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Brandtler, Johan

2010

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Citation for published version (APA):

Brandtler, J. (2010). *The Evaluability Hypothesis : The Syntax and Semantics of Polarity Item Licensing in Swedish*. [Doctoral Thesis (monograph), Centre for Languages and Literature].

Total number of authors:

1

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The Evaluability Hypothesis

Johan Brandtler

LUNDASTUDIER I NORDISK SPRÅKVETENSKAP A 71

The Evaluability Hypothesis

The Syntax and Semantics of Polarity Item
Licensing in Swedish

Johan Brandtler



LUND UNIVERSITY

Centre for Languages and Literature
Lund 2010

Doctoral Dissertation in Scandinavian Languages, Lund University

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Lund University
Box 201
S-221 00 LUND

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ISSN 0347-8971
ISBN 978-91-628-8120-7

Print: E-husets tryckeri, Lunds universitet 2010

Till mamma och pappa

Preface

There seems to be a common misconception that dissertation writing is lonely work. But during the five years I spent working on this dissertation, I have enjoyed the most socially fruitful time of my life, on both a personal and a professional level.

I certainly could not have made it without the enormous help and support from my two supervisors, professor Christer Platzack and professor Valeria Molnár. They believed in me and my project long before I myself did, and they have been constant sources of inspiration during the work process. I was also very fortunate to spend a semester at the Department of Linguistics, Yale University, being supervised by professor Laurence R. Horn. The present work has benefited greatly from his expertise and his kind and helpful encouragement.

The people and the atmosphere at the former Department of Scandinavian Languages in Lund have always had a positive effect on me. I would especially like to mention Piotr Garbacz, David Håkansson, and David Peterson not the least for giving me plenty of reason to discuss things unrelated to linguistics. Also my special thanks to Lars-Olof Delsing, Lena Ekberg and Jan Svensson who at various stages have read and commented on my work.

I am also very grateful to a number of people associated with the Centre for Languages and Literature at Lund University: Fredrik Heinat for reading my embarrassingly unfinished text for the mock-defense, Lars-Åke Henningsson for great discussions, and Jordan Zlatev for up-to-the-point criticism on my early course work, where many of the present ideas took shape.

During the last few months, the text has improved considerably due to helpful suggestions by Werner Frey, ZAS in Berlin, who read an early manuscript. And I would like to thank Dianne Jonas for being an all-in-one proof-reader, reviewer and editor – not to mention being my teacher during my stay at Yale.

There are of course numerous others. The friendly and inspiring people at Gerdahallen: thanks for giving me an opportunity to forget about linguistics (if only for a short lunch-break or workout). My friends and family: thanks for all the reasons you already know.

Last, but not least, my heartfelt thanks goes to Tiina. This would never have been if it were not for you.

Lund, April 2010

Johan Brandtler

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Chapter 1

Introduction

1.1 Aim of the Present Work

It is a long standing observation that certain words and expressions favor negative contexts. Consider for example the Swedish adverb *någonsin* ‘ever’. Its occurrence is grammatical in the negative sentence (1a), but ungrammatical in the affirmative (1b).

- (1) a. Jag har **aldrig** *någonsin* varit i Paris.
I have never ever been to Paris
‘I have never ever been to Paris.’
- b. *Jag har *någonsin* varit i Paris.
I have ever been to Paris

At the other side of the spectrum, there are words and expressions that favor affirmative contexts, such as Swedish *fortfarande* ‘still’ in (2a) below. We see that *fortfarande* is ungrammatical in the negative sentence (2b).

- (2) a. Jag har *fortfarande* kvar mina gamla skidor.
I have still left my old skis
‘I still have my old skis.’
- b. *Jag har **inte** *fortfarande* kvar mina gamla skidor.
I have not still left my old skis

Elements that are sensitive to the distinction between affirmative and negative contexts are commonly referred to as *polarity items*. The adverb *någonsin* ‘ever’ is

a *negative* polarity item (NPI), whereas the adverb *fortfarande* ‘still’ is a *positive* polarity item (PPI).

However, this simple characterization of polarity items is not quite satisfactory. For one thing, there are a number of non-negative contexts that may host NPIs, such as yes/no-questions (3a) and conditionals (3b).

- (3) a. Har du *någonsin* varit i Paris?
 have you ever been to Paris
 ‘Have you ever been to Paris?’
- b. Om du *någonsin* åker till Paris, måste du besöka Louvren.
 if you ever go to Paris must you visit Louvre
 ‘If you ever go to Paris, you must visit the Louvre.’

When considering the sentences in (3), it seems natural to ask what they have in common with the negative sentence in (1a), such that they are open to NPIs. But intriguingly, yes/no-questions and conditionals are open also to PPIs, as the examples in (4) show.

- (4) a. Har Sven *fortfarande* dina gamla skidor?
 have Sven still your old skis
 ‘Does Sven still have your old skis?’
- b. Om Sven *fortfarande* har mina skidor, blir jag sur.
 if Sven still has my skis become I angry
 ‘If Sven still has my old skis, I’ll be angry with him.’

The pattern illustrated above is quite problematic from a theoretical perspective. That is, if *negative* polarity items are sensitive to negation, what is ‘negative’ about the yes/no-question and the conditional in (3)? And if *positive* polarity items are sensitive to affirmative contexts, what is ‘affirmative’ about the yes/no-question and the conditional in (4)?

Since the pioneering work of Jespersen (1917), almost every proposed theoretical explanation of the distribution of polarity items has taken the occurrence of polarity items in negative contexts as primary, while regarding the licensing properties of the ‘non-negative’ contexts in (3) and (4) as exceptional. Thus, the search has been directed at finding an underlying syntactic/semantic feature common to both negative and ‘non-negative’ licensing contexts. In one of the first

attempts, Klima (1964) proposed that NPI-hosting contexts are *AFFECTIVE*, a descriptive rather than explanatory term to which subsequent theories have suggested semantic content (most notably Ladusaw 1979, 1980).

There is, of course, the possibility that the search for a common denominator has been misdirected. Perhaps we should not take the occurrence of NPIs in negative contexts as primary. And perhaps we should focus on the seemingly non-licensed occurrence of NPIs in yes/no-questions and conditionals, particularly since PPIs also occur in these contexts. This is the approach to polarity item licensing I will pursue in this dissertation.

The primary aim of this work is to present an explanatory account of polarity items licensing in Swedish. I propose that polarity items are sensitive to *evaluability*, a concept that refers to the possibility of accepting or rejecting a sentence as true in a communicative exchange. Clauses are either *evaluable* or *non-evaluable*. According to the Evaluability Hypothesis, non-evaluable clauses are natural hosts for both NPIs and PPIs. Hence, the occurrence of polarity items in non-evaluable clauses is not dependent on any kind of formal licenser, and this is the reason we find both PPIs and NPIs in the yes/no-questions and conditionals in (3) and (4) above. Evaluable clauses, in contrast, are restricted environments and may only host polarity items that are formally licensed. Hence, NPIs require the presence of a licensing element, as in (1), and PPIs require the absence of such elements, as in (2). According to the Evaluability Hypothesis, then, the occurrence of polarity items in negative and affirmative sentences is actually the marked, or exceptional, case. We will see that there are several theoretical and empirical implications of this change of perspective.

My concept of evaluability does not have any immediate predecessor in the literature. Since it is concerned with the pragmatic status of a clause within a communicative exchange, it should not be confused with truth-evaluability within the logico-semantic tradition. It is also distinct from the semantic notion of veridicality (see Giannakidou 1998). Even though the Evaluability Hypothesis constitutes a break with former accounts of polarity phenomena, it integrates Ladusaw's *downward entailment hypothesis* (1979; 1980) in a straightforward manner.

It is further argued that the distinction between evaluable and non-evaluable clauses is mirrored syntactically in Swedish. I show that there is a striking correlation between the evaluability status of the clause and the configuration of the Swedish left-periphery. Within the framework of generative grammar, the rele-

vant configurational property refers to the presence or absence of Spec-CP (in linear terms the prefield, or (Swedish) *fundament*). Evaluable clauses have Spec-CP, whereas non-evaluable clauses lack Spec-CP. This correlation is argued to exist due to an arbitrary but fixed association between evaluability and the edge-feature in C (see Chomsky 2008). By focusing on the position preceding the finite verb – rather than the position of the finite verb itself – the Evaluability Hypothesis deviates from several established accounts of Swedish clause structure.

The purpose of the present work is threefold. First and foremost, the Evaluability Hypothesis proposes an alternative approach to polarity item licensing that both challenges and incorporates previous accounts of the phenomena. Secondly, it contains a novel approach to Swedish clause structure distinctions, the theoretical implications of which are only hinted at. Thirdly, this dissertation makes an empirical contribution, since the distribution of polarity items in Swedish has been little studied.

Throughout this dissertation, I employ a modular approach to polarity phenomena. Underlying this decision is my firm conviction that an adequately explanatory account of polarity item licensing must rest in equal parts on syntactic and semantic considerations. I will be particular about keeping syntax and semantics separate from each other, while at the same time persistently acknowledging the intricate interplay between the two modules. As a consequence of this approach, the present work raises questions of a general kind concerning the autonomy and interplay of linguistic modules.

In the next section, I briefly discuss the implications of my choice of theoretical framework; in section 1.3, I present the outline of the present work.

1.2 Theoretical Positioning

The overarching goal of this dissertation is to arrive at an explanatory account of polarity item licensing in Swedish, and the route I have chosen is strictly modular. This means that I employ a syntactic and semantic-pragmatic perspective throughout this work, while carefully keeping the two aspects separate from each other. Such a strategy may help us to steer clear of the classic linguistic dilemma as stated as early as de Saussure ([1916] 1959:29):

Everywhere we are confronted with a dilemma: if we fix our attention on only one side of each problem, we run the risk of failing to perceive the dualities [...]; on the other hand, if we study speech from several viewpoints simultaneously, the object of linguistics appears to us as a confused mass of heterogeneous and unrelated things.

The discussion of the semantic-pragmatic dimension takes as its starting point previous semantic accounts of polarity phenomena, primarily Ladusaw (1979, 1980) and Giannakidou (1998). The syntactic discussion is set within the framework of the Minimalist Program (Chomsky 1995, and onwards).

Any choice of scientific paradigm inevitably comes with advantages and drawbacks, and is also potentially controversial. A prevailing notion within the generative syntactic framework is that of an autonomous syntax. But concern has often been voiced that too much focus is placed on syntactic autonomy, and that too little attention is paid to the other modules of grammar (see e.g. Givón 1979:chapt. 1 and Jackendoff 2002:chapt. 9 for critical discussions).

Croft (1995) argues that the autonomous hypothesis can be broken down into a weak and a strong claim. According to the weak claim, syntax is arbitrary, but not necessarily self-contained. Under this view, “the syntactic component contains elements and rules of combination that are not derivable from semantic or discourse categories and their combination” (Croft 1995:495). Most linguists could probably agree to this characterization, although they need not endorse it. According to the stronger and hence more controversial claim, syntax is *both* arbitrary and self-contained: “the rules of the [syntactic] system interact with each other but do not interact closely with the rules existing elsewhere” (*ibid*). Note that ‘elsewhere’ here refers to some other (equally autonomous) module of grammar, most often semantics. Since only the strong autonomous claim is compatible with an entirely modular approach to language, it will consequently underlie the view of syntax I adopt in this work.

In addition to the autonomous hypothesis, The Minimalist Program builds on an even more controversial assumption, namely that humans possess an innate Universal Grammar (UG). It is of course trivially true that humans possess an innate *ability* to learn languages that, say, dogs and manatees lack. But to which extent this ability can be distinguished from other, equally species-specific, cog-

nitive skills is the matter of a heated debate.¹ Since this question is a matter of empirical research, and, furthermore, has little bearing on my overall hypothesis, I will refrain from taking a stand on these matters. In any case, a generative approach to clause structure is at least in part logically independent from the innateness hypothesis.²

1.3 Road Map

The reader may employ several reading strategies when approaching this dissertation, and this section gives a broad overview of the general structure. Naturally, any text of this kind assumes familiarity with a number of concepts and terms specific to the scientific field of linguistics. I have, however, tried to keep implicit references to theory internal assumptions or terminology to a minimum, and this has consequences for the way the text is designed.

The development of the Evaluability Hypothesis proceeds in three steps. In the first step, including chapters 2–4, the theoretical and empirical basis for this enterprise are established. In the second step, chapters 5–8, the semantic and syntactic aspects of the hypothesis are developed; in the third and final step (chapters 9 and 10) the applicability of the hypothesis is tested against two separate case studies.

In chapter 2, the current work is theoretically positioned in relation to previous accounts of polarity phenomena. The major issues involved in the study of polarity items are discussed, taking into account both syntactic and semantic points of view. It is argued that a strict modular approach to polarity item licensing has several advantages to purely syntactic *or* semantic approaches.

It is decisive for the modular approach that the syntactic aspects of polarity item licensing can be separated from the semantic ones. Chapter 3 presents a structural

¹The most frequently voiced argument in defence of Universal Grammar is based on language acquisition and the alleged *Poverty of the Stimulus*. Without innate constraints on the search space, it should, in principle, be impossible for the (child) language learner to identify relevant aspects of the target grammar of acquisition based on the insufficient and/or too noisy input alone. But it is not empirically well-established that the stimulus is actually poor in this sense; see Johansson 2005:181ff for a critical discussion.

²Interestingly, Chomsky himself explicitly disavows the innateness hypothesis, as in the following passage taken from an interview by Stemmer (1999:400): “I have no idea what the phrase [innateness hypothesis] is supposed to mean and correspondingly have never advocated any such hypothesis – beyond the truism that there is some language-relevant distinction, to be discovered, between my granddaughter and her pet kitten (monkey, rock, etc.)”

classification of Swedish clause types, which builds on the configuration of the C-domain. Two properties are argued to be relevant for Swedish clause structure distinctions: the presence/absence of Spec-CP, and the presence/absence of V-to-C movement.

Chapter 4 is primarily concerned with the empirical aspects of polarity item licensing. Using the structural classification from chapter 3, I systematically review the distribution of polarity items in Swedish. It is shown that the configuration of the Swedish C-domain correlates with the NPI-licensing properties of the clause in a striking manner. While V-to-C movement plays no discernable role, the presence or absence of Spec-CP is intricately related to NPI-licensing: clauses with Spec-CP may host only formally licensed NPIs, whereas clauses lacking Spec-CP do not require any formal (overt) licensing of NPIs. This correlation, which I believe has hitherto gone unnoticed, provides a starting point for the overall discussion of polarity items in this work.

In an attempt to semantically motivate the structural correlation between Spec-CP and NPI-licensing, chapter 5 is concerned with identifying a common semantic feature unifying the sentence types within each clausal category. After reviewing and refuting possible alternatives, I argue that the relevant notion for Swedish clause structure distinctions is *evaluability*. Being primarily pragmatic in nature, this concept refers to the possibility of accepting or rejecting a sentence as true within a communicative exchange. Clauses are either *evaluable* or *non-evaluable*, and this distinction can be mapped in a one-to-one fashion to clauses involving or lacking Spec-CP, respectively.

The Evaluability Hypothesis is corroborated in relation to Swedish clause types in chapter 6. Building on a recent proposal by Chomsky (2008), I argue that the connection between evaluability and the presence/absence of Spec-CP results from the association between evaluability and the presence of an edge-feature in C.

After having established that evaluability is relevant for Swedish clause structure distinctions, I argue in chapter 7 that evaluability is related to polarity sensitivity as well. An important consequence of this claim is that polarity items need not be regarded as syntactically dependent expressions, but are best characterized as semantically sensitive expressions. I propose that non-evaluable clauses provide the natural (or unmarked) environment for polarity items, and that polarity items, for this reason, do not need any kind of formal licensing. Evaluable clauses, in contrast, are restricted environments, which means that polarity items must rely

on formal (syntactic) licensing.

In chapter 7 and 8, the explanatory power of the Evaluability Hypothesis is tested and reviewed against two influential previous accounts of polarity phenomena: the syntactic account of Progovac (1994) and the semantic account of Giannakidou (1998). There are a number of issues that cannot be satisfactorily handled by these theories, with respect to the (non)complementary distribution of PPIs and NPI, the discrepancy between weak and strong NPIs, and the licit occurrence of polarity items in presupposed clauses. It is argued that the Evaluability Hypothesis straightforwardly accounts for these aspects.

In the subsequent two chapters, the applicability of the Evaluability Hypothesis is tested in two case studies: long-distance NPI-licensing in chapter 9 and NPIs in *wh*-questions in chapter 10. It is argued that the present hypothesis successfully and straightforwardly accounts for a number of problematic issues that previous attempts have failed to explain in relation to these case studies.

Chapter 11 ends this work, summarizing the conclusions and theoretical implications of the Evaluability Hypothesis.

Chapter 2

Negation and Polarity

The primary aim of this chapter is to discuss empirical and theoretical issues concerned with the study of polarity items. As will become evident from this brief presentation, the class of words and expressions which typically gather under the umbrella of polarity items is a heterogenous crowd. Their only common denominator is sensitivity to sentential negation; that aside, the distributional variation within this class of words is highly complex.

The various proposals put forward in the literature have been more or less successful in capturing the empirical side of the phenomenon. In the words of Krifka (1995:209), still relevant, none has yet attained explanatory adequacy. This does not imply that important insights have not been made, however, and the point of section 2.2 is to present an overview of the major areas of study in the field of polarity.

I begin this chapter by giving a general characterization of polarity items, and then turn my attention to Swedish polarity items in subsection 2.1.2. Since these sections provide the background for the discussions in later chapters, readers already familiar with polarity item licensing may move directly to section 2.3, in which I present the perspective on the distribution of polarity items that underlie this work.

2.1 Polarity Items: Definition and Distribution

I am whatever you say I am; if I wasn't, then why would I say I am?
(Eminem *The Way That I Am*)

Affirmative and negative propositions can be intuitively regarded as constituting the extreme ends of two opposing poles: one *positive* (affirmative) and one *negative*. Linguistic expressions associated with either one of these 'poles' are therefore *polar sensitive*, and are commonly labeled *polarity items*.

According to the most basic characterization, polarity items (either words or idiomatic phrases) are highly sensitive expressions with a limited distribution. *Negative* polarity items (NPIs) must occur within the scope of negation, while *positive* polarity items (PPIs) must *not* occur within the scope of negation.¹ Consider the behavior of the NPI *anything* and the PPI *something* below.

- (5) a. I don't see *anything*
 b. *I see *anything*
- (6) a. I see *something*
 b. *I don't see *something*

Following standard terminology, NPIs must be properly *licensed* in order to occur within a clause. Consequently, the preceding negative element *not* in (5a) is referred to as the *licensor* or the *trigger*, and is responsible for the licit occurrence of the NPI.

However, even a brief overview of the field of polarity indicates that the opposition between negative and affirmative sentences is only part of the story. There are a number of strictly speaking 'non-negative' environments that are well-known to host NPIs, as seen from the list in (7) below. The examples are taken from Hoeksema (2000:116):

- (7) a. Do you think I could *ever* trust you?
 b. Who would *ever* trust Fred?
 c. If you think that I could *ever* trust you, you're wrong.
 d. Like I would *ever* trust Fred! Yeah right.

¹Note that negative polarity items are not necessarily negative in themselves (i.e. they do not necessarily contribute a negative meaning), so their sensitivity to negative environments cannot be attributed to their lexical features alone.

- e. I love you more than I could *ever* say.
- f. Fred was the first to *ever* swim across the Adriatic.
- g. Fred is too smart to *ever* admit he wrote a pamphlet.
- h. Only Fred has *ever* swum across the Adriatic.
- i. Fred denied *ever* having had an affair with Edna.

We see that the (weak) NPI *ever* can be found in yes/no-questions (7a) and *wh*-questions (7b), conditionals (7c) as well as exclamatives (7d). In the absence of any overt triggering element, it is far from obvious what licenses the occurrence of the NPI in these sentence types.

Furthermore, comparative (7e) and superlative clauses (7f) may host NPIs, as well as result clauses dependent on *too* (7g). Focusing elements like *only* (7h) are also NPI-licensors, as are a number of ‘adversative’ predicates (7i), such as *deny*, *forbid* and *doubt*.

From these examples we may draw the following conclusion: whatever it is that polarity items are sensitive to, it cannot be fully captured on a scale of affirmative and negative. The range of elements licensing negative polarity items “extends far beyond what could reasonably be called negations on any morphological or obvious semantic grounds” (Ladusaw 1980:457). As pointed out by Szabolcsi (2004), any approach to polarity items based on the dichotomy between affirmative and negative sentences will therefore become hopelessly inadequate.

2.1.1 Defining Polarity Items

Although the last 50 years has seen an increased interest in polarity phenomena, there exists no universally accepted definition of the term *polarity item*. The main problem is that polarity items must be defined in relation to their hosting environments, and as long as these environments are not properly defined, the term can be nothing but a mere label.

Klima (1964) made an early attempt to characterize NPI-licensing environments, and suggested that they share a “common grammatico-semantic feature to be referred to as *Affect(ive)*” (Klima 1964:313). Under this view, NPIs can be defined as expressions syntactically dependent on the presence of an ‘affective’ operator. In the NPI-hosting sentences in (7) above, the ‘affective’ operator may, for example, be in the guise of the predicate in (7i), or the *wh*-word in (7b).

Klima's account suffers from its obvious circularity, however. The only evidence of a word or phrase being affective is that it licenses negative polarity items, and according to Klima's definition NPIs are licensed in the scope of affective expressions. There is really no way out of this argumentative loop as long as the triggering expression is defined by the distribution of the triggered element. This fact led von Klopp (1998:393-94) to argue that a definition of polarity items is currently not possible, except by enumeration.

As an alternative route to defining polarity items, one may instead focus on their status and function within the clause. This enables a definition which is at least partially unrelated to the syntactic/semantic nature of the triggering element. It has been a prevalent idea – going back at least to the aforementioned Klima (1964) – that polarity items are syntactically dependent expressions, similar to anaphors and reflexives: their occurrence must be made licit by an antecedent with the relevant properties. The major issue has been to settle whether this dependency relation is primarily syntactic or semantic in nature.

Giannakidou (1998:17) provides the following definition of polarity items:

- (8) A polarity item α is an expression whose distribution is limited by sensitivity to some semantic property β of the context of appearance.

She goes on to argue further that the relevant semantic property is *veridicality*, a notion I will discuss in detail in section 8.1. But not even the non-specified definition in (8) is uncontroversial, in that it presupposes that NPIs are *semantically* dependent expressions. This view can be contrasted with the *syntactic* view of polarity items argued for by Progovac (1994), which subsumes NPI-licensing under the general syntactic principles of Binding Theory.

All in all, we see that defining polarity items is not only made difficult by the wide range of diverse licensing environments; the opposing theoretical viewpoints make a universally acceptable definition almost unattainable. In an attempt to break this negative *status quo*, I will propose a syntactic and semantic definition of polarity items in chapter 8, according to which polarity items are semantically *sensitive* to evaluability, and syntactically *dependent* in evaluable environments only.

2.1.2 Swedish Polarity Items

To the best of my knowledge, the only major study devoted to polarity items and polarity sensitivity in Swedish is that of Rosqvist (2004), unfortunately still un-

published. In fact, Teleman et al. (1999) – the main reference work on Swedish Grammar – only briefly list what they call ‘expressions dependent on negation’ (Swe. *negationsberoende uttryck*); see Teleman et al. 1999:191. They present no further definition or characterization of polarity items, apart from noting that these expressions may occur in a large number of non-affirmative contexts. Also with respect to the Scandinavian languages in general have polarity phenomena been little discussed; but see Lindstad 1999 on Norwegian, and Jensen 1999 on Danish.

The primary aim of Rosqvist 2004 is to provide an inventory of Swedish polarity items. Although purely descriptive in nature, Rosqvist’s study gives a good overview of Swedish polarity, both with regards to the relevant lexical items and their hosting environments. Following standard terminology, Rosqvist distinguishes between PPIs and NPIs. The latter is further subdivided into a ‘weak’ and a ‘strong’ class, reflecting the more or less restricted distribution of various NPIs. The stronger the NPI, the more restricted its distribution and *vice versa*.²

Not surprisingly, all Swedish NPIs are triggered by sentential negation (e.g. *inte* ‘not’) as well as negative indefinites (e.g. *ingen* ‘nobody’, and *inget* ‘nothing’). According to Rosqvist’s study, *någonsin* ‘ever’ is the weakest NPI in Swedish. Thus, it has the least restricted distribution, followed by *ens* ‘even’, and *alls* ‘at all’.³ These items can be found in a large number of contexts, including for example conditionals (10a), yes/no-questions (10b), and relative clauses (10c):

- (9) a. Om du *någonsin* kommer fram till Samarkand.
if you ever arrive in Samarkand
‘If you ever arrive in Samarkand.’
- b. Kommer Ben *någonsin* befrias från sin elaka tvillingbror?
will Ben ever released from his mean twin-brother
‘Will Ben ever become free from his mean twin brother?’
- c. Här är alla filmtips som du *någonsin* behöver.
here are all movie.tips that you ever need
‘Here are all the movie tips you’ll ever need.’

²Rosqvist does not attempt to give a semantic and/or syntactic account of this variation, neither does she intend to suggest any kind of implicational hierarchy with regards to licensing environments. The distinction between ‘weak’ and ‘strong’ NPIs is solely based on the number of environments a given item is triggered by.

³To avoid misunderstanding, it should be noted that Swedish displays a difference not present in English between the NPI *ens* ‘negatively even’ and the PPI *till och med* ‘positively even’, often abbreviated *t.o.m.*. English ‘even’ is not a polarity item.

Stronger and thus more restricted NPIs include Jespersen's (1917) 'small substantives', such as *ett rött öre* 'a red cent', *ett dugg* 'a bit', as well as the adverb *heller* 'neither'. The strongest NPIs in Rosqvist's study consist of adjectives such as *pjåkig* (approximately) 'bad', which only may occur together with sentential negation and negative indefinites.

Although not discussed by Rosqvist, clauses introduced by *förrän* 'until' also belong to the strongest category, being licensed by clausemate negative elements only. Thus, its occurrence is illicit in yes/no-questions, conditionals, and relative clauses modifying universal quantifiers:

- (10) a. Jag åkte **inte** hem *förrän* klockan sju.
I went not home until clock.DEF seven
I didn't go home until seven o'clock.'
- b. *Åkte du hem *förrän* klockan sju?
went you home until clock.DEF seven
- c. *Om du åkte hem *förrän* sju missade du festen.
if you went home until seven missed you party.DEF
- d. *Alla som åkte hem *förrän* sju missade festen.
everyone who went home until seven missed party.DEF

For a more in-depth empirical overview of Swedish NPIs and their hosting environments, the reader is referred to Rosqvist (2004). In this dissertation, I will restrict myself to the following three categories:

- Weak NPIs: *någonsin* 'ever', *ens* 'even', *alls* 'at all'
- Mid-scale NPIs: *ett rött öre* 'a red cent', *ett dugg* 'a bit'
- Strong NPIs: *pjåkig* 'bad', *förrän* 'until'

I will primarily focus on weak NPIs in chapter 4 when discussing the distributional properties of polarity items in Swedish. The discussion of mid-scale and strong NPIs is postponed to chapters 7 and 8.

2.2 Issues in the Study of Polarity Items

If NPIs are “les satellites de la negation” (Gaatone 1971), the sun around which they revolve is often obscured, partially eclipsed, or just strongly imagined, as the negative elements which function as their “triggers” may be incorporated, distant or implied.

(Horn 1978b:151)

It is perhaps not surprising to find that a phenomenon that can barely be defined has proven rather elusive to explain theoretically. To this date, there is no theory or hypothesis that fully succeeds in accounting for the multi-faceted notion of polarity.

Israel (1996) argues that any empirically viable and explanatory account of polarity phenomena must take three equally important aspects into consideration: (i) the *licensing* problem, (ii) the *sensitivity* problem, and (iii) the *diversity* problem. The licensing problem is perhaps the most primary: how can the array of licensing contexts be characterized? That is, what syntactic/semantic features trigger polarity sensitivity?

The sensitivity problem, in turn, can be regarded as the ‘lexical semantic mirror’ (Israel 1996:622) of the licensing problem: instead of asking why certain contexts *license* polarity items, the sensitivity problem asks what makes certain items *sensitive* to these contexts. This aspect has been relatively overlooked in the literature, as “the assumption has often been that the sensitivity problem is not only methodologically secondary, but theoretically insignificant as well” (Israel 1996:623). However, work by Kadmon and Landman (1993), Krifka (1995), and especially Israel (1996, 1997) has suggested interesting approaches to the distributional behavior of NPIs which build on their lexical semantic features.

The diversity problem, finally, concerns the wide range of items that count as polar sensitive; these may be structurally and semantically as diverse as the contexts that license them. For example, what counts as polarity items in a given language may include indefinite determiners, verbs, idioms, conjunctions and aspectual adverbs. Moreover, not all polarity items are equally sensitive to their licensing environment, as we saw in section 2.1.2 above.

In this dissertation I will primarily focus on the licensing problem. Naturally, this choice should not be taken to imply that the sensitivity and the diversity problems are of less interest. But as pointed out by Israel (1996), the licensing problem

is ontologically prior to the other two, as we can neither define nor fully explain the lexical properties of polarity items unless we have understood what semantic feature they are sensitive to. And this equals understanding what semantic feature unites the licensing contexts.

Previous attempts to solve the licensing problem have raised a number of important questions and issues, and I will relate the critical ones in the next subsection.

2.2.1 The Licensing Problem

As we saw in section 2.1, the distribution of polarity items certainly does not suggest itself to easy solutions: in this lies both the beauty and the curse of the phenomenon as a scientific enterprise.

The complexity of the matters involved is mirrored by the wide range of proposals put forward in the literature. It has been suggested that the nature of NPI-licensing is primarily syntactic (Klima 1964, Laka 1990, Progovac 1994), semantic (Ladusaw 1979, 1980, van der Wouden 1994, Giannakidou 1998), or both (Linebarger 1987, Uribe-Echevarria 1994). Depending on viewpoint, slightly different aspects of polarity phenomena have been the focus of investigation.

For syntacticians, the main issues have centered around how polarity items are structurally licensed within the clause. There are two central aspects discussed in this regard: (i) what kind of primitive notion or syntactic relation holds between the licensor and its licensee, and (ii) at which level of representation does this principle apply? Almost every possible combinations of choices of the two problems (i) and (ii) have been actually proposed in the literature (cf. the discussion in Horn and Kato 2000:10).

Some proposals argue that the relevant notion is *c-command*, which may be taken to apply either at *s-structure* (Laka 1990) or at *LF* (Branigan 1992); others argue that *c-command* and precedence are the relevant factors, either at *d-structure* (Martin-Gonzales 1994) or at *s-structure* (Kuno 1995); yet others propose that *Spec-Head* agreement is necessary, either at *s-structure* (Benmamoun 1997) or at *LF* (Giannakidou and Quer 1997). And so on.

For semanticists, the main aim has been to identify the uniting semantic property polarity items are sensitive to. Semantic approaches may or may not presuppose a syntactic dependency relation between a licensor and the licensee. Giannakidou (1998:21) goes so far as saying that “[l]icensing is not syntactic but

semantic: it is an instance of semantic dependency, and as such, it is not bound to a particular conception of the syntactic dependency domain.”

Within semantically based theories, the work of Ladusaw (1979, 1980) has proven especially influential, and it is therefore presented in more detail in subsection 2.2.2 below. In part conceived as a reaction to Ladusaw’s theory, the Veridicality Hypothesis (Sánchez Valencia et al. 1993 and Giannakidou 1998) has provided an additional leap forward in understanding polarity phenomena, and I will return to this hypothesis in chapter 8.

