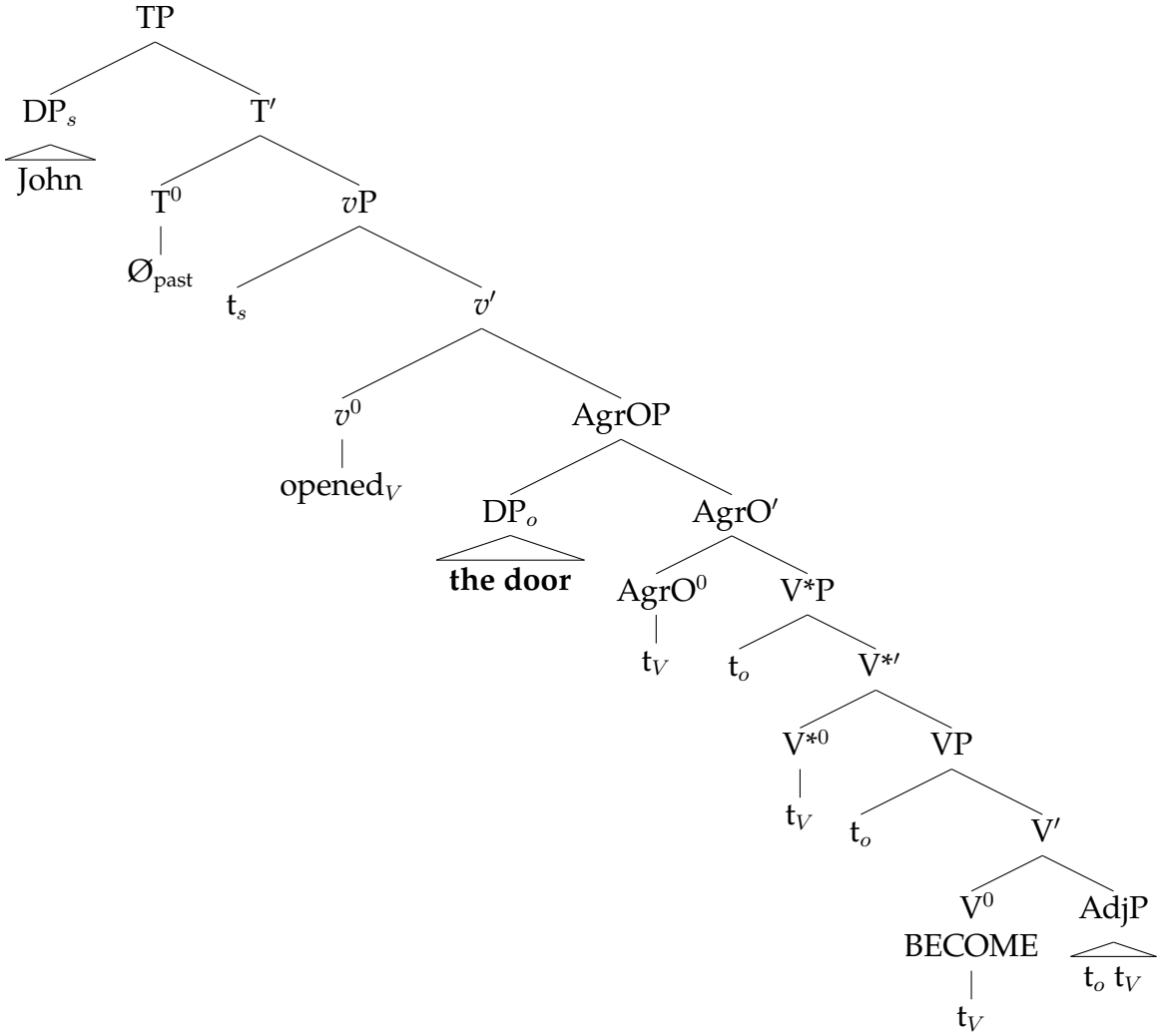
AgrO^0), then we would expect, at S-structure, the [AgrOP, Spec] position to be occupied by the object DPs in English as well. Under von Stechow's (1995, 1996) original hierarchy where AgrOP dominates *v*P, we would wrongly predict that, at S-structure, English object DPs precede the main verb, as illustrated in (71):

(71) *John the door opened.



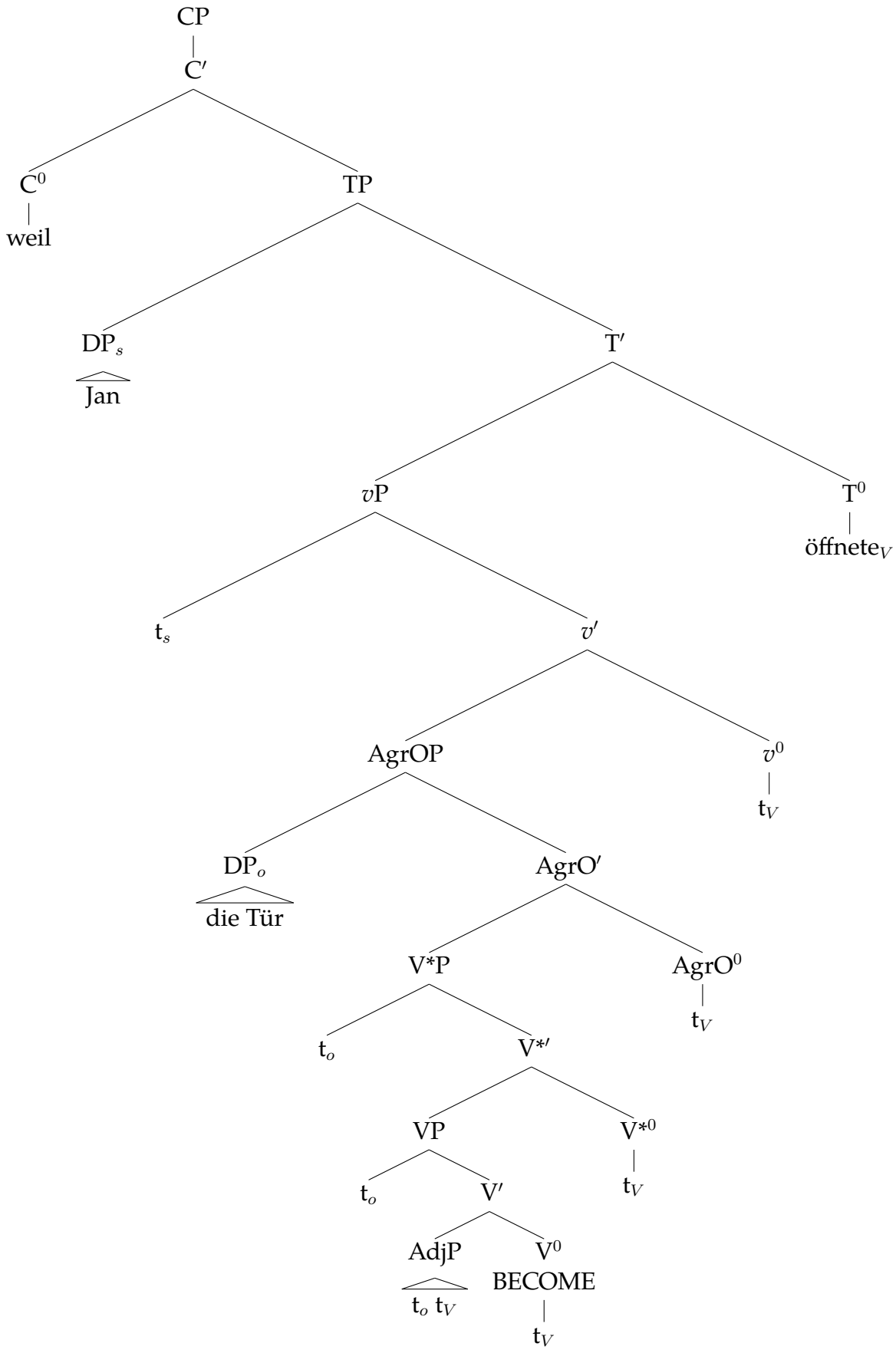
Another problem with this order of AgrOP and *v*P is that, assuming the VP-Internal Subject Hypothesis, in order for the object DP (e.g., *the door* in (71)) to move to [AgrOP, Spec], it necessarily crosses [*v*P, Spec], which is the node the subject DP (i.e., *John* in (71)) originally occupied. This crossing results in a violation of the Minimal Link Condition (MLC) (Chomsky 1995) because MLC requires movement always to target the nearest potential landing site. By inverting the order of AgrOP and *v*P, both the problem of wrong word order and that of violation of MLC can be solved at once, as shown in the following modified structure (72):

(72) John opened the door.



This new hierarchical order can also accommodate our old German word order, where the main verb follows the object in the embedded clause, as illustrated in (73):

(73) … weil Jan die Tür öffnete [Ger.]
since John the door opened


CP
C′
C⁰
weil
TP
DP$_s$
Jan
T′
*v*P
t$_s$
v′
AgrOP
DP$_o$
die Tür
AgrO′
V*P
t$_o$
V*′
VP
t$_o$
V′
AdjP
t$_o$ t$_V$
V⁰
BECOME
t$_V$
V*⁰
t$_V$
AgrO⁰
t$_V$
*v*⁰
t$_V$
T⁰
öffnete$_V$

In the following discussions, I will therefore adopt this hierarchy of the *v*P and AgrOP shells. Having fixed a minor problem in syntax, in the next section, I will focus on more fundamental problems of the two accounts.

4.2 Unsolved Cases

In this section, we will see in more detail some problems that cannot be easily explained by Diesing's (1996) and von Stechow's (1995, 1996) accounts. Let us see those with Diesing's (1996) first.

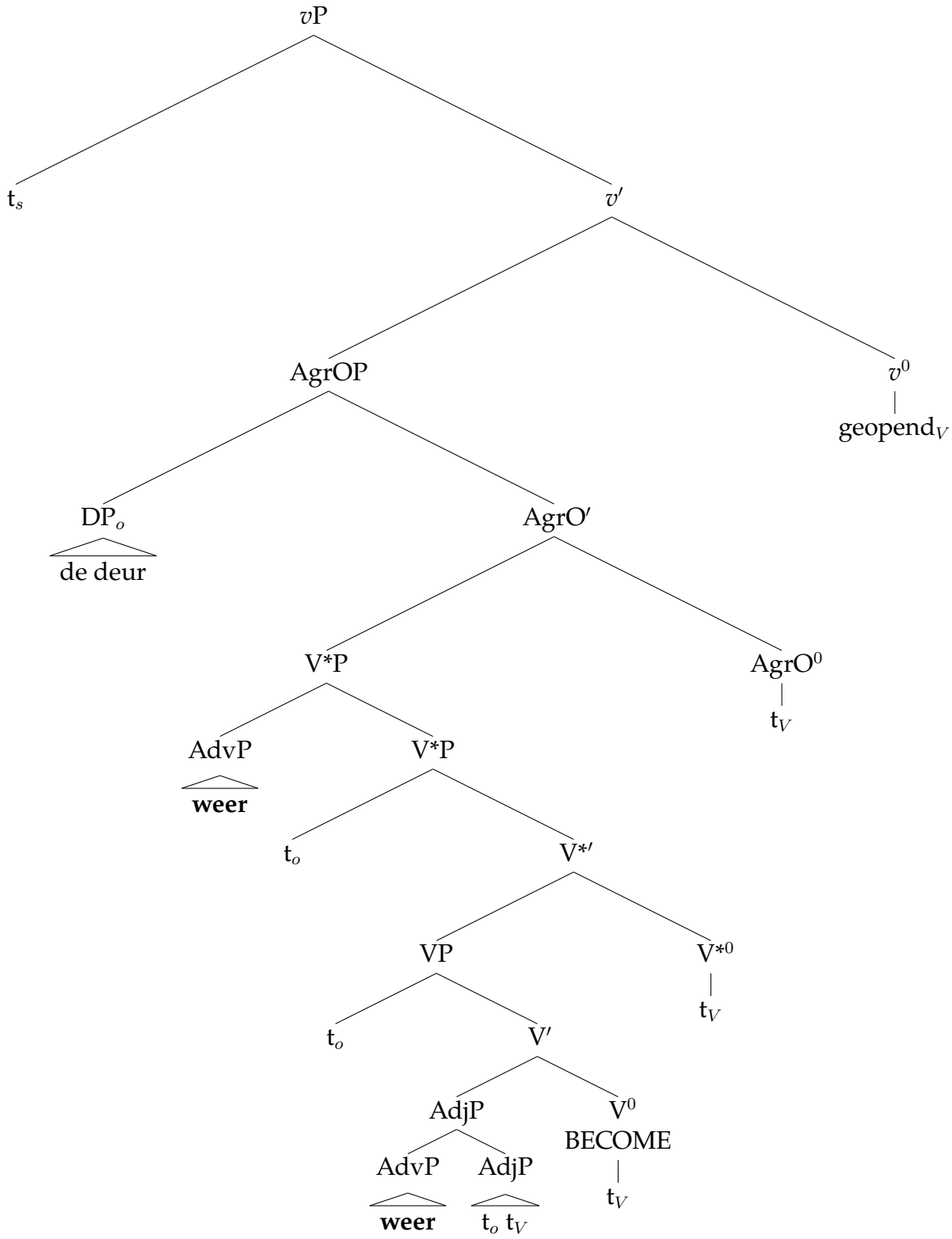
In essence, the major problem with Diesing's (1996) semantico-syntactic account is that it cannot generate the *again*-ambiguities that we see in Dutch (68b), repeated below in (74):