No matter whether one’s primary objective is syntax or semantics, it should be evident that no one perspective can take precedence over the other. A principled account of NPI-licensing *must* rest in equal parts on an accurate description of the syntactic requirements needed for making NPIs structurally licit and an elucidatory explanation of the semantic characteristics of NPI-licensing environments. One may of course choose to focus on one of these aspects, or to analyze them separately from each other. But a full-fledged account of polarity phenomena must most certainly build on the *interplay* between syntax and semantics.

2.2.2 The Downward Entailment Hypothesis

Ladusaw’s (1979; 1980) account of polarity item licensing was in part proposed as an attempt to give semantic content to Klima’s (1964) original notion of ‘affective’ (cf. section 2.1.1 above). Influenced by Fauconnier’s (1975) *Scale Principle*, Ladusaw proposed that polarity sensitivity could be understood in terms of logical inferencing from sets to subsets, from the general to the specific.

As a short introduction to Ladusaw’s theory, let us choose any two related concepts where one is more specific than the other, such as *salmon* and *fish*. The noun *salmon* denotes a subset of the denotation of *fish*, which can be formalized as $[[\text{salmon}]] \subseteq [[\text{fish}]]$. Now, an affirmative sentence containing the noun *salmon* will typically entail a sentence with its superset noun *fish*, as illustrated in (11) below:

- (11) John had salmon for lunch.
 $[[\text{salmon}]] \subseteq [[\text{fish}]]$

John had fish for lunch.

As we see from (11), whenever the sentence *John had salmon for lunch* is true,

the sentence *John had fish for lunch* is also true. In Ladusaw's terminology, entailments from (the specific) subset to (the general) set are called *upward* entailments.

Ladusaw argued that NPIs are triggered by *downward* entailing (DE) expressions. The denotation of a DE-expression is a monotone decreasing function, i.e. an order reversing function that allows inferences from sets to subsets. The definition of downward entailment is given below (taken from Ladusaw 1980:467):

An expression δ is *downward entailing* (*affective*) iff its denotation δ' is a monotone decreasing function.

δ' is monotone decreasing iff $\forall X \forall Y \square [[X \subseteq Y] \rightarrow [\delta'(Y) \{\subseteq\} \delta'(X)]]$

Sentential negation is a *bona fide* example of a downward entailing expression, as illustrated in (12) below:

- (12) John didn't have fish for lunch.
 $[[\text{salmon}]] \subseteq [[\text{fish}]]$

John didn't have salmon for lunch.

We see that the inference from set to subset is logically valid: if John did not have fish for lunch, he did not have salmon either. The direction of the entailment is thus *downward*, going from the general to the specific. Note that (12) does not allow inferences in the opposite direction, i.e. from the specific to the general. Naturally, from knowing that John did not have salmon for lunch, we cannot draw any inferences as to whether he did or did not have fish.

According to Ladusaw's theory, it is the DE-property of sentential negation (rather than its 'negative force') that is responsible for NPI-licensing. The DE-hypothesis thus predicts affirmative sentences to disallow NPIs, not because they are 'non-negative', but because they are upward entailing. An appealing feature of Ladusaw's proposal is that the complementary distribution of NPIs and PPIs fall out naturally: NPIs are licensed in downward entailing environments, whereas PPIs are licensed in upward entailing environments.

The advantages of Ladusaw's theory over previous accounts of polarity phenomena were several. Firstly, it successfully managed to present a non-circular definition of NPI-triggers; Klima's original 'affectiveness' hypothesis was marred by the obvious circularity of his argumentation. Secondly, it succeeded in giving a principled explanation of polarity sensitivity without making reference to negation or negative inferences.

The DE-approach builds on the exceptionally strong claim that polarity sensitivity is purely semantic in nature: “The property of being a trigger is completely predictable from the truth-conditional meaning of an expression” (Ladusaw 1979:162). However, it seems as though this prediction is too strong in relation to its applicability. There are several environments which are clearly not downward entailing but still license NPIs, such as yes/no-questions and the antecedent of conditionals. In fact, these environments are non-monotone: they do not allow entailments from the specific to the general (upward) *nor* from the general to the specific (downward).⁴

Also complements to non-assertive predicates have been noted to allow NPIs, despite the fact that they are not DE. Consider the embedded propositions in (13) below:

- (13) a. I doubt that John has *ever* driven a car.
 b. I doubt that John has *ever* driven a Ford Thunderbird.

From the truth of (13a) one cannot safely infer the truth of (13b). We see this from the fact that an utterance like (14a) is not necessarily contradictory. Compare the infelicitous, downward entailing sentence in (14b):

- (14) a. I doubt that John has *ever* driven a car, but he might actually have driven a Ford Thunderbird once.
 b. # I've never *ever* had fish for lunch, but I had salmon once.

If (14a) was downward entailing, we would expect it to be as deviant as (14b), which it clearly isn't. Hence, it seems that the licit occurrence of *ever* in (13a) cannot be attributed to the DE-property of the hosting environment. For a discussion of other environments in which the DE-hypothesis falls short, see von

⁴The non-monotone status of yes/no-questions and optatives should be self-evident: they have no truth-value and are consequently not open to truth-based inferencing. With respect to conditionals, the story is somewhat more complex. The DE-status of the antecedent of conditionals is not obvious, as the following example show (taken from von Fintel (1999:136)):

- i. If John subscribes to newspaper, he must be well informed \Rightarrow
 If John subscribes to a newspaper that he can't read, he must be well informed.

Discussing a number of similar examples, von Fintel (1999:135 ff.) notes that “in the modern semantic and philosophical literature on conditionals, it is now taken for granted that conditionals are not monotonic in their antecedent”.

Fintel (1999) which attempts to extend the original notion by taking pragmatic and contextual factors into account.

Even though the DE-hypothesis meant a major leap forward in the pursuit of an explanation of polarity phenomena, it nevertheless left the licensing properties of a number of environments unaccounted for. This weakness of the theory is quite naturally problematic, especially if one follows the standard belief that polarity items are syntactically and/or semantically dependent expressions that must be formally licensed in all environments. Criticism against Ladusaw's theory has been voiced in e.g. Progovac (1994) and Giannakidou (1998), both of which we will come back to later.

In chapter 7, I will propose that polarity items are dependent expressions in certain environments only, more specifically in evaluable clauses. Following this proposal, the DE-hypothesis can be argued to be non-applicable to a well-defined semantic class, namely non-evaluable clauses. If one adopts this view, the predictive power of Ladusaw's hypothesis is somewhat delimited, but its theoretical insights remains unaffected. This idea will be further developed in section 8.3.

2.3 Perspective of Current Work

In the current work, I have opted for a strictly modular approach to NPI-licensing, which builds in equal parts on the semantic properties of the hosting environment and the syntactic relation between licenser and licensee. If we want to arrive at an explanatory account of polarity phenomena within a given language, a modular approach might prove the most fruitful strategy at the initial stages. That is, by clarifying the structural *hows* concerning polarity item licensing, the semantic *whys* can be more properly addressed. As a next step, we can then formulate a hypothesis that is able to account for the syntactic *and* semantic aspects of polarity phenomena.

In previous approaches, it has been common practice to relate the distribution of NPIs at least in part to different *sentence types*. The problem with any such approach, as I see it, is that the concept of *sentence type* is both syntactic and semantic in nature: the term comprises the conventionalized association between syntactic form and semantic function. For example, within a given language the terms *declarative* or *interrogative* are labels for certain syntactic structures associated with distinct semantic functions (i.e. making *statements* and posing *questions*,

respectively). This duality means that we cannot decisively determine whether the (non)licensing property of a certain sentence type is due to its syntactic configuration or its semantic function.

Instead of establishing which *sentence types* license NPIs, we should better establish which *clausal configurations* license NPIs and how. Provided a correlation can be established between the syntactic properties of the clause and its capability of licensing NPIs, we should subsequently ask what semantic factor unites the clausal configurations displaying identical NPI-licensing properties. In this way, we may steer clear of problems that inevitably arise with every attempt to relate NPIs to the syntactic-semantic notion of sentence types. This is the approach to polarity licensing I pursue in this work.

In the next chapter, I present a structural classification of Swedish which will enable us to relate the distribution of polarity items to distinct syntactic configurations, without taking into account the semantic functions associated with each sentence type. This categorization will be the starting point for my Evaluability Hypothesis, as developed in chapter 5.

Chapter 3

A Syntactic Categorization of Swedish

The aim of the current chapter is to present a structural classification of Swedish, to which the distribution of polarity items can be subsequently related. The underlying purpose is to keep syntactic form separate from semantic function, in line with the modular approach to polarity item licensing that I pursue in this work, as described in section 2.3 above. Focusing on the configuration of the Swedish C-domain, I will distinguish four basic clause types in Swedish.

In many ways, the present chapter constitutes the backbone of my entire study. In chapter 4, the structural classification of Swedish as proposed herein will be related to the distribution of polarity items. After a slight revision, the classification will provide the starting point for my semantic discussion of polarity sensitivity in chapter 5.

The chapter begins with a brief overview in section 3.1 of the the basic assumptions within the Minimalist Program, the syntactic framework in which my discussion is set.¹ Depending on preference, the reader may skip this section and move immediately to my structural categorization of Swedish in section 3.2.

3.1 A Minimalist View on Clause Structure

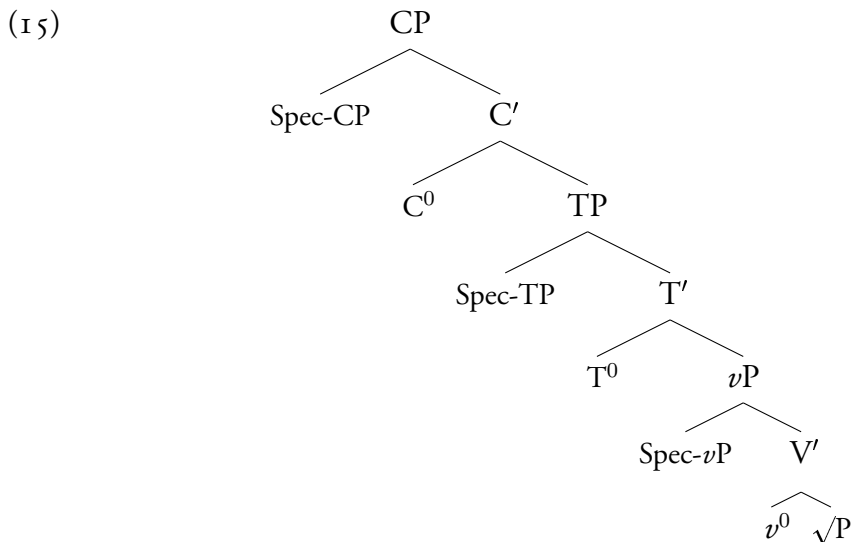
Within the Minimalist framework, the clause is assumed to be universally divided into three domains: the Verb Domain (*vP*), the Inflectional Domain (TP) and the

¹For a more in-depth discussion of these issues, the reader is referred to Chomsky (1995, 2001); see also Platzack (1998) and Platzack (In press) for an introduction to the Minimalist Program with special reference to Swedish.

Complementizer Domain (CP). Each domain has distinct characteristics.

In the V-domain, the basic relations between the main verb and its arguments are established, such as the assignment of thematic roles. Put slightly differently, one might say that the VP hosts the core propositional content on which (morpho)syntactic operations (specific to a given language) may be subsequently applied. Syntactic and morphological relations are established in the I-domain, connecting the propositional content to tense, aspect, and modality. Immediately dominating the I-domain at the edge of the clause is the C-domain, primarily associated with the pragmatic-semantic anchoring of the sentence in the speaker's here and now.

The hierarchical relations that hold between the three domains of the clause can be represented by a tree diagram, as shown in (15):



Each domain contains a number of different projections, all consisting of a head (labeled X^0), a specifier (Spec-XP) and a complement (Comp-XP). The exact number of projections contained within each clausal domain is a matter of constant theory internal debate, however. In this work I will assume a minimal set of projections, for reasons explicated in section 3.1.2 below.

3.1.1 The Syntactic Derivation

Under the view of Chomsky (1995), the syntax is a computational system which mediates between form and meaning. It derives sentence structure by a simple

recursive mechanism that builds on the operations *Merge*, feature checking, and *Agree*. Being the driving force behind sentence derivation, Merge is defined as “an indispensable operation of a recursive system ... which takes two syntactic objects A and B and forms the new object $C=\{A,B\}$ ” (Chomsky 2001:2). For example, the syntactic object *the car* may be merged to the syntactic object *in*, which yields a new syntactic object, the Prepositional Phrase *in the car*.

Importantly, there are two kinds of Merge. Either the merged element A is not part of B (*External Merge*), or the merged element A is already part of B (*Internal Merge*).² The example *in the car* above was an instantiation of External Merge. As for Internal Merge, consider the syntactic object *has John bought a car*. The syntactic object *John* can be internally merged to this structure, yielding *John has ~~John~~ bought a car*. Since independent economy principles rule out the double pronunciation of a merged argument, the copy of *John* is not phonologically realized. This is symbolized by strike-through in the example.

In addition to Merge, Chomsky (2007:6) argues that UG must at least provide atomic elements (i.e. lexical items), which are equipped with *features* to which Merge and other operations may apply. Features may be either *interpretable* and valued or *uninterpretable* and unvalued. The assumption is that only interpretable features are allowed at the Conceptual-Intensional interface and the Sensory-Motor interface.³ Hence, the syntactic computation must assign a value to atomic elements with uninterpretable features, which is done with the help of the operation *Agree*.⁴ According to Platzack (2008:4), “this is a direct consequence of seeing syntax as a system zipping together form and meaning at the senten-

²Within previous versions of the theory, internal merge equals the operation *move*.

³Ever since early transformational syntax (see Chomsky 1957 [1985]), there has been a prevalent thought that the linguistic expression has two levels of representation: one pertaining to an underlying syntactic-semantic structure, and one to the actual surface configuration. Depending on framework, the former level is referred to as *deep structure* or Logical Form (LF), whereas the latter is referred to as *surface structure* or Phonological Form (PF). Within present day minimalism, this division has been abandoned. Instead, the syntactic derivation is mapped to the Sensory-Motor interface by the phonological system, and to the Conceptual-Intentional interface by the (formal) semantic system.

⁴In short, the operation *Agree* can be described thus. A head with (at least) one interpretable feature ($\neg x$) probes its c-commanding domain in search for the closest goal with the same feature but with the opposite value, where *goal* is the closest projection hosting a relevant feature. The uninterpretable feature of the probe is subsequently valued in accordance with the value of the goal.

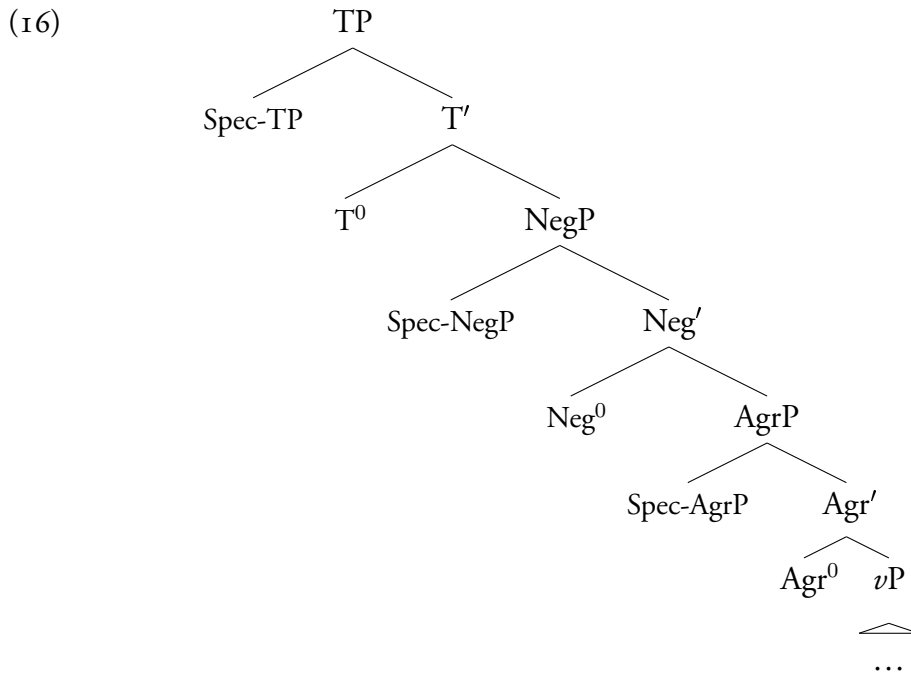
tial level – if an uninterpretable/unvalued feature is present when the sentence is computed for form and meaning, these two aspects will not be combined into an undivisible whole.”

Chomsky (2001:11ff.) further assumes that the syntactic derivation proceeds by *phase*, which reduces the computational burden. According to this view, there are two levels in the derivation of the clause structure: the CP and the *v*P. The *v*P-phase is computed first, and TP is subsequently merged to it. Since TP is not a phase in itself, everything within the *v*P is still available for computation. As soon as C is merged, however, the complement of *v*P is no longer in what Chomsky calls “active memory”, and therefore it is no longer accessible for further computation.

3.1.2 The Clausal Domains

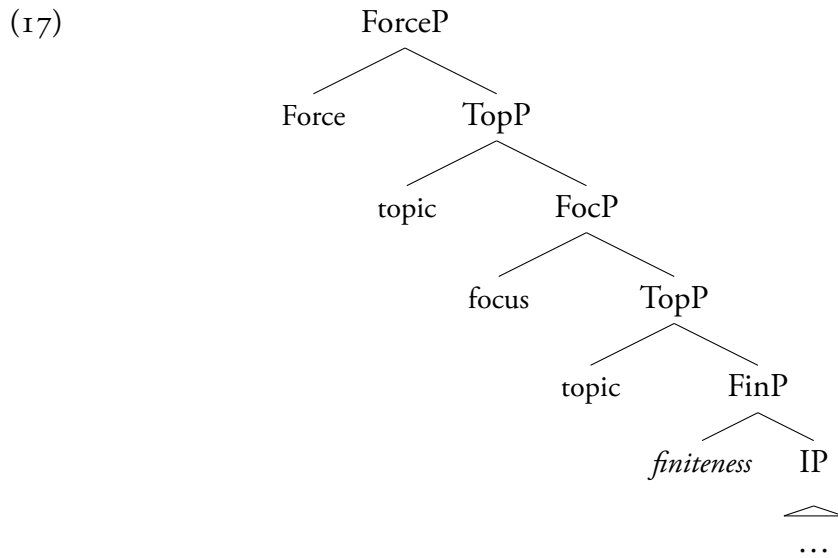
The idea of a tripartite clause structure goes back at least to the 1970s. In the early incarnations of generative theory, each domain was considered ‘atomic’ in the sense that it was assumed to contain one projection only, i.e. the C-, the T- or the *v*P respectively. Ever since the end of the 1980s, however, there have been proposals to the effect of ‘splitting’ these domains into several functional projections. In a hugely influential paper, Pollock (1989) proposed the expansion of the I-domain into a Tense Phrase (TP), an Agreement Phrase (AgrP) and a Negation Phrase (NegP). Of these projections, NegP is of special importance for our purposes here.

Based on a comparative study of the relative ordering of negation and the finite verb in English and French, Pollock (1989) assumed that NegP was located at the lower end of the I-domain, below TP and above AgrP. This would give the following structure of the I-domain (taken from Pollock 1989:397):



The assumption that sentential negation constitutes a projection of its own is independently motivated by the observation that it cross-linguistically tends to interact with grammatical meanings typically associated with inflection, e.g. tense, aspect, and mood (cf. Payne 1985 and Zanuttini 2001). With respect to other clause adverbials, it is less clear how they relate to the syntactic derivation. Cinque (1999) proposed a major expansion of the I-domain, arguing that adverbials project their own functional categories within the I-domain. However, the explanatory adequacy of this theory has been criticized, since it is not immediately evident that it stays true to the minimalist principle as argued for by Thráinsson (1996) and Haider (2000). Since this debate has little bearing on the current study, I will remain neutral as to the exact configuration of the I-domain. For present purposes, we need only to assume TP and NegP.

There have also been a number of proposals suggesting the splitting of the C-domain (see e.g. Hoekstra 1992 and Zwart 1993). By far the most influential is that of Rizzi (1997), in which it is proposed that the C-domain contains a number of projections related to pragmatic-semantic concepts, such as topic and focus, as well as illocutionary force. Rizzi (1997) suggests the following configuration of the C-domain:



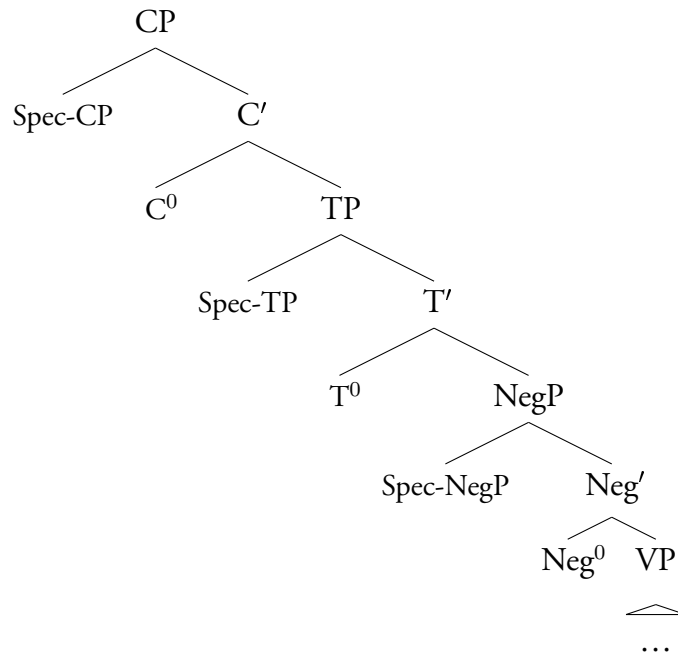
As the tree diagram in (17) illustrates, the Rizzian C-domain contains several projections associated with anchoring the propositional content to the linguistic context. The topmost projection, ForceP, encodes semantic force associated with different sentence types (i.e. declarative, interrogative, imperative), whereas the lowest projection, FinP, encodes finiteness.⁵ Two Topic Phrases (TopP) and a Focus Phrase (FocP) are located between these two projections.

The underlying idea of Rizzi's hypothesis is that semantic-pragmatic concepts have structural correlates, and that they are therefore at least partially syntactic in nature. This view, which is sometimes labeled the 'cartographic' view, thus seeks to integrate semantics with syntax. It should be immediately clear that Rizzi's hypothesis is incompatible with the strict modular approach to polarity phenomena I pursue in this work. In the words of Platzack (2008:2), the strategy of 'syntacticizing' semantics and/or pragmatics "runs the risk of duplicating the description, and maybe also, depending on how successful the approach is, such a strategy may prevent us from placing the burden of labor where it ultimately belongs. It is also less minimal than an approach where semantic/pragmatic elements like Topic and Focus are expelled from narrow syntax." Without further discussion of these issues, I will follow Platzack in assuming a non-split C-domain.

The following clause structure is assumed in this work:

⁵Rizzi does not attribute any specific semantic features for the Fin head. As Adger (2007:30) points out, the Rizzian conception of finiteness should "be understood as a more rudimentary specification for mood, tense, and agreement than is found in the IP domain."

(18)



As mentioned above, I leave open the possibility of the I-domain hosting a number of additional adverbial and agreement phrases; I will however assume a non-split C-domain in the forthcoming discussion of Swedish.

3.2 Classifying Swedish Clause Structure

Having given a basic overview of the theoretical framework, I will now turn to Swedish clause structure distinctions. In this section, I propose a structural classification of Swedish that builds solely on the syntactic configuration of the C-domain.

Using two criteria (V-to-C movement and the presence/absence of Spec-CP), I distinguish four basic clause types in Swedish. Note the use of terminology here. Throughout this work, the term *clause type* is used to refer to a specific syntactic configuration, without taking into consideration the semantic function associated with it. As such, the term should not be confused with *sentence type*, which comprises the conventionalized association between sentence form and sentence function.⁶

⁶As an illustration, consider (1) below:

- (1) a. Åker du imorgon?
travel you tomorrow

Since my categorization is based on the *internal* structural configuration of the clause, it does not principally differentiate between independent (matrix) and dependent (embedded) clauses. This is an important point. In the empirical presentation of Swedish that begins this section, I will however follow common practice and discuss main and subordinate clauses separately, so as to facilitate the reading. A reader already familiar with the basic clause structure of Swedish may move directly to section 3.3, where the empirical overview is summarized.

3.2.1 Swedish Main Clauses

The Germanic languages (with the notable exception of Modern English) are characterized by the structural property of verb second (V2), meaning that only one constituent may precede the finite verb in declarative main clauses. This constituent may be of virtually any kind, as the Swedish examples below show. In (19a) the subject is topicalized, in (19b) a framing adverbial, in (19c) a clause adverbial, in (19d) a PP-object and finally in (19e) a DP-object.

- (19) a. Sven åt antagligen hamburgare till middag igår
 Sven ate probably hamburger to dinner yesterday
 ‘Sven probably had hamburgers for dinner yesterday.’
- b. Igår åt Sven antagligen hamburgare till middag
 yesterday ate Sven probably hamburger to dinner
- c. Antagligen åt Sven hamburgare till middag igår
 probably ate Sven hamburger to dinner yesterday
- d. Till middag åt Sven antagligen hamburgare igår
 for dinner ate Sven probably hamburger yesterday
- e. Hamburgare åt Sven antagligen till middag igår
 hamburger ate Sven probably to dinner yesterday

‘Are you leaving tomorrow?’

- b. Åker du imorgon blir jag ledsen
 travel you tomorrow become I sad
 ‘If you leave tomorrow I’ll be sad’

The yes/no-question in (1a) and the conditional in (1b) constitute two *sentence types*, since their semantic-pragmatic functions are distinctly different. However, (1a) is structurally identical to the first clause of (1b), meaning that both are instances of the same clause type.

The structural freedom to topicalize basically any constituent in V2-languages does not mean that all configurations are stylistically and/or pragmatically equivalent, however. In Swedish, the subject is by far the most frequent constituent in clause initial position, accounting for between 60-80 % in written and spoken texts (Jørgensen 1976:103); framing adverbials are the second most frequent category, ranging from between 20-30 % (*ibid*) depending on genre and medium. What these figures mean, basically, is that the subject and framing adverbials are the unmarked clause initial constituents in Swedish declarative main clauses. The infrequency of other constituents makes their occurrence marked; objects and clause adverbials need contextual conditioning in order to be appropriate from a pragmatic perspective.

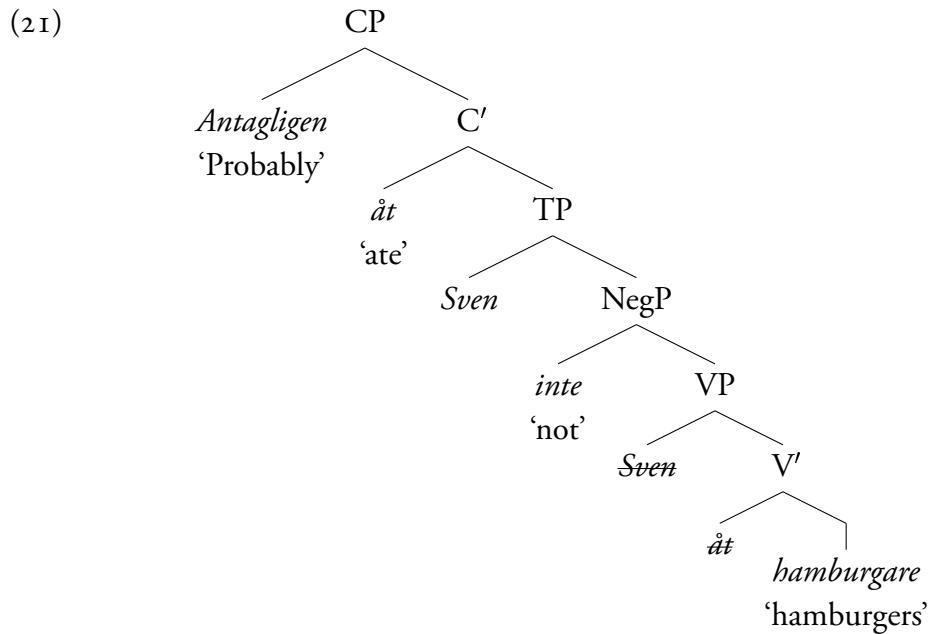
Wh-questions also display linear V2-word order in Swedish, as illustrated in (20a). As in English, the *wh*-word must be in preverbal (sentence initial) position, unless the question is used in echoic contexts, see (20b):

- (20) a. **Vem** åt du lunch med igår?
whom ate you lunch with yesterday
'Whom did you have lunch with yesterday?'
- b. Du åt lunch med **vem**, sa du?
you ate lunch with who said you
'You had lunch with whom, you said?'

Within generative frameworks, it has been assumed since den Besten (1983) that V2-languages such as Swedish display V-to-C movement: the finite verb must obligatorily raise from its base position in V to C⁰ in main clauses. The distinct V2 word order comes about from the additional requirement that C hosts uninterpretable φ -features to which EPP is attached (see e.g. Platzack 1998).⁷ The EPP-feature ensures that feature-evaluation on C must be visible at the Sensory-Motor interface, which in turn accounts for the overt realization of Spec-CP.

Swedish declarative main clause structure is graphically illustrated in (21) below.

⁷The term EPP (or the *Extended Projection Principle*) was originally introduced in Chomsky (1982) to capture the fact that a sentence must have a subject. The notion has subsequently been extended to a general visibility condition on a phrase head.



Note the obligatory raising of the finite verb to C⁰, the obligatory realization of phonological material in Spec-CP and the obligatory raising of the subject from Spec-VP to Spec-TP.⁸

Not all main clauses have the distinct linear V₂ word order, though. Prototypical yes/no-questions (22a) and imperatives (22b) do not allow preverbal elements, and are therefore linearly V₁.⁹ In addition, we see that imperative clauses differ from both declaratives and yes/no-questions in lacking an overtly realized subject.

⁸It should be pointed out that the first constituent is sometimes optionally left out in narrative contexts, making the structure linearly V₁. As argued by Mörsjö (2002:171), however, such clauses are not structurally different from ‘proper’ V₂-clauses: “[Spec-CP] is always filled in V₁ declaratives, but it does not always contain phonological information”.

⁹Perhaps a more marginal sentence type, optatives may also display V₁ word order:

- (1) Måtte det inte regna i eftermiddag!
 may it not rain this afternoon
 ‘Pray it doesn’t rain this afternoon.’

I will not discuss optatives further in this work.

- (22) a. Har du varit i Paris?
 have you been to Paris
 ‘Have you been to Paris?’
 b. Sitt ner!
 sit down
 ‘Sit down!’

In order to maintain a unified analysis of Swedish main clause structure, one could argue that yes/no-questions and imperatives display V-to-C movement, while hosting a covert operator in Spec-CP which satisfies the EPP. The presence of the operator should effectively block movement to Spec-CP, so topicalization is correctly predicted to be impossible.¹⁰ Alternatively, one could argue that yes/no-questions and imperative clauses lack Spec-CP altogether, which necessarily gives that the finite verb cannot be preceded by another element. In fact, this would be the theoretically minimal assumption, albeit incompatible with the EPP-analysis. In section 6.3.1 I propose in analogy with Platzack (2008) that the presence/absence of Spec-CP is a result of the instantiation of the edge-feature in C, and consequently argue that the EPP-analysis of the Swedish C-domain should be abandoned.