(74) Jan heeft de deur$_o$ weer [$_{VP}$ t$_o$ geopend]. (rep/res)
John has the door again opened

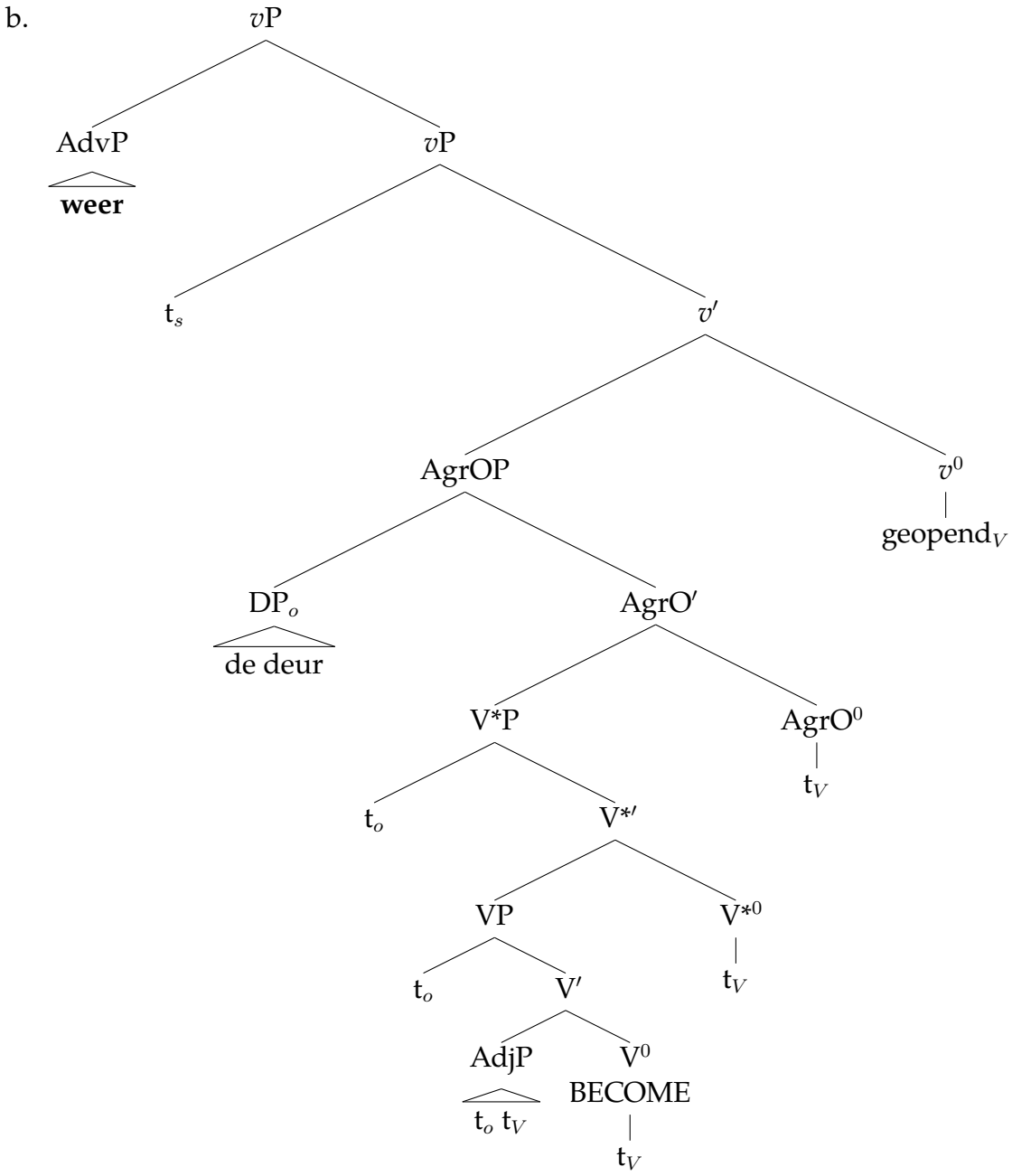
Recall that in the structural theory, *again* gives rise to ambiguities by attaching to different constituents that are present in the syntactic structure. In other words, if adverbs are trapped to a fixed position, then ambiguities in connection with those adverbs can never arise. In Diesing's (1996) account, the adverb *weer* 'again' is assumed to mark the VP boundary and can only adjoin immediately above the VP. Even if we decompose the verb *geopend* 'opened', the ambiguity is still missing because the adverb is paralyzed here, and (74) is therefore wrongly predicted to give only the repetitive reading. In short, the semantico-syntactic account undergenerates the meaning of some sentences.

At the opposite end, the problem with von Stechow's (1995, 1996) structural theory of *again*-ambiguities is that it overgenerates sentences and wrongly predicts them to be grammatical. To see the problem, we need to consider examples with objects of different DP types. I will use examples from Dutch to illustrate this point. Dutch patterns with German in that the availability of the repetitive/restitutive ambiguity is correlated with the relative position of *again* and the object DP, as already shown in (68a). The structural theory that we employed to account for the *again*-ambiguities in German can be straightforwardly transferred to Dutch as well. As shown in (75a), when the adverb follows the object, it can adjoin either to the V*P or to the AdjP, which results in a repetitive or a restitutive reading respectively. When the adverb precedes the object, it can only adjoin to the *v*P and yields accordingly only the repetitive reading, as shown in (75b).

(75) a.


vP
t_s
v′
AgrOP
v^0
geopend_V
DP_o
AgrO′
de deur
V*P
AgrO^0
t_V
AdvP
V*P
weer
t_o
V*′
VP
V*^0
t_V
t_o
V′
AdjP
V^0
BECOME
AdvP
AdjP
t_V
weer
t_o t_V

b.



Upon closer look, it can be found that the syntactic requirements of von Stechow's (1995, 1996) theory are rather general: it only requires the object of multiple DP types to move to [AgrOP, Spec] at S-structure for case-checking and assumes that *again* can adjoin to various constituents. As such, this theory would generously render *all* the following Dutch examples to be grammatical and ambiguous when in fact only two of them are acceptable in the neutral context:[2]

(76) a. * Jan heeft weer [$_{VP}$ **hem** geopend]. [Dut.]
John has again it opened

[2] Again, (77b) will be grammatical if the indefinite *een deur* 'a door' denotes a specific door. We will soon see the discussion on this later in this chapter.

b. Jan heeft **hem**$_o$ weer [$_{VP}$ t$_o$ geopend]. (rep/res)
John has it again opened
'John has open it again.'

(77) a. Jan heeft weer [$_{VP}$ **een deur** geopend]. (rep/*res)
John has again a door opened
'John has open a door again.'

b. * Jan heeft **een deur**$_o$ weer [$_{VP}$ t$_o$ geopend].
John has a door again opened

Apparently, if we want to rule out examples like (76a) and (77b), we need to *tighten* von Stechow's (1995, 1996) structural theory so that it can further constrain the distribution of objects of multiple DP types. In the next section, we are going to explore this possibility.

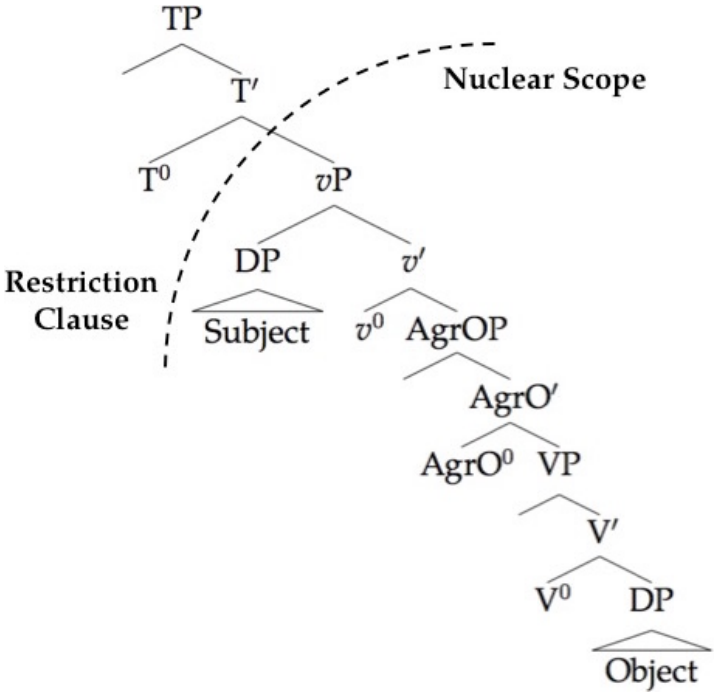
4.3 Combine and Conquer

This section describes my attempt to formulate a new account that draws on the advantages of Diesing and Jelinek's (1995) semantico-syntactic account on OS/Scrambling and von Stechow's (1995, 1996) structural theory on *again*-ambiguities. I argue that by unifying these two accounts we can actually kills three birds – object movement, *again*-ambiguities, and different object types – with one stone.

4.3.1 Basic Assumptions

In order to integrate the two accounts, however, there are some conflicting points we need to resolve first. First point concerns how the Mapping Hypothesis in the semantico-syntactic account should map the syntactic structures in the structural theory to a logical interpretation. Recall that the Mapping Hypothesis assumes a rather simple syntactic tree structure which includes a TP shell immediately dominating a VP shell. In the structural theory, however, partly due to the need to decompose verbs, there are more maximal projections like *v*P and functional ones like AgrOP. A rather simple and straightforward approach to accommodate the extra projections is to map *v*P into the Nuclear Scope because *v*P is intuitively understood as belonging to the *verbal* domain as the original VP. In this approach, TP can be mapped onto the Restriction Clasue as usual. The Mapping Hypothesis can therefore be restated as:

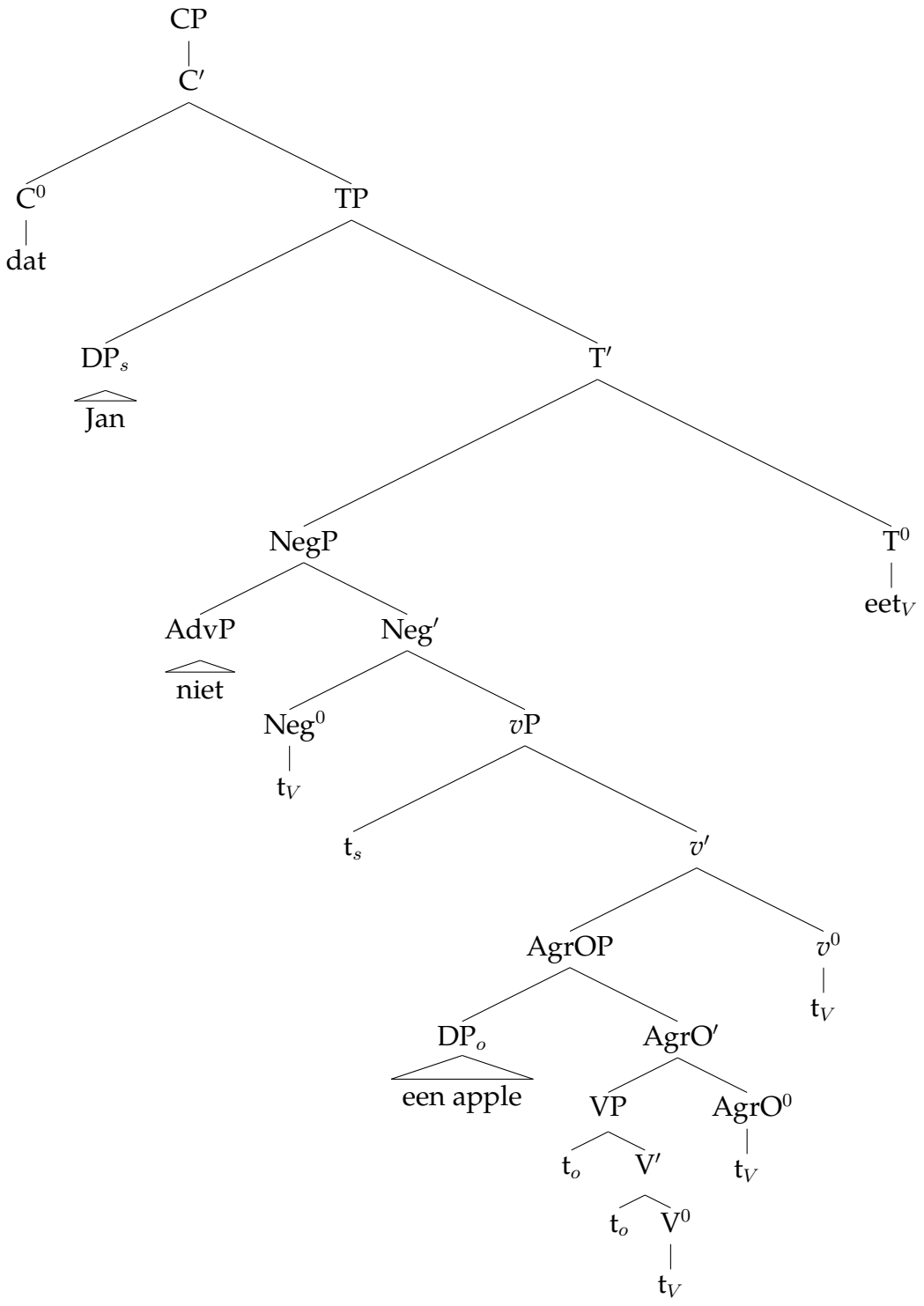
(78) The Mapping Hypothesis:
1. *v*P maps into the Nuclear Scope (i.e., the domain of existential/generic/non-specific closure)
2. TP maps into the Restriction Clause (of an operator)



The evidence that suggests that delimiting the Nuclear Scope at the *v*P boundary is on the right track can be seen in the following Dutch example:

(79) a. … dat Jan niet [$_{vP}$ **een apple** eet] [Dut.]
that John not a apple eats
'… that John doesn't eat an apple (existentially interpreted)'

b. * … dat Jan **een apple**$_o$ niet [$_{vP}$ t$_o$ eet]
that John a apple not eats



The fact that *een apple* 'an apple' receives an existential interpretation is consistent with our new hypothesis that it must stay within the *v*P, which is delimited from the TP by the

negative marker *niet* 'not'. This example also raises the second point where I will deviate from one key assumption of the Mapping Hypothesis. That is, instead of using adverbs (except for the negative marker) to mark the *v*P boundary and therefore the landmark for OS/Scrambling, I will only use the negative marker to identify the *v*P boundary. This is arguably because the negative marker and other adverbs are of different nature. In terms of distribution, adverbs enjoy more freedom than the negative marker at the sentential level. As result, adverbs are not a stable *v*P-boundary marker as they do not faithfully stay at one position. For instance, while it is not acceptable to put the negative marker in the first position in Dutch or Swedish, adverbs can easily be topicalized to that position (cf. (80b) vs. (80d) for Dutch and (81b) vs. (81d) for Swedish):

(80) a. Jan heeft de deur **gisteren** geopend. [Dut.]
John has the door yesterday opened
'John opened the door yesterday.'

b. **Gisteren** heeft Jan de deur geopend.
yesterday has John the door opened
'Yesterday John opened the door.'

c. Jan heeft de deur **niet** geopend.
John has the door not opened
'John didn't open the door'

d. * **Niet** heeft Jan de deur geopend.
not has John the door opened

(81) a. Johan öppnade dörren **igår**. [Swe.]
John opened door.the yesterday
'John opened the door yesterday.'

b. **Igår** öppnade Johan dörren.
yesterday opened John door.the
'Yesteday John opened the door.'

c. Johan öppnade **inte** dörren.
John opened not door.the
'John didn't open the door.'

d. ? **Inte** öppnade Johan dörren.
not opened John door.the

In addition, for von Stechow's (1995, 1996) structural theory to work properly, we also have to allow adverbs the flexibility to adjoin to multiple positions, including those that are not available for the negative marker.

Negative marker, on the other hand, has a rather fixed position and hence serves as a better syntactic marker for Scrambling/OS than other adverbs.[3] I also assume with Haegeman (1995) that a clause with sentential negation necessitates the presence of a negative phrase (NegP), as already shown in (79), that immediately domintes *v*P in its syntactic structure. The negative marker, if present, has to appear at the [NegP, Spec]

[3]Using the negative marker as a Scrambling/OS indicator is not totally immune to probelms. As Cecchetto (1994) points out, the negative marker can ambiguously indicate sentential negation or constituent negation.

position. Note also that in Dutch and Swedish, the NegP is headed by a phonetically empty head.

4.3.2 The Hybrid System for Dutch Scrambling

With the assumptions from the previous section in mind, it is time to describe the new hybrid account and see how it can account for our examples in (68) and (69). I will first focus on the Dutch examples and shift our attention to Swedish example in the next section.

The basics of the hybrid account follows those of the semantico-syntactic account described earlier. The most important elements of the account are summarized as follows:

I For objects of type *e* ("referential"), which include definite descriptions like *the cat* and definite pronouns like *him*, they must move out of the Nuclear Scope (i.e., out of *v*P) because staying within the domain of the Nuclear Scope will lead to violation of the Novelty Condition. However, if they do stay with in the Nuclear Scope, they will be reinterpreted as quantificational (for definite descriptions only) or have to receive contrastive/focus reading.

II For objects of type <*e*,*t*> ("predicational") like *a door*, they have to stay within the Nuclear Scope (i.e., inside *v*P) unless they have a specific reading.

III Only the negative marker like Dutch *niet* 'not' or Swedish *inte* 'not' is used as a stable delimiter for the *v*P boundary.

IV Adverbs (in this particular study: Dutch *weer* 'again' and Swedish *igen* 'again') are rather free in terms of the constituents they can adjoin to, but not without constraints. As mentioned in chapter 3, both repetitive and restitutive readings are licensed by some previous eventuality. In the present study, I therefore assume that *again* adjoins only to syntactic constituents expressing some eventuality. Specifically, when *again* adjoins to *v*P or V*P that represents actions, we get the repetitive reading. When *again* modifies AdjP that indicates states, we get the restitutive reading.

V I assume the adjunction approach to object movement, that is, moved constituents are adjoined to some maximal project rather than move into the specifier position of a maximal project. In particular, Dutch Scrambling adjoins the moved objects to TP, and following Holmberg and Platzack (1995), Vikner (1994), Swedish OS adjoins them to *v*P.

With these five points in place, let us now explore how the hybrid account can provide new insight into our linguistic data. First we consider the Dutch examples which involve objects of definite descriptions, (68a) and (68b), repeated here as (82a) and (82b):

(82) a. Jan heeft weer [$_{vP}$ **de deur** geopend]. (rep/*res) [Dut.]
John has again the door opened
'John opened the door again.'

b. Jan heeft **de deur**$_o$ weer [$_{vP}$ t$_o$ geopend]. (rep/res)
John has the door again opened

(82b) is rather straightforward to explain: by *de deur*'s referential nature, it is incompatible with the Nuclear Scope due to violation of the Novelty Condition, so it has to scramble out of the *v*P. *Weer* 'again' in this case can adjoin to three positions: (1) *v*P, (2) V*P, and (3) AdjP, as shown in the following structure:[4]

[4]Here I assume that *again* (and therefore also its Dutch counterpart *weer* and Swedish counterpart *igen*) only adjoins to constituents that express eventuality, such as *v*P, V*P, and state AdjP. Note though, as pointed out in Pedersen 2014, *again* can modify other constituents like clauses (1), adverbs (2), and even *wh*-words (3).

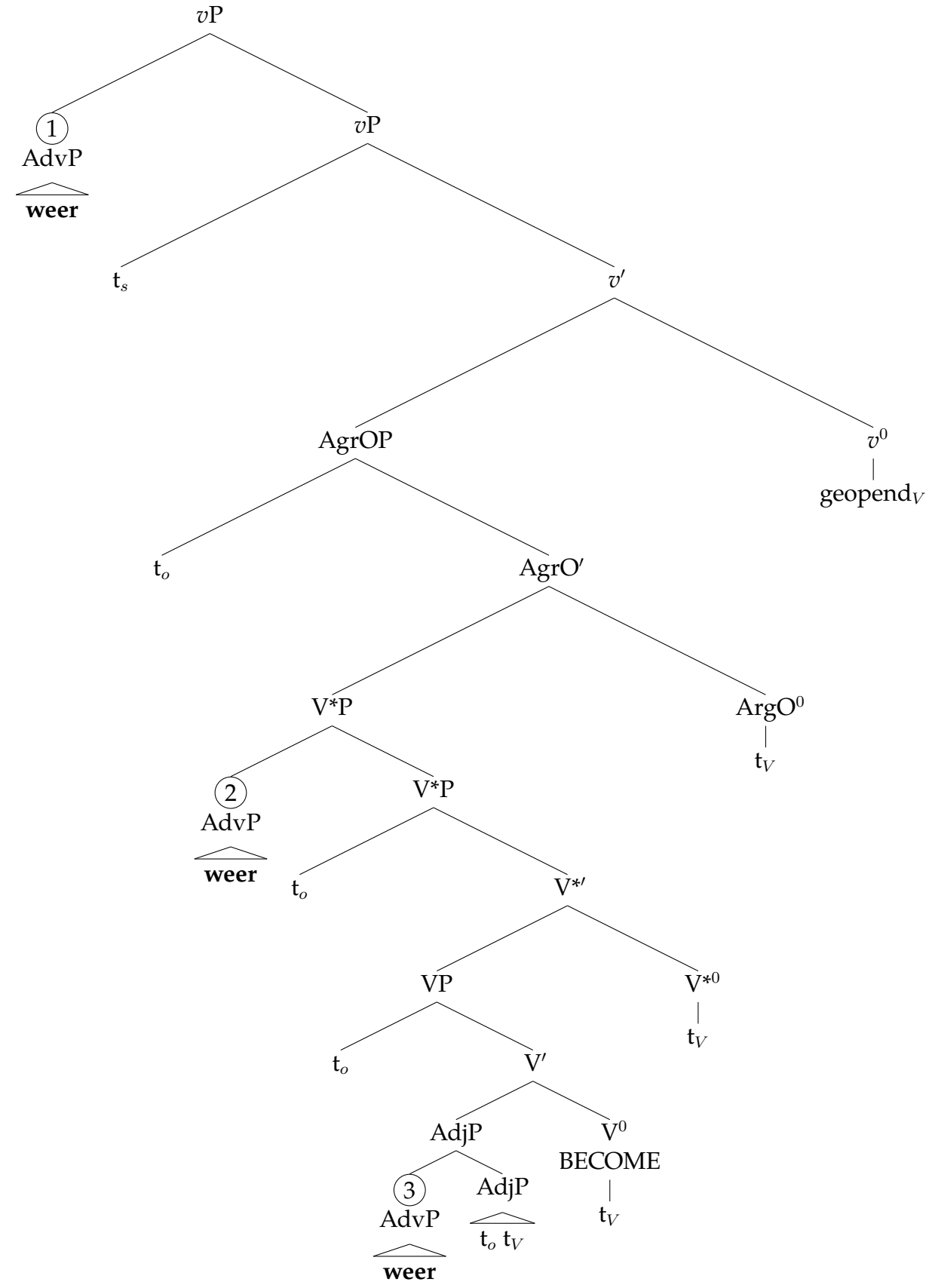
(1) **Again**, the river widened.

(2) John ran one hundred meters very quickly. Then he did fifty push-ups – **again** very quickly.

(3) Who **again** did you see at the party?

I will not discuss these cases here, as they are out of the scope of the present study.