Lastly, it should be pointed out that although V-to-C movement is a strong characteristic of Swedish main clause structure, it is not an obligatory one: *wh*-exclamatives display overt movement to Spec-CP, but lack V-to-C movement. Consider (23) below:

- (23) a. Vilken fin hatt du har!
 what nice hat you have
 ‘What a nice hat you have!’
 b. [_{Spec-CP} Vilken fin hatt [_{C⁰} ∅ [_{Spec,TP} du [_{Spec,VP} ~~du~~ [_{V⁰} har]]]]]

As illustrated in (23), the finite verb remains within the V-domain, leaving C⁰ empty in the absence of a complementizer; the *wh*-phrase occupies Spec-CP.

To summarize so far, we see that Swedish main clause variation is related to the C-domain. Declaratives and *wh*-questions display V-to-C movement in addition

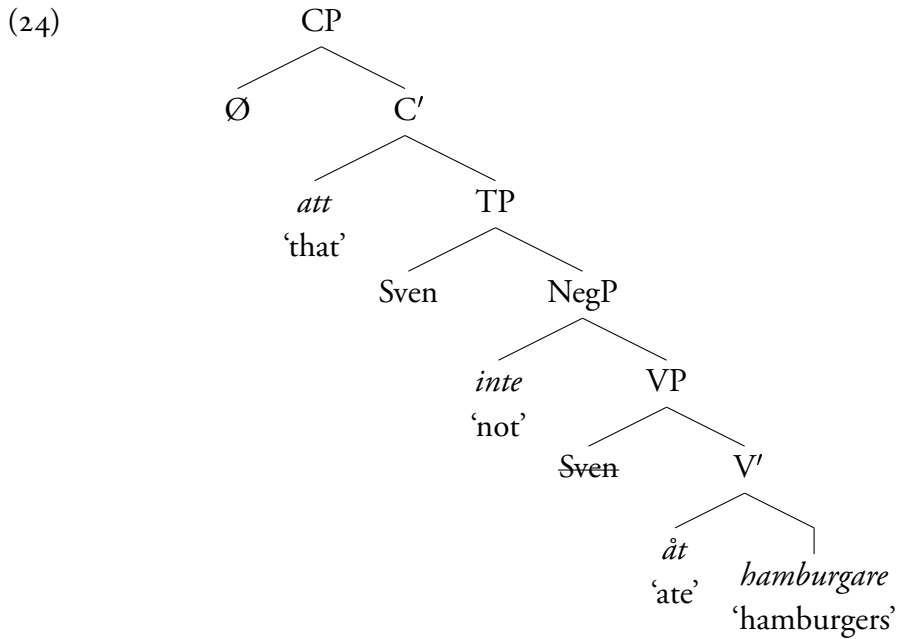
¹⁰The proposal of a covert operator in Spec-CP goes back to Katz and Postal (1964), who argued that it encodes sentence type. This thought was later echoed in Rizzi’s (1997) proposal that ForceP is the topmost projection within the split C-domain. Furthermore, the operator analysis is in spirit no different from the assumption of (invisible) *pro* or *PRO* checking nominative case in Spec-TP.

to XP-movement to Spec-CP; yes/no-questions and imperatives display V-to-C movement but do not overtly realize Spec-CP; *wh*-exclamatives, finally, lack V-to-C movement but display XP-movement to Spec-CP. In the next section, I show that subordinate clause variation is located in the C-domain as well.

3.2.2 Swedish Subordinate Clauses

It is standardly assumed that embedded clauses are anchored to the matrix clause via the complementizer in C^0 . As a consequence, V-to-C movement is prototypically not available in embedded clauses, since the presence of the complementizer blocks verb raising. Hence, the finite verb will remain within the V-domain.

Swedish subordinate clause structure is illustrated in (24).



Note the lack of V-to-C movement, the unrealized Spec-CP and the obligatory raising of the subject to Spec-TP.

The status of Spec-CP in subordinate clauses is somewhat unclear. Some complements seem to have an optionally realizable Spec-CP, whereas others seem to lack Spec-CP altogether. Since this point is important for our purposes, I will review different kinds of subordinate clauses below.

Att- and *Om*-clauses

It has been observed that most *att*-clauses allow optional insertion of the (cataphoric) pronoun *det* ‘it’ between the selecting predicate and the complementizer. Consider for example the sentences in (25) below.

- (25) a. Jag beklagar (det) att jag sårade dig.
 I regret it that I hurt you
 ‘I’m sorry for that I hurt you.’
- b. Jag är förvånad över (det) att jag sårade dig.
 I am surprised over it that I hurt you
 ‘I’m surprised that I hurt you.’

A similar observation has been made for English, where complements to factive predicates (such as *beklaga* ‘regret’ and *vara förvånad* ‘be surprised’ above) may be introduced by *the fact*. This led Kiparsky and Kiparsky (1970) to assume a FACT operator in Spec-CP in these clauses. However, it is equally possible to insert *det* in complements to assertive predicates in Swedish:

- (26) a. Jag sa (det) att han förmodligen skulle förlora.
 I said it that he probably would lose
 ‘I told him he would probably lose.’
- b. Jag hävdade (det) att han förmodligen skulle förlora.
 I claimed it that he probably would lose
 ‘I claimed that he would probably lose.’

It appears that the possibility of *det*-insertion is available in most assertive and factive predicate constructions.¹¹ This observation strongly suggests the presence of Spec-CP in the structure. In light of this, it is worth noting that Swedish *om*-clauses *never* allows *det*-insertion, as the sentences in (27) show:

- (27) a. Jag beklagar (*det) **om** jag sårade dig.
 I regret it if I hurt you
 ‘I’m sorry if I hurt you.’
- b. Jag undrar (*det) om han kommer till festen.
 I wonder that if he comes to party.DEF
 ‘I wonder if he comes to the party.’

¹¹The exception to this pattern primarily concerns *att*-complements following non-assertive predicates, which generally do not allow *det*-insertion. I will discuss this fact in section 6.3.2.

If the possibility of *det*-insertion is dependent on Spec-CP, it seems reasonable to assume that *om*-clauses lack Spec-CP altogether. This would mean that *att*- and *om*-clauses are structurally different: while both lack V-to-C movement, only the latter lacks Spec-CP.

Interestingly, there is a striking distributional similarity between *om*-clauses and (linear) V_I-clauses in Swedish, as in English. Matrix yes/no-questions are verb initial, whereas embedded yes/no-questions are introduced by *om*, as in (28). Conditional clauses may be *either* verb initial or introduced by the complementizer *om*, see (29).

- (28) a. Har du sett Maria?
 have you seen Maria
 ‘Have you seen Maria’
 b. Jag undrar *om* du har sett Maria.
 I wonder if you have seen Maria
 ‘I wonder if you have seen Maria’
- (29) a. Kommer Maria till festen blir jag glad.
 comes Maria to party.DEF become I happy
 ‘If Maria comes to the party I’ll be happy.’
 b. *Om* Maria kommer till festen blir jag glad.
 if Maria comes to party.DEF become I happy
 ‘If Maria comes to the party I’ll be happy.’

We saw from the previous section that yes/no-questions do not allow preverbal elements, and we saw from (27) above that *om*-clauses in general do not allow *det*-insertion. If the latter observation is suggestive of lack of Spec-CP, it seems reasonable to assume that Swedish yes/no-questions and V_I-conditionals also lack Spec-CP. This idea will be further elaborated upon in section 6.3.1 below.

If my differentiation of Swedish *att*- and *om*-clauses is on the right track, the distinguishing structural properties are related to the C-domain. More specifically, *att*-clauses have Spec-CP (similar to *wh*-exclamatives), while *om*-clauses lack Spec-CP (similar to yes/no-questions and imperatives).

Embedded V2-clauses

At least since Teleman (1967) it has been observed that certain *att*-complements may display main clause properties. Compare the main clause in (30) with the

embedded V₂-clause in (31a) below, as well as with the prototypical subordinate clause in (31b):

- (30) Sven **kommer** *förmodligen inte* ikväll
 Sven comes probably not tonight
 ‘Sven probably won’t come tonight.’
- (31) a. Sven sa att han **kommer** *förmodligen inte* ikväll
 Sven said that he comes probably not tonight
 ‘Sven said that he probably won’t come tonight.’
 b. Sven sa (att) han *förmodligen inte* **kommer** ikväll
 Sven said that he probably not comes tonight

The structural properties of the embedded clause in (31a) are seemingly identical to the main clause in (30). The finite verb precedes the clause adverbials, which should lead us to suspect verb movement to C⁰. Furthermore, these clauses allow topicalization of non-subjects, which suggests the availability of Spec-CP. Compare the grammatical V₂-complement in (33a) with the ungrammatical non-V₂ complement in (33b).

- (32) Den boken **har** Maria *inte* läst
 that book.DEF has Maria not read
 ‘That book, Maria hasn’t read’
- (33) a. Jag tror att den boken **har** Maria *inte* läst (V₂)
 I believe that that book.DEF Maria has not read
 ‘I believe that that book, Maria hasn’t read.’
 b. *Jag tror att den boken Maria *inte* **har** läst (non-V₂)
 I believe that that book.DEF Maria not has read

The prototypical subordinate clause in (33b) resists topicalization of a non-subject, which is expected given that there is no position available in between Spec-TP (the position of the subject) and C⁰ (the position of the complementizer). If we assume that the finite verb in (33a) targets C⁰, on the other hand, topicalization should in fact *be* possible, since Spec-CP is available.

In assuming verb movement to C⁰ in embedded clauses, there is an inevitable problem of how to account for the position of the complementizer. In accordance with Platzack (1986), DeHann and Weerman (1986) and Authier (1992), I assume here CP-recursion, meaning that Swedish embedded V₂-structures contain not

one, but two CP projections. The theoretical implications of such an assumption are not entirely unproblematic, but since they have little, if any, bearing on the current proposal I will not address this matter further here.¹²

In summary, Swedish *att*-clauses may display optional V-to-C movement; such clauses also allow topicalization of non-subjects, which suggests the availability of Spec-CP.

Relative Clauses

In contrast with Swedish *att*-clauses, Swedish relative clauses never allow optional *det*-insertion. Nevertheless, it has been repeatedly suggested that Swedish relative clauses involve Spec-CP, see for example Platzack (2000) and Stroh-Wollin (2002).¹³ The issues involved here primarily concern the relation between the correlate and the relative clause, that is, how the NP relates to the modifying CP.

In Platzack's model, Spec-CP hosts an empty operator *Op*, which relates to the relative head in the preceding NP via C^0 . A restrictive relative clause is given the following structure.¹⁴

- (34) a. Mannen *som kom igår* har försvunnit.
 man.DEF who arrived yesterday has disappeared
 'The man who arrived yesterday has disappeared.'
- b. $[_{DP} D^0 [_{NP} [_{N^0} \text{mannen} [_{CP} Op_i [_{C^0} \text{som}] [~~\text{mannen}~~_i \text{kom igår}]]]]]$

Note that the CP (i.e. the relative clause) in Platzack's analysis is the complement of N^0 , and that the relative head is merged outside the relative clause.

¹²As Vikner (1995) points out, there is something suspicious about a recursive rule that may only be applied once. In defense of this rule, Authier (1992:333) sees the iteration of CP as a selectional property of the matrix verb. Suggesting that CP-embedding verbs like *say* select only CP-complements that lack indexation (in contrast with verbs like *wonder* that select complements that bear the index of a *wh*-word), Authier argues that such verbs cannot directly select a CP that bears the index of a topic "from which it follows that embedded topicalization is possible only with CP iteration and that the non-indexed CP headed by *that* must precede the CP harboring the topic".

¹³The proposals of both Platzack (2000) and Stroh-Wollin (2002) are in part a reaction to the analysis of English relative clauses put forward by Kayne (1994).

¹⁴Platzack (2000) assumes slightly different structures for restrictive and non-restrictive relative clauses in Swedish. In the former, the relative head is merged in N^0 , whereas in the latter it is merged in Spec-NP. For our purposes, however, the important point is that the relative head is always merged *outside* the relative clause.

Although Stroh-Wollin's (2002) analysis differs from that of Platzack in several respects, she also proposes that the relative head is merged outside the relative clause in Swedish, while Spec-CP hosts an empty operator relating the NP to its modifying clause. Following these two analyses, relative clauses are thus structurally similar to Swedish *att*-clauses in containing a covertly realized Spec-CP.

3.3 The Structural Classification

This chapter aimed to present a structural categorization of Swedish, to which the distribution of polarity items may be subsequently mapped. In the first section, I gave a brief overview of the Minimalist program, which served as the basis for a presentation of Swedish clause structure.

We have seen that Swedish clause structure variation can be restricted to the configuration of the C-domain. There are two equally important structural properties: the presence/absence of V-to-C movement and the presence/absence of Spec-CP. These properties result in four possible combinations:

- (35) i. [+Spec-CP, +V-to-C]:
 declaratives, embedded V₂-clauses, *wh*-questions
- ii. [+Spec-CP, -V-to-C]:
wh-exclamatives, *att*-clauses, relative clauses
- iii. [-Spec-CP, +V-to-C]:
 yes/no-questions, V_I-conditionals, imperatives
- iv. [-Spec-CP, -V-to-C]:
 embedded yes/no-questions, conditionals, *om*-clauses

Since these structural properties refer to the internal syntactic structure of the clause, the classification does not distinguish between main and subordinate clauses. Note also with regards to groups (i) and (ii) that I have only taken into consideration the *presence* of Spec-CP, which means that overt realization of Spec-CP is not a necessary requirement.

Naturally, any classification is by definition subjective, and therefore also arbitrary to a certain extent. With regards to clause structure categorization there is, of course, no single structural feature that must take precedence over all others. Depending on the properties (subjectively) chosen to be relevant, the number

of available configurations in a given language can number from a couple to the thousands.¹⁵

Importantly, my classification criteria fulfil the two requirements necessary for our purposes: they are theory independent and unrelated to semantic function. This enables us to map the distribution of polarity items to Swedish clause structure in a strict modular fashion. By focusing on clause types, rather than sentences types, the present approach may help us to distinguish the syntactic aspects of polarity item licensing from the semantic ones. In the next chapter, it will be shown that the configuration of the C-domain correlates in a striking manner with the polarity sensitivity of the clause.

¹⁵To mention but one example, Jørgensen (1976) distinguished approximately 1,500 different structural configurations in Swedish, depending on transitivity, embedding, type of arguments etc., in a corpus consisting of 6,808 sentences.

Chapter 4

The Syntax of NPI-licensing in Swedish

In the previous chapter, I presented a formalization of Swedish clause structure that builds on the configuration of the C-domain. The classification is based solely on syntactic properties, without taking into consideration pragmatic and/or semantic aspects. Four distinct clause types could be discerned. The first two clausal categories, configurations (i) and (ii), contain clauses with Spec-CP; the second two categories, configurations (iii) and (iv), consist of clauses lacking Spec-CP.

In this chapter, I relate the structural classification of Swedish to the distribution of polarity items. I show that configurations (i) and (ii) only host formally licensed NPIs, whereas configurations (iii) and (iv) may host NPIs also in the absence of overt licensors. This observation leads me to conclude that the presence/absence of Spec-CP correlates with the NPI-licensing properties of the clause. For configurations (i) and (ii), the overt/covert realization of Spec-CP is furthermore decisive for the possibility of long-distance NPI-licensing, i.e. licensing by a clause external operator.

The observed role of Spec-CP, which as far as I am aware has hitherto gone unnoticed, leads me to adjust and simplify our original clause type classification in section 4.4. Since the absence/presence of V-to-C movement does not affect the NPI-licensing properties of the clause, I propose a categorization that only builds on the the presence/absence of Spec-CP. In chapter 5, I will subsequently propose a semantic justification of the (revised) syntactic classification, building on the evaluable status of the clause. My notion of evaluability is subsequently related to polarity sensitivity in chapter 6.

In the presentation below, I discuss the licensing properties of each syntactic configuration in turn.

4.1 Configuration (i)

Let us begin with the clause type characterized by Spec-CP in combination with V-to-C movement, i.e. our configuration (i). This group includes the following sentence types:

- Declarative main clauses
- Embedded V₂-clauses
- *Wh*-questions

It should be pointed out that these labels are used for reference purposes only; I will not discuss the semantic differences between these sentence types in this chapter. As is illustrated in this section, the distribution of polarity items is seemingly unrelated to these differences, since the sentence types above allow only overtly licensed polarity items.

4.1.1 Declarative Main Clauses

As we have already seen in chapter 2, the occurrence of NPIs in declarative main clauses is only licit if the NPI is bound by a clausemate ‘affective’ operator, as in (36a).¹ Hence, we find that affirmative main clauses such as (36b) cannot host NPIs.

- (36) a. Sven har **aldrig** *någonsin* varit i Paris.
 Sven has never ever been to Paris
 ‘Sven has never ever been to Paris.’
- b. *Sven har *någonsin* varit i Paris.
 Sven has ever been to Paris

Positive polarity items (PPIs) display the opposite behavior: their occurrence is licit in affirmative, but illicit in negative declaratives. Consider the PPI *till och med* ‘positively even’ below:

¹For the moment I am not concerned with the exact semantic property of the licensing element. Following Klima (1964), I will simply label it ‘affective’. In subsequent chapters the nature of licensing operators will be discussed in detail.

- (37) a. Sven har *till och med* varit i Paris.
 Sven has PPI been to Paris
 ‘Sven has even been to Paris.’
- b. *Sven har **aldrig** *till och med* varit i Paris.
 Sven has never PPI been to Paris

As illustrated in (36) and (37), PPIs and NPIs in declaratives are necessarily in complementary distribution; they occur in environments of opposite polar properties.

Intriguingly, it seems as though polarity items are licensed by surface word order configurations alone. NPIs must occur to the linear right of their licensors, hence they cannot be topicalized, see (38a).² PPIs, in contrast, can occur in negative declaratives provided they are in a position to the linear left of the ‘affective’ operator, as in (38b).

- (38) a. **Någonsin* har Sven **aldrig** varit i Paris
 Ever has Sven never been to Paris
- b. Sven har *till och med* **aldrig** varit i Paris.
 Sven has positive.even never been to Paris
 ‘Sven has even never been to Paris.’

From an hierarchical perspective, the ungrammaticality of (38a) is unexpected. Since grammatical relations are established in the V- and I-domains, one would not expect movement to Spec-CP to have any blocking effect. However, it seems as though the licensing element *must* be located in a c-commanding position at surface structure.

²There are a few systematic exceptions to this rule, primarily with regards to *alls* ‘at all’ and *ens* ‘negatively even’. These elements are often found to the left of the negative element:

- (1) Det är besynnerligt men *alls* **inte** underligt.
 it is extraordinary but at.all not strange
 ‘It’s extraordinary, but not at all strange.’
- (2) Du var ju *ens* **inte** på omslaget!
 you were PART even not on cover.DEF
 ‘Well, you weren’t even on the cover!’

With regards to *alls*, its prototypical placement was actually to the left of the negative element in Older Swedish (see SAOB 1898:1:1067).

There are also some peculiarities concerning the licensing properties of negative objects. In Swedish, objects typically remain within the VP unless topicalized to Spec-CP, compare (39a) and (39b) below. However, negative objects *must* raise to a position higher than their base position in VP; see (40). The position is standardly taken to be that of sentential negation, i.e. NegP.

- (39) a. Sven har sett *någonting*
 Sven has seen something
 ‘Sven has seen something.’
 b. *Sven har *någonting* sett
 Sven has something seen
- (40) a. Sven har *ingenting* sett
 Sven has nothing seen
 ‘Sven has seen nothing’
 b. ??Sven har sett *ingenting*
 Sven has seen nothing
 ‘Sven has seen nothing’

Rather perplexingly, the negative object when located in NegP cannot license an NPI in the I-domain. When topicalized to Spec-CP, however, a negative object may license an NPI within its scope, as illustrated by the grammatical (41b) below:

- (41) a. *Jag har **ingenting** *någonsin* fått till tack
 I have nothing ever got in acknowledgement
 b. **Ingenting** har jag *någonsin* fått till tack
 Nothing have I ever got in acknowledgement
 ‘Nothing have I ever got in acknowledgment.’

To the best of my knowledge, the contrast between (41a) and (41b) has not been previously addressed in the literature.

In this section we have established what is already a well-known fact in the literature: polarity items in declarative clauses are in complementary distribution. NPIs can only be licensed by a clausemate affective operator that is situated in a c-commanding position at ‘surface structure’. In subsequent subsections, I will show that these distributional facts hold for the remaining clauses of configuration (i) as well.

4.1.2 Embedded V2-clauses

As mentioned in section 3.2.2 above, embedded V2-clauses are structurally identical to main V2-clauses in displaying verb movement to C⁰ and XP fronting to Spec-CP. Similarly to main clauses, embedded V2-clauses do not allow NPIs in the absence of a clausemate operator, as shown in (42).

- (42) a. Han sa att numera har folk **inte** *ens* TV.
 he said that nowadays have people not NPI TV
 ‘He said that nowadays people don’t even own a TV.’
 b. *Han sa att numera har folk *ens* TV
 he said that nowadays have people NPI TV

As expected, we find that PPIs may occur in affirmative V2-complements:

- (43) Han sa att numera har pensionärer *t.o.m.* mobil.
 he said that nowadays have pensioners PPI cellphones
 ‘He said that nowadays senior citizens even have cellphones.’

This distributional pattern is neither novel nor particularly interesting. What *is* interesting, however, is that V2 complements do not allow so called long-distance NPI-licensing, i.e. licensing by an affective operator at superordinate clause level. Prototypical non-V2 complements, in contrast, readily allow long-distance NPI-licensing, as discussed in more detail in section 4.2.1 below. Compare the licensing properties of the non-V2 complement in (44a) with the V2-complement in (44b):

- (44) a. **Ingen** tror att han *någonsin* kommer tillbaka.
 nobody thinks that he ever comes back
 ‘Nobody thinks he will ever come back to FC.’
 b. ?? **Ingen** tror att han kommer *någonsin* tillbaka.
 nobody thinks that he comes ever back

There are two ways to interpret the failed licensing in (44b): either one can argue that V-to-C movement somehow blocks the scope of superordinate negation, or one can argue that the overt realization of Spec-CP has this effect. Alternatively, the ungrammaticality of (44b) could be argued to be independent from the presence of the NPI. As observed already by Blümel (1914), complements to negative matrixes tend to resist V2 word order in the Germanic languages. As shown in Jörgensen (1978), however, V2 word order *is* found in complements to negated predicates in Swedish.

Irrespective of what explanatory option one chooses, the occurrence of NPIs in V₂-complements is rare. When searching Google for the V₂-complement string *att* [pronoun] *kommer någonsin* ‘that he/she will ever’, I found a total of 8 examples. This should be compared with the total of approximately 335,000 hits of the non-V₂ word order *att* [pronoun] *någonsin kommer*. In section 6.1.2 I will argue that the Evaluability Hypothesis gives a straightforward account *both* of the rare occurrence of and the non-licensing properties of V₂-clauses following negated matrixes.

Since the licensing properties of subordinate clauses in general are somewhat delicate, I have devoted chapter 9 in its entirety to long-distance licensing. For now, it is sufficient to say that the occurrence of polarity items in embedded V₂-clauses patterns with main V₂-clauses in demanding a clausemate affective operator.

4.1.3 *Wh*-questions

Following the structural categorization of Swedish clauses, main and embedded *wh*-questions belong to two distinct clause types, configurations (i) and (ii), respectively. While both display overt realization of Spec-CP, they differ with regards to the element occupying C⁰: main *wh*-questions display V-to-C movement, embedded *wh*-questions host a complementizer in C⁰.

- (45) a. Vem kommer till festen ikväll?
 who comes to party.DEF tonight
 ‘Who’s coming to tonight’s party?’
 b. [_{Spec-CP} Vem [_{C⁰} kommer [_{TP} vem [_{VP} vem kommer till festen ikväll]]]]
- (46) a. Jag undrar vem som kommer till festen ikväll.
 I wonder who REL comes to party.DEF tonight
 ‘I wonder who’s coming to tonight’s party.’
 b. [_{Spec-CP} vem [_{C⁰} som [_{TP} vem [_{VP} vem kommer till festen ikväll]]]]

According to my classification, main clause *wh*-questions are of configuration (i), whereas embedded *wh*-questions are of configuration (ii). However, in order to facilitate the discussion, I will discuss both varieties in this section. And as we will see shortly, the NPI-licensing properties of main and subordinate *wh*-questions are identical.

Main Clause *Wh*-questions

It is a well-known cross-linguistic fact that *wh*-questions may host NPIs. Consider the following Swedish examples in (47) and (48).

- (47) a. **Vem** vill *någonsin* köpa den boken?
 who wants ever buy that book-the
 ‘Who would ever want to buy that book?’
 b. **Vad** ska du *någonsin* göra åt det?
 what will you ever do about that
 ‘What can you ever do about it?’
- (48) a. **Varför** skulle jag *någonsin* vilja göra det?
 why would I ever want do that
 ‘Why would I ever want to do that?’
 b. **Hur** kan jag *någonsin* gottgöra dig?
 how can I ever compensate you
 ‘How can I ever make it up to you?’

Interestingly, NPI-hosting *wh*-questions tend to induce rhetorical readings, a fact noticed for English by Klima (1964). In fact, the possibility of hosting NPIs diminishes drastically if the *wh*-question cannot easily receive a rhetorical interpretation, as shown in (49).

- (49) a. ?? **Vad** ska du *ens* göra idag?
 what will you even do today
 b. ?? **Var** ställde du *någonsin* min nya bok?
 where put you ever my new book

I will discuss the connection between NPIs and rhetorical interpretations in detail in chapter 10 below, and consequently not dwell further on this topic here.

PPIs may also occur in *wh*-questions, as illustrated by the licit occurrence of *fortfarande* ‘still’ and *till och med* ‘positively even’ below.

- (50) a. **Vem** har *fortfarande* pengar kvar?
 who has still money left
 ‘Who has still any money left?’
 b. **Vilken** bok skulle *t.o.m.* farfar gilla?
 what book would PPI granddad like
 ‘What kind of book would even granddad like?’

Importantly, the PPI-hosting *wh*-questions in (50) do not imply a negative answer, and hence do not typically receive a rhetorical interpretation. This observation suggests that NPIs and PPIs in *wh*-questions are in complementary distribution and cannot occur in clauses of the same function. That is, NPIs require rhetorical interpretations, whereas PPIs do not.

From examples (47)–(50), it seems as though *wh*-questions differ slightly from the other clauses of configuration (i) reviewed so far. Although NPIs and PPIs are in complementary distribution, NPIs seemingly occur even in the absence of overt ‘affective’ operators. In chapter 10, I will argue that the *wh*-word (depending on its referential properties) functions as a local NPI-licensor, which means that *wh*-questions pattern with clauses of configuration (i) in all respects.

Embedded *wh*-questions

With regards to polarity item licensing, embedded *wh*-questions behave similarly to main clause *wh*-questions. Unless the embedded *wh*-clause is interpreted rhetorically, the occurrence of an NPI is illicit in the absence of an overt licensor. Compare the rhetorical question in (51a) below with the ‘information seeking’ question in (51b) below.

- (51) a. Jag undrar vem som *nånsin* vill läsa den här boken!
 I wonder who REL ever want read this here book.DEF
 ‘I wonder who’ll ever want to read this book!’
- b. *Jag undrar vem som *nånsin* hade nattskiftet igår.
 I wonder who REL ever had night-shift.DEF yesterday

Naturally, non-rhetorical embedded *wh*-questions may host overtly licensed NPIs, as shown in (52).

- (52) a. Jag undrar vem som **aldrig** *nånsin* haft nattskiftet.
 I wonder who REL never ever had night-shift.DEF
 ‘I wonder who’s never had the night-shift.’
- b. Jag undrar vem som **inte** *ens* kom ihåg att låsa dörren.
 I wonder who REL not NPI remembered to lock door.DEF
 ‘I wonder who didn’t even remember to lock the door.’

As expected, embedded *wh*-questions may also host PPIs, but such clauses are not interpreted rhetorically.

- (53) a. Jag undrar vem som *fortfarande* har pengar kvar.
 I wonder who REL still has money left
 ‘I wonder who still has any money left’
- b. Jag undrar vilken bok (som) *t.o.m.* farfar skulle gilla.
 I wonder what book REL PPI granddad would like
 ‘I wonder what book even granddad would like.’

From the examples above, we see that *wh*-questions display identical NPI-licensing properties, irrespective of whether they function as main or subordinate clauses.³ As for the connection between polarity item licensing and rhetorical interpretations noted for *wh*-questions, I will return to it in detail in chapter 10 below.

4.1.4 Summary

Let us now summarize the licensing properties of Swedish clauses of our structural configuration (i). I have shown that NPIs and PPIs are in complementary distribution in this configuration, and that any occurrence of NPIs must be made licit by an overt local licenser. For both main and embedded *wh*-questions, the situation is somewhat more complex, however, depending on the rhetorical interpretation associated with NPI-hosting *wh*-questions. While postponing the main discussion of these matters, I interpret the facts to show that information-seeking *wh*-questions behave identically to other clauses of configuration (i) in allowing NPIs bound by overt clausemate operators only.

Let us now review the distribution of NPIs in our second subgroup of clauses with Spec-CP, i.e. configuration (ii).

4.2 Configuration (ii)

In chapter 3, I divided clauses with Spec-CP into two groups: those displaying V-to-C movement (configuration (i)), and those lacking V-to-C movement (configuration (ii)). This section is devoted to the latter category, consisting primarily of *att*-clauses and relative clauses. It will be shown that these clauses display slightly

³This claim should naturally not be taken to imply that main and embedded *wh*-questions are similar in all respects. As discussed in Nordström (2009:226), it is far from obvious that embedded *wh*-questions really function as proper questions at all.

different licensing properties than the just reviewed clauses of configuration (i). While the majority of the clauses of configuration (ii) must rely on an overt ‘affective’ operator, this operator need not be local, as it may optionally be positioned in a structurally superordinate clause. There are also a few instances of NPI-licensing which seem to rely on negative implicatures, a rather bothersome fact from a strict syntactic perspective. However, NPIs and PPIs are in complementary distribution also in clauses of configuration (ii): environments hosting NPIs cannot host PPIs, and *vice versa*.

4.2.1 *Att*-clauses

In section 3.2.2, it was pointed out that most *att*-clauses allow *det*-insertion, and that this fact suggests the availability of Spec-CP. In section 4.1.2, we briefly discussed the fact that prototypical (non-V2) *att*-clauses in Swedish allow long-distance licensing of NPIs. An affective operator in the matrix clause may license an NPI within the complement. The licensing element may be sentential negation (54a), the embedding predicate (54b) or some other affective operator (54c):

- (54) a. Jag har **inte** sett att han *någonsin* hjälpt dig.
 I have not seen that he ever helped you
 ‘I haven’t seen him ever helping you.’
- b. Jag **ångrar** att jag *någonsin* pratade med honom.
 I regret that I ever talked with him
 ‘I regret that I ever talked with him.’
- c. Jag tror **knappt** att han *ens* har varit i Tyskland.
 I think barely that he NPI has been to Germany
 ‘I barely think he’s even been to Germany.’

Importantly, this kind of licensing is slightly different from that observed for clauses of configuration (i), since the licensing elements in (54) do not belong to the same syntactic level as the licensed NPIs. Hence, NPIs in *att*-clauses do not require *local* licensing. Metaphorically speaking, it seems as though clauses of configuration (ii) are ‘transparent’ to external licensing, whereas clauses of configuration (i) are ‘opaque’ to any kind of external influence.

Note also that PPIs tend to be disallowed in complements that may host NPIs. This outcome is expected, if we assume that NPIs and PPIs are in complementary distribution also in clauses of configuration (ii), as shown in (55).

- (55) a. *Jag har **inte** sett att han *t.o.m.* hjälpt dig.
I have not seen that he PPI helped you
- b. *Jag tror **knappt** att han *t.o.m.* har varit i Tyskland.
I think barely that he PPI has been to Germany
- c. Jag **ångrar** att jag *t.o.m.* pratade med honom.
I regret that I PPI talked with him
'I regret that even talked with him!'