(83)

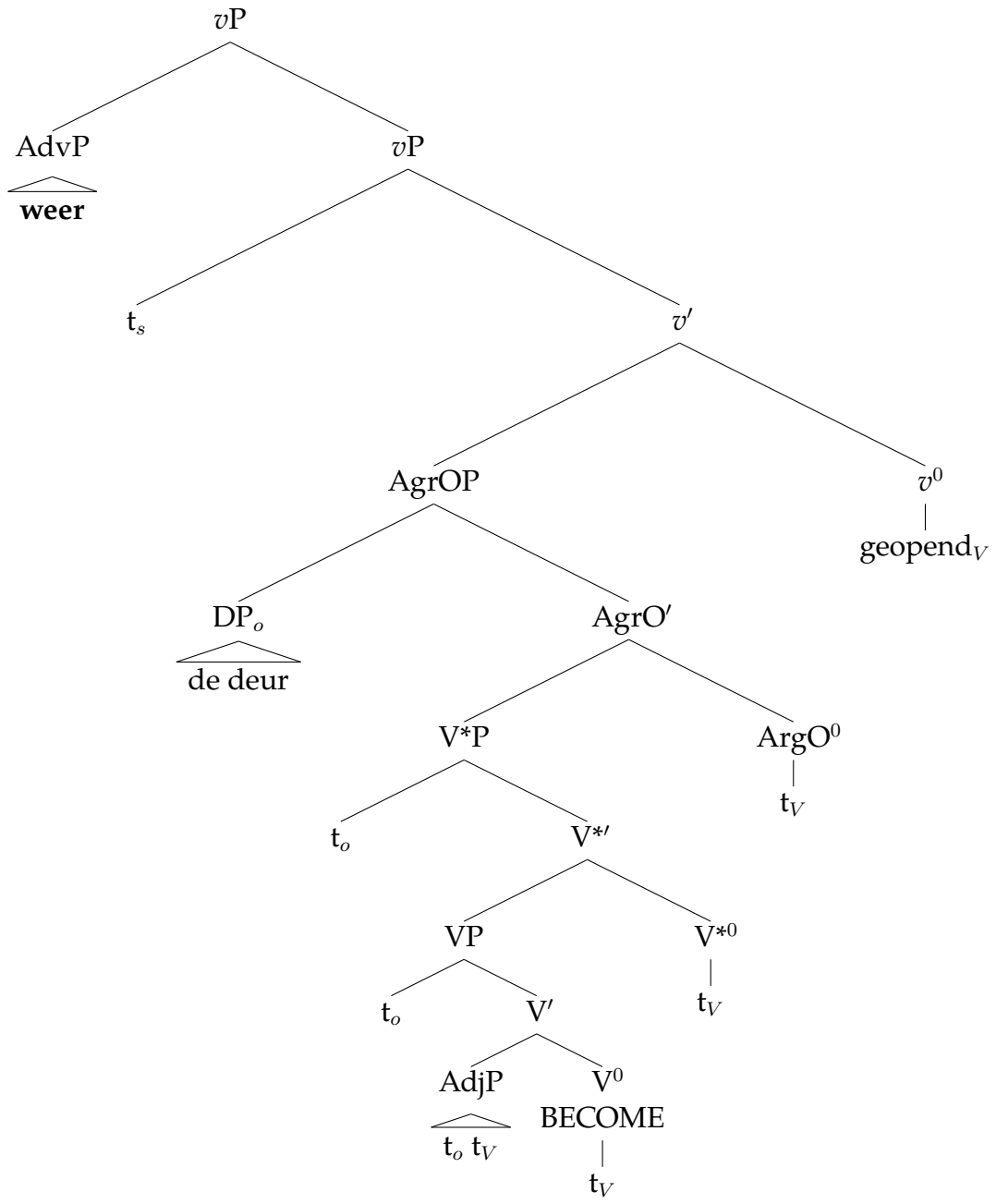


I suggest that *weer* adjoining to (1) *v*P is semantically indistinguishable from adjoining

to (2) V*P, since in both cases the adverb takes scope over the CAUSE and BECOME components, which leads to a repetitive reading. When the adverb adjoins to (3) AdjP, the resulted sentence has a restitutive reading. The ambiguities of (82b) are therefore explained.

In (82a) the object *de deur* follows the adverb *weer*, so it must fall within the *v*P (remember that the highest position *weer* can adjoin to in our assumption is *v*P) and hence also within the domain of the Nuclear Scope. The following tree structure exemplifies this case:

(84)



Because adjoining *weer* to the *v*P is the only option, and this adjunction site gives the repetitive interpretation, (82a) only has the single repetitive reading.

(82a) actually represents an interesting case for the definite *de deur* stays in the Nu-

clear Scope, which is presumably incompatible with it. Diesing and Jelinek 1995 argues that, for a definite DP to stay inside the Nuclear Scope (i.e., within the domain of existential closure), it must receive a quantificational (termed attributive in this case) reading. This reading is most easily brought out if we replace *de deur* with *de kleinste deur* 'the smallest door':

(85) Jan heeft weer [$_{vP}$ **de kleinste deur** geopend]. (rep/*res) [Dut.]
John has again the smallest door opened
'John opened the smallest door again.'

Here, instead of referring to the one and only smallest door, the DP *de kleinste deur* 'the smallest door' roughly means 'whichever door is the smallest', which is arguably quantificational and licenses its position within the Nuclear Scope.

Another related question then is whether we can treat (82b) as if the object *de deur* still remains in the *v*P and *weer* attaches to some constituent below *de deur*:

(86) Jan heeft [$_{vP}$ **de deur** weer geopend]. [Dut.]
John has the door again opened

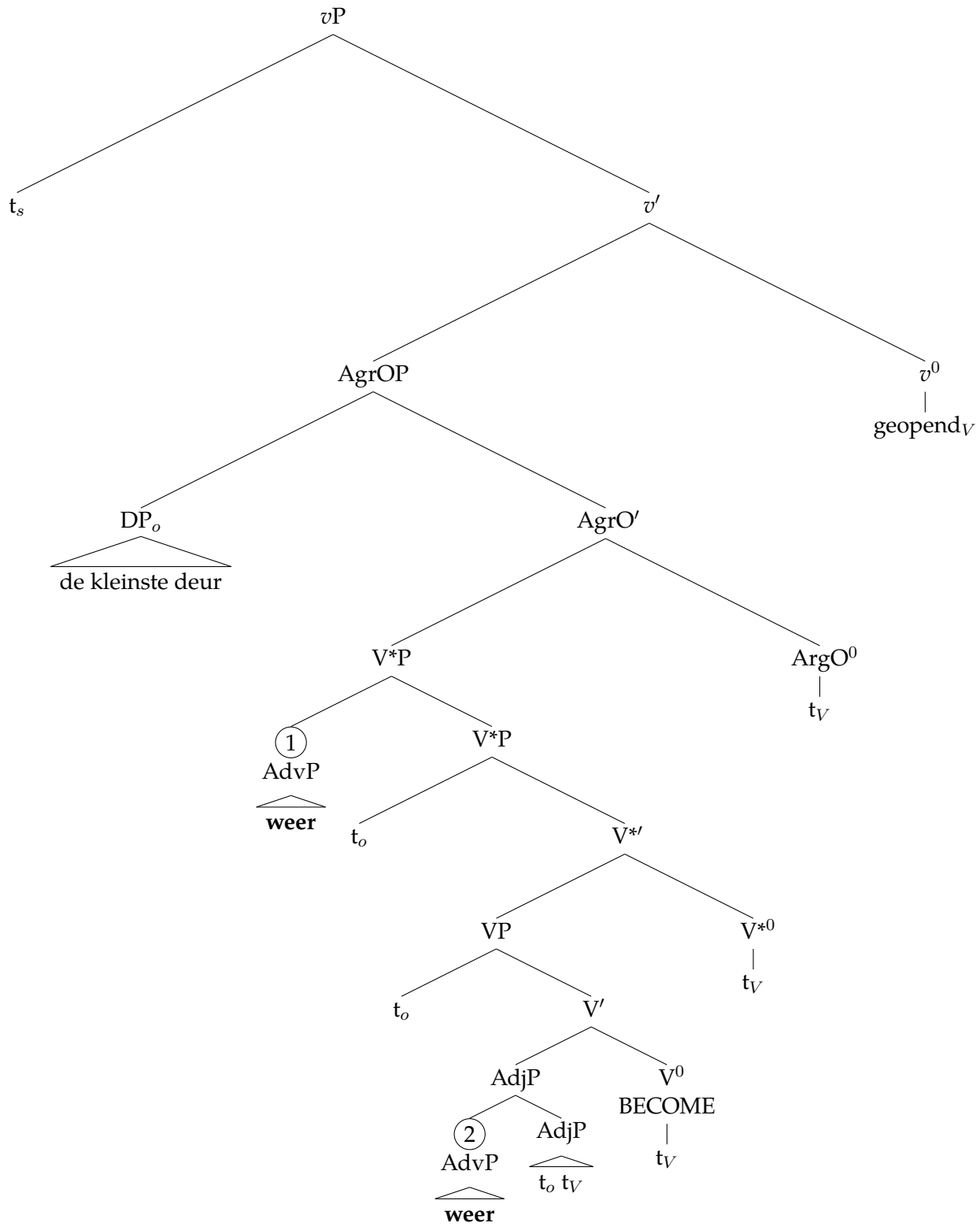
I argue that this is a valid structure. Again, the argument can be most easily stated if we use *de kleinste deur* instead of *de deur*, so the question is then whether both of the following syntactic analyses are fine:

(87) a. Jan heeft **de kleinste deur** [$_{vP}$ weer geopend]. (rep/res) [Dut.]
John has the smallest door again opened
'John opened the smallest door again.'

b. Jan heeft [$_{vP}$ **de kleinste deur** weer geopend]. (rep/*res)
John has the smallest door again opened
'John opened the smallest door again.'

The analysis on (87a) follows straightforwardly from that on (82a), where *weer* can adjoin to three positions and results in both a repetitive and a restitutive reading. Note here because the DP scrambles out of the Nuclear Scope, it remains referential (type *e*), so on both readings, we are talking about the repetition of an action or a state that applies to the one and the very same smallest door. For (87b), our new account allows two potential locations where the adverb can syntactically attaches to and therefore (erroneously) predicts two readings, as illustrated in the following tree:

(88)



But then why is the restitutive reading not available for (87b)? I argue that the answer lies in the fact that the restitutive reading is conflicting with the attributive reading of *de kleinste deur* semantically. Since the definite object in this case falls within the Nuclear Scope, it necessarily receives an attributive interpretation which roughly translates into 'whichever door is the smallest'. The restitutive reading, however, dictates a restoration

of the state of a specific entity. One cannot restore the opening state of whichever door that is the smallest when there are potentially many possible smallest doors. In short, while it is fine to adjoin the adverb to the state AdjP in terms of syntactic derivation, this derivation will crash on the semantic ground. (87b) therefore only has the repetitive reading.

The examples with definite pronominal objects (68c) and (68d), repeated as (89a) and (89b) below, are relatively easy to solve as well.

(89) a. * Jan heeft weer [$_{vP}$ **hem** geopend].
John has again it opened

b. Jan heeft **hem**$_o$ weer [$_{vP}$ t$_o$ geopend]. (rep/res)
John has it again opened
'John has open it again.'

Unstressed *hem* 'it' stands for an entity that has been introduced into the discourse before and therefore represents *old* information. By this referential nature, *hem* cannot stay within the Nuclear Scope due to violation of the Novelty Condition. Note also that, in contrast to the definite description, unstressed pronouns are not viable candidates for a quantificational interpretation, so they must scramble out of the *v*P at S-structure. These constraints rule out (89a) and all the other constructions where *hem* appears inside the *v*P.

The analysis of (89b) parallels that of (82b). By virtue of their specificity, pronouns cannot be bound by existential closure, so they must move out of the Nuclear Scope (i.e., *v*P) at S-structure. The adverb *weer* similarly has three possible sites to adjoin to: (1) *v*P, (2) V*P, and (3) AdjP, with the former two sites giving rise to a repetitive reading and the latter to a restitutive reading.

Finally, let us turn to the cases in which the objects take the form of an indefinite DP:

(90) a. Jan heeft weer [$_{vP}$ **een deur** geopend]. (rep/*res)
John has again a door opened
'John opened a door again.'

b. * Jan heeft **een deur**$_o$ weer [$_{vP}$ t$_o$ geopend].
John has a door again opened

In (90a), there is no semantic factors that force movement of the nonquantificational indefinite *een deur* 'a door' out of the *v*P. Since it remains within the *v*P, it is bound by existential closure and gets an existential interpretation. In our account, the only place above *v*P that *weer* can adjoin to is *v*P itself, which in turn leads to a repetitive reading of the sentence: 'John had opened a door once, and he opened a door again.'[5]

[5]Two syntactically plausible but semantically ill-formed structure should be mentioned in this connection, namely:

(1) a. * Jan heeft [$_{vP}$ een deur [$_{AdjP}$ weer [$_{AdjP}$ geopend]]].
John has a door again opened

b. * Jan heeft [$_{vP}$ een deur [$_{V*P}$ weer [$_{V*P}$ geopend]]].
John has a door again opened

(1a) can be ruled out on the basis that the restitutive reading of adjoining *weer* to the AdjP is not compatible with the non-speficity of the indefinite *een deur* in the Nuclear Scope, as argued above. One standing

The ungrammaticality of (90b) arises from having the existentially-interpreted *een deur* scrambled out of the Nuclear Scope. However, when an indefinite object receives a specific reading, it is indeed allowed to move out of the Nuclear Scope, as discussed in section 2.6.3. If a specific interpretation is intended, then (90b) will be grammatical – now we are talking about a specific door. Not surprisingly, now that the indefinite is specifically interpreted and has scrambled out of the *v*P, the same strategy we used to spell out examples with definite objects can be employed here. That is, when the adverb adjoins to *v*P or V*P, we get a repetitive reading, 'There was a specific door that John had opened, and he opened it again'. While when the adverb adjoins to AdjP, we have a restitutive reading, 'There was a specific door that had been opened, and John now opened it again'.