However, the exception to this pattern seems to be predicate licensing. We saw in (54b) that NPIs are possible in complements to *ångra* 'regret', but as illustrated in (55c), PPIs are equally possible. I will return to this issue in chapter 9.

Rather intriguingly, some *att*-clauses also allow NPI-licensing by what is best described as negative inferencing or negative expectations. Consider the complements in (56), where NPIs are embedded under the non-negative predicates *glad* 'happy' and *lustigt* 'funny'.

- (56) a. Vi är **glada** att vi *ens* fick en plats.
We are happy that we NPI got a seat
'We're happy to even get a seat.'
- b. Riktigt **lustigt** att dom *ens* orkat göra en hemsida.
quite funny that they NPI bothered create a home-page
'It's quite comical that they even bothered to make a home-page'

It seems far-fetched to attribute the grammatical occurrence of the embedded NPIs in (56) to the selecting predicates, given that they are obviously not associated with negativity. In contrast with the hosting complements in (54), PPIs may also occur in complements to *glad* 'happy' and *lustigt* 'funny', as shown in (57).

- (57) a. Vi är **glada** att vi *t.o.m.* fick en plats.
We are happy that we PPI got a seat
'We're happy to even get a seat!'
- b. Riktigt **lustigt** att dom *t.o.m.* orkat göra en hemsida.
quite funny that they PPI bothered create a home.page
'It's quite comical that they even bothered to make a home-page'

It should be pointed out that the sentences in (57) do not necessarily imply negative expectations, although it seems to me that an element of surprise is involved. I will return to the licensing properties of factive predicates in section 9.2.2 below.

As seen already from this brief presentation, the issues involved in long-distance NPI-licensing are quite intricate. For this reason, I will postpone the main discussion of this subject until chapter 9. However, we may conclude that prototypical non- V_2 *att*-complements are somehow transparent to external influence and allow licensing either by a superordinate element or by negative expectations. In the following subsections, I show that all other sentence types belonging to the structural configuration (ii) display these licensing properties.

4.2.2 Exclamatives

I have only briefly touched upon exclamatives in the presentation of Swedish clause structure in chapter 3. It should be pointed out that Swedish exclamatives come in at least two structural varieties. The first, as illustrated in (58), is introduced by a *wh*-word, while the second is introduced by the subordinator *att* ‘that’, see (59).

- (58) Vilka stora fötter du har!
 what big feet you have
 ‘What big feet you have!’
- (59) Att du aldrig kan komma i tid!
 that you never can be in time
 ‘I’m getting fed up – you’re never on time!’

The *wh*-exclamative in (58) has an overtly realized Spec-CP, as discussed in section 3.2.1 above. The structure of the *att*-exclamative is less clear, however, at least with respect to the presence or absence of Spec-CP. There is no decisive way of determining whether the complementizer *att* is preceded by a Spec-CP or not, especially since *det*-insertion is impossible. However, I will assume that *att*-exclamatives, in analogy with *att*-complements, have Spec-CP. If this characterization is correct, both varieties illustrated in (58) and (59) are structurally of configuration (ii).⁴ For an in-depth discussion of the semantic properties of Swedish exclamatives, the reader is referred to Delsing (2010).

⁴The classification of *att*-exclamatives as being of configuration (ii) is further supported by their semantic status and their behavior under factive predicates, as discussed in detail in section 6.1.4 below. From a strict syntactic perspective, however, one cannot exclude the possibility that *att*-exclamatives belong to configuration (iv), lacking both Spec-CP and V-to-C movement.

Turning to NPI-licensing, the two exclamative varieties display different properties. The *att*-exclamative may host NPIs, see (60a), whereas the *wh*-exclamative may not, see (60b).

- (60) a. Att du *någonsin* lyckades!
 that you ever succeeded
 ‘I’m amazed that you ever made it!’
 b. *Vilka stora fötter du *någonsin* har!
 what big feet you ever have

This observation suggests that overt/covert realization of Spec-CP may actually be of relevance for the possibility of hosting NPIs. The NPI-hostile *wh*-exclamative has an overtly realized Spec-CP, in similarity to clauses of configuration (i). And in the previous section, we saw that no clause type overtly realizing Spec-CP may host NPIs in the absence of an overt licenser. The *att*-exclamative, in contrast, has a covertly realized Spec-CP and may host NPIs.

Curiously, there is no overt licensing element present in (60a) above and in (61) below, which suggests that *att*-exclamatives may license NPIs by negative inferring.

- (61) a. Att du *ens* vågar!
 that you NPI dare
 ‘I’m amazed that you even dare!’
 b. Att du *någonsin* klarade det!
 that you ever made it
 ‘I’m amazed that you ever made it!’

Both sentences in (61) imply that the speaker finds it incredible or highly remarkable that the expressed proposition is true. Put differently, an NPI-hosting *att*-exclamative gives rise to a presupposition that the expressed proposition is contrary to what the speaker had reason to expect. If this implied contrariness is relevant for NPI-licensing, the NPI-hosting property of *att*-exclamatives is clearly distinct from that of any clause of configuration (i), which only hosts NPIs in the presence of an overt clausemate operator. It is however similar to the licensing properties of *att*-complements following ‘non-negative’ factive predicates, as reviewed in (57) above.

Returning to *wh*-exclamatives, their non-licensing property might be attributed to the rather curious fact that they cannot host sentential negation. Compare the

grammatical negative *att*-exclamative with its ungrammatical *wh*- counterpart in (62b).

- (62) a. Att du *inte* lyckades!
 that you not succeeded
 ‘I’m surprised that you didn’t make it!’
 b. *Vilka stora fötter du *inte* har!
 what big feet you not have

It seems as though *wh*-exclamatives may contain embedded (narrow scope) negation only, as in (63) below:

- (63) a. Vad många böcker du har!
 how many books you have
 ‘What a great number of books you have!’
 b. Vad många böcker du *inte* har!
 how many books you not have
 ‘What a great number of books you don’t have’

Though superficially similar to (62b) above, the exclamative in (63b) is not really similar at all. If it were the true negation of (63a), we would expect it to mean something along the lines of *What few books you have!*, which it clearly does not. Rather, it expresses the fact that there are many books such that you do not own them (even though you might actually own many books).

In languages where negation has been noted to occur in *wh*-exclamatives (such as Paduan, a northern Italian dialect), its semantic contribution is not at all clear. Consider the Paduan example below, from Zanuttini and Portner (2000:193):

- (64) Cossa *no* ghe dise-lo!
 what NEG him say-s.cl
 ‘What things he’s telling him!’

As Zanuttini and Portner (2000) point out, the semantic force of the negative morpheme in the exclamative above seems to be lost. This phenomenon is labeled *expletive negation*. For further discussions on expletive negation and *wh*-exclamatives, the reader is referred to the discussions in Espinal (1997) and Zanuttini and Portner (2000).

Turning to PPIs, we see that their occurrence is licit in both *wh*- and *att*-exclamatives. Consider the distribution of the PPI *fortfarande* ‘still’ in (65) below.

- (65) a. Vilka stora bilar du *fortfarande* kör omkring i!
 what big cars you still drive around in
 ‘What big cars you still drive around in!’
- b. Att du *fortfarande* tänker på det!
 that you still think about that
 ‘I’m amazed that you still think about that.’

From the observations above, we may thus conclude that PPIs and NPIs are in complementary distribution in Swedish exclamative clauses, similarly to clauses of configuration (i) and *att*-clauses of configuration (ii), as reviewed in the previous sections.

However, we have seen in this section that there is a subtle licensing difference between *wh*- and *att*-exclamatives, although both are structurally of configuration (ii). *Wh*-exclamatives do not allow polarity items in the absence of an overt licensor, similar to clauses of configuration (i). The additional restriction that *wh*-exclamatives cannot even involve an overt operator is secondary, as PPIs are allowed in affirmative *wh*-exclamatives. Furthermore, *wh*-exclamatives are structurally similar to clauses of configuration (i) in containing an overtly realized Spec-CP.

Att-exclamatives may host both NPIs and PPIs. But they differ from clauses of configuration (i) in two respects: a) they allow NPIs to be licensed by clause external factors (such as negative inferencing), and b) Spec-CP is (arguably) covertly realized.

4.2.3 Relative Clauses

As discussed in section 3.2.2, it has been repeatedly proposed that Swedish relative clauses involve Spec-CP, which is taken to be the position of the (covert) relative operator. Since relative clauses prototypically do not display V-to-C movement, they consequently belong to our category (ii).

Swedish relative clauses may only host overtly licensed NPIs. Apart from sentential negation, it is primarily the correlate that is responsible for licensing, i.e. the NP determined by the relative clause. Unless the correlate has relevant licensing properties, the occurrence of NPIs will be illicit, as in (66c).

- (66) a. Jag vet **ingen** som *nånsin* läst Platons samlade verk.
 I know nobody that ever read Plato’s collected works
 ‘I don’t know anyone who’s ever read Plato’s collected works.’

- b. **Alla** som *nånsin* varit på månen är amerikaner.
 everyone who ever been to moon.DEF is American
 ‘Everyone that has ever been to the moon is American.’
- c. ***Några** som *nånsin* varit på månen är amerikaner
 some who ever been to moon.DEF are American

It is perhaps expected that the negative quantifier in (66a) may license NPIs, but the different licensing properties of the universal quantifier in (66b) and the existential quantifier in (66c) seem somewhat elusive. Ladusaw (1979, 1980) argued that the licensing pattern in (66) could be attributed to the different monotonicity properties of the three quantifiers; see section 2.2.2 above for an introduction to Ladusaw’s hypothesis. I leave it to the reader to check the downward monotone status of *nobody* and *every*, and the upward monotone status of *some*.

Furthermore, NPIs may be licensed in relative clauses modifying superlative expressions, as in (66) below.

- (67) a. Det var det **dummaste** (som) jag *någonsin* hört!
 it was the stupidest that I ever heard
 ‘That was the most stupid thing I have ever heard!’
- b. Saturn V är den **största** raket (som) USA *någonsin* byggt.
 Saturn V is the biggest rocket that USA ever built
 ‘The Saturn V is the biggest rocket the U.S. have ever built.’

While we need not go into details, it should be mentioned that the licensing property of superlative expressions is somewhat unclear, as they are not strictly downward entailing (see von Stechow 1999:138 ff. for discussion). For our purposes, however, the important point is that relative clauses allow licensing by an element located in a superordinate clause level, similar to *att*-clauses.

The relative clauses reviewed in (66) and (67) above are restrictive. In comparison, *non*-restrictive relative clauses are decidedly less natural hosts for polarity items. This may be due to the fact that they prototypically do not modify such NPI-licensing expressions as universal and negative quantifiers, which instead tend to take restrictive relative clauses. Consider the deviant examples in (68), where the insertion of *för övrigt* ‘by the way’ marks a non-restrictive reading.

- (68) a. ??**Ingen**, som för övrigt läst Platon, gillar Beatles.
 nobody that by-the-way read Plato likes Beatles

- b. ***Ingen**, som för övrigt *nånsin* läst Platon, gillar Beatles.
 nobody that by-the-way ever read Plato likes Beatles

The non-restrictive relative clause in (68a) is decidedly odd even when lacking an NPI, so we cannot exclusively attribute the ungrammaticality of (68b) to the NPI *nånsin* ‘ever’. Only in the scope of an overt clausemate licenser are NPIs grammatical in non-restrictive relative clauses, as illustrated in (69):

- (69) a. Bertil, som för övrigt **aldrig** *nånsin* läst Platon, gillar Beatles.
 Bertil that by-the-way never ever read Plato likes Beatles
 ‘Bertil, who by the way never ever has read Plato, likes the Beatles.’

From examples (68) and (69), it thus seems as though the NPI-licensing properties of non-restrictive relative clauses pattern with clauses of configuration (i), in only allowing NPIs in the scope of a clausemate licenser. In this respect, they differ from restrictive relative clauses, which allow licensing also by the clause external correlate.

A possible account of the difference between restrictive and non-restrictive relative clauses is proposed in Castillo (2003). As we have seen from the analyses of Platzack (2000) and Stroh-Wollin (2002) (see section 3.2.2), the relative operator is argued to reside in Spec-CP. Castillo however argues that only non-restrictive clauses have the operator in Spec-CP, whereas restrictive relative clauses have the operator in C⁰. While her argumentation builds on the differences between English relative clauses, the present account of Swedish provides further support for her view. In fact, the observed licensing differences between restrictive and non-restrictive relative clauses fall out naturally.

If we follow Castillo’s analysis, restrictive relative clauses are identical to (prototypical) *att*-clauses in having an empty Spec-CP. For this reason, the superordinate licensing element (the correlate) may reach into the relative clause and license NPIs. In contrast, non-restrictive relative clauses are closed to external NPI-licensing, because of the presence of the operator in Spec-CP. Hence, the blocking effect of non-restrictive relative clauses is in practice no different from the one noted for V2 *att*-complements in section 4.1.2 above: in both cases does an element in Spec-CP block the scope of the superordinate licenser.

There are other similarities concerning restrictive and non-restrictive relative clauses and *att*-clauses. Restrictive relative clauses may optionally leave out the complementizer (70a), unless the correlate corresponds to the subject of the rel-

ative clause. The complementizer *att* may also be optionally omitted from most prototypical non-V₂ *att*-complements (70b):

- (70) a. Där är alligatorn (som) vi såg tidigare!
 there is alligator.DEF that we saw earlier
 ‘There’s the alligator we saw earlier!’
- b. Jag vet (att) han *inte* gillar alligatorer. (Non-V₂)
 I know that he not likes alligators
 ‘I know that he doesn’t like alligators.’

In comparison, neither non-restrictive relative clauses (71a) nor embedded V₂ *att*-complements (71b) allow the omission of the complementizer (see Teleman et al. 1999:4,504 for a discussion).

- (71) a. Min bror, *(som) du träffade i Florida, kommer hem idag.
 my brother whom you met in Florida comes home today
 ‘My brother, whom you’ve met in Florida, is coming home today.’
- b. Jag vet *(att) han gillar *inte* alligatorer. (V₂)
 I know that he likes not alligators
 ‘I know that he doesn’t like alligators.’

Furthermore, Hooper and Thompson (1973) argued that non-restrictive relative clauses pattern with *that*-clauses following assertive and semi-factive predicates in allowing root transformations in English. Restrictive relative clauses are similar to factive and non-assertive *that*-complements in not allowing root transformations. I will return to the implications of this in section 6.1.5 below.

To sum up, there are a number of similarities between restrictive relative clauses and non-V₂ *att*-clauses on the one hand, and non-restrictive relative clauses and V₂ *att*-clauses on the other, that also pertains to polarity item licensing. Restrictive relative clauses require overt NPI-licensing, but the licensing element may be located at a superordinate syntactic level at surface structure.⁵ This is also the situation for non-V₂ *att*-clauses as discussed in section 4.2.1. Non-restrictive relative clauses, in contrast, require licensing by an overt *clausemate* licenser; this is the same restriction noted for V₂ *att*-clauses in section 4.1.2.

⁵Naturally, the correlate originates within the relative clause in any case. Depending on the preferred structural analysis, the licensing correlate is merged inside (Kayne 1994) or outside (Platzack 2000 and Stroh-Wollin 2002) the relative clause.

The observations made in this section will be systematically accounted for under my Evaluability Hypothesis. In section 6.1.5, I will argue that restrictive and non-restrictive relative clauses differ with regards to their evaluable status, and that the observed structural and licensing differences fall out as a direct consequence of this.

4.2.4 Summary

This section has focused on the distribution of polarity items in clauses of our structural configuration (ii), namely clauses involving Spec-CP while lacking V-to-C movement. It has been shown that NPIs in this configuration need to be formally licensed, in similarity to clauses of configuration (i). However, clauses of configuration (ii) differ in two respects from clauses of configuration (i). First, the overt licensor need not be clausemate, but can be located at a syntactically superordinate level. Second, some clauses of configuration (ii) also allow licensing by negative inferences; this observation naturally suggests that a strict syntactic approach to NPI-licensing is ultimately not tenable.

However, there were two important deviations from the overall pattern: both *wh*-exclamatives and non-restrictive relative clauses were shown to host NPIs licensed by an overt clausemate operator only. This is the same pattern as noted for clauses of configuration (i) in section 4.1. Interestingly, these clause types are arguably the only ones of configuration (ii) in which Spec-CP is filled by a clausal element (i.e. the *wh*-word and a relative operator, respectively).

4.3 Configuration (iii) and (iv)

Let us now shift focus to the third and fourth categories of our structural classification. These two categories contain clauses that are structurally distinct from those of configurations (i) and (ii) in lacking Spec-CP altogether. The presence or absence of V-to-C movement, in turn, affects whether these clauses belong to category (iii) or (iv).

There are three basic sentence types which I have analyzed as being of configuration (iii). These are introduced by the finite verb, and hence potentially display V-to-C movement.

- Yes/no-questions
- Conditionals
- Imperatives

However, yes/no-questions and conditionals may also be introduced by the complementizer *om* ‘if’, in which case they are of configuration (iv); see subsection 3.2.2 above. In order to facilitate the current discussion, I will discuss configurations (iii) and (iv) together. In section 4.3.3, I argue that imperatives do not structurally belong to either of these categories, and consequently propose excluding them from this study.

With the exception of imperatives, clauses of the structural configurations (iii) and (iv) are shown to host NPIs even in the absence of overt operators. Their licensing properties are thus clearly distinct from clauses of configurations (i) and (ii), which were observed to require formal NPI-licensing.

4.3.1 Yes/no-questions

Swedish matrix yes/no-questions are structurally different from embedded yes/no-questions in displaying V-to-C movement. However, neither matrix nor embedded yes/no-question have Spec-CP, as we saw above in section 3.2. Compare the two structures in (72).

- (72) a. Har Sven varit i Paris?
 has Sven been to Paris
 ‘Has Sven been to Paris?’
 b. [_{C⁰} Har [_{TP} Sven [_{VP} ~~Sven~~ varit i Paris]]]
- (73) a. Jag undrar om Sven har varit i Paris.
 I wonder if Sven has been to Paris
 ‘I wonder if Sven has been to Paris.’
 b. [_{C⁰} om [_{TP} Sven [_{VP} har ~~Sven~~ varit i Paris]]]

In this section, it will be shown that direct and indirect yes/no-questions also share identical NPI-licensing properties.

Matrix Yes/no-questions

Yes/no-questions provide *bona fide* licensing environments for NPIs, as has been well discussed in the literature (see Linebarger 1980, 1987, Progovac 1994, and von Stechow 1999). It seems a cross-linguistically stable observation that NPIs may occur in yes/no-questions even in the absence of an overt licensor, as in the Swedish examples (74) and (75).

- (74) a. Har du *någonsin* varit i Paris?
 have you ever been to Paris
 ‘Have you ever been to Paris?’
 b. Såg du *någonsin* Ingmar Bergman på Fårö?
 saw you ever Ingmar Bergman on Fårö
 ‘Did you ever see Ingmar Bergman at Fårö?’
- (75) a. Har du *ens* varit i Paris?
 have you even been to Paris
 ‘Have you even been to Paris?’
 b. Såg du *ens* Ingmar Bergman i verkligheten?
 saw you even Ingmar Bergman in real.life
 ‘Did you even see Ingmar Bergman in real life?’

In contrast with *wh*-questions, NPI-hosting yes/no-questions do not necessarily give rise to rhetorical interpretations. This means that an NPI-licensing yes/no-question can be felicitously used in proper information-seeking contexts. There is a slight interpretative difference depending on the use of NPI, though: while *någonsin* ‘ever’ is largely neutral, *ens* ‘even’ has a slight bias towards a negative answer (as in (75) above).⁶

However, attributing the licensing property of yes/no-questions to negative expectations or rhetorical functions is unsatisfactory, as noted independently by Linebarger (1987:181): “it is a rather unappealing feature of the N[egative]I[mpl]icature account that for neutral questions containing weak NPIs it must appeal to negative implicatures which most speakers do not report of being aware of”.

In contrast with clauses of configuration (i), PPIs and NPIs in yes/no-questions are *not* in complementary distribution: PPIs occur in the same syntactic environ-

⁶Although not immediately relevant for our purposes, tense distinctions affect the interpretation of NPIs in yes/no-questions. In the future tense, an NPI-licensing yes/no-question leans towards a rhetorical interpretation: *Will you ever go to Paris?*

ments as NPIs, see (76a) and (76b). They can, however, not occur simultaneously, see (76c).

- (76) a. Har du *fortfarande* kontakt med henne?
 have you still contact with her
 ‘Are you still in contact with her?’
- b. Har du *någonsin* kontakt med henne?
 have you ever contact with her
 ‘Are you ever in contact with her?’
- c. *Har du *fortfarande någonsin* kontakt med henne?
 have you still ever contact with her

Intriguingly, it seems as though the structural configuration of the yes/no-question is at least partially related to its NPI-hosting properties. Not all Swedish yes/no-questions are verb initial; they may marginally also have linear V2 word order. And when they do, they do *not* license NPIs in the absence of overt licensors. Compare the V2 word order yes/no-questions in (77) below with the prototypical (VI) yes/no-questions in (74) above:

- (77) a. *Du har *någonsin* varit i Paris?
 you have ever been to Paris
- b. *Du såg *någonsin* Ingmar Bergman på Fårö?
 you saw ever Ingmar Bergman on Fårö

Similar observations have been made for English, see e.g. Progovac (1994:77). The important observation is that the only structural difference between the sentences in (77) concern the presence/absence of Spec-CP. This suggests that V-to-C movement in itself is unrelated to the possibility of hosting NPIs. I will suggest a straightforward syntactic-semantic account of this observation in section 6.2.1 below, building on the evaluative differences between prototypical VI and V2 yes/no-questions.

Embedded Yes/no-questions

Both matrix and embedded yes/no-questions behave similarly in hosting NPIs even in the absence of an overt licensor. As shown in (78), there is seemingly no overt element responsible for the licit occurrence of the embedded NPI *någonsin* ‘ever’. Compare the main clause yes/no-questions in (74) above.

- (78) a. Jag undrar om han *någonsin* har varit i Paris.
 I wonder if he ever has been to Paris
 ‘I wonder if he’s ever been to Paris.’
- b. Han undrade om du *någonsin* såg Ingmar Bergman på Fårö.
 he wondered if you ever saw Ingmar Bergman on Fårö
 ‘He wondered whether you ever saw Ingmar Bergman at Fårö.’

Also PPIs may occur in these environments, as in (79):

- (79) a. Han undrar om du *fortfarande* har kontakt med henne.
 he wonders if you still have contact with her
 ‘He wonders whether you’re still in contact with her.’
- b. Jag undrar om du *till och med* vill fira nyår här.
 I wonder if you PPI want celebrate new.year here
 ‘I wonder if you’d even like to celebrate New Year here.’

As can be seen from these examples, there is no reason to distinguish between main clause and embedded yes/no-questions, neither with regard to their syntactic structure nor their NPI-hosting properties.

Summary

All in all, we have seen that both matrix and embedded yes/no-questions in Swedish may host NPIs in the absence of overt licensors. This possibility is at least partially related to the syntactic configuration of the clause, as yes/no-questions with V2 word order cannot host NPIs in the absence of an overt clausemate operator.

Importantly, the occurrence of NPIs in yes/no-questions cannot be attributed to negative inferences alone, as was shown to be the case with certain *att*-clauses in section 4.2.1 above. Furthermore, PPIs and NPIs in yes/no-questions are not in complementary distribution, since they may occur in identical syntactic environments. The distribution of polarity items as encountered in this section is thus distinctly different from the one observed for clauses of configurations (i) and (ii) in sections 4.1 and 4.2.

In the subsequent section, it will be shown that the NPI-licensing properties of conditionals are identical to those noted for yes/no-questions.

4.3.2 Conditionals

As in English, Swedish conditional clauses come in two structural varieties. They can be introduced by the finite verb (80) or by a complementizer (81). In neither case may Spec-CP be activated. Compare the two variants below with the matrix and subordinated yes/no-questions in (72) and (73) on page 60.

- (80) a. Kommer Sven till festen (så) går jag.
comes Sven to party.DEF so go I
'If Sven comes to the party, I'll leave.'
- b. [_{C⁰} Kommer [_{TP} Sven [_{VP} ~~Sven kommer~~ till festen]]]
- (81) a. Om Sven kommer till festen (så) går jag.
if Sven comes to party.DEF so go I
'If Sven comes to the party, I'll leave.'
- b. [_{C⁰} Om [_{TP} Sven [_{VP} ~~Sven kommer~~ till festen]]]

Independently of form, conditionals are well-known to license NPIs even in the absence of an overt clausemate operator. Thus, conditionals share both structural and NPI-hosting properties with yes/no-questions.

- (82) a. Ser du *någonsin* något underligt, säg till mig
see you ever something strange, say to me
'If you ever see something strange, let me know'
- b. Om du *någonsin* ser något underligt, säg till mig
if you ever see something strange, say to me
'If you ever see something strange, let me know'

Also, similarly to yes/no-questions, PPIs and NPIs in conditionals are not in complementary distribution. We see in (83) that both kinds of polarity items occur in identical syntactic environments, although not simultaneously (83c). This is the same pattern as noted for yes/no-questions in (76) above.

- (83) a. Har du *fortfarande* kontakt med henne, hälsa från mig.
have you still contact with her greet from me
'If you're still in contact with her, say hello for me.'
- b. Har du *någonsin* kontakt med henne, hälsa från mig.
have you ever contact with her greet from me
'If you're ever in contact with her, say hello for me.'

- c. *Har du *fortfarande någonsin* kontakt med henne ...
 have you still ever contact with her

The conditional clause structure may be used also to express counterfactual meanings. Counterfactual sentences are semantically interesting in that they ‘reverse’ the polarity of the expressed structure. As an example, consider the English sentences below, taken from van Linden and Verstraete (2008:1866):

- (84) a. If they had acted and sent in enough police troops, says the report, the bloody episode could have been prevented.
 b. If they hadn’t acted and sent in enough police troops, says the report, the bloody episode could not have been prevented.

The *affirmative* (84a) presupposes that the police had *not* acted, whereas the *negated* (84b) presupposes that the police *had*, in fact, acted.

As illustrated in the authentic example (85), counterfactual conditionals do not require overtly licensed NPIs in Swedish, similarly to conditionals in general.

- (85) Hade polisen *ens* försökt göra så där mot mig, hade jag sparkat
 had police.DEF NPI tried do like that against me had I kicked
 skiten ur dom sju gånger.
 shit.DEF out them seven times
 ‘Had the police so much as attempted to do that to me, I had kicked the
 shit out of them seven times.’

Note that PPIs may also occur in counterfactual conditionals, as shown in (86). This observation suggests that it is not the counterfactual reading that is responsible for the NPI in (85); if negative presuppositions were involved, we would not expect the licit occurrence of PPIs.

- (86) Hade polisen *till och med* använt pepparspray, skulle
 had police.DEF PPI used pepper.spray would
 demonstrationen ha varit mer våldsam.
 demonstration.DEF have been more violent
 ‘Had the police even used pepper spray, the demonstration would have
 been more violent.’

In addition to these observations, there are structural peculiarities concerning the NPI-licensing properties of counterfactuals as well. As pointed out by van

Linden and Verstraete (2008:1866), some languages may use declarative clauses to express counterfactual meanings, such as in English (87) and Swedish (88).

- (87) The police should have done something to prevent the killing.
 (88) Polisen borde ha gjort något för att förhindra dödandet.
 police.DEF should have done something for to prevent killing.DEF

As was the case with ‘declarative’ yes/no-questions, declarative counterfactual clauses cannot host NPIs that are not overtly licensed. This observation holds for both English and Swedish.

- (89) *The police should *ever* have done something to prevent the killing.
 (90) a. *Polisen borde *någonsin* ha gjort något för att
 police.DEF should have done something for to prevent
 förhindra dödandet.
 killing.DEF
 b. *Polisen borde *ens* ha försökt kommunicera med
 police.DEF should NPI have tried communicate with
 demonstranterna.
 demonstrators.DEF

Again, we see that the possibility of hosting NPIs is at least partially related to the syntactic configuration of the clause.

To summarize, I have shown in this section that conditional clauses share identical NPI-hosting properties with yes/no-questions, irrespective of the distinct semantic functions associated with these sentence types. It was also observed that counterfactual sentences may only host ‘unlicensed’ NPIs when they are structurally of configuration (iii); V2 counterfactuals cannot host NPIs in the absence of overt licensors.

4.3.3 Imperatives

The last sentence type to be discussed in this section is imperatives. Within the literature, the NPI-licensing properties of imperatives is somewhat unclear. In English, the only polarity items to be licensed in imperatives belong to the particularly weak *any*-class, but there is a debate as to whether this is the so called

free-choice (FC) *any* or the NPI *any*.⁷ Giannakidou (1998) argues that English FC-items constitute a subgroup of polarity items, which means that imperatives are NPI-licensing environments.

- (91) a. Pick *any* book!
b. Go *anywhere*!

Lacking the particularly weak *any*-class, Swedish does not allow NPIs in imperatives unless they are within the scope of an affective operator, as seen from (92) below.

- (92) a. Åk *(**aldrig**) *någonsin* till Paris!
go not ever to Paris
'Never ever go to Paris!'
b. Försök *(**inte**) *ens*!
try not NPI
'Don't even try!'

The licensing properties of imperatives obviously differ from the other sentence types of configuration (iii); rather, they are similar to those of configuration (i). But it is debatable whether imperatives structurally fit into either of these categories.

Imperatives are syntactically different from all other Swedish sentence types in lacking an overtly realized subject. This means that imperatives also lack an overt expression of the nexus relation between the subject and the predicate. Furthermore, imperatives are exceptional in that their status as finite clauses is debatable. As argued for in Platzack and Rosengren (1998), imperatives can be regarded as non-finite, since they are not anchored in the speaker's here and now. If this assumption is correct, one would assume that imperatives lack not only Spec-CP but the entire C-domain, since this is the domain relevant for finiteness. This would explain why imperative clauses do not fall under any of our two categories. All other sentence types involve a CP-layer; their structural categorization depends on the activation of Spec-CP and the content of C⁰.

In addition to these structural idiosyncracies, imperatives are also semantically and pragmatically different from all other sentence types reviewed so far, in that

⁷Although not immediately relevant for our purposes, there is a long-standing debate in the literature as to whether there exists two semantically distinct but homonymous forms of *any*, or only one. See Kadmon and Landman (1993), Horn (2000a,b), and Giannakidou and Cheng (2006) for discussions.

their primary function is performatory. Rather than providing or eliciting information, the main function of an imperative is to bring about some action on part of the addressee. As a consequence, imperatives cannot be related to truth-values or be put on a scale of realis/irrealis (see Palmer 2001 for similar arguments).

Taken together, these distinct properties mean that I will exclude imperatives from any further discussion in this work. This decision does not imply that there is nothing to be said about NPis in imperatives, only that I believe that the solutions must be looked for in slightly different domains. And it is better to exclude imperatives entirely than to obstinately try to push them into a model in which they neither fit nor belong.

4.3.4 Summary

The focus of this section was on sentence types of the structural configurations (iii) and (iv). Although initially categorized as being of configuration (iii), imperatives were argued to fall outside it, primarily because they can be structurally analyzed as lacking the C-domain.

As for the remaining two sentence types, *yes/no*-questions and conditionals, they displayed distinctly different NPI-hosting properties when compared with clauses of configuration (i) and (ii). It was shown that polarity items may occur in these environments even in the absence of overt licensors. However, the structural configuration was partially related to this possibility, since it was shown that both V2 *yes/no*-questions and V2 counterfactuals failed to host unlicensed NPis. Furthermore, PPIs and NPis are not in complementary distribution in these sentence types.