The discussion of the interaction between Dutch Scrambling and *again*-ambiguities so far is summarized in the following Table 4.1.

Object type		Repetitive	Restitutive
Definite descriptions	Unscrambled	√(quantificational/attributive)	×
	Scrambled	√	√
Definite pronouns	Unscrambled	×(violation of the Novelty Condition)	×
	Scrambled	√	√
Indefinite DPs	Unscrambled	√(non-specific)	×
	Scrambled	√(specific)	√(specific)

Table 4.1: Dutch Scrambing and *again*-ambiguities

4.3.3 The Hybrid System for Swedish Object Shift

Before applying the hybrid account to Swedish data, it is important to first point out some linguistic differences between Swedish and Dutch. The first difference concerns the sentential position of Swedish *igen* 'agian', and the second the constraints on OS.

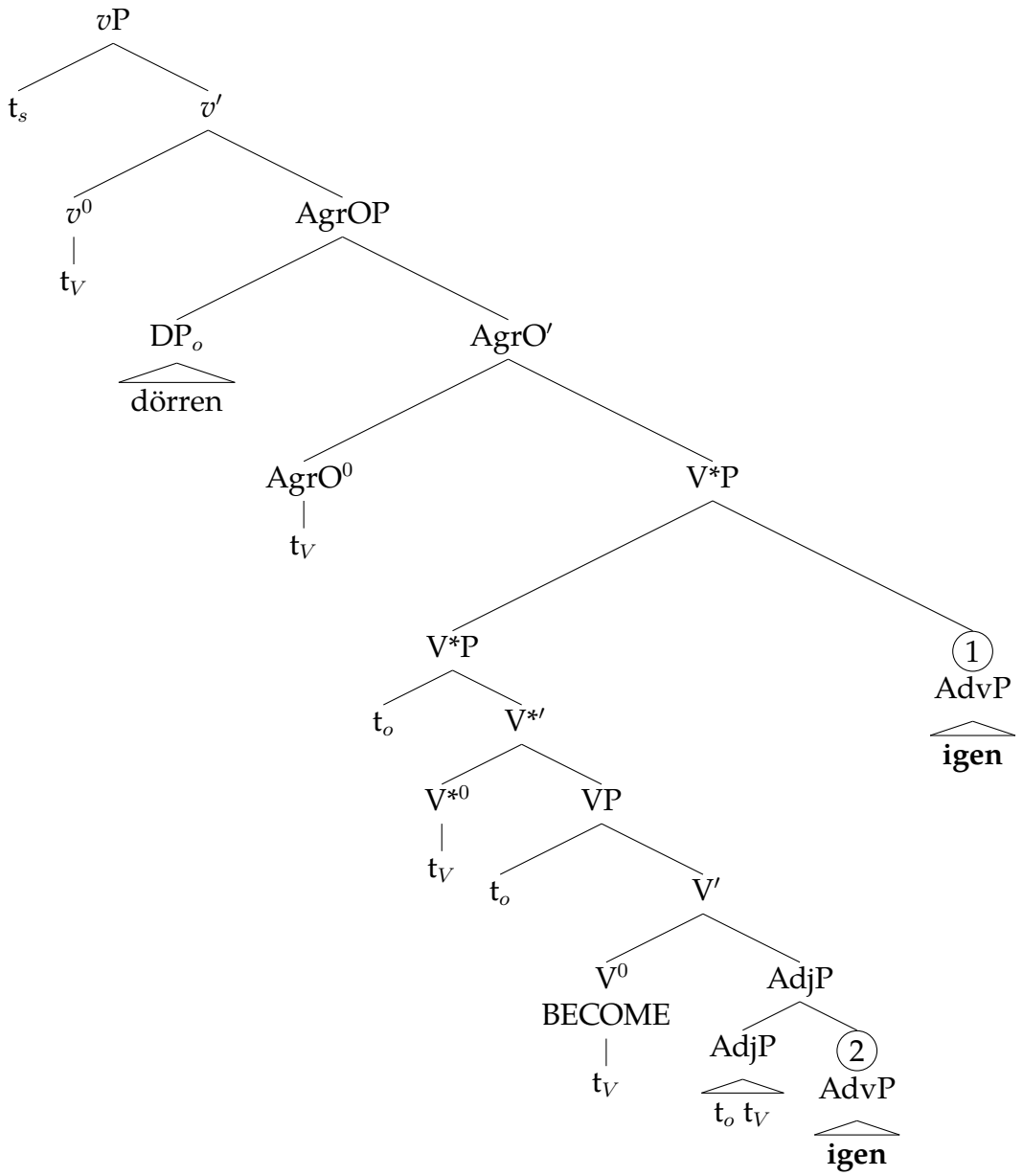
In contrast to Dutch *weer* 'again', Swedish *igen* 'again' is a clause-final adverb that cannot occur in the middle ground of the sentence, as exemplified in the following example:

(91) Johan öppnade (*igen) dörren (^{OK}igen). [Swe.]
John opened again door.the again
'John open the door again.'

The fact that *igen* is clause-final can be easily accommodated into our hybrid account: We only need to assume that *igen* adjoins to a constituent to its right, rather than to its left as in Dutch. With respect to the repetitive/restitutive ambiguity associated with *igen* that we see in examples like (92), we can have *igen* rightly adjoin to V*P or AdjP, exactly the same as we handled our Dutch data:

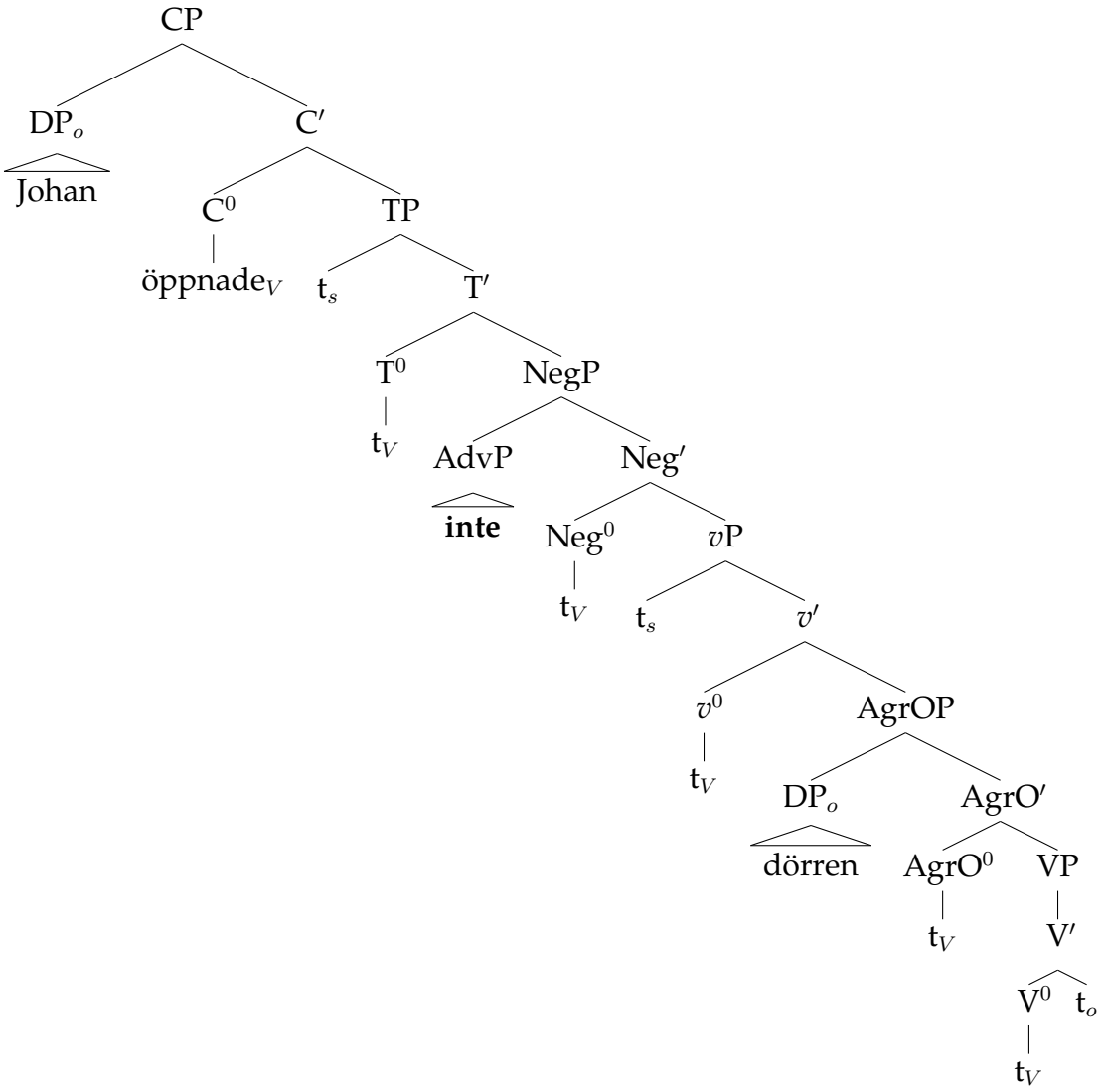
problem that I still do not have a satisfying answer for, however, is why (1b) cannot be used to express the repetitive reading seen in (1a). One possible soluetion is that (1b) cannot be distinguished from ungrammatical (1a) based on linear ordering of words, and syntactic parsing strongely favors the latter semantically ill-formed structure. I will leave this question open here and address it in future research.

(92) Johan öppnade$_V$ [$_{vP}$ t$_V$ dörren igen]. (rep/res) [Swe.]
John opened door.the again



Swedish *igen* being clause-final also means that it cannot function as the landmark to detect OS since it is always at the final position regardless of whether OS takes place or not. Therefore we need to rely on some other elements to flag the occurrence of OS. This is when the Swedish negative marker *inte* 'not' becomes useful thanks to its fixed, clause-medial position. Similarly to Dutch, I assume that a sentence with sentential negation necessarily hosts a NegP that is headed by a phonetically empty head and with its specifier position occupied by the negative marker, as illustrated in the following structure (I do not decompose the verb here as it is irrelevant to the point being made here):

(93) Johan öppnade$_V$ inte [$_{vP}$ t$_V$ dörren]. [Swe.]
John opened not door.the
'John didn't open the door.'



To see if OS has occurred, we thus locate the position of the object relative to the negative marker. If the object precedes the negative marker, we conclude that OS has taken place, otherwise OS does not apply here.

With regard to constraints on OS, we have discussed them in detail in section 2.1. Here I will only provide a quick recap on the important facts. First, in Swedish, OS is only *visible* when the object is a pronoun. Full DP objects, either definite or indefinite, are not allowed to undergo OS at S-structure under any circumstances. Second, OS is conditional on a prior movement of the main verb at S-structure: If the main verb does not move, OS does not take place.

Keen readers may have noticed that these constraints on OS could cause Swedish to violate some claims we made with the Dutch examples. Specifically, because overt movement of full DP objects is prohibited, referential objects like definite descriptions are *trapped* at their base position inside the *v*P, which leads to an obvious violation of our claim that referential definite descriptions must leave the *v*P and therefore out of

the Nuclear Scope. To make things worse, under the conditions where OS is not applicable at all (e.g., when the main verb does not move), all types of object, including pronouns, remain in the *v*P and could be infelicitously bound by existential closure in some cases. In short, the problem that Swedish OS raises is how we are going to fix the apparent mismatch between object types and their syntactic position as required by the interpretation requirements introduced earlier.

To solve this mismatch problem, I hypothize that, in Swedish, OS always takes place at LF.[6] Therefore, at LF, the main verb always undergoes head-movement to T^0 so as to enable OS when appropriate. By resorting to LF for OS of all types of object DPs, we can account for Swedish data in exactly the same fashion as we did for Dutch data.