4.4 A New Classification

In the previous sections, I related the distribution of polarity items to the structural categorization of Swedish as developed in chapter 3. I discerned two distinct NPI-licensing patterns: clauses of configurations (i) and (ii) only host formally licensed NPis, whereas clauses of configurations (iii) and (iv) allow NPis even in the absence of overt licensors or negative inferences.

We have observed four strong arguments in support for a correlation between clausal configuration and polarity sensitivity.

- (93) a. **Yes/no-questions:** Prototypical yes/no-questions of configuration (iii) may host ‘unlicensed’ NPIs, whereas type yes/no-questions of configuration (i) host overtly licensed NPIs only.
- b. **Counterfactuals:** Counterfactual clauses of configuration (iii) may host ‘unlicensed’ NPIs; counterfactuals of configuration (i) host overtly licensed NPIs only.
- c. **Exclamatives:** *Wh*-exclamatives cannot host NPIs, while *att*-exclamatives may host NPIs licensed by negative expectations.
- d. **Embedded V2:** *Att*-complements of configuration (i) do not allow long-distance licensing of NPIs by superordinate negation, whereas *att*-complements of configuration (ii) do.

There are some rather far reaching conclusions we may draw from these observations. A Swedish clause with overtly realized Spec-CP may only host NPIs that are within the scope of an overt ‘affective’ operator, regardless of the semantic function of this clause. This is *inter alia* illustrated by the shifting licensing properties of yes/no-questions, conditionals and counterfactuals. Although these sentence types are *bona fide* hosts for NPIs, this is true only when they are of configuration (iii) or (iv), that is, when Spec-CP is absent. It seems as though ‘inherently’ licensing clauses in Swedish for some reason require non-activation of Spec-CP.

For clauses involving Spec-CP, there are two intriguing patterns: a) if Spec-CP is overtly realized, NPIs must be overtly licensed within the clause, and b) if Spec-CP is covertly realized, NPIs may be licensed by external operators or by negative inferencing. It should be pointed out that V-to-C movement seems unrelated to polarity sensitivity, since clauses of both configurations (i) and (iii) display V-to-C movement despite having distinctly different licensing properties.

If we slightly revise our original classification of Swedish by disregarding V-to-C movement, we end up with the following categorization:

- (94) I. [+Spec-CP]:
- a. [Overt Realization]:
 Clauses of this type may not host NPIs unless they are overtly licensed by a clausemate operator. Sentence types include *declaratives, embedded V2-clauses, wh-questions, and wh-exclamatives*.
- b. [Covert Realization]:
 Clauses of this type may not host NPIs unless they are formally li-

censed, either by an overt clausemate/external operator, or marginally by negative expectations. Included in this group are *att-clauses*, *att-exclamatives*, and *relative clauses*.

2. [-Spec-CP]:

Clauses of this type may host NPIs even in the absence of overt clausemate/external operators or negative expectations. Included in this group are *yes/no-questions*, *conditionals*, and *om-clauses*.

For ease of reference, I will throughout this work refer to clauses of the two main categories as type 1 and type 2, respectively. The two subgroups of type 1, which differ with regards to the overt/covert realization of Spec-CP, are referred to as type 1a and 1b, respectively.

While the findings in this chapter strongly suggest a correlation between clause structure and the possibility of hosting NPIs, we must be careful when interpreting these observed associations. It would be close to nonsensical (not to mention circular) to argue that the reason, say, affirmative declaratives in Swedish do not license NPIs in Swedish is because they have an overtly realized Spec-CP. If we want to arrive at a universal theory of NPI-licensing, we cannot attribute the non-licensing property of affirmative declaratives to some arbitrary structural property of Swedish alone. Any purely structural explanation of the observed correlation between Spec-CP and NPI-licensing would lead to an inevitable explanatory cul-de-sac and, of course, lack universal applicability.

From cross-linguistic considerations, it is also entirely expected to find that Swedish *yes/no-questions* host NPIs even in the absence of overt operators. But the structural fact in Swedish that ‘unlicensed’ NPIs are licit in *all* clauses of type 2, but banned from *all* clauses of type 1 certainly calls for an explanation. The crucial question we need to focus on here is *why*: why does there exist a correlation between the structural configuration of the clause and its NPI-licensing properties?

I propose that we should focus not so much on the structural configurations themselves, as on the very fact that there *are* structural differences between clauses with different licensing properties to begin with. If we can identify a semantic denominator common to all sentence types of a specific clause type, we may be able to reach a deeper understanding of our observation. That is, if the syntactic classification mirrors a semantic distinction, we can assume that this semantic distinction has a bearing on polarity phenomena as well. And it seems reasonable that we may subsequently formulate a hypothesis of polarity item licensing that is

applicable to a wide range of languages, despite being based on the distribution of polarity items in a single language.

The observed structural correlation between the distribution of polarity items and the configuration of the Swedish C-domain has provided the first step in our pursuit of an explanation of polarity sensitivity. It is the goal of the next chapter to provide a semantic motivation for this structural classification in terms of evaluability.

Chapter 5

The Evaluability Hypothesis

In the previous chapter, the distribution of polarity items was related to Swedish clause structure. The crucial point was to keep syntactic form separate from semantic function, and this modular approach enabled us to establish a correlation between NPI-licensing and the configuration of the Swedish C-domain which has hitherto gone unnoticed. We saw that for every sentence type involving Spec-CP, the occurrence of an NPI can be made licit only by formal licensing. In comparison, sentence types lacking Spec-CP were shown to host NPIs even in the absence of overt licensors.

Naturally, an observation of this kind gives rise to a number of questions. To what extent is the correlation between clause structure and NPI-licensing significant? Why should seemingly arbitrary structural properties be relevant for NPI-licensing? Are there any semantic underpinnings motivating the syntactic distinctions?

In the forthcoming chapters I approach these questions from both a syntactic and a semantic angle. In the present chapter, I propose and review various strategies of interpreting our syntactic classification in semantic terms, trying to identify a semantic denominator common to all sentence types of each clausal category. It is argued that this common denominator is *evaluability*, a novel concept that builds on the pragmatic status of the clause within a communicative exchange. Clauses with Spec-CP are evaluable, meaning that the expressed proposition can be accepted or rejected in a given communicative exchange. Clauses lacking Spec-CP are non-evaluable. In chapter 6, I will further argue that the evaluative status of a given clause is reflected by the presence/absence of an edge-feature in C (see Chomsky 2008). Thus, the ‘Evaluability Hypothesis’ gives a principled syntactic

and semantic account of Swedish clause structure distinctions.

In chapter 7, I will show that the Evaluability Hypothesis as developed in this chapter gives a straightforward explanation of the distribution of polarity items in Swedish. Hence, based on this analysis the syntactic categorization and the distribution of polarity items is given a unified account.

5.1 Veridicality, Realis and Irrealis

Up to this point, our structural classification of Swedish has been motivated on strict syntactic grounds, being based solely on the configuration of the C-domain. This strategy has given rise to two semantically rather heterogeneous categories. Consider the division in (95):

- (95)
- **Type 1-clauses:**
Declarative main clauses, *wh*-questions, exclamatives, relative clauses, embedded V2-clauses, *that*-clauses.
 - **Type 2-clauses:**
Yes/no-questions, conditionals, *om*-clauses

In this section, I review two alternative semantic approaches to this classification, the first related to realis/irrealis, the second related to the notion of veridicality. It is shown that neither of these distinctions can be successfully mapped to the division in (95).

5.1.1 Realis and Irrealis

As a first approximation, it seems as though the division between type 1- and type 2-clauses is reminiscent of the classic distinction between *realis* and *irrealis*, respectively. Mithun (1999:173) provides the following definition of these notions:

The realis portrays situations as actualized, as having occurred or actually occurring, knowable through direct perception. The irrealis portrays situations as purely within the realm of thought, knowable only through imagination.

Following Mithun's characterization, type 1-clauses may be assumed to fall under the realis category. It should be reasonably clear that this holds at least for affirmative declarative sentences. The situation is however somewhat more complex

for the other sentence types belonging to type 1, such as *wh*-questions. Nordström (2009:147) argues that *wh*-questions are realis, based on the observation that they are implicational: the question *Who did John meet?* typically presupposes the open proposition that *John met someone*. Hence, *wh*-questions “portrays situations as having occurred”, and are by Mithun’s definition realis. I return to the semantic properties of *wh*-questions in chapter 10.

If type 1-clauses are realis, then type 2-clauses are prototypically irrealis: conditionals, yes/no-questions, and *om*-clauses in general. A conditional clause is irrealis in the sense that it expresses a hypothetical state-of-affairs, whereas a yes/no-question is irrealis in the sense that its truth is unknown to the speaker (cf. Teleman et al. 1999:730). Note that if Nordström’s analysis of *wh*-questions as realis is correct, the structural difference between *wh*-questions and yes/no-questions in Swedish can tentatively be seen as a syntactic manifestation of the semantic distinction between realis and irrealis.

But matters are somewhat more complex. First consider declaratives in the future tense. They should reasonably be analyzed as irrealis, since they depict situations that are “purely within the realms of thought”. However, Swedish provides no structural reason to distinguish between declaratives depending on tense distinctions.

Next, consider the behavior of Swedish *att*-clauses. Embedded under factive predicates (such as *regret* or *be surprised*), they are clearly realis according to Mithun’s definition: the presupposed complement “portrays situations ...as having occurred”:

- (96) a. I regret that he was not given the right information. \Rightarrow
 He was not given the right information
 b. I’m surprised that the bear settled for the chicken feed. \Rightarrow
 The bear settled for the chicken feed

In contrast, *att*-complements embedded under non-assertive predicates (such as *doubt* or *be likely*) are clearly irrealis: the portrayed situation is “purely within the realm of thought”.

- (97) a. I doubt that the bear settled for the chicken feed. \nRightarrow
 The bear settled for the chicken feed
 b. It’s likely that he was not given the right information. \nRightarrow
 He was not given the right information

Third, there is an inherent problem related to the opposition between affirmative and negative sentences. Following Mithun's definition, it is not evident how negative clauses should be analysed. Allen (2006:5) addresses this problem, and notes that negative sentences cross-linguistically tend to fall within *either* the realis or irrealis category:

All languages have a declarative as the most frequent and least marked clause-type (...). The declarative is typically +R[ealis] (though it may include a hypothetical, H, as we shall see). At the opposite extreme are hypotheticals, counterfactuals, intensionals, traditional subjunctives, and other –R[ealis] categories for which there is often no unique morphology (...). Between the extremes of +R and –R are strung interrogatives, imperatives, negatives, futures, and habituals which may align with either +R or –R categories. For instance the negative clause *Jim is not here* describes an event that can be seen as a factual statement having a truth value; and therefore aligned with (...) +R; alternatively, it is a counter-fact aligned with –R categories.

The picture outlined by Allen above is actually quite problematic if one wants to relate the realis/irrealis division to clause structure distinctions. What is labeled as 'realis' in one language (based on mood distinctions or other morphological/structural patterns) may be treated as 'irrealis' in another language.¹ Thus, as long as the terms realis and irrealis are used for labeling distinct sets of sentence types in a given language, the division is relatively unproblematic. However, as soon as these terms are used to *motivate* structural distinctions, the division becomes almost explanatory vacuous.

One additional problem marring any classification based on realis/irrealis is that it divides into two what should really be divided into three. Any given language contains clauses that may be true, false or neither true/false. And these three distinctions cannot without additional stipulations be subsumed under a binary division.

From this review, it should be clear that the realis/irrealis distinction does not suggest a viable semantic motivation for our syntactic classification. Let us there-

¹The 'labeling' problem does not pertain to negative sentences only. A yes/no-question like *Is John here?* has no truth value, and as such it may align with the irrealis category. As Allen (2006:5) points out, however, yes/no-questions tend to be in the indicative mood in the languages of the western classical tradition, and have therefore often been treated as realis.

fore review an alternative notion that more closely builds on the opposition between truth and falsity, namely *veridicality*. As a matter of fact, veridicality is of special interest for our purposes. In her influential study on polarity items, Giannakidou (1998) proposed that the occurrence of polarity items is dependent on the veridical status of the clause. In what follows, I will however show that veridicality is as unsuccessful as the notions of realis and irrealis in motivating Swedish clause structure distinctions.

5.1.2 Veridicality

First introduced by Montague (1969) and later elaborated upon in Zwarts 1995, the notion of *veridicality* builds on the availability of a truth-entailment. The distinction is really quite simple. A propositional operator F is veridical if and only if from the truth of Fp one can infer that p is true.² Otherwise, F is *nonveridical*.

Consider the examples below. The necessity operator (symbolized \Box) in (98) is veridical, since whenever $\Box p$ is true, p is also true. In contrast, the possibility operator (symbolized \Diamond) in (99) is nonveridical, since whenever $\Diamond p$ is true, p may or may not be true:

- (98) a. It is necessarily true that the moon circles around the earth.
 b. $\Box p \Rightarrow p$.
- (99) a. It is possibly true that the moon circles around the earth.
 b. $\Diamond p \Rightarrow p \vee \neg p$.

Importantly, nonveridical operators do not entail the falsity of p ; they only mean that p is *not necessarily* true. Nonveridicality thus “captures a state of unknown (or as yet undefined) truth-value” (Giannakidou 2006:589).

²Veridicality was first mentioned in Montague (1969), where it is understood in terms of existence. According to the original definition, a perception verb is veridical, since it presupposes the existence of the perceived object even when this object is an indefinite NP:

- (1) John saw a student cross the yard $\rightarrow \exists x(x=\text{student})$

Under the conditions that sentence (1) is true, the existence of the individual denoted by the indefinite object is presupposed. Montague further argued that whenever the object fails to denote, the sentence must be false. Consequently, the sentence *John sees a unicorn* is unambiguously false, no matter what John seems to see.

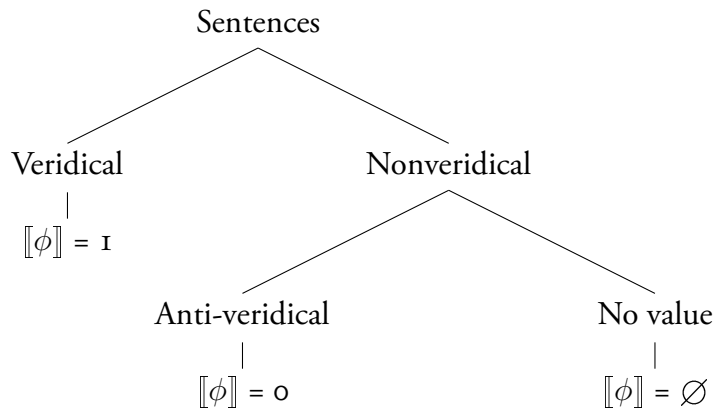
Entailing the falsity of p is instead the defining property of *anti-veridical* operators. Negation is the most prototypical anti-veridical operator, since the truth of $\neg p$ entails the falsity of p . Note that anti-veridical operators form a subset of the nonveridical operators, since the logic inference $Fp \Rightarrow p$ is not valid for them either.

The original notion of veridicality is absolute, in that it is based on strict logical truth-inferencing. However, Giannakidou (1998) proposed relativizing veridicality with regards to the epistemic model of individuals. This deviation from the original concept is important, since it allows for an extension of the notion's applicability; it no longer applies to propositional operators only, but also to propositions in general. Hence, a felicitously uttered affirmative declarative sentence is veridical, since its proposition is true with regards to the speaker's belief state. So is any utterance to which the speaker is truthfully committed, such as complements to factive predicates and *wh*-questions.³ Conditionals and yes/no-questions, in contrast, are *nonveridical*, as their truth-value is undefined with regards to the speaker's epistemic model. Note also that *negated* declaratives are *anti-veridical*, since they assert the falsity of p (according to the epistemic model of the speaker).

In short, veridicality as a notion is concerned with the distinction between that which is true (veridical) and that which is *non-true* (nonveridical) according to the speaker's perspective. Importantly, the non-true category contains both that which is false (in the technical sense of denoting 0) and that which has no truth-value. The veridical division is illustrated in (100) below.

³The relativized view of veridicality extends also to propositional *attitudes*. Verbs of dreaming and wishing embed propositions that are true with regards to the epistemic model of the 'dreamer' or the 'wisher' and are therefore veridical.

(100)



THE VERIDICAL CLASSIFICATION

Already from this brief characterization, one may conclude that Giannakidou's relativized concept of veridicality is more readily applicable to clause structure distinctions than the realis/irrealis division, it being based on the tripartite distinction between true, false and non-true/non-false sentences.

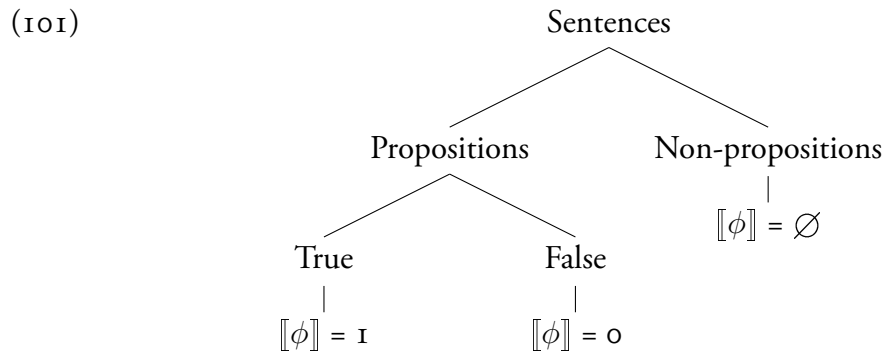
If we relate the discussion on veridicality to our structural classification of Swedish, however, it is not immediately evident that it provides a semantic motivation for the syntactic categories. True, most affirmative type 1-clauses fall under the veridical category, whereas all type 2-clauses are clearly nonveridical. The problem once again concerns the opposition between affirmative and negative sentences. According to the veridical classification, negated declaratives are anti-veridical, thus aligning with nonveridical sentence types. Even though this categorization can be semantically motivated, it certainly is not structurally motivated in Swedish. Affirmative and negative declaratives are structurally identical, disregarding the obvious absence/presence of the negative element.

As touched upon in the quote from Allen (2006) on page 76, negated sentences may alternatively be treated as factual statements. That is, instead of structurally treating $\sim p$ as "it is not the case that p " (in which case negative sentences are anti-veridical), $\sim p$ can be treated as "it is the case that not- p ". Under this view, a negative sentence does not assert the falsity of p but rather asserts (the truth of) not- p ; cf. the discussion in Lyons (1977:768). As a theoretical consequence, natural language negation should be seen as a mode of predication, rather than a truth-functional connective operating on propositions.

Horn (1989:chapt. 7) argues explicitly against the view of natural language negation as being an external truth-functional connective. Based on the observa-

tion that “syntactically external (clause-peripheral) negation, as an iterating one-place connective on propositions, never – or hardly ever – happens [in the world’s languages]”, Horn (1989:471) proposes to revive the Aristotelian view on negation and propositions. According to Aristotle’s definition of the term, “every proposition is of subject-predicate form and must be either true or false” (Horn 1996:299).⁴ The important point is that a negative sentence (denying the relation between the subject and the predicate) is potentially as true or false as an affirmative sentence (affirming the subject-predicate relation).

We may schematically illustrate a division based on propositionality in the following way:



THE PROPOSITIONAL CLASSIFICATION

Under the propositional classification, affirmative and negative sentences align together, since both are endowed with a truth-value. If asserting p is a mode of predication, then asserting not- p is also a mode of predication. Under the veridical view, on the other hand, negative sentences are distinct from affirmative sentences, aligning with other sentences not asserting/presupposing the truth of p . For this reason, it should be immediately evident that the propositional and veridical classifications are incompatible with each other.

It seems reasonable to assume that languages structurally choose to encode one of these classifications. Of course, neither option is logically or communica-

⁴Perhaps a more prevalent view of the proposition in modern day linguistics is one in which the proposition is seen as the (non-linguistic) underlying relation between an argument (or subject, or topic) and a predicate. According to this definition “the proposition is what is asserted in a statement, questioned in a question (...) and what is denied in a negation” (Cruse 2006:144). As such, the proposition is not necessarily a bearer of truth and falsity. In the current discussion, I will however adhere to the ancient view when using the term *proposition*.

tively superior to the other, only slightly different. The distinction between asserting the truth of $\sim p$ and asserting the falsity of p is admittedly very subtle. But the choice may have morphological and/or syntactic consequences. For example, mood choice is often partially related to the distinction between factual and non-factual sentences. Depending on the underlying classification, negative sentences may thus be in the indicative (together with other factials), or in the subjunctive mood (aligning with other non-factials); cf. the discussion in Allen (2006).

If we adopt the view of negation as a mode of predication, that which has a truth-value (i.e. that which is *either* true or false) is distinct from that which has *no* truth-value. In relation to Swedish, this seems a promising semantic approach to the structural categorization: all type 2-clauses fall within the non-propositional category, whereas most type 1-clauses fall within the propositional category.

Even though the propositional classification most likely gives a better characterization of Swedish than the veridical classification or a division based on the realis/irrealis categories, it still does not capture the suggested structural categorization of Swedish in a satisfactory manner. Especially, the fine-grained difference between type 1a- and type 1b-clauses cannot be captured by this division. One may of course argue that this failure results from the simple fact that my structural classification does not correspond to any semantic division in a one-to-one fashion. I do not believe we need to come to that conclusion, however.

Taking the propositional classification as my point of departure, I will develop an alternative classification building on evaluability in the next section. It will be shown that this classification can be straightforwardly mapped to Swedish clause structure distinctions.

5.2 Evaluability

If we are by definition the animals that talk, we are ipso facto the animals that deny.
Horn (1989:xiii)

The propositional and the veridical classifications reviewed above are similar to each other in one respect: at the heart of both lies the ternary analysis of sentences as being true, false or neither true/false. Although they slice the cake somewhat differently, both divisions derive truth and falsity from logic inferencing. In this sense, both views are related to Frege's classic conception of meaning: to know the meaning of a sentence is to know the conditions under which it is true. The

judgment of a sentence as true or false thus hinges on the satisfaction of these truth-conditions. In the most trivial sense, the statement *Snow is white* is true if and only if snow is white in the world in which the statement is uttered; otherwise it is false. Also Giannakidou's relativized view on veridicality is based on the satisfaction of truth-conditions, more specifically the conditions of the speaker's epistemic model.

A slightly different picture of the relation between truth and falsity emerges if we change from the logico-semantic perspective to a pragmatic (or communicative) perspective. Intuitively, what is at stake in conversation is not so much the logical or actual truth of a given statement as the *acceptance* of that statement as true. This distinction is important. According to Stalnaker (2002), accepting a proposition equals *treating* it as true, even in cases where one might suspect that it is actually not true. Observe the following passage from Stalnaker (2002:716) (italics in original):

To accept a proposition is to treat it as true for some reason. One ignores, at least temporarily, and perhaps in a limited context, the possibility that it is false. Belief is the most basic acceptance concept: the simplest reason to treat a proposition as true is that one believes that it *is* true. But there may be various reasons to ignore the possible situations in which some proposition is false even when one realizes that one of those possible situations may be the actual one. One may simplify or idealize in an inquiry, one may presume innocence to ensure fairness, one may make assumptions for the purpose of contingency planning, one may grant something for the purpose of an argument.

As Stalnaker points out above, it is perfectly possible to accept (i.e. to treat as true) a proposition that is demonstrably false in the actual world. This means that although the acceptance of a proposition is not entirely unrelated to the fulfilment of logical truth-conditions, it nevertheless builds on an additional set of contextual, social, and/or communicative considerations.

At the core of discourse acceptance lies the notion of *evaluability*. That is, in order to accept or deny a proposition presented to us, we must evaluate the likelihood for it being true according to our beliefs, knowledge, inclination towards the speaker etc. In fact, we constantly evaluate all state-of-affairs presented to us – be it by observation, discovery, conversation or other kinds of perception. In reading this, you have probably already begun to evaluate whether my claim is correct or not. Consider the following passage from Lyons (1977:777):

As one rejects some physical entity that is offered (pushing it away so that it disappears or goes away (...)), so one may reject a proposition or a proposal. Looked at from this point of view (...) assent and dissent, rather than truth and falsity, would seem to be the notions with which we should operate in any account that we give of the difference between the assertion and the denial of p .

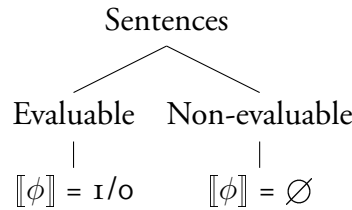
If we follow Lyons's line of reasoning, the opposition between affirmative and negative sentences is directly related to our communicative need to evaluate and accept/reject propositions presented to us. Within a communicative exchange, however, one can only evaluate sentences used by the speaker to assert, presuppose, or entail the truth of p or $\sim p$. Let us call such sentences *evaluable*.

At the opposing end of the scale we find sentences by which the speaker does not assert, presuppose, or entail the truth of p or $\sim p$. Such sentences cannot be evaluated, as the addressee cannot assent or dissent with a sentence or a clause to which the speaker is not truthfully committed. We call such sentences *non-evaluable*. For example, it is not possible to accept or reject the propositional content of a yes/no-question, since by uttering such a question the speaker signals ignorance as to the truth of p or $\sim p$.

In short, my notion of *evaluability* refers to the possibility of accepting or rejecting a sentence as true in an on-going communicative exchange. Note the focus on *possibility* here; the actual acceptance or rejection of a sentence is of no relevance. Neither is the *logical* possibility of establishing the truth of a given sentence in relation to possible worlds or epistemic models. Hence, the concerns of modal logic are independent from the notion of evaluability. This is important, since it allows us to move away from truth-conditional inferencing. The question of whether a sentence is true or false does not arise, only the question of whether it is possible to *accept* the sentence as true in discourse.

With the above discussion in mind, I believe we may recast the propositional classification in (101) in terms of evaluability. Sentences endowed with a truth-value are evaluable, and they may consequently be accepted or rejected in a communicative exchange. Sentences that lack a truth value are non-evaluable; they can be neither accepted nor rejected in a communicative exchange. We may schematically illustrate this division thus:

(102)



We see that evaluable sentences are necessarily either true or false, while non-evaluable clauses are necessarily *neither* true nor false. But as it now stands, the current classification seems but a mere re-labeling of the propositional classification in (101). Since the actual truth-value is of no relevance for our concept of evaluability, I propose as our next step to do away with the focus on truth and falsity. Instead, we may distinguish between different possibilities of evaluating sentences. Importantly, there are (at least) two kinds of evaluable sentences: i) sentences which are *subjected* to evaluation in the current (on-going) communicative exchange, and ii) sentences which are *not* subjected to evaluation in the on-going communicative exchange. I believe this move may capture the difference between, for instance, assertions and presuppositions in an intuitive and straightforward manner. Let me explicate this point.

Both assertions and presuppositions are evaluable notions, as they are used by the speaker to affirm the truth of p or $\sim p$. However, there is a long-standing debate within the literature on the interrelation between these two notions, especially with regards to their informative status (see for instance Karttunen 1973, Lewis 1979, Peters 1979, Stalnaker 1973, 1974, 1978, 2002 and Abbott 2000, 2008).

One particularly evasive problem concerning the term *presupposition* is whether it refers to a semantic or pragmatic concept. According to the semantic view, a presupposition is “a relation holding between a sentence and a proposition, such that the failure of a presupposed proposition to be true results in lack of truth value, or undefinedness, for the presupposing sentence” (Abbott 2008:524). Following the pragmatic view, a presupposition is instead a relation “holding between speakers and/or utterances and propositions, and failure results in infelicity or anomaly” (*ibid*). The presuppositions of a given communicative exchange can thus pragmatically be regarded as constituting the conversational *common ground*, the information assumed to be shared by speaker and hearer.⁵

⁵Importantly, this does not mean that all presuppositions in a given communicative context are necessarily shared by speaker and hearer, (see e.g. Lewis 1979). The important point is that the speaker is treating presupposed information *as if it was* known, or backgrounded, or part of the

On the view famously defended by Stalnaker (1978:153), the essential effect of an *assertion* “is to change the presuppositions of the participants in the conversation by adding the content of what is asserted to what is presupposed.” If the assertion is accepted by the hearer/s, the speaker has succeeded in adding new information to the conversational common ground. In this way, a (successful) assertion reduces the set of possible worlds so that “all of the possible situations incompatible with what is said is eliminated” (*ibid*).

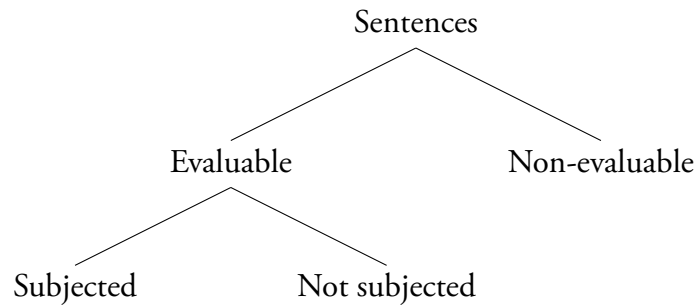
According to the pragmatic view, the relation between *assertion* and *presupposition* can be summarized in the following way: a (successful) assertion becomes part of the conversational common ground (i.e. the presuppositions shared by speaker and hearer), therefore a presupposition is basically nothing but a ‘previously accepted assertion’. Naturally, this claim should not be taken too literally. A presupposed proposition need not have originated as an actual assertion in a given discourse, but it is crucially *treated* as though it had.

In terms of evaluability, assertions and presuppositions can be said to differ only with regards to when and how the evaluative process takes place, as it were. *Asserted* information may be accepted or challenged by the hearer, and is as such subjected to *evaluation* in on-going discourse. In contrast, *presupposed* information is treated as uncontroversial or already accepted information, and is as such *not* subjected to evaluation. But crucially, this does not mean that it is *non-evaluable*. It does affirm the truth of p or $\sim p$. The basic difference between the two notions is simply that an assertion is subjected to evaluation at the time of utterance, whereas a presupposition has been subjected to evaluation at a time prior to the time of utterance, or at least *functions* as though it has been. This follows naturally from the Stalnakerian view that the presuppositions of the conversational common ground are but previously accepted assertions.

Let us now illustrate the ‘evaluability classification’, in which the evaluable category has been divided into two subcategories in order to capture *inter alia* the difference between assertions and presuppositions. Hence, we have the subcategory ‘subjected to evaluation’ which is distinct from the subcategory ‘not subjected to evaluation’. Importantly, the latter category should not be confused with the non-evaluable category, i.e. sentences which may never be accepted or rejected in an on-going communicative exchange.

speaker’s and hearer’s shared knowledge or beliefs.

(103)

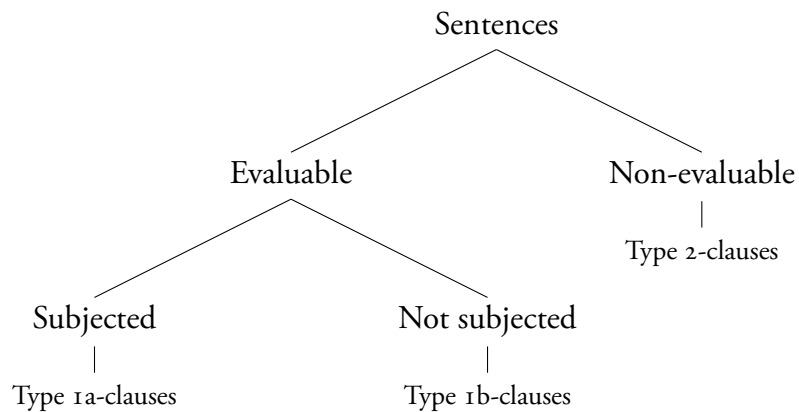


THE EVALUABILITY CLASSIFICATION

The categorization is now entirely independent from matters concerning truth and falsity. It is of no relevance for the evaluability classification whether a sentence is deemed true or false. It is only relevant whether it may be accepted or challenged during the communicative exchange. This change of perspective allows us to abandon the ternary division of true, false and non-true sentences on which both the propositional and the veridical classification are based.

The most striking aspect of the present classification, I would argue, is that it may be quite straightforwardly mapped to the three clausal configurations in Swedish as distinguished in the previous chapter. Clause types 1a, 1b and 2 can be systematically related to the evaluative distinction in the following manner:

(104)



THE EVALUABILITY CLASSIFICATION AND SWEDISH CLAUSE TYPES

We see that type 1-clauses are evaluable, while type 2-clauses are non-evaluable. The two subcategories of type 1 are also straightforwardly accounted for. Clauses

subjected to evaluation in on-going discourse are structurally of type 1a; these include for example declaratives, *wh*-questions and embedded V2-clauses. Evaluable clauses that are not subjected to evaluation structurally belong to type 1b: prototypical *att*-complements, (restrictive) relative clauses and *att*-exclamatives. Since the present categorization is unrelated to logical truth, it does not run into problems associated with affirmative/negative sentences or future/past tense.

To summarize, it thus seems as though we have arrived at a possible semantic/pragmatic explanation of Swedish clause structure distinctions. The three structural categories represent three levels of evaluability. Hence, the structural differences can be seen as syntactic reflexes of the evaluative status of the clause. If my proposal is correct, Swedish makes syntactic distinctions based on (non)evaluability; evaluability is mirrored by structural configurations related to the C-domain (to be specified in section 6.3 below). The assumption that Swedish (and in all likelihood Danish and Norwegian) encodes a concept that is perhaps less structurally relevant in other languages should not be controversial in itself, given the wide array of cross-linguistic variation concerning the overt encoding of such semantic/pragmatic notions as aspect, focus, gender etc.

If this proposal is on the right track, we are slowly approaching a possible solution to the observed correlation between clause structure and the distribution of polarity items in Swedish. But before jumping too far ahead, let us corroborate the Evaluability Hypothesis by discussing the evaluative properties of each clause type in more detail. This will be the focus of chapter 6.

5.3 Summary

The overall aim of this chapter was to relate the structural categorization of Swedish as established in chapter 4 to semantic/pragmatic properties. It was initially shown that our syntactic categorization could not be fully subsumed under the realis/irrealis division; nor could it in any obvious way be motivated with reference to veridicality.

In pursuit of an alternative motivation, I suggested that Swedish structurally distinguishes between that which is endowed with a truth-value (i.e. may be either true or false), and that which lacks a truth-value (i.e. may neither be true nor false). In the next step, I proposed to move away from the logical view of sentences as true, false or non-true. Instead, I opted for a pragmatic (communicative) view,

according to which the relevant property is rather whether it is possible to *accept* a sentence as true or false within a communicative exchange. This view lies at the core of my proposed notion of *evaluability*.

Importantly, evaluability only concerns the *possibility* of accepting a sentence as true or false, not the actual judgment (or evaluation). Sentences were divided into two classes: *evaluatable* and *non-evaluatable*, respectively. The former category was subsequently divided into sentences subjected to evaluation in the on-going communicative exchange, and sentences not subjected to evaluation. I argued that this distinction straightforwardly and intuitively accounts *inter alia* for the difference between assertions and presuppositions.

In the final section of this chapter, I showed that our structural categorization of Swedish clauses could be mapped to the evaluative classification in a straightforward manner: all type 1-clauses are evaluatable, whereas all type 2-clauses are non-evaluatable. The subcategorization of the evaluatable class was shown to map in a one-to-one fashion with our structural distinction between type 1a- and type 1b-clauses.

Chapter 6

Applying the Evaluability Hypothesis

In the previous chapter, I introduced my concept of evaluability, which pertains to the possibility of accepting or rejecting an utterance as true. Importantly, this notion is independent from truth-evaluation within the logical tradition, which seeks to establish the truth or falsity of a given sentence with regards to possible worlds, for example. According to the Evaluability Hypothesis, the relevant factor is only whether it is possible to *accept* an utterance as true within a communicative exchange.

Clauses may be either *evaluatable* or *non-evaluatable*. I argued that this division could be straightforwardly mapped to our syntactic classification of Swedish, as developed in chapter 3: type 1-clauses are evaluatable, whereas type 2-clauses are non-evaluatable. Up until this point, the discussion has been rather theoretical in nature, however, with very few empirical arguments to support the overall hypothesis. The aim of this chapter is to corroborate the Evaluability Hypothesis with Swedish data.

The first two sections are devoted to establishing the relation between evaluability and clausal configuration, by discussing the evaluative status of type 1- and type 2-clauses. In section 6.3, I provide a theoretical account of this connection, arguing that evaluability is associated with the edge-feature in C (see Chomsky 2008). From this assumption, the observed correlation between evaluability and the configuration of the Swedish C-domain falls out naturally.

6.1 Type 1-clauses

According to the suggested structural classification, type 1-clauses syntactically involve Spec-CP. Depending on whether Spec-CP is overtly or covertly realized at surface structure, the clauses of this category fall into two subgroups: type 1a and type 1b.

In this section, I argue that this structural difference is associated with a subtle semantic difference: type 1a-clauses are *subjected* to evaluation in on-going discourse, whereas type 1b-clauses are not. There are two possible reasons an evaluable clause is not subjected to evaluation: either the clause is presupposed (i.e. technically already evaluated), or it is backgrounded in the given context (e.g. non-V2 clauses following assertive predicates).

Sentence types belonging to type 1a include:

- i. Declaratives
- ii. Embedded V2-clauses
- iii. Main and embedded *wh*-questions
- iv. *Wh*-exclamatives

In the following subsections, each sentence type of class 1a is discussed separately. Of the type 1b-clauses, only relative clauses will be given separate treatment (see section 6.1.5). Different kinds of *att*-complements are discussed in relation to embedded V2-clauses in section 6.1.2 and *att*-exclamatives are discussed in section 6.1.4.

I have chosen to exclude subordinate clauses introduced by adverbials, for instance temporal, spatial or circumstantial complements. Such clauses are prototypically presuppositional, and they rarely take V2 word order in Swedish. Hence they may be naturally subsumed under the 1b-class, being evaluable but not subjected to evaluation in on-going discourse.

6.1.1 Declaratives

Swedish declaratives are structurally characterized by V2-word order, resulting from V-to-C movement and overt realization of Spec-CP. Remember from our discussion in section 3.2.1 that V1-declaratives also belong to this category, despite superficially having an unrealized Spec-CP; see footnote on page 32. Since

phonological omission of clausal elements can only occur in Spec-CP, activation of Spec-CP must be prior to the omission.

It seems fairly straightforward to assume that declarative main clauses are evaluable. Their primary function is to make statements; statements express propositions, and propositions – according to the Aristotelian view – must be either true or false.

It is standardly assumed that declarative sentences carry some kind of assertoric or illocutionary force. When felicitously making an assertion the speaker takes responsibility for the truth of the expressed proposition. This does not imply that the proposition is objectively true, only that it is presented as though the speaker believes it is true. If the assertion is subsequently accepted, the proposition is treated as true also by the hearer (cf. Stalnaker's quote on page 82 above). From this characterization, one might get the impression that evaluability and assertivity are interchangeable notions: assertions are evaluable sentences and evaluable sentences are assertions. But this is not necessarily the case.

I have already argued that the notion of evaluability is independent from assertivity, since the requirement for evaluability is only that the addressee may accept or reject the truth of p or $\sim p$. And this requirement holds equally well for entailments and presuppositions. Hence, it cannot be the assertoric force of declaratives that makes them evaluable. I consider this to be a quite welcome consequence. Modal assertions – that is, declaratives in which the assertoric force is hedged by modal verbs or adverbs – are a case in point. Although the speaker's commitment to the truth is weakened in a modal context, it is still possible for the hearer to accept or challenge the proposition, as illustrated in the communicative exchanges in (105) and (106).

- (105) A. *Maybe* John wants to be alone.
 B. Yeah, you're right; let's visit him tomorrow instead.
- (106) A. John *might* be the weirdest person I have ever met.
 B. He most certainly is not! Remember Bill!

We see from A's utterances in (105) and (106) that the speaker does not take full responsibility for the truth of the expressed proposition. The modal particles quite effectively reduce the assertoric force of these statements, from *I-say-so* to *I-think-so*. But the speaker still expresses his or her judgment of a possibility, and the addressee may assent or dissent with this aspect. For precisely this reason,

modalized declaratives are still evaluable, the reduced strength of the assertoric force notwithstanding.

Importantly, evaluability is a semantic-pragmatic concept defined by contradictory relations within a communicative exchange. As such, it is not always on par with the logical view of truth and falsity. Within modal logic, the adverb *maybe* commonly translates into a possibility operator (symbolized \diamond). Thus, the sentence *Maybe John wants to be alone* translates into *it is possible that John wants to be alone*. And that which is possibly true is not necessarily true. If it is possible that John wants to be alone, it is also possible that he *does not* want to be alone. Hence, the possibility operator is nonveridical (see Zwarts 1995): it does not imply the truth *or* the falsity of *p*.

But human communication is not governed by logical inferencing alone. If one utters *Maybe John wants to be alone*, the proposition *John wants to be alone* is more salient, and thus held to be more likely (by the Gricean principle of relevance), than the negative counterpart *John does not want to be alone* – irrespective of the logical possibility of entertaining both the affirmative and the negative proposition. And this, I would argue, makes modal assertions compatible with my notion of evaluability: the addressee objects to a salient proposition to which the speaker (at least partially) subscribes.

As for negated declaratives, we have already extensively discussed this issue in the previous chapter. The important point is that the evaluability classification treats both affirmative and negated sentences alike, as both express factual statements which the addressee may either accept or reject. This analysis is different from the nonveridical view, under which negative sentences align with other sentence types not asserting/presupposing the truth of *p*.

To sum up, declaratives are evaluable sentences regardless of whether they are affirmative, negated or modalized.

6.1.2 Embedded V2-clauses

Recall our discussion of embedded V2-clauses in section 4.1.2. Primarily occurring in complements to assertive and semi-factive predicates, embedded V2-clauses are structurally identical to declaratives in displaying V-to-C movement and overt realization of Spec-CP. As a consequence, they differ from ‘prototypical’ non-V2 complements with regards to the linear ordering between the finite verb and clause adverbials. Compare the two varieties in (107) and (108).

- (107) a. John sa att han **ville** *inte* vara ensam. (V2)
 John said that he wanted not be alone
 ‘John said that he didn’t want to be alone.’
 b. John sa att ensam ville han inte vara.
 John said that alone wanted he not be
 ‘John said that alone, he didn’t want to be.’
- (108) a. John sa att han *inte* **ville** vara ensam. (non-V2)
 John said that he not wanted be alone
 ‘John said that he didn’t want to be alone.’
 b. *John sa att ensam han inte ville vara.
 John said that alone he not wanted be

Beginning with Hooper and Thompson’s (1973) study of root transformations in English, root phenomena and embedded V2 have repeatedly been related to assertivity and/or related notions (such as Simons’s (2007) *Main point of utterance*). The issues involved here are quite delicate, and have at times given rise to rather conflicted debates concerning the ‘force behind embedded V2’ (see e.g. Bentzen et al. 2007, Wiklund et al. 2009, and the replies of Julien 2007, 2009).

Although I will refrain from discussing the semantic aspects of embedded V2 in detail, one cannot overlook the obvious connection between the selecting predicate and the word order possibilities of the complement. Based on the predicate typology in Hooper and Thompson (1973), Andersson (1975) suggested five distinct predicate groups:

A. Strong assertives	B. Weak assertives	C. Non-assertives
<i>säga</i> ‘say’	<i>tro</i> ‘think’	<i>tvivla på</i> ‘doubt’
<i>hävda</i> ‘claim’	<i>anse</i> ‘believe’	<i>förneka</i> ‘deny’
<i>påstå</i> ‘assert’	<i>gissa</i> ‘guess’	<i>(o)möjligt</i> ‘(im)possible’
<i>vara sant</i> ‘be true’	<i>förvänta</i> ‘expect’	<i>(o)troligt</i> ‘(im)probable’
D. Emotive factives	E. Semi-factives	
<i>ångra</i> ‘regret’	<i>veta</i> ‘know’	
<i>beklaga</i> ‘regret’	<i>upptäcka</i> ‘discover’	
<i>förvånad</i> ‘surprised’	<i>inse</i> ‘realize’	
<i>konstig</i> ‘strange’	<i>se</i> ‘see’	

Andersson showed that predicates belonging to groups A, B and E may embed V2-complements – as we see from examples (109a, b, e) below – whereas predicates

of groups C and D may not, as in examples (109c, d).

- (109) a. Sven sa att Maria **kommer** *inte* ikväll
Sven said that Maria comes not tonight
'Sven said that Maria won't come tonight.'
- b. Sven tror att Maria **kommer** *inte* ikväll
Sven thinks that Maria comes not tonight
'Sven thinks that Maria won't come tonight.'
- c. *Sven beklagar att Maria **kommer** *inte* ikväll
Sven regrets that Maria comes not tonight
- d. *Det är möjligt att Maria **kommer** *inte* ikväll
it is possible that Maria comes not tonight
- e. Sven vet att Maria **kommer** *inte* ikväll
Sven knows that Maria comes not tonight
'Sven knows that Maria won't come tonight.'

Andersson also made an important modification to Hooper & Thompson's original classification with respect to Swedish, a modification important for our purposes: negated A-predicates were transferred to group C and non-negated predicates of group C were transferred to group B. What this means, basically, is that any negated A-predicate will have the same non-V₂ embedding properties as predicates of class C, and that non-negative C-predicates will have the same V₂-embedding properties as predicates of class B.

It seems fairly uncontroversial to assume that assertive predicate constructions like the ones in (107), (108), and (109a) above contain two *potential* assertions, or two potential main points of utterance: the proposition of the matrix and the proposition of the complement. Either one of these two may function as the 'main assertion' or 'main point of utterance', but not both simultaneously (see e.g. Hooper and Thompson 1973). The truth of each proposition is also independent of the truth of the other. Naturally, the truth of *Romeo said that Juliet was dead* is independent of the truth of *Juliet is dead*.

In evaluative terms, we may instead say that both the matrix and the complement are independent evaluable units, and hence possible to evaluate separately. I assume that this claim holds for assertive predicate constructions in general, irrespective of whether the complement has V₂ or non-V₂ word order. I will develop these ideas in more detail when discussing long-distance NPI-licensing in chapter 9.

Now consider the assertive construction in (110), in which the complement has the prototypical non-V2 word order.

- (110) A. Sven sa att han *aldrig har* varit i Paris. (Non-V2)
 Sven said that he has never been to Paris
 ‘Sven said that he’s never been to Paris.’
- i. B. Det sa han inte alls! (Preferred)
 that said he not at.all
 ‘That’s not at all what he said.’
- ii. B. Men det har han visst varit!
 but that has he sure been
 ‘But he definitely has!’

There are two evaluable propositions expressed by this construction: the one of the matrix and the one of the complement. Consequently, there are two evaluable propositions for the addressee to potentially react against. In an unbiased context, it is decidedly more natural to utter (i), which is a reaction against the V2 matrix clause in (110). It is, however, certainly possible for the hearer to utter (ii), which is a reaction to the embedded proposition in (110).

The possibility of uttering (ii) improves considerably when the complement has V2-word order, as in (111) below.

- (111) A. Sven sa att han *har aldrig* varit i Paris. (V2)
 Sven said that he has never been to Paris
 ‘Sven said that he’s never been to Paris.’
- i. B. Det sa han inte alls!
 that said he not at.all
 ‘That’s not at all what he said.’
- ii. B. Men det har han visst varit! (Preferred)
 but that has he sure been
 ‘But he definitely has!’

Prototypically, the embedded V2-clause is interpreted as the main point of the utterance, whereas the matrix proposition functions as a modality marker. This means that the matrix proposition becomes less salient, and consequently less likely to be reacted against.

The difference between the non-V₂ complement of (110) and the V₂ complement in (111) can be straightforwardly accounted for by the Evaluability Hypothesis. Complements with V₂ or non-V₂ word order essentially differ from each other with regards to their evaluative status. In the case where the complement clause has the marked V₂ word order it patterns with other type 1a-clauses in being *subjected* to evaluation in on-going discourse. This is why B's reaction to the embedded proposition in (111) is more natural than in (110).

When the complement has (prototypical) non-V₂ word order, it patterns with other type 1b-clauses in being evaluable, but crucially *not* subjected to evaluation in on-going discourse. In such cases, the matrix serves (or is interpreted) as the main point of the utterance. If this hypothesis is on the right track, the Evaluability Hypothesis provides a principled account as to which proposition is the most salient in (110) and (111). Since the complement clause, irrespective of word order, is an evaluable unit, it is *always* possible for the hearer to react against it (i.e. to accept or reject the proposition). Only the evaluative property is more *salient* for embedded V₂-clauses, and less so for non-V₂ complements. But less likely to be evaluated crucially does not mean *non*-evaluable.

As a matter of fact, the Evaluability Hypothesis suggests a promising alternative route to the phenomenon of embedded V₂ in Mainland Scandinavian, especially since it steers clear from the problems associated with theories based on the notion of assertion.¹ But this is neither the time nor the place to develop any such theory, as that would be a separate study. However, the discussion in the present section has shown that embedded V₂-clauses pattern with other type 1a-sentences in being subjected to evaluation in on-going discourse. Non-V₂ complements, in contrast, are structurally of type 1b and they are not subjected to evaluation. This may be due to two reasons: either the complement is presupposed (following factive predicates) or it is backgrounded (following assertive predicates).

¹Particularly bothersome for assertion-based hypotheses is the fact that semi-factive predicates embed V₂-complements. It seems unlikely that a complement is presupposed *and* asserted simultaneously, even if this is the solution opted for by Julien (2007). The Evaluability Hypothesis does not run into this problem, however, since it is logically independent from the division between assertions and presuppositions. Both notions are crucially evaluable.

Semi-factive predicates denote epistemic stance on part of the speaker towards the (presupposed) embedded proposition: *I know that Ringo played drums*. Importantly, this means that the speaker vouches for the truth of the embedded proposition, and for this reason the proposition may be subjected to evaluation in on-going discourse. This explains the possibility of V₂-word order: propositions subjected to evaluation tend to belong to our structural type 1a.

6.1.3 *Wh*-questions

The critical reader may already have raised the issue of *wh*-questions: in what sense can a *wh*-question be said to be evaluable? The answer, I suggest, lies in the presuppositional/implicational nature of *wh*-questions. Let me illustrate this point.²

A *wh*-question is standardly taken to imply everything to the right of the *wh*-word, as illustrated below:

- (112) a. Who left the party before ten o'clock? \Rightarrow
 Someone left the party before ten o'clock.
 b. Who didn't leave the party before ten o'clock? \Rightarrow
 Someone didn't leave the party before ten o'clock

By uttering (112a), the speaker implies the open proposition p , whereas by uttering (112b) he or she implies the open proposition $\sim p$. Put somewhat differently, the speaker has formed a conception of p (or $\sim p$), and requests additional specification of it.

As with any evaluable clause, the hearer may assent or dissent with the implied proposition. By providing the requested specification (i.e. *John, Mary*), the addressee assents; by answering in the negative (i.e. *no-one*) the speaker dissents. This view is similar to that of Comorovski (1996:23ff.), who argues that (113b) is technically speaking not an *answer* to (113a), but a *denial* of the presupposition of (113a).

- (113) a. Who came?
 b. No-one came.

Note that yes/no-questions are not implicational in this sense, as they are undetermined as to the truth of either p or $\sim p$. Hence, both affirmative and negative replies function as proper answers.

- (114) a. Did someone leave the party before ten o'clock? \Rightarrow
 Someone left the party before ten o'clock.
 b. Yes / No

²I will discuss the presuppositional nature of *wh*-questions in detail in chapter 10.

The fact that Swedish *wh*-questions are structurally distinct from yes/no-questions can thus be understood as a syntactic reflex of an evaluative difference: *wh*-questions are subjected to evaluation in on-going discourse (similar to declaratives), whereas yes/no-questions are non-evaluable.

With regards to embedded *wh*-questions, it should be clear that they are implicational in the same sense as matrix *wh*-questions; consider (115).

- (115) a. Jag undrar vem som spelade trummor på 'Love Me Do'.
 I wonder who that played drums on 'Love Me Do'
 b. Jag undrar [_{Spec,CP} vem [_{C⁰} som [_{IP} [_{VP} spelade trummor ...]]]]

Although it is debatable whether the embedded *wh*-clause really functions as a question in (115), it still implies that *someone played drums on 'Love Me Do'*. Hence, there is no reason to assume that the evaluative status of embedded *wh*-questions differs from that of matrix *wh*-questions.

The discussion in this section leads me to conclude that *wh*-questions in Swedish pattern with other type 1A-clauses in being subjected to evaluation in discourse.

6.1.4 Exclamatives

Exclamatives are generally analyzed as factive, in the sense that their propositional content is presupposed (cf. Grimshaw 1979 and Zanuttini and Portner 2003). This means that they are per definition evaluable. Their primary semantic function is to express "the speaker's judgment that the [open] proposition is surprising, and the surprise stems from the fact that the degree in question is higher than the speaker had expected" (Michaelis and Lambrecht 1996:239). For example, by uttering *What nice weather!*, the speaker expresses a judgment of the weather, and that it is better or more favorable than he or she had expected.

Importantly, exclamatives are not used to make statements. Or in the words of Sadock and Zwicky (1985:162), "exclamatives are intended to be expressive whereas declaratives are intended to be informative". This may suggest that exclamatives are not *subjected* to evaluation. With regards to Swedish *att*-exclamatives, this seems to be the correct prediction. Note the rather deviant objections in (116) and (117).

- (116) A. Att du aldrig kan komma i tid!
 that you never can be on time
 'I'm amazed that you're never on time!'

- B. # Det kan jag visst!
that can I sure
'Sure I can!'
- (117) A. Att du vågar!
that you dare
'I'm amazed that you dare to do this!'
- B. # Det gör jag inte!
that do I not
'I don't!'

The exclamatives in (116) and (117) behave as expected under the Evaluability Hypothesis. Being structurally of type 1b, these clauses are evaluable but prototypically not subjected to evaluation; this accounts for the somewhat marked status of B's replies.³

In comparison, it is decidedly more natural to react to a *wh*-exclamative, as it is structurally of type 1a. Compare the dissent in (118) and the assent in (119) below with (116) and (117) above.

- (118) A. Vilka stora fötter du har!
what big feet you have
'What big feet you have!'
- B. Det har jag inte alls!
that have I not at.all
'That's not at all true!'
- (119) A. Vilket fint väder!
what beautiful weather
'What beautiful weather!'
- B. Ja, verkligen!
yes indeed
'Yes, indeed!'

A *wh*-exclamative expresses a reaction (as well as a valuation) to a subjectively perceived fact. For this very reason, the addressee may assent or dissent

³It must be emphasized that B's replies in the examples above are not impossible. But in such cases the addressee does not reject the proposition *p* so much as the speaker's *underlying motivation* for uttering *p*.

with the speaker's judgment. Hence, a *wh*-exclamative is subjected to evaluation in on-going discourse. An additional argument in favor of this view is that *wh*-exclamatives are felicitous in out-of-the-blue contexts; no apparent contextual trigger is required for making a subjective valuation.

In contrast, the speaker, when uttering an *att*-exclamative, is neither expecting assent *nor* dissent from the addressee with regards to the truth of *p*. This is because an *att*-exclamative prototypically expresses a reaction to a state-of-affairs that is contextually activated, and there must be some immediate contextual motivation for uttering (116) or (117). As a consequence, most *att*-exclamatives are strange or deviant in out-of-the-blue contexts. For example, uttering (116) is only felicitous in a situation in which the addressee has arrived too late to an appointed meeting and is aware of it.

The difference between a *wh*-exclamative and an *att*-exclamative can be summarized thus: a *wh*-exclamative expresses a reaction to a fact *as perceived* by the speaker (but not necessarily by the hearer), whereas an *att*-exclamative expresses the speaker's reaction to a fact that is *known to both* speaker and hearer. I believe this subtle, although important, difference may account both for the structural and the evaluative differences between *wh*- and *att*-exclamatives.⁴

The behavior of *wh*-complements under factive predicates may possibly provide support for this idea. As we see from (120) below, *wh*-complements easily embed under semi-factive predicates in Swedish:

- (120) a. Jag upptäckte **vilka** stora fötter han hade.
 I noticed what big feet he had
 'I noticed what big feet he had'
- b. Jag vet **vilken** tid det tar att hitta snygga skor.
 I know what time it takes to find fancy shoes
 'I know the time it takes to find fancy shoes.'
- c. Jag insåg **vilken** idiot han var.
 I realized what idiot he was
 'I realized what a fool he is.'

Wh-complements are decidedly less natural under *emotive* factive predicates,

⁴It should be pointed out that my proposal is at odds with the analysis of Teleman et al. (1999), who do not make any principled semantic distinction between *wh*- and *att*-exclamatives in Swedish.

however; the preferred complement is an *att*-clause.⁵ Compare the deviant sentences in (121) with the natural ones in (122).

- (121) a. ?? Jag stör mig på **vilka** stora fötter du har!
 I annoy REFL on what big feet you have
 ‘I’m annoyed what big feet you have’
- b. ?? Jag är glad över **vilken** trevlig semester vi hade!
 I am glad over what nice vacation we had
 ‘I’m glad what a nice vacation we had!’
- c. ?? Jag beklagar **vilken** tid det tog!
 I regret what time it took
 ‘I regret what time it took’
- (122) a. Jag stör mig på **att** du aldrig kan komma i tid!
 I annoy REFL on that you never can come in time
 ‘I’m annoyed that you never can be in time!’
- b. Jag är glad över **att** du aldrig bryr dig om sånt!
 I am happy over that you never care REFL about such
 ‘I’m happy that you never bother about such things!’
- c. Jag beklagar **att** jag aldrig har tid!
 I regret that I never have time
 ‘I’m sorry I have so little time!’

Now, a rather interesting correlation suggests itself. *Wh*-exclamatives are structurally identical to both *V2 att*-clauses and *wh*-complements in overtly realizing Spec-CP. As argued in this section, they are also subjected to evaluation in the same sense as *V2*-complements (cf. section 6.1.2). Both *V2*- and *wh*-complements may

⁵*Wh*-complements are not entirely impossible under emotive factive verbs. They seem quite natural under *vara förvånad* ‘be surprised’, which is perhaps expected given the surprise-flavor of exclamatives in general:

- (1) Jag är förvånad över **vilka** stora fötter han har!
 I am surprised over what big feet he has
 ‘I’m surprised what big feet he has!’

According to a quick frequency check on Google, I found approximately 22,000 hits of *wh*-complements following *vara förvånad*, compared to approximately 1 160,000 hits of *att*-complements. The string *jag stör mig på* ‘I’m annoyed’ gave only one hit with a *wh*-complement, while 402,000 hits with *att*-complements.

be embedded under semi-factive predicates, but not as easily under (emotive) factive predicates (see (109) for embedded V2, and (121) for *wh*-complements).

Att-exclamatives are structurally identical to (prototypical) non-V2 *att*-complements in covertly realizing Spec-CP. These two clauses are also identical with regards to their evaluative status, both being evaluable, but crucially *not* subjected to evaluation in on-going discourse (if my reasoning above is correct). Both *att*-exclamatives and *att*-complements easily embed under emotive factive predicates. Such complements resist V2 word order in Swedish, as independently established by several studies (see Andersson 1975, Vikner 1995, Julien 2007). Hence, it seems as though emotive factive predicates take evaluable complements that are not subjected to evaluation (our structural type 1b), whereas semi-factive predicates take complements subjected to evaluation (our structural type 1a).

In this section, I have argued that *wh*-exclamatives are subjected to evaluation in on-going discourse in the same sense as other sentence types belonging to our structural class 1a. This claim is supported by i) the naturalness of the rejection and acceptance in (118) and (119), ii) the fact that *wh*-exclamatives are fine in out-of-the-blue contexts and iii) the observation that *wh*-complements easily embed under semi-factive predicates. *Att*-exclamatives, in comparison, are evaluable but not subjected to evaluation in the on-going communicative exchange. If the Evaluability Hypothesis is on the right track, the structural difference between *wh*- and *att*-exclamatives in Swedish is straightforwardly accounted for: it is a structural mirror of their different evaluability status.

6.1.5 Relative Clauses

It has been argued that both restrictive and non-restrictive relative clauses express presupposed propositions (see e.g. Keenan 1971), even though this view has been challenged repeatedly. The main argument in favor of this analysis is illustrated in (123) below. Both the proposition expressed in the restrictive (123a) and the non-restrictive (123b) relative clause is constant under negation, which means that both fulfil the criterion for (semantic) presupposition:⁶

- (123) a. The car *that I rarely drive* is/isn't in excellent condition \Rightarrow
I rarely drive the car

⁶According to the standard definition of presupposition, A presupposes B if and only if $\neg A$ also presupposes B.

- b. The car, *which I rarely drive*, is/isn't in excellent condition \Rightarrow
I rarely drive the car

Now, if relative clauses are always presuppositional they can be nicely subsumed under the Evaluability Hypothesis. Similar to other presupposed clauses they are hence evaluable, but not subjected to evaluation in on-going discourse. The structural fact that they lack overt realization of Spec-CP can be regarded as a syntactic reflex of this property.

Matters are somewhat more complex, however. Hooper and Thompson (1973) argue that non-restrictive relative clauses are *not* presuppositional, but (potentially) asserted. They base this claim on the observation that English non-restrictive relative clauses allow *inter alia* negative preposing (124a) and tag-question formation (124b). The examples in (124) and (125) are taken from Hooper and Thompson (1973:489-90):

- (124) a. This car, which only rarely did I drive, is in excellent condition.
b. I just ran into Susan, who was your roommate at Radcliffe, wasn't she?

Note that the restrictive counterparts in (125) are ungrammatical.

- (125) a. *The car that only rarely did I drive is in excellent condition.
b. *I just ran into the girl who was your roommate at Radcliffe, wasn't she?

From examples like these, Hooper and Thompson (1973) conclude that non-restrictive relative clauses allow root transformations in the very same sense that *that*-clauses following assertive and semi-factive predicates do. Since root transformations, according to their hypothesis, only occur in asserted clauses, they draw the conclusion that non-restrictive relative clauses are also asserted, in contrast with restrictive relative clauses, which are presupposed. However, the fact that non-restrictive relative clauses are presupposed according to the standard semantic definition (as seen in (123) above) remains a problem under Hooper and Thompson's analysis.⁷

⁷Note that the problems involved here are similar to those concerning the occurrence of root transformations in complements to semi-factive predicates. According to the semantic definition, such complements are also presupposed. Nevertheless, they have been noted to allow root transformations (see my discussion in section 4.1.2 above), which seems uncalled for if the asserted status of the clause is relevant for the applicability of root transformations.

In section 4.2.3 we discussed two structural similarities between non-restrictive relative clauses and *V2 att*-complements: i) both resist long-distance NPI-licensing, and ii) both disallow the omission of the complementizer. I tentatively suggested that these properties provided support for Castillo's (2003) analysis of non-restrictive clauses as hosting the relative operator in Spec-CP. Following this analysis, restrictive relative clauses host the relative operator in C^0 , and thus has an empty Spec-CP in similarity with non-*V2 att*-clauses.

Now, the difference between restrictive and non-restrictive relative clauses can be recast in terms of evaluability. Non-restrictive relative clauses are subjected to evaluation in on-going discourse, and structurally pattern with *V2*-complements and *wh*-complements in having an element in Spec-CP. Restrictive relative clauses, on the other hand, are evaluable but not subjected to evaluation, similar to *att*-complements and *att*-exclamatives. They are structurally of type 1b, lacking an element in Spec-CP. The intuitive difference between restrictive and non-restrictive relative clauses as observed by Hooper and Thompson (1973) can thus be captured by the Evaluability Hypothesis, without making reference to the problematic distinction between assertion and presupposition.