Let us first examine examples involving definite pronominal objects as they are the only type of objects that can undergo OS at S-structure. I deliberately chose examples with sentential negation so as to make OS visible in word order. The examples in question are shown below in (94):

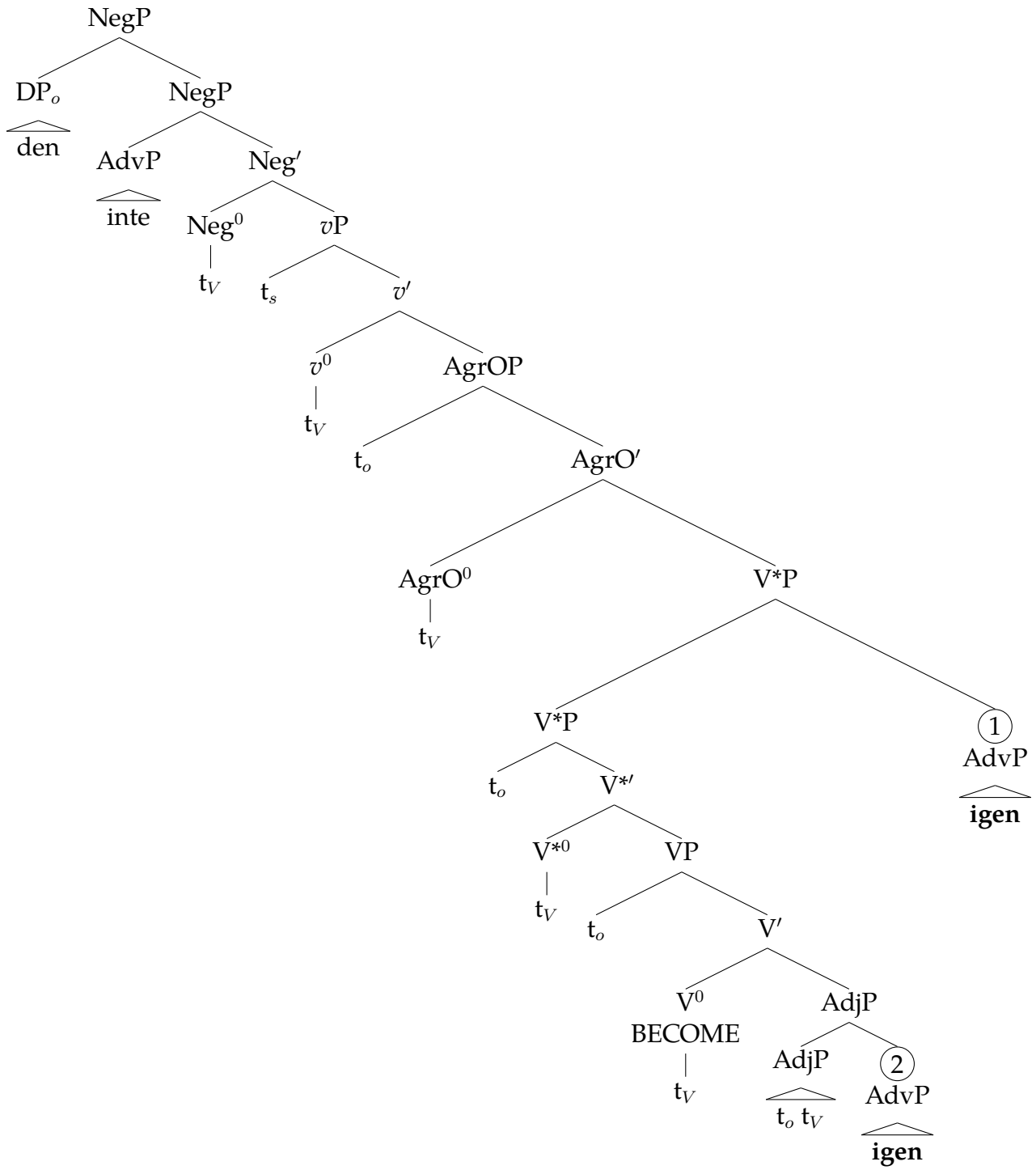
(94) a. % Johan öppnade$_V$ inte [$_{vP}$ t$_V$ **den** igen]. (rep/res)
John opened not it again
'John didn't open it again (with negation takes scope over the adverb).'

b. Johan öppnade$_V$ **den**$_o$ inte [$_{vP}$ t$_V$ t$_o$ igen]. (rep/res)
John opened it not again

Recall that Swedish is the only Scandinavian language where (unaccented) pronominal objects at their base position are partially acceptable although my Swedish consultant told me that unshifted objects receive a slightly demonstrative reading. Because of definite pronouns' referential and specific nature, they are predicted to move out of the Nuclear Scope (i.e., out of the *v*P), as we saw in (94b). The repetitive/restitutive ambiguity follows as *igen* adjoins to either (1) the higher V*P (repetitive) or (2) the lower AdjP (restitutive), as depicted in (95). Note that *igen* in both cases needs to take a narrower scope than negation (i.e., *igen* is c-commanded by the negative marker *inte*) to ensure the desired interpretation.

[6]Of course, we then need to solve the problem of why pronouns differ from full DPs in being capable of OS at S-structure. One line of research on this difference proposes that pronomial-OS is reminiscent of cliticization in the Romance languages and that both are some sort of X^0-movement. I will not go into detail about the proposal here, and the interested reader is referred to workys by Bobaljik and Jonas (1996), Déprez (1994), Diesing (1996, 1997), Holmberg (1991), and Josefsson (1992, 1993)

(95)



With definite full DP objects, as in (96), that are interpreted with a specific reading, the derivation is exactly the same as we just did with pronominal objects, except that the OS of full DP objects is delayed until LF.

(96) S-structure: Johan öppnade$_V$ inte [$_{vP}$ t$_V$ dörren igen]. (rep/res) [Swe.]
John opened not door.the again

S-structure: * Johan öppnade$_V$ dörren$_o$ inte [$_{vP}$ t$_V$ t$_o$ igen].
John opened door.the not again

LF: Johan öppnade$_V$ dörren$_o$ [$_{\text{NegP}}$ inte [$_{v\text{P}}$ t$_V$ t$_o$ igen]]

Recall the discussion in section 2.6.3 that certain definite DPs can be ambiguous in terms of specificity. For instance, the DP *the smallest cat* can assume a specific reading, which denotes one particular cat that is the smallest in the discourse, or it can take a non-specific/quantificational reading that roughly means 'whichever cat is the smallest'. Previously we have also seen that German and Dutch Scrambling can serve to disambiguate the two meanings by always having *specific* DPs scrambled to the Restriction Clause at S-structure, so the surface word order in German or Dutch already indicates which reading is intended. The same principle concerning specificity and object movement also applies to Swedish, only this time it occurs at the abstract LF level. This means that, when uttered out of the blue, sentences like (97) are always ambiguous between (98a) and (98b), depending on the specificity of *den minsta dörren* 'the smallest door'.

(97) S-structure: Johan öppnade$_V$ [$_{v\text{P}}$ t$_V$ den minsta dörren igen].
John opened the smallest door.the again

(98) a. LF: Johan öppnade$_V$ [$_{v\text{P}}$ t$_V$ den minsta dörren igen] (rep/*res)
'John opened whichever door is the smallest again.'

b. LF: Johan öppnade$_V$ [$_{v\text{P}}$ den minsta dörren$_o$ [$_{v\text{P}}$ t$_V$ t$_o$ igen]] (rep/res)
'John opened the one and only smallest door again.'

Finally, we turn to examples with objects in the form of an indefinite full DP (99). On their non-specific, novel readings, they are predicted to remain in the Nuclear Scope (i.e., syntactic *v*P) even at LF (100).

(99) a. S-structure: Johan öppnade$_V$ inte [$_{v\text{P}}$ t$_V$ en dörr igen]. (rep/*res) [Swe.]
John opened not a door again

b. S-structure: * Johan öppnade$_V$ en dörr$_i$ inte [$_{v\text{P}}$ t$_V$ t$_i$ igen].
John opened a door not again

(100) a. LF: Johan öppnade$_V$ inte [$_{v\text{P}}$ t$_V$ en dörr igen] (rep/*res)

b. LF: *Johan öppnade$_V$ en dörr$_o$ [$_{\text{NegP}}$ inte [$_{v\text{P}}$ t$_V$ t$_o$ igen]]

Note here that, although there are no syntactic constraints that prevent *igen* from adjoining to the resultative AdjP, the conceptual incompatibility between non-specificity of *en dörr* 'a door' and the restitutive reading is why a restitutive reading is absent for (99a).

If the specificity of indefinite objects is one key to whehter or not a restitutive reading is present, then we would expect that, upon a specific reading becoming available to an indefinite object, a restitutive reading should also be possible. This prediction is borne out. When we try to bring out the specific reading of an indefinite DP by adding some *extra material*, a restitutive reading of the sentence becomes available, as illustreated in (101).

(101) Johan öppnade [$_{\text{DP}}$ en dörr som brukade vara öppen] igen. (rep/res) [Swe.]
John opened a door that used.to be open again
'John opened a door that used to be open again.'

Due to the specific nature of the indefinite *en dörr som brukade vara öppen* 'a door that used to be open', it has to move covertly out of the Nuclear Scope (i.e., the *v*P) at LF:

(102) LF: *Johan öppnade$_V$ [$_{DP}$ en dörr som brukade vara öppen]$_o$ [$_{vP}$ t$_V$ t$_o$ igen]

So far all the Swedish examples we have seen involve a finite main verb in the matrix clause that has to move to C^0 to satisfy the V2 requirement of Swedish. Because the main verb necessarily moves to C^0 in these cases, OS at S-structure is possible, at least for pronominal objects in Swedish. There are, however, cases where the main verb is not allowed to undergo movement, for instance, in the embedded clause. An example with the finite main verb in the embedded clause is shown below in (103):

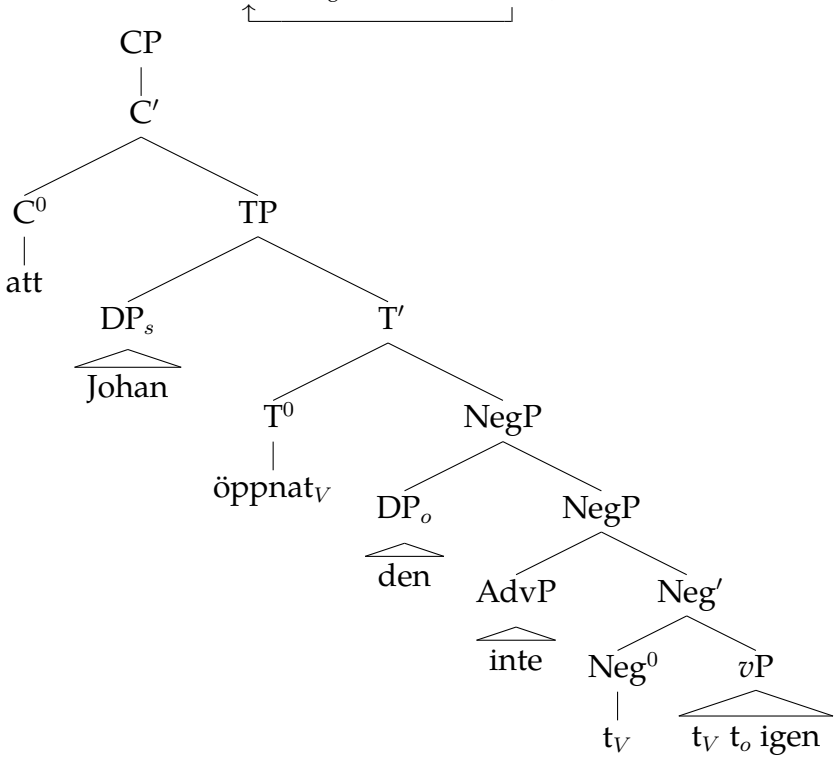
(103) a. Han sa att Johan inte [$_{vP}$ öppnat den igen]. (rep/res) [Swe.]
he said that John not opened it again
'He said that John didn't open it again.'

b. * Han sa att Johan öppnat$_V$ inte [$_{vP}$ t$_V$ den igen].
he said that John opened not it again

c. * Han sa att Johan den$_o$ inte [$_{vP}$ öppnat t$_o$ igen].
he said that John it not opened again

Here we see that, in the embedded clause, a finite main verb cannot move out of the *v*P (103b). Because the movement of a finite main verb is impossible in the embedded clause, OS of objects, including pronominal ones, is also not possible (103c). In order to extend the analysis above to the current embedded examples, we have to assume additionally that the main verb in the embedded clause raises to T^0 at LF to license OS at LF as well. In other words, for embedded clauses, not only OS takes place at LF, but verb raising that conditions OS also occurs at LF. The LF of (103a) should therefore be:

(104) LF: …att Johan öppnat$_V$ den$_o$ [$_{NegP}$ inte [$_{vP}$ t$_V$ t$_o$ igen]]



We therefore see that, by allowing OS to take place at LF, the semantic parallels that we observe in matrix clauses and in embedded clause can be explained by the

same mechanism. More importantly, we can elegantly account for the semantic effects of Dutch Scrambling on the one hand and Swedish OS on the other with one general mechanism, in spite of apparent differences in the syntactic manifestation of these two type of object movement.

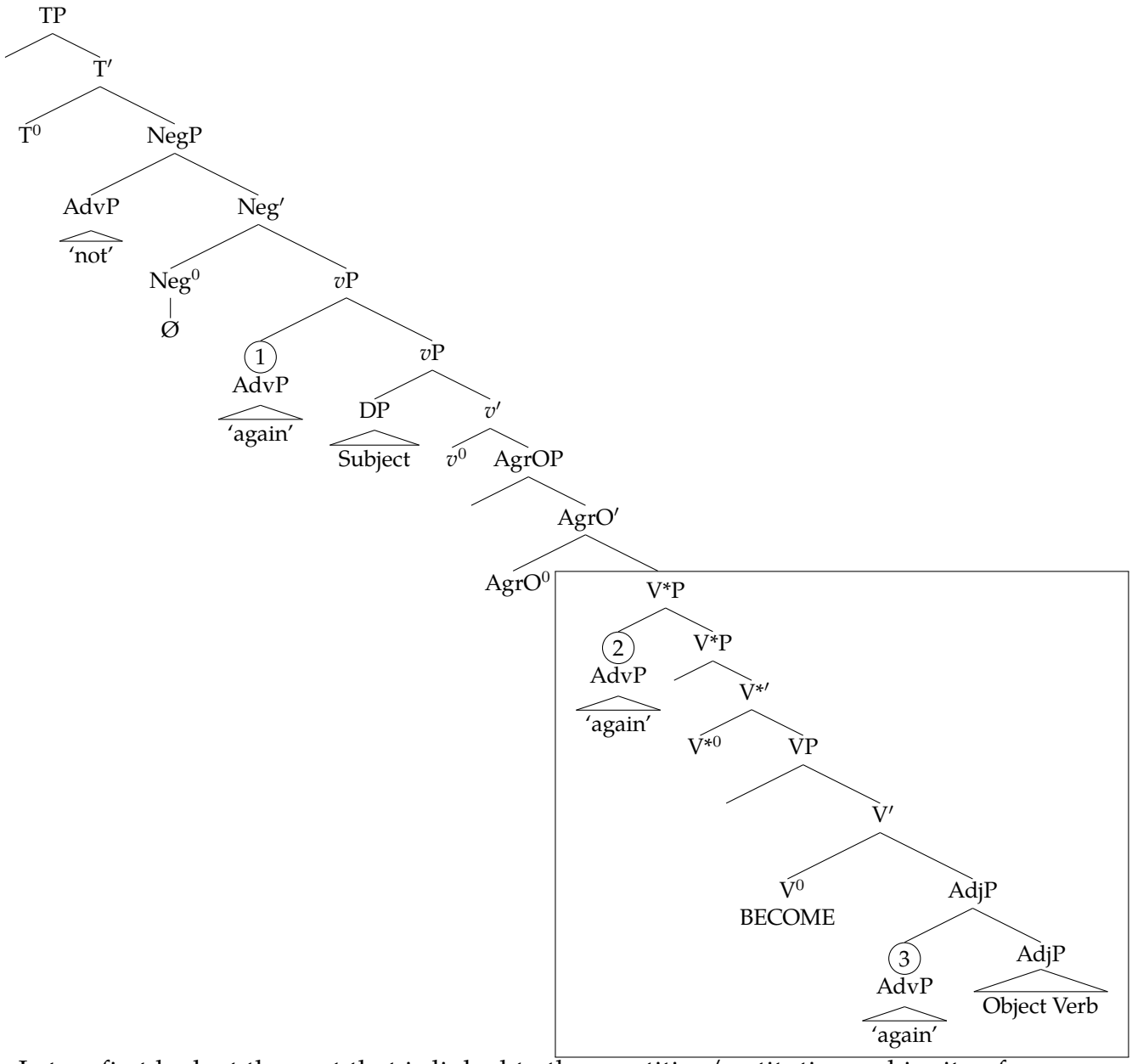
CHAPTER 5

Epilogue

This thesis represents an effort to develop an account to explain Dutch Scrambling and Swedish OS on the one hand and *again*-ambiguities on the other. The account is a hybrid system that is built on, and therefore inherits several properties from, Diesing and Jelinek's (1995) semantic-syntactic account on Scrambling and OS and von Stechow's (1995, 1996) structural theory on *again*-ambiguities, with some minor modifications and additional assumptions.

In what follows, I will summarize some of the most crucial assumptions and predictions of this hybrid account and then show how this account handles our Dutch and Swedish data.

The essence of this account can be captured in the following rather bulky structure, where the subject, (main) verb, and object are at their position at D-structure:



Let us first look at the part that is linked to the repetitive/restitutive ambiguity of *again*. The account developed here adopts von Stechow's (1995, 1996) view that this ambiguity has a syntactic root: *again* always means a repetition of *something*, and it is the different syntactic constituents *again* modifies that are responsible for ambiguities. Specifically, when *again* modifies a constituent corresponding to an action event (i.e., (1) *v*P or (2) V*P), we will have a repetitive reading. In contrast, when *again* modifies a constituent representing a state (i.e., (3) AdjP), restitutuve reading comes about. Note also that, in order for *again* to adjoin to a state-denoting constituent, this account relies heavily on the decomposition of verbs into smaller semantic units that project their own maximal projection (i.e., the framed part of the tree. V*P contains the CAUSE component, and VP the BECOME component).

Having examined the part related to *again*-ambiguities, it is time to climb up the tree and see the rest part that is connected to Scrambling and OS. It is important to realize

that the central idea that forms the backbone of the account on Scrambking and OS views the relationship between syntax and semantics rather differently from traditionally assumed. Following Diesing and Jelinek (1995), the view that this account takes on the syntax-semantics interface is different from the classical model where syntax is one-way traffic to semantics, where the semantic component of grammar just takes whatever the syntactic component generates as input and outputs a (possibly uninterpretable) LF. Rather, this account sees the interaction between syntax and semantics as a two-way street, so semantic effects can already influence syntactic constructions at S-structure. Scrambling and OS in this account are taken to be such semantically-driven movement, where the interpretation needs at the LF end already partially dictate how objects are distributed at S-structure.

Because we are dealing with movement, we need a means to determine if movement has indeed happened. In most literature, this job is taken by clause-medial adverbials. However, as we just seen for *again*, adverbials enjoy much freedom with respect to which constituents they can adjoin to, making them an unstable indicator of movement. I therefore turn to the negative marker for this job, as it has a fixed position and serves as a better indicator of movement. However, I suggest only use the negative marker when we need to pinpoint movement that cannot be easily identified (e.g., when the adverbial is clause-final and hence there is no way to detect movement, as is the case for Swedish 'again') as negation adds another layer of complexity semantically. When the movement is question can be identified by other elements originally in the sentence or when it is well-established, then we do not have to resort to the negative marker.

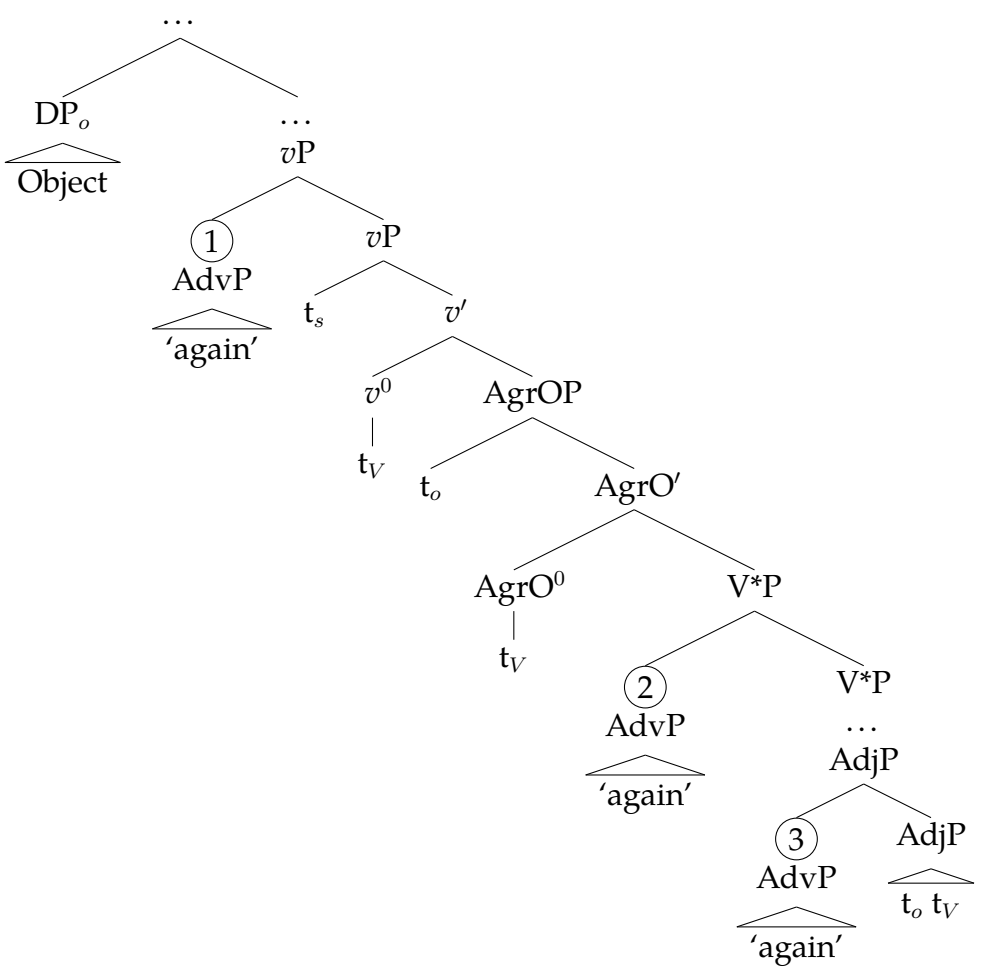
If Scrambling and OS are assumed to be a syntax-semantics interface phenomenon, then we would need some rules that govern how syntactic constructions are mapped to their LF. We also need to identify the semantic conditions that can force changes at S-structure. The mapping between a structure (either at S-structure or at LF) and its interpretation is handled by the Mapping Hypothesis from Diesing 1992, which, in the extended version in this study, states that (I) *v*P maps into the Nuclear Scope, where any objects that introduce a free variable are unselectively bound by existential closure and receive an existential/non-specific reading, and (II) TP maps into the Restriction Clause, where the variables introduced by objects are bound by operators, and the objects get a definite/specific reading. As for the semantic conditions that can potentially drive object movement, they are Type Mismatch Repair and Scope Fixing that are originally associated with Quantifier Raising. Type Mismatch Repair requires that, in order to yield interpretable LF, movement may be necessary so that predicates can be combined with appropriate arguments. Scope Fixing demands that scopes of various operators and syntactic constituents that are sensitive to these operators be properly ordered so that the resulted LF matches the intended meaning. Although these semantic conditions can function as motivations for movement at S-structure, they cannot override syntactic constraints that regulate movement at S-structure. This is why these semantic conditions are satisfied at different stages of derivation. For Dutch Scrambling, Scope Fixing has to be fulfilled at S-structure while Type Mismatch Repair can be delayed until LF. Whereas for Swedish OS, both Type Mismatch Repair and Scope Fixing have to wait until LF due to certain syntactic constraints of the language.

The Mapping Hypothesis in conjunction with the semantic conditions gives very strong predictions about how different types of objects (i.e., definite DPs, definite pro-

nouns, and indefinite DPs) may be located and interpreted. I will sum up these predictions below, along with how they interact with the *again*-ambiguities just discussed. The principles can be generalized to both Dutch and Swedish, though the reader should keep in mind that while the effects of these principles can be visible at S-structure in Dutch, they apply only at LF when it comes to Swedish.