There are also relative clauses which are neither presupposed nor asserted. This holds especially for restrictive relative clauses modifying *non*-specific indefinite noun phrases (see Stroh-Wollin (2002:182-84) for discussion of this). Consider the relative clauses in (126) below:

- (126) a. Hon vill ha en bil som kan flyga.
 she wants have a car that can fly
 'She wants to have a car that can fly.'
- b. Hon hittade inte en bil som kunde flyga.
 she found not a car that could fly
 'She didn't find a car that could fly.'

The interpretation of the indefinite *en bil* 'a car' is necessarily non-specific under a volitional predicate (126a) or negation (126b). We see that the modifying relative clause is non-presuppositional in these cases, as neither sentence in (126) presuppose the proposition *a car can fly*. Since these relative clauses are clearly not asserted either, we are forced to draw the conclusion that they are non-evaluable.

To summarize, we have seen in this section that relative clauses in Swedish may belong to each of our three evaluative categories. Restrictive relative clauses

are typically evaluable, but *not* subjected to evaluation. Non-restrictive relative clauses, in contrast, are subjected to evaluation in on-going discourse. However, we also observed that certain restrictive relative clauses are non-evaluable. Although the Evaluability Hypothesis successfully accounts for evaluable relative clauses, it is not obvious how non-evaluable relative clauses can be fitted into the theory, as there are few conclusive structural traits which separate evaluable relative clauses from non-evaluable ones.

6.1.6 Summary

The application of the Evaluability Hypothesis in this section has shown that all type 1-clauses in Swedish are evaluable, with the small exception of certain restrictive relative clauses following indefinite NPs. Depending on whether the clauses belong to our structural type 1a or 1b, their evaluative status is slightly different: clauses of type 1a are subjected to evaluation in on-going discourse, whereas clauses of type 1b are presupposed or backgrounded, and hence *not* subjected to evaluation.

It thus seems as though the overt/covert realization of Spec-CP signals evaluability in Swedish; I will develop this idea in section 6.3 below. But let us now look more closely at the type 2-clauses, which were argued to be non-evaluable.

6.2 Type 2-clauses

According to my classification of Swedish clause types, type 2-clauses are structurally characterized by the lack of Spec-CP. The basic sentence types belonging to this category are yes/no-questions and conditionals. Remember that imperatives have been excluded from this category for structural reasons (see subsection 4.3.3).

In section 5.2 above, I suggested that type 2-clauses in Swedish are semantically characterized by their non-evaluable status: it is not possible for the addressee to accept or reject clauses of this type in discourse. Although this claim seems rather uncontroversial in light of the sentence types above, I will nevertheless scrutinize this claim for each type below.

6.2.1 Yes/no-questions

Prototypical Swedish yes/no-questions are verb initial and may not instantiate Spec-CP, as in (127).

- (127) a. Har du varit i Paris nyligen?
 have you been to Paris recently
 ‘Have you been to Paris recently?’
 b. Vill du ha kaffe efter maten?
 want you have coffee after food.DEF
 ‘Would you like some coffee after dinner?’

The yes/no-questions in (127) above can be said to be *open* with regards to their truth-value, as they are unbiased with respect to the truth or falsity of p . From this fact alone, it should be fairly uncontroversial to assume that yes/no-questions are non-evaluable. That is, the speaker does not affirm the truth of p or $\sim p$, and consequently does not invite the addressee to assent or dissent. The following characterization of yes/no-questions by Lyons (1977:765) captures this intuition well:

[Yes/no-questions] are open questions in the following two senses: (i) they are neutral with respect to any indication of the speaker’s beliefs as to the truth-value of p ; and (ii) when they are asked of an addressee, unless they are given a particular prosodic or paralinguistic modulation, they convey no information to the addressee that the speaker expects him to accept or reject p . Their presupposition of the disjunction of p and $\sim p$ is unweighted, as it were, in these two respects.

If my claim in the previous chapter is correct – that is, that the lack of Spec-CP in Swedish mirrors non-evaluability – it is expected that yes/no-questions are verb initial. However, not all yes/no-questions have this structural property. As discussed in subsection 4.3.1, some yes/no-questions have the form of a subject initial declarative, although a rising intonation is required. Consider the Swedish examples in (128).

- (128) a. Du har (väl) varit i Paris nyligen?
 you have PART been to Paris recently
 ‘You have been to Paris recently, haven’t you?’

- b. Du vill (väl) ha kaffe efter maten?
 you want PART have coffee after food.DEF
 ‘You’d like some coffee after dinner, wouldn’t you?’

The very fact that the yes/no-questions in (128) structurally belong to type 1a (in having Spec-CP) is naturally a problem for the present hypothesis, at least if I want to maintain that the structural configuration of the clause mirrors its evaluative status. However, instead of providing counter-evidence for my hypothesis, I suggest the difference between the yes/no-questions in (127) and (128) provide strong support for the evaluability classification.

Lyons (1977) distinguishes between what he calls open and non-open yes/no-questions. The former are the prototypical, non-biased yes/no-questions as exemplified in (127) above. The latter are the kind of yes/no-questions illustrated in (128). Consider the following passage from Lyons (1977:768):

To make the point rather crudely: *The door is open, isn't it?* means something like “I think that “The door is open” is true: but I concede your right to say that it is not true”. (...) Another way of making the point is to say that in non-open questions and requests the speaker indicates his own commitment to the it-is-so (...) component of the utterance and invites the addressee to do the same.

If we ‘translate’ Lyons’s characterization above, we may say that the V2 yes/no-questions in (128) are non-open and therefore evaluable, since “the speaker indicates his commitment ...and invites the addressee to do the same”. For this very reason, I would argue, we find a structural difference between ‘open’ yes/no-questions in Swedish and ‘non-open’ yes/no-questions, which mirrors the evaluative difference between the two. If the question is non-evaluable, it will be structurally of type 2, if it is evaluable it will be structurally of type 1. Remember also from section 4.3 that the latter kind (i.e. type 1-yes/no-questions) cannot license polarity items in the absence of an overt operator.

An embedded yes/no-question is introduced by the complementizer *om*, and is just as non-evaluable as its non-embedded counterpart:

- (129) a. Spelar Paul bas?
 plays Paul bass
 ‘Does Paul play the bass?’

- b. Jag undrar om Paul spelar bas.
 I wonder if Paul plays bass
 ‘I wonder if Paul plays the bass.’

As pointed out by Teleman et al. (1999:2, 734) “a subordinate clause with *om* is never presupposed to be true” (my translation), and *om* is therefore used in subordinate clauses with undetermined truth-values. In discussing this fact, Nordström (2009:165) suggests that “it is reasonable to assume that IF in itself denotes that the proposition is hypothetical”. If her assumption is correct, *om* is not a mere subordinator, but also a marker of non-factivity.⁸

Even though *om* is arguably lexically distinct from the largely neutral *att* ‘that’, it is nevertheless dubious whether *om* in itself triggers the non-evaluable interpretation of the embedded yes/no-question in (129b) above. After all, its non-evaluable status is identical to the verb initial matrix question in (129a), and one may argue that this is due to the fact that both lack Spec-CP. If the Evaluability Hypothesis is on the right track, it is the syntactic structure, rather than the complementizer, that is the primary signaling device for non-evaluability. This claim does not deny the obvious connection between *om* and non-evaluable sentences, however, as it is perfectly viable that *att* is primarily associated with Spec-CP clauses, whereas *om* is associated with clauses lacking Spec-CP.

To sum up, both matrix and subordinate yes/no-questions fall naturally into the non-evaluable class. The Evaluability Hypothesis also gives a straightforward account of the difference between V1- and V2-yes/no-questions: the former are ‘open’, and as such non-evaluable, whereas the latter is ‘non-open’ and involves speaker commitment. It is therefore subjected to evaluation as are type 1a-clauses in general.

6.2.2 Conditionals

Within propositional logic, the two parts of a conditional clause are commonly referred to as the *antecedent* and the *consequent*. The antecedent denotes a hypothetical state-of-affairs, whereas the consequent expresses the result of the antecedent coming true; see (130).

⁸Nordström (2009) goes on to argue that the *att/om* ‘that’/‘if’ distinction in Swedish mirrors the Realis/Irrealis distinction.

- (130) $\frac{\text{If John comes to the party}}{\textit{antecedent}} \text{ I will leave immediately.} \textit{consequent}$

The truth of a conditional clause can be calculated on the basis of the truth of each respective part. As such a conditional (or rather *material implication*) denotes a function from truth-values to truth-values. My concept of evaluability, however, is unrelated to matters of truth and falsity, as the relevant property is only whether it is possible to accept or reject a conditional clause within a communicative exchange. Naturally, the addressee may react to the asserted truth of the conditional as a whole as shown in (131):

- (131) A. If the temperature continues to rise, Europe will be flooded.
 B. No, that's an outrageous claim!

The fact that the conditional construction as a whole is evaluable is expected under the Evaluability Hypothesis, since the consequent in Swedish is of type 1a. However, it seems rather counter-intuitive to analyze the antecedent as evaluable, since it is impossible to assent or dissent with the expressed propositional content. Being merely hypothetical, the antecedent is clearly unrealis and hence neither true nor false.

In Swedish, I would argue, the non-evaluable status of the antecedent is structurally mirrored by the absence of Spec-CP. As illustrated below, there is no evaluative difference depending on whether the element in C^0 is the finite verb or the complementizer *om* 'if'; the crucial point is the lack of Spec-CP.

- (132) a. Kommer Sven till festen går jag.
 comes Sven to party.DEF leave I
 'If Sven comes to the party I'll leave.'
 b. Om Sven kommer till festen går jag.
 if Sven comes to party.DEF leave I
 'If Sven comes to the party I'll leave.'

As noted in section 4.3.2, the antecedent of a conditional is *structurally* similar to a yes/no-question, as it may be either verb initial or introduced by the complementizer *om*. The antecedent is also *semantically* similar to a yes/no-question in that its "presupposition of the disjunction of p and $\sim p$ is unweighted." (Lyons 1977:765). There is thus a rather intriguing correlation between the structural and semantic properties of conditional antecedents and yes/no-questions in Swedish: both are non-evaluable, and both lack Spec-CP.

6.2.3 Summary

In this section I have argued that sentence types belonging to the type 2-class are non-evaluable. This claim should be rather uncontroversial, given that both yes/no-questions and (the antecedent of) conditionals are traditionally classified as irrealis. The important point, however, is that the findings of this chapter have further strengthened the correlation between evaluability and the configuration of the C-domain. The lack of Spec-CP is a syntactic reflex of non-evaluability. Consequently, a yes/no-question with a realized Spec-CP will be interpreted as evaluable. Also, no evaluative difference could be discerned which depended on the element in C^0 , that is, whether it is the finite verb or a complementizer. This suggests that it is the availability of Spec-CP, rather than C^0 , that signals the evaluative status of a Swedish clause.

In the next section, I propose a theoretical account of the observed connection between evaluability and Spec-CP in terms of a recent proposal by Chomsky (2008), in which it is argued that phases, including the C-T phase, may host an edge-feature that is responsible for the availability of Spec-CP.

6.3 Evaluability and Edge Features

In the previous two sections, we established that the configuration of the Swedish C-domain can be mapped to my concept of evaluability: clauses with Spec-CP are evaluable, whereas clauses lacking Spec-CP are non-evaluable.

One important implication of this observation is that the overt realization of C^0 is seemingly unrelated to the evaluative properties of a clause. It is not even a necessary requirement, as *wh*-exclamatives are evaluable, for instance, but do not overtly realize C^0 . Since most accounts of Swedish within the generative paradigm have focused on the structural role of C^0 (it being the target for the finite verb and the host for complementizers), this finding is perhaps somewhat unexpected. From a theoretical perspective, it is not obvious why the presence/absence of a particular specifier position should be a distinguishing structural feature of a language.

In this section, I argue that the connection between Spec-CP and evaluability in Swedish is indirect. It comes about from the association between the edge-feature in C (to be explicated below) and the evaluative properties of a given clause. According to this view, the semantically vacuous concept edge-feature can be regarded as a syntactic reflex of evaluability. This assumption provides a straightforward

syntactic and semantic account of Swedish clause structure distinctions.

6.3.1 The Edge-feature in C

In the empirical overview of Swedish clause structure leading up to my classification (see section 3.3), I showed that there are good reasons to suspect that Spec-CP is not available in all Swedish clause types. However, this conclusion is at odds with standard minimal accounts of V2-languages, which build on the role of EPP.

The EPP can best be described as a requirement to the effect that feature evaluation must be visible at the Sensory-Motor interface. Since an operator is as visible to the interface as a phonologically realized element, there is no implication that feature evaluation must have visible correlates at ‘surface structure’, however. Consequently, the EPP-analysis allows for a unified analysis of Swedish clause structure. The linear difference between (V₂) declaratives and (V₁) yes/no-questions can be reduced to a phonological difference regarding the (non)realization of the element in Spec-CP. It should furthermore be pointed out that the notion of EPP is unrelated to the actual derivation of a syntactic position. The structural presence of Spec-CP is thus theoretically independent of the EPP.

An alternative approach to Spec-CP is proposed in Chomsky (2008), which builds on the presence of an edge-feature in C. According to Chomsky (2008), the edge-feature in C can be understood as a syntactic requirement that a phase head must have a specifier. That is, the syntactic derivation of Spec-CP is *dependent* on the presence of an edge-feature in C. Consider the following characterization by Chomsky (2008:16):

For our purposes here, it will suffice to define an \bar{A} -position as one that is attracted by an edge-feature of a phase head, hence typically in SPEC-C or outer SPEC of v^* . Others are A-positions. From this point of view, A- and \bar{A} -positions are distinguished not by their structural status within a phrase-marker, but by the manner in which they are derived.

He continues (2008:17):

Suppose that the edge-feature of the phase head is indiscriminate: it can seek any goal in its domain, with restrictions (e.g. about remnant movement, proper binding, etc.) determined by other factors [footnote]. Take, say, Topicalization of DP. EF of a phase head PH can seek any DP in the phase

and raise it to SPEC-PH. There are no intervention effects, unless we assume that phrases that are to be topicalized have some special mark. [...] The same should be true for other forms of \bar{A} -movement. We need not postulate an uninterpretable feature that induces movement [...].

The important point is that the realization of Spec-CP is not motivated by the valuation of a particular set of features (such as the EPP), but is a result of structurally satisfying a criterion, i.e. the criterion that a phase head must have a specifier. Or in the words of Platzack (2008:7): “EPP is a demand that an Agree-relation must be visible at the SM interface, the edge-feature a demand that a phase head must have an \bar{A} specifier. Hence, visibility at SM holds for EPP but not necessarily for the edge-feature.” Unless the edge-feature is instantiated, Spec-CP cannot be realized. Furthermore, the indiscriminate nature of the edge-feature straightforwardly accounts for the fact that basically any category may be merged in Spec-CP.

The critical reader may object to the present characterization, arguing that the theoretical status of the notion *edge-feature* remains vague and therefore stipulative. While I am the first to admit that the *explanatory adequacy* of the EF-analysis is debatable, it is *descriptively* more accurate than the EPP-analysis.⁹ By abandoning feature-driven movement to Spec-CP (i.e. EPP) we may account not only for the fact that a large number of clausal categories may be found in Spec-CP, but also the fact that a number of Swedish clause types lack Spec-CP. The very fact that EF is semantically or pragmatically void should not be seen as a weakness, however, since we should not attribute meaning to a mechanism, but to its output.

In recent work, Platzack (2008, 2009) proposes abandoning the EPP-analysis of the Swedish C-domain in favor of the edge-feature analysis. According to Platzack’s proposal, C minimally hosts a finiteness feature (responsible for anchoring the sentence in the speaker’s here and now), φ -features (i.e. person, gender, number), and the edge-feature. As such, Platzack’s proposal is a reaction against the ‘cartographic’ view of the C-domain, in which movement to C⁰ and Spec-CP is triggered in part by semantic/pragmatic considerations.

If we adopt the edge-feature analysis of the Swedish C-domain, a systematic formalization of our syntactic categorization of Swedish above follows. All clauses overtly realizing Spec-CP are endowed with an edge-feature in C; this holds for all

⁹One should keep in mind that the EPP may be criticized on similar grounds for being a rather abstract concept with dubious explanatory power.

type 1a-clauses in Swedish. In contrast, type 2-clauses lack an edge-feature in C, which gives that they cannot instantiate Spec-CP.

The edge-feature analysis gives a straightforward account also of clauses of type 1b, i.e. those not overtly realizing Spec-CP. There is no requirement to the effect that the edge-feature in C⁰ *must be* overtly realized, so it is expected that we find clauses with covertly realized Spec-CP. This is not merely a convenient stipulation: if Spec-CP is available, it should in principle be *possible* to overtly realize it. Put somewhat differently, the syntactic derivation must *not necessarily* be spelled out, but it must in principle be *possible* to spell it out. This is a critical point and a slight deviation from Platzack (2008), who does not assume this additional requirement.

Swedish *att*-clauses were shown to allow optional *det*-insertion (see (26) on page 35), and arguably involve Spec-CP.¹⁰ In contrast, Swedish *om*-clauses did not allow *det*-insertion, which suggests that they lack Spec-CP; see (27) on page 35. We may now formalize this difference, saying that *att*-clauses are endowed with EF, while *om*-clauses are not.

In the next section I argue that the presence/absence of the edge-feature mirrors the evaluable status of the clause, and that it can be motivated on strict independent grounds.

6.3.2 A Syntactic Reflex

Considering the conclusions of sections 6.1 and 6.2 above, in combination with the edge-feature analysis above, an interesting syntactic-semantic correlation now suggests itself. Suppose that the instantiation of the edge-feature in C in Swedish is a syntactic reflex of evaluability, such that clauses endowed with an edge-feature are evaluable, whereas clauses lacking an edge-feature are non-evaluable. This proposal can account for our observed connection between evaluability and the configuration of the C-domain.

Under this view, the presence/absence of Spec-CP is only indirectly related to evaluability, since it is but a structural consequence of the presence/absence of the edge-feature in C. Importantly, this proposal does not imply that the edge-feature in C *equals* evaluability, nor that this syntactic notion necessarily needs

¹⁰It should be noted that relative clauses prototypically cannot overtly realize Spec-CP. This fact follows from the analyses of Platzack (2000) and Stroh-Wollin (2002), which both assume a covert relative operator in Spec-CP. However, it is left unexplained by Castillo's (2003) analysis of the relative operator in C⁰.

to be related to evaluability cross-linguistically. The only implication is that it is (perhaps arbitrarily) associated with evaluability in Swedish.¹¹

If my hypothesis is correct, realization of Spec-CP and C⁰ signals two distinct properties: evaluability and finiteness, respectively. I assume that these two notions are intrinsically linked but partially independent of each other. That is, the realization of C⁰ is unrelated to the realization of Spec-CP, just as finiteness is independent of evaluability. The opposite does not hold, however: just as Spec-CP is dependent on C⁰, so is evaluability dependent on finiteness.¹² Note also that whereas finiteness is structurally *encoded* in C⁰, evaluability is only *indirectly associated* to the edge-feature in C.

The current hypothesis presents a straightforward account of Swedish clause structure distinctions. It can also explain some rather fine-grained aspects of Swedish clause structure variation that have been hitherto unaccounted for. Consider, for example, the difference between *om*- and *att*-clauses, as discussed in section 3.2.2 above. We concluded that Swedish *om*-clauses never may realize Spec-CP, in contrast with most *att*-clauses. This conclusion was based on the possibility of inserting the cataphoric pronoun *det* ‘it’ in between the selecting predicate and the complementizer. The Evaluability Hypothesis straightforwardly accounts for this observation. Since *om*-clauses are non-evaluable, they do not host an edge-feature in C; consequently, no cataphoric *det* can be inserted in front of *om*-clauses, since they necessarily lack Spec-CP.

The predictive power of the Evaluability Hypothesis is perhaps even stronger in relation to *att*-clauses. In section 3.2.2 we saw that Spec-CP is available in most Swedish *att*-clauses, and in this chapter we have seen that most *att*-clauses are evaluable. One may however hesitate before analyzing *att*-clauses following non-assertive predicates as evaluable. Consider the sentences in (133):

¹¹Under the view advocated here, the edge-feature in C is a purely syntactic concept, and is, as such, unspecified for semantic properties. It may however be *associated* with specific semantic functions or properties within a given language. The possible arbitrariness between the association of evaluability and edge-features can thus be paralleled with the arbitrary coding of spatial relations as prepositions, case or particles across languages, or the arbitrary coding of main clause structure (SVO, VOS, SOV etc.).

¹²Importantly, a non-finite clause cannot be related to evaluability, since it is not an independent unit. As such, it is necessarily part of a larger structural domain (e.g. a declarative or a yes/no-question), which in turn may be evaluable or non-evaluable.

- (133) a. Jag tvivlar på att han kommer att förlora.
 I doubt on that he will INF lose
 ‘I doubt that he’ll lose.’
- b. Det är troligt att han kommer att förlora.
 it is possible that he will INF lose
 ‘It’s possible that he’ll lose.’

Being neither asserted nor presupposed, complements to non-assertive predicates have no independent truth-value, and thus they are part of the evaluable unit consisting of the matrix and the complement.¹³ This means that they are non-evaluable in isolation, in contrast with *att*-complements following assertive and factive predicates. Hence, the addressee cannot accept or reject the embedded propositions in (133) without simultaneously accepting or rejecting the matrix proposition.

Intriguingly, the non-evaluable status of *att*-clauses following non-assertive predicates has structural correlates: *det*-insertion is not possible, suggesting that Spec-CP is not available in these complements; see (134) below.

- (134) a. Jag tvivlar på (*det) att han kommer att förlora.
 I doubt on it that he will INF lose
 ‘I doubt that he’ll lose.’
- b. Det är troligt (*det) att han kommer att förlora.
 it is possible it that he will INF lose
 ‘It’s possible that he’ll lose.’

This rather peculiar behavior is actually predicted by the Evaluability Hypothesis. Since the *att*-clauses in (134) are non-evaluable, they are not endowed with an edge-feature in C. Consequently, Spec-CP is not available in the structure.¹⁴

To summarize, I have argued for a strong association in Swedish between the semantically vacuous edge-feature in C and my concept of evaluability. Under this view, the presence/absence of an edge-feature can be seen as a syntactic reflex of the

¹³For further explication of this idea, see section 9.2.1 below.

¹⁴The sentences in (134) are marginally acceptable with *det*-insertion provided the embedded proposition is already salient in the discourse, and hence (conversationally) presupposed. Such clauses, however, have a distinct intonation contour, signalling that the complement is independent from the matrix.

evaluative properties of a given clause. Following this proposal, the observed correlation between Spec-CP and evaluability is indirect, as it is ultimately a syntactic consequence of the presence/absence of the edge-feature in C.

6.3.3 Why the Edge-feature in C?

In light of the discussion above, it seems quite natural to raise the question as to why the edge-feature in C has become a syntactic reflex of evaluability in Swedish. Before concluding this chapter, let me briefly suggest a possible diachronic development of this connection.

Hinterhölzl and Petrova (2010) argue that V2 in the Germanic languages is a result of grammaticalization. More specifically, they suggest that verb placement in the left periphery in Old High German was originally used as a means of discourse organization. In a kind of theme-rheme progression, V_I-clauses primarily occurred in text opening sentences presenting a new informational unit. The initial, all-focus V_I-clause was then followed by V₂-clauses coming about as an effect of promoting the aboutness topic to sentence initial position (Spec-ForceP in their analysis). According to Hinterhölzl and Petrova (2010), movement of the aboutness topic in front of the finite verb was thus a means of separating the topic from the rest of the clause (i.e. from the comment).

Successively, Spec-ForceP underwent “information structural neutralization” (Hinterhölzl and Petrova 2010:21) only demanding phonological material. According to Hinterhölzl and Petrova’s (2010) proposal, this led to the grammaticalization of the EPP feature in C. In analogy with my analysis above, I will instead assume that “informational structural neutralization” resulted in the instantiation of the edge-feature in C.

Some rather intriguing theoretical implications follow from Hinterhölzl and Petrova’s proposal. If topicalization was first used as a means to separate the aboutness topic from the rest of the clause, it seems reasonable to assume that it would primarily occur in sentences which assert, presuppose or entail a relation between a topic and a comment, such as declaratives. Following Aristotle’s definition of the proposition, such clauses must be either true or false. Such clauses are also per definition evaluable, since the hearer may accept or reject the expressed relation between the topic and the comment.

Let us assume that this proposal is correct, and that the (pragmatic) promotion of the aboutness topic originally pertained to evaluable clauses only. Successively,

topicalization developed into generalized (syntactic) movement to Spec-CP. By this time, C must be endowed with an edge-feature, providing this syntactic position for the preverbal element. Under this analysis, the edge-feature in C has in itself no immediate semantic connection to evaluability. But evaluability became *associated* to the edge-feature in C, since the structural need of a Spec-CP only developed in clauses that had gone through the phase of pragmatic promotion of the topic to sentence initial position. Hence, the presence of Spec-CP became a signal of evaluability.

Non-evaluable clauses never developed the edge-feature in C. This can be understood from the observation that conditionals and yes/no-questions lacked the pragmatic motivation to separate the topic from the comment in the early stages of the V2-development.¹⁵ Hence, Hinterhölzl and Petrova's suggested grammaticalization process does not apply to these sentence types. As a result, they lack Spec-CP which in turn signals non-evaluability.

The connection between the edge-feature in C and evaluability can thus tentatively be understood from Hinterhölzl and Petrova's suggested diachronic development of the V2 word order. Admittedly, the sketched outline is tentative at best, and would need considerable empirical underpinnings. For one thing, I know of no study that has corroborated the results of Hinterhölzl and Petrova (2010) for the Mainland Scandinavian languages. Hence, it is possible but far from necessary that Swedish has developed its V2 word order in the same way as German. I will leave these questions open for future research, although I believe they would make for a very fruitful study of the development of the V2 word order.

6.4 Summary

In this chapter, I have applied the Evaluability Hypothesis as developed in the previous chapter to our structural classification of Swedish. It was shown that the structural division between type 1- and type 2-clauses could be mapped in a one-to-one fashion to the division between evaluable and non-evaluable clauses.

¹⁵Yes/no-questions and conditionals do not assert, presuppose or entail a relation between a topic and a comment: they merely request or hypothesize such a relation. Hence, the relation is undetermined, as it were. From a pragmatic perspective, we may say that non-evaluable clauses are not strictly speaking of topic-comment form, although they certainly may contain a potential topic and a potential comment.

While the connection between evaluability and clausal configuration seems solid for basically any Swedish clause, there are three particularly strong arguments in favor of the current hypothesis:

- Open yes/no-questions are non-evaluable and structurally of type 2. Non-open yes/no-questions, in contrast, are biased toward speaker expectations, and are therefore evaluable: this is mirrored by their being structurally of type 1 in Swedish.
- Exclamatives are presuppositional and hence evaluable. However, I showed that *wh*-exclamatives differ from *att*-exclamatives in being subjected to evaluation in on-going discourse. This difference is mirrored structurally: *wh*-exclamatives are of type 1a, whereas *att*-exclamatives are of type 1b.
- Embedded V2-clauses are structurally of type 1a and subjected to evaluation in discourse. They are structurally and semantically distinct from prototypical type 1b *att*-complements which are evaluable but not subjected to evaluation.

After having established that the (non)evaluable status of a Swedish clause is related to the configuration of the C-domain, I concluded that the presence/absence of Spec-CP signals evaluability in Swedish. In an attempt to syntactically account for this observation, I proposed that the syntactic derivation of Spec-CP is dependent on the edge-feature in C, which in turn is (arbitrarily) associated to evaluability. Clauses endowed with an edge-feature are evaluable, whereas clauses lacking an edge-feature are non-evaluable. Under this analysis, the observed correlation between evaluability and Spec-CP is indirect, as it comes about from the presence/absence of the edge-feature in C. Thus, our structural categorization of Swedish has been given a straightforward syntactic and semantic account.

We may now finally turn our attention to polarity item licensing. We saw in chapter 4 that the distribution of polarity items in Swedish could be related to the configuration of the C-domain. If the underlying motivation for the syntactic classification is my concept evaluability, it seems reasonable to assume that this notion is related to polarity phenomena as well. Let us therefore see how the Evaluability Hypothesis fares in accounting for the distribution of polarity items in Swedish.

Chapter 7

Evaluability and Polarity I

In the preceding two chapters, we saw that the Evaluability Hypothesis successfully accounts for our structural classification of Swedish. The syntactic division between type 1- and type 2-clauses was semantically motivated by the distinction between evaluable and non-evaluable clauses. The primary aim of this chapter is to test the applicability of the Evaluability Hypothesis with respect to the distribution of Swedish polarity items.

As our first step, let us combine the observations of the previous chapters. That gives us the following set of observations/assumptions:

- (135)
- Evaluable clauses in Swedish are endowed with an edge-feature in C, and realize Spec-CP either overtly or covertly. All occurrences of negative polarity items must be formally licensed.
 - Non-evaluable clauses in Swedish lack an edge-feature in C, and cannot realize Spec-CP. NPIs may occur without any overt licenser.

The situation outlined in (135) has been quite firmly established. For type 1-clauses, see section 4.1 and 4.2 for the polarity licensing properties, and section 6.1 for the evaluative properties; for type 2-clauses, see section 4.3 for polarity licensing properties, and section 6.2 for the evaluative properties.

The obvious question with respect to (135) above is how polarity item licensing is connected to evaluability and the edge-feature in C. When combining the claims made in the preceding chapters, however, a possible answer suggests itself. Consider the line of reasoning in (136) below:

- (136)
- i. The NPI-licensing properties of a Swedish clause correlate with the structural realization of Spec-CP;
 - ii. The structural realization of Spec-CP is dependent on the edge-feature in C;
 - iii. The edge-feature in C is associated to evaluability in Swedish.
 - iv. **Conclusion:** Polarity items are semantically sensitive to the evaluative status of the clause.

The first premise in (136) was established in chapter 4; the second and third premises in chapter 6. The goal of the present chapter is to corroborate the conclusion in (iv) above.

Simplifying my proposal somewhat, I argue in this chapter that non-evaluable clauses should be regarded as the natural environment for polarity items, which means that neither PPIs nor NPIs need to be syntactically licensed. Evaluable clauses, in contrast, are restricted environments for polarity items, which means that polarity items require formal licensing in such clauses.

The view on polarity item licensing advocated in this chapter differs in several important respects from previous theories put forward in the literature. After having presented my own take on polarity sensitivity, I relate and compare it to two influential approaches to polarity item licensing. The syntactic account of Progovac (1994) will be reviewed in this chapter, and the semantic account of Giannakidou (1998) will be discussed in chapter 8.

Note that the discussion in this chapter will center on polarity item licensing in main clauses. The primary discussion of polarity item licensing in subordinate clauses is postponed to chapter 9. This is done so as to facilitate the discussion, as long-distance polarity item licensing is associated with a number of theoretical and empirical issues that motivate an independent treatment.

7.1 The General Idea

In the following two subsections, I will present the gist of the present proposal building on evaluability. It will be reviewed in relation to the syntactic account of Progovac (1994) in the subsequent sections.

7.1.1 Open to Evaluation, Closed to NPIs

When characterizing the polarity sensitivity of type 1a-clauses in Swedish, one may do well in considering the following two empirical *facts*:

- i. NPIs must be overtly licensed;
- ii. NPIs and PPIs are in complementary distribution.