First, when the object receives a specific reading, be it a definite DP, a definite pronoun, or a specifically interpreted indefinite DP, it has to leave the Nuclear Scope (i.e., *v*P syntactically) and move to the Restriction Clause (i.e., adjoining to some maximal project above *v*P). *Again* then has three places where it can attach to. Adjoining to (1) or (2) yields a repetitive reading while adjoining to (3) gives a restitutive reading. The whole process is illustrated in the following tree:

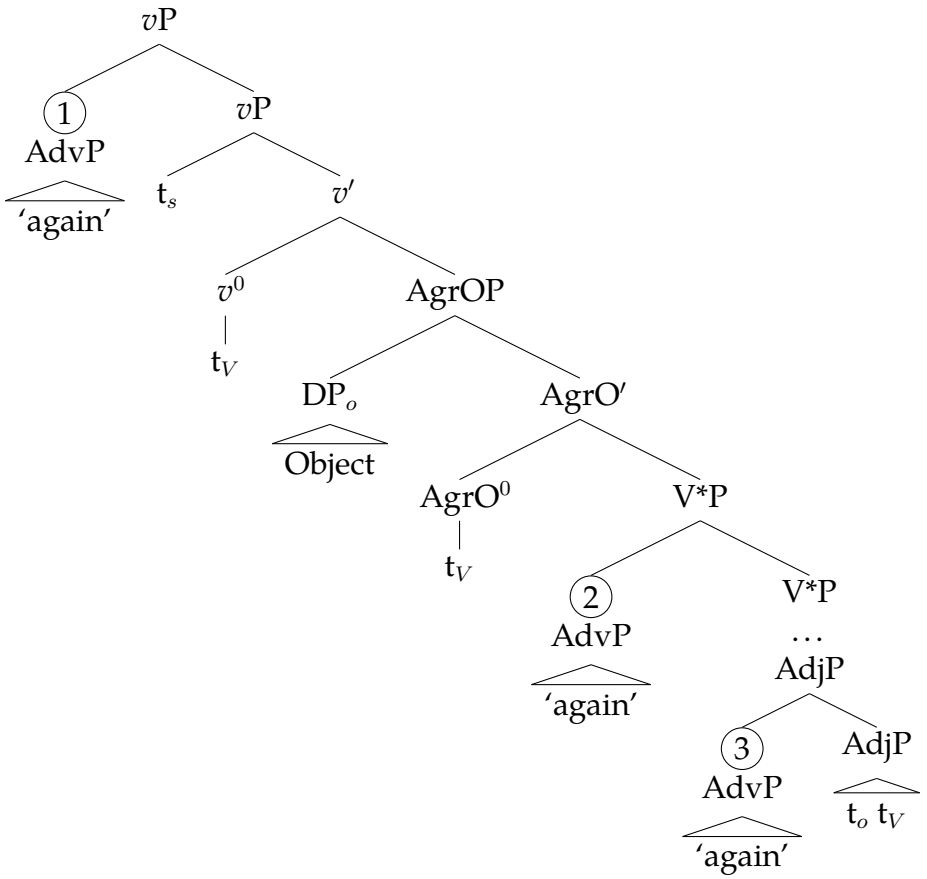
(105)



Second, when the object receives a non-specific reading, as is often the case with an indefinite DP or a quantificationally interpreted definite DP, then it has to stay within the Nuclear Scope (i.e., remain in the *v*P), as shown in (106). Since a definite pronoun can never receive a non-specific reading, its presence in the Nuclear Scope is out of question. If *again* adjoins to (1) *v*P, a repetitive reading results. Even though there are no syntactic constraints that prohibit *again* to adjoin to (3) AdjP, the conceptual incompatibility between a restitutive reading and non-specificity causes the derivation along this path to crash. The tricky question is whether *again* can adjoin to (2) V*P. While adjoining

again to V*P does not affect the reading of a quantificationally interpreted definite DP, it seems that adjoining *again* to this position changes the reading of an indefinite DP object from non-specific to specific. I will keep the question open and leave it to future work.

(106)



This thesis is a first approximation to characterizes the interaction between *again*-ambiguities and Dutch Scrambling and Swedish OS. Admittedly, there are other related issues that are only barely touched upon or not addressed at all here. For instance, almost all the examples in the study use the verb *open*; it would be interesting to see if other verbs can also be decomposed in the same way as *open* and to see how they interact with *again*-ambiguities. Due to the unavailability of Icelandic native consultants during the time when this thesis was compiled, Swedish was chosen to illustrate OS in Scandinavian languages. It would therefore be interesting to see whether Icelandic, which does allow OS of full DPs at S-structure, would indeed behave similarly or not. I will leave these works for future research.

Bibliography

Beck, Sigrid. 2005. There and back again: A semantic analysis. *Journal of Semantics* 22:3–51.

Beck, Sigrid, and Kyle Johnson. 2004. Double objects again. *Linguistic Inquiry* 35:97–124.

Bobaljik, Jonathan. 1995. Morphosyntax: The syntax of verbal inflection. Doctoral Dissertation, MIT, Cambridge, MA.

Bobaljik, Jonathan David, and Dianne Jonas. 1996. Subject positions and the rrole of TP. *Linguistic Inquiry* 27:195–236.

Cecchetto, Carlo. 1994. A semantic trigger for scrambling. *Rivista di Grammatica Generativa: Research in Generative Grammar* 19:33–69.

Chomsky, Noam. 1991. Some notes on economy of derivation and representation. In *Principles and Parameters in Comparative Grammar*, ed. Robert Freidin, chapter 14, 417–454. Cambridge, MA: MIT Press.

Chomsky, Noam. 1993. A Minimalist Program for linguistic theory. In *The View from Building 20: Essays in Linguistics in Honor of Sylvain Bromberger*, ed. Ken Hale and Samuel Jay Keyser, chapter 1, 1–52. Cambridge, MA: MIT Press.

Chomsky, Noam. 1995. *The Minimalist Program*. Cambridge, MA: MIT Press.

Cinque, Guglielmo. 1999. *Adverbs and functional heads: A cross-linguistic perspective*. Oxford: Oxford University Press.

Cinque, Guglielmo. 2004. Issues in adverbial syntax. *Lingua* 114:683–710.

Collins, Chris, and Höskuldur Thráinsson. 1996. VP-internal structure and object shift in Icelandic. *Linguistic Inquiry* 27:391–444.

Czepluch, Hartmut. 1990. Word order variation in a configurational language: Against a uniform scrambling account in German. In *Issues in Germanic Syntax*, ed. Werner Abraham, Wim Kosmeijer, and Erich Reuland, 163–196. Berlin: De Gruyter Mouton.

Davidson, Donald. 1967. The logical form of action sentences. In *The Logic of Decision and Action*, ed. Nicholas Rescher, 81–95. Pittsburgh, PA: University of Pittsburgh Press.

Déprez, Viviane M. 1989. On the typology of syntactic positions and the nature of chains: Move to the specifier of functional projections. Doctoral Dissertation, MIT, Cambridge, MA.

Déprez, Viviane M. 1994. Parameters of object movement. In *Studies on scrambling*, ed. Norbert Corver and Henk C. van Riemsdijk, 101–152. Berlin: Mouton de Gruyter.

Diesing, Molly. 1992. *Indefinites*. Cambridge, MA: MIT Press.

Diesing, Molly. 1996. Semantic variables and object shift. In *Studies in Comparative Germanic Syntax*, ed. Höskuldur Thráinsson, Samuel David Epstein, and Steve Peter, volume II, 66–84. Dordrecht: Kluwer Academic Publishers.

Diesing, Molly. 1997. Yiddish VP order and the typology of object movement in Germanic. *Natural Language and Linguistic Theory* 15:369–427.

Diesing, Molly, and Eloise Jelinek. 1995. Distributing arguments. *Natural Language Semantics* 3:123–176.

Ernst, Thomas. 2002. *The syntax of adjuncts*. Cambridge: Cambridge University Press.

Ernst, Thomas. 2004. Principles of adverbial distribution in the lower clause. *Lingua* 114:755–777.

Ernst, Thomas. 2007. On the role of semantics in a theory of adverb syntax. *Lingua* 117:1008–1033.

Fabricius-Hansen, Cathrine. 1983. Wieder éin *wieder*? Zur Semantik von *wieder*. In *Meaning, Use, and Interpretation of Language*, ed. Rainer Bäuerle, Christoph Schwarze, and Arnim von Stechow, 97–120. Berlin: Walter de Gruyter.

Fabricius-Hansen, Cathrine. 2001. "wi(e)der" and "again(st)". In *Audiatur Vox Sapientiae: A Festschrift for Arnim von Stechow*, ed. Caroline Féry and Wolfgang Sternefeld, 101–130. Berlin: Akademie Verlag GmbH.

Fanselow, Gisbert. 1990. Scrambling as NP-movement. In *Scrambling and Barriers*, ed. Günther Grewendorf and Wolfgang Sternefeld, 113–140. Amsterdam: John Benjamins Publishing Company.

Grewendorf, Günther, and Wolfgang Sternefeld. 1990. Scrambling theories. In *Scrambling and Barriers*, ed. Günther Grewendorf and Wolfgang Sternefeld, 3–37. Amsterdam: John Benjamins Publishing Company.

Haegeman, Liliane. 1995. *The syntax of negation*. Cambridge: Cambridge University Press.

Haegeman, Liliane, and Raffaella Zanuttini. 1996. Negative concord in West Flemish. In *Parameters and Functional Heads: Essays in Comparative Syntax*, ed. Adriana Belletti and Luigi Rizzi, chapter 4, 117–179. Oxford: Oxford University Press.

Haider, Hubert. 2004. Pre- and postverbal adverbials in OV and VO. *Lingua* 114:779–807.

Heim, Irene. 1982. The semantics of definite and indefinite noun phrases. Doctoral Dissertation, University of Massachusetts, Amherst, MA.

Heim, Irene, and Angelika Kratzer. 1998. *Semantics in generative grammar*. Malden, MA: Blackwell Publishers.

Holmberg, Andres. 1986. Word order and syntactic features in the Scandinavian languages and English. Doctoral Dissertation, University of Stockholm, Stockholm.

Holmberg, Andres. 1991. The distribution of Scandinavian weak pronouns. In *Clitics and Their Hosts*, ed. Henk C. van Riemsdijk and Luigi Rizzi, 155–173. Tilburg: Tilburg University.

Holmberg, Andres, and Christer Platzack. 1995. *The role of inflection in Scandinavian syntax*. Oxford: Oxford University Press.

Johnson, Kyle. 1991. Object positions. *Natural Language and Linguistic Theory* 9:577–636.

Josefsson, Gunlög. 1992. Object shift and weak pronominals in swedish. *Working Papers in Scandinavian Syntax* 49:59–94.

Josefsson, Gunlög. 1993. Scandinavian pronouns and object shift. *Working Papers in Scandinavian Syntax* 52:1–28.

Kayne, Richard. 1994. *The antisymmetry of syntax*. Cambridge, MA: MIT Press.

May, Robert. 1985. *Logical form*. Cambridge, MA: MIT Press.

McCawley, James D. 1971. Prelexical syntax. In *Report of the Twenty-Second Annual Round Table Meeting on Linguistics and Language Studies*, ed. S.J. Richard J. O'Brien, 19–33. Washington, D.C.: Georgetown University Press.

Morgan, Jerry L. 1969. On arguing about semantics. *Paper in Linguistics* 1:49–70.

Müller, Gereon, and Wolfgang Sternefeld. 1994. Scrambling as A-bar movement. In *Studies on Scrambling: Movement and Non-Movement Approaches to Free Word-Order Phenomena*, ed. Norbert Corver and Henk van Riemsdijk, 331–385. Berlin: Mouton de Gruyter.

Nespor, Marina, and Irene Vogel. 2007. *Prosodic phonology: With a new foreward*. Berlin: Mouton de Gruyter.

Partee, Barbara H. 2002. Noun phrase interpretation and type-shifting principles. In *Formal Semantics: The Essential Readings*, ed. Paul Portner and Barbara H. Partee, chapter 15, 357–381. Blackwell Publishers.

Pedersen, Walter A. 2014. A scalar analysis of *again*-ambiguities. *Journal of Semantics* 32:373–424.

Pollock, Jean-Yves. 1989. Verb movement, universal grammar and the structure of IP. *Linguistic Inquiry* 20:365–424.

Roberts, Ian. 1997. Directionality and word order change in the history of English. In *Parameters of morphosyntactic change*, ed. Ans van Kemenade and Nigel Vincent, chapter 15, 397–426. Cambridge: Cambridge University Press.

Ross, John. 1967. Constraints on variables in syntax. Doctoral Dissertation, MIT, Cambridge, MA.

Selkirk, Elisabeth. 1996. The prosodic structure of functional words. In *Signal to Syntax: Bootstrapping from Speech to Grammar in Early Acquistion*, ed. James L. Morgan and Katherine Demuth, chapter 12, 187–213. Mahwah, NJ: Lawrence Erlbaum Associates.

von Stechow, Arnim. 1995. Lexical decomposition in syntax. In *Lexical Knowledge in the Organization of Language*, ed. Urs Egli, Peter E. Pause, Christoph Schwarze, Arnim von Stechow, and Götz Wienold, 81–118. Amsterdam: John Benjamins Publishing Company.

von Stechow, Arnim. 1996. The different readings of wieder 'again': A structural account. *Journal of Semantics* 13:87–138.

Thráinsson, Höskuldur. 2001. Object Shift and Scrambling. In *The Handbook of Contemporary Syntactic Theory*, ed. Mark Baltin and Chris Collins, chapter 6, 148–202. Malden, MA: Blackwell Publishers.

Vikner, Sten. 1994. Scandinavian object shift and West Germanic scrambling. In *Studies on Scrambling: Movement and Non-Movement Approaches to Free Word-Order Phenomena*, ed. Norbert Corver and Henk van Riemsdijk, 487–517. Berlin: Mouton de Gruyter.

Vikner, Sten. 2006. Object shift. In *The Blackwell Companion to Syntax*, ed. Martin Everaert and Henk van Riemsdijk, chapter 46, 392–436. Malden, MA: Blackwell Publishing.

Zwart, Cornelius Jan-Wouter. 1993. Dutch syntax: A Minimalist approach. Doctoral Dissertation, University of Groningen, Groningen.

Zwart, Cornelius Jan-Wouter. 1997. *The morphosyntax of verb movement: A Minimalist approach to the syntax of Dutch*. Dordrecht: Kluwer Academic Publishers.