In the preceding sections, I have mostly focused on fact (i), since it is a prerequisite for fact (ii). That is, while *negative* polarity items must be within the scope of a relevant operator, *positive* polarity items must *not* be within the scope of the same operator. For this reason, PPIs prototypically do not occur in the same syntactic environment as NPIs in type 1a-clauses, and *vice versa*. Compare the distribution of the PPI *till och med* (abbreviated *t.o.m.*) ‘positively even’ in (137) and the NPI *ens* ‘negatively even’ in (138) below:

- (137) a. Jag har *t.o.m.* kvar mina gamla skidor.
 I have PPI left my old skis
 ‘I even have my old skis.’
- b. *Jag har **inte** *t.o.m.* kvar mina gamla skidor.
 I have not PPI left my old skis
- (138) a. *Jag har *ens* kvar mina gamla skidor.
 I have NPI left my old skis
- b. Jag har **inte** *ens* kvar mina gamla skidor.
 I have not NPI left my old skis
 ‘I don’t even have my old skis.’

Given our observation that all type 1a-clauses are subjected to evaluation in on-going discourse, one might draw the following tentative conclusion on the basis of the distribution exemplified in (137) and (138). Polarity items of both the positive and the negative variety must rely on some kind of formal licensing in evaluable clauses. Hence, polarity items cannot occur freely. This claim is not as trivial as it may seem, as we have yet to discover in what sense evaluability is relevant for NPI-licensing. The licensing pattern is also distinctly different from that of type 2-clauses, as discussed in the next section.

7.1.2 Closed to Evaluation, Open to NPIs

First of all, consider the following distributional facts concerning polarity items in type 2-clauses in Swedish:

- i. NPIs need *not* be overtly licensed;
- ii. NPIs and PPIs are *not* in complementary distribution.

In chapter 4, we saw that polarity items may occur in type 2-clauses also in the absence of overt licensors, in contrast with type 1-clauses. Furthermore, both NPIs and PPIs may occur in identical structural configurations, although prototypically not simultaneously. Consider the distribution of the PPI *till och med* ‘positively even’ and the NPI *ens* ‘negatively even’ in the yes/no-questions in (139) below:

- (139) a. Har du *t.o.m.* kvar dina gamla skidor?
 have you PPI left your old skis
 ‘Do you even have your old skis?’
 b. Har du *ens* kvar dina gamla skidor?
 have you NPI left your old skis
 ‘Do you even have your old skis?’

It should be pointed out that the pattern exemplified in (139) does not extend to strong polarity items. As we have seen from the overview in section 2.1.2, strong polarity items must always be within the scope of an overt licensor such as negation. This means that the occurrence of strong polarity items is illicit in type 2-clauses, unless an overt operator is present. Consider the ungrammaticality of *längre* ‘longer’ and *förrän* ‘until’ in the yes/no-questions in (140).

- (140) a. *Har du *längre* kvar dina gamla skidor?
 have you longer left your old skis
 b. *Lämnade du festen *förrän* klockan 8?
 left you party.DEF until clock 8

For the current purpose, strong polarity items are of minor interest. Since they always require an overt licensor of a certain semantic strength, they are lexically specified for, rather than contextually sensitive to, certain environments. The following discussion will thus be limited to NPIs of the weak variety (see section 2.1.2 above).

Since NPIs and PPIs are *not* in complementary distribution in type 2-clauses, we may assume that the distribution of polarity items in non-evaluable environments is free. If correct, this means that polarity items need not rely on formal licensing in non-evaluable environments, in contrast with evaluable environments. Note that this assumption is theoretically minimal, in the sense that it formalizes the empirical observations without stipulating any kind of covert (syntactic) licensing in the absence of empirical evidence.

Alternatively, one might assume that the polarity items in (139) are formally licensed by some kind of covert element or operator located within the clause. (At this point we need not concern ourselves with the syntactic features and/or semantic properties of this operator.) Ever since Klima (1964), this idea has been prevalent within syntactically oriented approaches to polarity item licensing. An operator-analysis gives two theoretical implications: i) polarity items can be defined as syntactically dependent expressions that must rely on licensing antecedents in all environments; ii) the feature bundle responsible for licensing may be either overt or covert, much like the overt/covert realization of case, or number, or gender etc. in the world's languages.

Hence, there are at least two possible approaches to polarity item licensing in non-evaluable clauses: one primarily semantic and one primarily syntactic in nature. Since the syntactic operator-account is at odds with the (non-operator) semantic account, we must however review the theoretical implications of both approaches, and evaluate the validity of each. I will begin by reviewing the syntactic approach, based on the analysis of Progovac (1994), as hers is the most elaborated syntactic analysis of polarity item licensing to date. It is argued that the problems associated with the operator analysis are so severe that Progovac's analysis must be abandoned in favor of a semantic dependency analysis.

7.2 Progovac (1994): A Syntactic Approach to PI-licensing

Taking the complementary distribution of PPIs and NPIs as her starting point, Progovac (1994) proposes that the distribution of polarity items is governed by the principles of Binding Theory. According to Progovac's claim, *negative* polarity items are similar to anaphors in adhering to Binding Principle A: they must be bound to negation (or some other truth-functional operator) in their govern-

ing category.¹ *Positive* polarity items, in contrast, are subjected to Principle B in similarity with pronouns: “they must not be bound to (fall within the scope of) negation (or a truth-functional operator) in their governing category” (Progovac 1994:7). From these assumptions, the complementary distribution of NPIs and PPIs follow naturally.

Admittedly, Progovac does not explicitly discuss Swedish or Scandinavian language data, as her discussion is primarily based on English and Serbo-Croatian. Nevertheless, her proposal should in principle be extendable to any language, since – if correct – syntactic NPI-licensing may be subsumed under more general principles of grammar. In this lies the main appeal of her proposal.

On a first approximation, the alleged similarity between NPIs and anaphors on the one hand and PPIs and pronouns on the other seems to be on the right track (the examples are taken from Horn and Lee 1995:404):

- (141) a. Peter_i likes himself_i
 b. Mary did not insult anyone
- (142) a. Peter_i likes *him_i / him_j
 b. *Mary did not insult someone [= (∃x)(Mary did not insult x)]

The reflexive *himself* in (141a) must be locally bound to the referential NP *Peter*, since it is subjected to Principle A. The same holds for the NPI *anyone* in (141b): it must be locally licensed (bound) by negation in its governing category. In contrast, the pronoun *him* in (142a) cannot be co-referential with the subject, since according to Principle B a pronoun must not be bound within its governing category. The same restriction explains the ungrammaticality of (142b): the PPI *someone*, in violation of Principle B, is bound by its governing category (i.e. is in the scope of clausemate negation).

The similarity between NPIs and reflexives is further supported by the fact that both resist topicalization, as illustrated in (143) below. In contrast, both PPIs and pronouns (naturally) may be topicalized, as seen in (144):

- (143) a. **Sig själv* såg Peter i spegeln
 him self saw Peter in mirror.DEF

¹Progovac offers the following definition of ‘governing category’ (1994:10): “The governing category for an anaphor is the smallest maximal projection containing the anaphor, the governor for the anaphor, and a SUBJECT accessible to the anaphor. SUBJECTS for reflexives are [NP,IP], [NP,NP], or AGR.”

- b. **Någonsin* har jag aldrig varit i Paris
 ever have I never been to Paris
- (144) a. *Honom* såg jag i Paris!
 him saw I in Paris
- b. *Fortfarande* reser Sven till Paris varje sommar
 Still goes Sven to Paris every summer

The examples in (141)–(144) above suggest an interesting parallel between PI-licensing and anaphor binding. And although this parallelism is perhaps not as strong as Progovac assumes (see Horn and Lee 1995 for a critical review), her theory fares relatively well in accounting for the distribution of PPIs and NPIs in clauses demanding overt licensing of NPIs. It is decidedly less clear to what extent the Binding Principles apply to environments in which no overt binding element is present, however.

7.2.1 An Operator in C

Swedish type 2-clauses were partially distinguished by the observation that NPIs need not be overtly licensed. Included in this group are yes/no-questions (145a) and conditionals (145b). Progovac labels these environments ‘non-negative licensing environments’.²

- (145) a. Did Mary insult *anyone*?
 b. If Mary insulted *any* of these people, she should apologize

Naturally, the examples in (145) pose a potential threat to the general applicability of Progovac’s binding hypothesis. If the NPI is not bound by an antecedent, its occurrence should be made illicit by Principle A. Progovac solves this conceptual problem by assuming an empty polarity operator (*Op*), which is responsible for licensing in these environments. She locates the position of *Op* in the C-domain (COMP in her terminology), more specifically C^0 . From a theoretical perspective, the idea of a licensing operator located in a phrase head is in line with standard analyses of negation as a head element (see e.g. Pollock 1989 and Laka 1990).

²Progovac subsumes all clauses allowing polarity items in the absence of a *local* overt operator under her label ‘non-negative licensing contexts’. Hence, she does not principally distinguish between the ‘covert’ licensing in main clauses of our type 2, and long-distance predicate licensing in subordinate clauses, i.e. our type (1b).

By assuming an operator in C^0 , Progovac is able to present a unified binding hypothesis for negative and non-negative contexts: NPIs always require local binding, either by an overt licenser originating in the I-domain, or by a covert operator originating in the C-domain. Crucially, these two options are regarded as mutually exclusive. But from an empirical perspective, the assumption of a covert operator is of course non-explanatory unless independent support for its existence can be provided. Progovac argues that data from Serbo-Croatian offer precisely this.

Like several Slavic languages, yes/no-questions and conditionals in Serbo-Croatian are characterized by the particle *li* which cliticizes either to the complementizer or to the finite verb. Examples (146) and (147) below (taken from Progovac 1994:66) illustrate this point:

- (146) Da *li* Marija dolazi?
 that Mary comes
 ‘Is Mary coming?’
- (147) Dodje *li* Marija, proslavi-će-mo.
 comes Mary celebrate-will-1PL
 ‘If Mary comes, I will celebrate’

Interestingly, *li* can never precede C^0 elements or attach to a non- C^0 element:

- (148) **Li* da Marija dolazi?
 PART that Mary comes
- (149) **Li* dodje Marija, proslavićemo.
 PART comes Mary celebrate-will-1PL

Since the particle *li* occurs in environments that are known to license NPIs, Progovac infers that *li* may be regarded as an overt realization of the polarity operator *Op*. Thus, the assumption of an *Op* in C^0 need not rest on theoretical considerations alone, but can be tentatively sustained also by empirical facts.

The alleged role of *Op* is decidedly less obvious within the Germanic V2-languages, however. Progovac (1994:26-27) mentions in passing that Serbo-Croatian clitic placement is “reminiscent of verb-second in Germanic”, but does not elaborate on the idea further. It seems rather far-fetched to suggest that a polarity operator is responsible for attracting the finite verb to C^0 in a V2-language like Swedish; I do not think Progovac intended to suggest this either.

For the sake of argument, let us assume that the position of *Op* in V2-languages is Spec-CP rather than C^0 . As a matter of fact, Progovac herself suggests the position of *Op* to be Spec-CP in her dissertation from 1988, so the modification is not fundamentally different in spirit. Note that this analysis is not compatible with my former claim that type 2-clauses lack Spec-CP. However, let us disregard this discrepancy for the moment in order to see the argumentation through. If we assume an operator in Spec-CP, it seems as though the observed licensing differences between type 1- and type 2-clauses in Swedish fall out naturally:

- (150)
1. The operator effectively blocks XP-movement to Spec-CP, with the result that all covertly licensing environments in Swedish must lack a visible Spec-CP.
 2. Overt movement to Spec-CP renders covert operator licensing in Spec-CP impossible. This is why all clause types characterized by XP-movement to Spec-CP (i.e. type 1-clauses) license NPIs by overt clausemate licensors only.

From the analysis in (150), the observed correlation between NPI-licensing and clause configuration can be tentatively accounted for by assuming that the position of *Op* is Spec-CP rather than C^0 in Swedish. But as will become evident shortly, there are major problems involved here that cast severe doubt on the explanatory validity of an operator based analysis. In what follows, I propose that the solution sketched in this section ultimately must be abandoned.

7.2.2 Arguments Against the Operator in C

I will now discuss in more detail some theoretical and empirical problems associated with Progovac's polarity operator. It should be noted that most of the problems discussed below are not limited to Progovac's hypothesis, but are equally bothersome for any analysis reverting to covert operator licensing. Let us begin with the theoretical issues.

Theoretical issues

Progovac remains deliberately vague with respect to the semantic properties of *Op*. She does note that the presence of *Op* seems to be licensed by unfixed truth values: “[m]ore precisely, one might say that in unselected contexts, an *Op* is licensed in

a clause whose truth value is not set positively” (Progovac 1994:67). The obvious problem with such a vague characterization, naturally, is that it makes difficult any principled explanation of when, or in what environments, the operator can be predicted to appear (cf. Horn and Lee 1995:417 for similar criticism).

With regards to the syntactic function of *Op*, Progovac (1994:8) gives the following informal characterization:

Informally, the *Op* is assumed to represent a switch with a +/- value, reflecting the fact that all the clauses headed by *Op* have an indeterminate truth value (e.g. questions, conditionals, etc.). The negative value of *Op* is now responsible for NPI licensing, reducing it to negation.

Underlying the idea of *Op* as a switch is the desire to reduce the relevant NPI-licensing property to negation. When set positively, the switch gives the hosting clause the same licensing properties as affirmative declaratives (allowing only PPIs); when set negatively it mirrors negated declaratives (allowing only NPIs). As a matter of fact, Progovac argues explicitly *against* any approach based on semantic relations, most notably that of Ladusaw (1980).

The obvious problem with Progovac’s switch-metaphor concerns the circularity of the argument. Unless the setting of the switch can be determined by something other than its ability to license either PPIs or NPIs, the hypothesis is explanatory vacuous. That is, it must be possible to predict when the switch has a ‘negative’ or a ‘positive’ value on grounds that are independent from NPI-licensing.

At first glance, one might suppose that the setting of the (metaphorical) switch is dependent on the negative inferences NPI-licensing questions and conditionals may give rise to; consider (151).

- (151) a. Did he *lift a finger* to help you?
 b. If he *budged an inch* I would be surprised.

The yes/no-question in (151a) clearly implies a negative answer, whereas the conditional in (151b) renders it unlikely that he would ever move. Note that the sentences in (151) would be odd if the speaker *did* have positive expectations. Based on these examples, we may thus suggest that the switch is somehow set negatively by the speaker’s (lack of) expectations. The idea of positive/negative inferencing echoes Linebarger (1980:167), who proposes that *negative implicature* is central to NPI-licensing:

The basic claim of the N[egative]I[mplicature] account is this. NPis represent close associates of negation; in the paradigm case, an NPI occurs immediately adjacent to NOT in LF. The use of an NPI in a sentence whose LF does not license it represents an allusion, one might say, to some entailed or implicated proposition, the NI, in which the NPI does occur in the immediate scope of negation.

Linebarger (1980) argues that the NI-approach successfully explains the licensing properties in several environments in which any overt clausemate operator is absent (e.g. complements to adversative predicates, the scope of *only* and *because*-clauses). But the problem, both for Progovac and Linebarger, is that NPI-hosting yes/no-questions and conditionals do not necessarily give rise to negative implicatures, as the sentences below show (examples in (153) taken from Linebarger 1980:177):

- (152) a. Have you *ever* been to Paris?
 b. Did you buy *anything* today?
- (153) a. If you drink *any* water, you'll get dysentery.
 b. If a restaurant charges *a red cent* for iceberg lettuce, it ought to be closed down.

These sentences do not necessarily carry negative implicatures; they are all possible in neutral, non-biased contexts. Hence, the NI-approach cannot successfully explain the NPI-licensing properties of these sentence types.

The neutral interpretations of (152) and (153) are perhaps more bothersome for Progovac than for Linebarger, since there is nothing apart from the occurrence of the NPI that suggests a negative setting of the assumed operator. Thus, the explanatory force of Progovac's switch-metaphor is close to vacuous, simply because there is no principled way of predicting when it is set positively or negatively.

Empirical issues

Let us now turn to the empirical problems of Progovac's operator hypothesis. Perhaps the most problematic issue concerns the non-complementary distribution of NPis and PPIs in 'non-negative licensing contexts'. In section 7.1.2, we saw that both NPis and PPIs may occur in, for example, yes/no-questions and conditionals. This observation is in fact problematic not only for Progovac, but indeed for any

syntactic analysis reverting to operator-based licensing. As an illustration, consider the distribution of the PPIs in (154) and (155). The English (a)-examples are taken from Progovac (1994:65); the Swedish (b)-examples from Rosqvist (2004:34).

- (154) a. Has John insulted *someone*?
 b. Har du *t.o.m.* glömt vad du heter?
 have you PPI forgot what you called
 ‘Have you even forgot your name?’
- (155) a. If John insulted *someone*, he should apologize.
 b. Jag undrar **om** han *t.o.m.* sover med mössan på.
 I wonder if he PPI sleeps with hat.DEF on

Given that NPIs and PPIs are subjected to different binding principles, the possibility of them occurring in the same environment should be ruled out. And under the assumption of a licensing operator, Principle B ought to render the PPIs in (154) and (155) ungrammatical, as they are supposedly bound within their governing domain. So how can PPIs remain free while being governed by *Op*?

Progovac’s solution to this problem is to assume a *relativized governing category* for NPIs and anaphors. The *governing category* is the smallest maximal projection containing the potential antecedent and the anaphor (cf. Chomsky 1981). As NegP contains the first potential antecedent for NPIs (i.e. the negative element), Progovac assumes that the minimal governing category for polarity items is the I-domain. As the polarity operator is assumed to reside in C^0 , it is actually *outside* the governing category for polarity items. Hence, polarity items will remain unbound by the *Op* in C^0 .

By relativizing the governing category, Progovac solves the grammatical occurrences of PPIs in (154) and (155). In full adherence to Principle B, the PPIs are free within their governing category. The advantage of this analysis is that PPIs behave as predicted by the Binding Principles. The *disadvantage*, naturally, is that the licit occurrence of NPIs in these environments becomes puzzling instead. Rather curiously, the *Op* in C^0 should fail to license NPIs, being as it is outside their governing category. But yes/no-questions and conditionals are *bona fide* hosts for NPIs. Progovac’s solution thus leaves her with the reverse problem from the one she started out to resolve: how can NPIs be bound by *Op*, if *Op* is outside the governing category for polarity items?

Progovac suggests that this question, in turn, can be solved by allowing the NPI to raise at LF, thus extending its governing category. That is, in order to

establish a local relation with the *Op* in C^0 , the NPI must IP-adjoin. The LF-structure according to Progovac (1994:82) for a yes/no-question like (156a) is given in (156b):

- (156) a. Has John hurt *anyone*?
 b. [_{CP} *Op* has [_{IP} *anyone*_i [_{IP} John hurt t_i]]]

Progovac's arguments for assuming LF-raising are quite intricate, and we need not go into details here (see Progovac 1994:82ff). But it should be noted that the intuitive appeal of the *Op*-based approach is severely lessened by Progovac's LF-modification. The operator in C^0 was originally conveyed to account for the bothersome fact that non-negative contexts may license NPIs. But after revising the proposal, the remaining (conceptual) problem facing Progovac is rather how NPIs can be licensed *in spite of* this very operator.

There are also a number of empirical problems concerning the distribution of NPIs in yes/no-questions and conditionals that do not immediately fall out from the *Op*-hypothesis. As is well-known, not all NPIs are licensed in these environments. In Swedish, NPIs like the mid-scale *ett rött öre* 'a red cent' or the strong *förrän*-clauses 'until' do not readily occur in yes/no-questions, as illustrated in (157) below. Note that the acceptability of (157a) improves considerably if it is interpreted rhetorically.³

- (157) a. ?? Har du skänkt *ett rött öre* till Frälsningsarmén?
 have you given a red cent to Salvation.army
 b. *Lämnade du festen förrän klockan 7?
 left you party until clock 7

Since Progovac does not define the operator semantically, the different distributive patterns of weak and strong NPIs are actually uncalled for. If her characterization of *Op* as having a 'negative value' is correct, nothing should in principle prevent it from licensing *both* strong and weak NPIs. In fact, this would be the expected behavior. Progovac addresses this problem in some detail, basing her discussion on Serbo-Croatian data.

According to her proposal, only quantified NPIs (such as English *any* or Swedish *någonsin*) may raise at LF. Hence, the ungrammaticality of (157b) above is at-

³For further discussion regarding the connection between rhetorical interpretations and polarity item licensing, see chapter 10.

tributed to the alleged inability of *förrän*-clauses to IP-adjoin at LF. Being a non-quantified NPI, it must remain low and will consequently be outside the governing domain of *Op*.

Progovac's hypothesis makes the following prediction: non-quantified NPIs can be licensed by clausemate negation only, whereas quantified NPIs, in addition, can be licensed also by *Op*. But this claim is clearly incorrect, as discussed extensively by Horn and Lee (1995:412 ff.). For example, English idiomatic expressions like *budge an inch* and *lift a finger* are grammatical in questions, despite being non-quantificational; see (158) taken from Horn and Lee (1995:413).

(158) a. Did Mary {lift a finger/budge an inch} to help her boyfriend?

Note also that the Swedish example in (157a) actually provides a counter-argument in the opposite direction. Since the NPI *ett rött öre* 'a red cent' is quantificational, Progovac's raising hypothesis predicts its occurrence to be grammatical, contrary to fact. Considering both Swedish and English examples, we may thus conclude that the syntactic raising properties of NPIs are not sufficient to explain their licit occurrence in yes/no-questions. And this, in turn, means that Progovac's binding analysis cannot satisfactorily account for the distribution of polarity items in non-negative contexts in a principled manner, the syntactic 'evidence' for *Op* notwithstanding.

7.2.3 Summary

As we have seen from this section, both the theoretical and empirical problems associated with Progovac's (1994) *Op*-hypothesis are severe. Theoretically, the characterization of *Op* as a switch with a negative or positive value is based on circular argumentation. Empirically, the *Op*-analysis provides a rather ineloquent solution with regards to the PPI/NPI-discrepancy; it also makes incorrect predictions concerning the distribution of different kinds of NPIs.

In the next section, I will therefore suggest abandoning the operator analysis in favor of a semantically based approach to polarity items building on evaluability.

7.3 Proposal: No Operator, No Binding

In the previous section, I reviewed a syntactic approach to polarity licensing by Progovac (1994), which primarily builds on the Binding hypothesis. Progovac's

analysis assumes the presence of a covert operator responsible for licensing in ‘non-negative licensing contexts’, and we discussed a number of issues that severely diminished the explanatory power of the Op-analysis.

Underlying the idea of covert operator licensing is the commonly held assumption that polarity items are syntactically dependent expressions. Klima (1964) was one of the first proponents of this view. However, the appeal of this syntactic generalization seems to me theoretical rather than empirical in nature: it is based more on a general desire to present a unified definition of polarity items than on its explanatory adequacy. In fact, language data do not uniformly support the assumption of syntactic polarity dependence. The licensing behavior of Swedish type 2-clauses is a case in point. Consider again the following set of empirical facts:

(159) **Distribution of polarity items in Swedish:**

- a. In clauses of type 1, NPIs must be licensed by an *overt* operator; NPIs and PPIs are in complementary distribution.
- b. In clauses of type 2, NPIs need *not* be licensed by an overt operator; NPIs and PPIs are *not* in complementary distribution.

The very observation that NPI-hosting type 2-clauses need not rely on overt licensing may be taken to indicate that they demand no formal licensing whatsoever. If this is the case, covert operator licensing is redundant. But by opting for this interpretation, one must simultaneously abandon the idea that polarity items are necessarily syntactically dependent. This is a controversial choice, and the only motivation for making it must be that a purely semantic dependency approach would yield better empirical results. And this is questionable, given the observation that NPIs in type 1-clauses clearly are syntactically dependent. Hence, one must be careful not to throw the baby out with the bath water.

The only correct generalization to draw from the facts in (159) seems to be that polarity items are semantically sensitive expressions that *sometimes* must rely on syntactic dependency in order to fulfil their semantic requirement. But this may come across as a rather ineloquent conclusion, as it is but a theoretically disguised description of the empirical observations. However, if it can be established what polarity items are semantically sensitive to, and why syntactic dependency is sometimes required, explanatory adequacy is attained.

The Evaluability Hypothesis suggests an interesting solution. Since the distinction between type 1- and type 2-clauses mirrors the distinction between evaluable

and non-evaluable environments, the empirical facts in (159) above can be formalized as in (160) below.

(160) **NPI-licensing in Swedish**

- i. The distribution of polarity items is restricted in evaluable clauses. Polarity items may *only* occur if properly licensed; NPIs and PPIs are therefore in complementary distribution.
- ii. The occurrence of polarity items is unrestricted in non-evaluable clauses: both PPIs and NPIs may occur without any kind of formal overt/covert licensing.

As this formalization suggests, non-evaluable clauses – for reasons yet to be explicated – provide a *neutral* environment for polarity items. That is, both PPIs and NPIs may occur freely within these ‘non-negative’ contexts, without any form of overt/covert licensing. Evaluable clauses, in contrast, pose restrictions on the distribution of polarity items, as polarity items may only occur if formally licensed.

Using a simple metaphor, we may equate polarity items in non-evaluable clauses with fish in water: they occur in their right *biosphere*, as it were. Therefore, they need not rely on any kind of formal (syntactic) licensing. The fact that NPIs and PPIs equally occur in these environments falls out naturally. In contrast, polarity items in evaluable clauses are like fish on land. In order to survive in their unnatural environment, the PI must be rescued much like a fish out of water must be put within the confinement of a water tank. This is where formal (syntactic) licensing comes in.

If this reasoning is on the right track, polarity items are only syntactically dependent in certain environments, namely those that are evaluable. But this syntactic dependence is best regarded as a means of ‘rescuing’ the polarity item from an otherwise hostile environment. In non-evaluable environments, polarity items are not dependent on syntactic rescuing, simply because they occur in friendly surroundings. Remember that this outline does not hold for *strong* NPIs, which always require syntactic dependence.

It should be pointed out that the distributional difference between strong and weak NPIs is not problematic for the Evaluability Hypothesis. One of the keys to polarity phenomena lies in acknowledging *both* the nature of the hosting environment and the nature of the hosted item. Some *environments* are inherently hostile

to all kinds of polarity items, some are inherently accepting them. Simultaneously, some *polarity items* are inherently choosy about their hosts (e.g. *until*-clauses), while others thrive in a large number of contexts (e.g. *any*, *någonsin* ‘ever’). This fact does not in itself lessen the explanatory adequacy of the Evaluability Hypothesis, since it applies to the hosting environment only. Thus, the observation that strong NPIs always require overt licensing points not to a weakness of the theory, but to a semantic property of the lexical item.

The operator-based analysis of Progovac, in contrast, runs into problems when accounting for strong and weak NPIs precisely because it does not distinguish between the environment and the element. That is, Progovac systematically tries to push all polarity phenomena into the domain of syntax, and the sensitivity problem is consequently reduced to LF-raising: some NPIs may raise at LF, others may not. But this account does not successfully account for the properties of the NPI-hosting environment or the hosted element.

Finally, the Evaluability Hypothesis straightforwardly accounts for the observed correlation between the configuration of Spec-CP and the distribution of polarity items in Swedish. But importantly, this correlation is indirect. Consider the line of reasoning in (161) below, which is the reversed version of (136) on page 119 above.

- (161)
- i. Polarity items are sensitive to evaluability;
 - ii. Evaluability is associated to the edge-feature in C;
 - iii. The edge-feature in C is responsible for the syntactic derivation of Spec-CP.
 - iv. **Conclusion:** The NPI-licensing properties of a Swedish clause correlate with the structural realization of Spec-CP.

If this hypothesis is correct, the observed correlation between Spec-CP and polarity item licensing is language specific. It comes about as a result from the arbitrary association in Swedish between the edge-feature in C and evaluability. Hence, we cannot draw any universal implications from this observation. However, the semantic connection between evaluability and polarity sensitivity may be tested against any other language. The strict modular approach as outlined here thus gives that the syntactic association is language-specific, whereas the semantic connection may be universal (or at least applicable to a large number of languages).

Importantly, the current proposal constitutes a change of perspective from previous theories. Ever since Klima (1964), work on polarity has been set on finding *one, single* syntactic or semantic property relevant for *licensing*; preferably one that is associated to negation. According to my proposal, however, the distribution of polarity items is better thought of in terms of *sensitivity*. Furthermore, there is no immediate connection to negation or negative expectations. Syntactic or semantic *licensing* can in light of the present proposal be regarded as secondary: it is only required in those environments which do not inherently fulfil the sensitivity requirements for polarity items.

As it stands now, the present hypothesis says close to nothing as to *why* polarity items should be sensitive to evaluability. In the next chapter, I will therefore compare the present hypothesis with two influential *semantic* theories, namely Giannakidou's (1998) Veridicality Hypothesis and Ladusaw's (1980) downward-entailing hypothesis. It is argued that the latter may be naturally subsumed under the Evaluability Hypothesis, whereas the former does not successfully account for the Swedish data.

7.4 Summary

In this chapter, I have proposed that the distribution of polarity in Swedish is accounted for by the Evaluability Hypothesis. It was argued that polarity items are sensitive to evaluability: non-evaluable clauses constitute the natural environment for polarity items, while evaluable clauses are restricted to polarity items. As an important consequence, polarity items are characterized as semantically sensitive expressions that need to rely on syntactic licensing in certain environments only, namely evaluable clauses.

The present hypothesis deviates from previous syntactic theories that build on the presence of a covert operator responsible for licensing in such 'non-negative environments' as yes/no-questions and conditionals. Admittedly, I have presented no immediate empirical evidence for the non-existence of such an operator, apart from the fact that we cannot determine its existence from surface structure alone. But we have seen in this chapter that the arguments for assuming a polarity operator are far from conclusive. Not only are the *empirical arguments* for its existence tentative at best, but the *theoretical implications* of its existence raise more questions than they solve. To mention two important aspects, the non-complementary dis-

tribution of PPIs and NPIs in ‘non-negative environments’ is difficult to account for under an operator analysis, as is the different distribution of weak and strong NPIs. These issues pose no problems for the Evaluability Hypothesis.

The Evaluability Hypothesis also presents a straightforward account of the observed correlation between the distribution of polarity items and the configuration of the Swedish C-domain. This connection is argued to be language specific, arising from the arbitrary association between evaluability and the edge-feature in C as noted for Swedish. The association between evaluability and polarity sensitivity is, however, not necessarily language specific, and the current hypothesis is testable against any other language.

Chapter 8

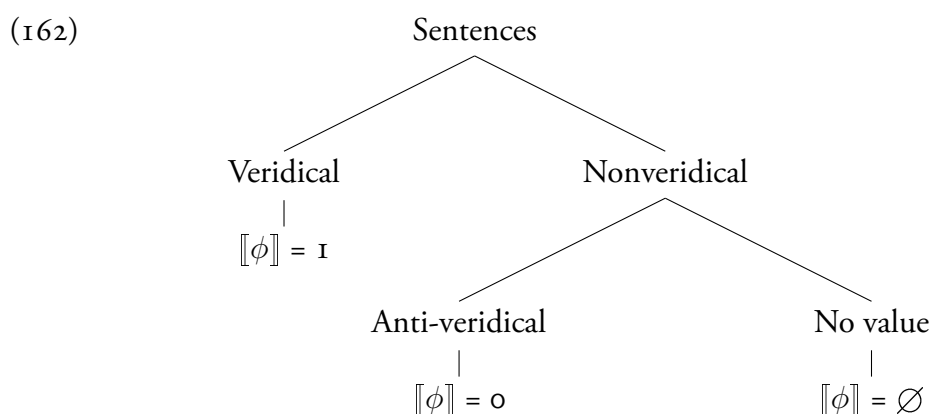
Evaluability and Polarity II

In the previous chapter, I argued that polarity sensitivity could be captured with reference to the evaluable status of the clause. According to the Evaluability Hypothesis, non-evaluable clauses provide the natural environment for polarity items, whereas evaluable clauses pose restrictions on the occurrence of polarity items. The immediate consequence of this proposal is that polarity items no longer need to be regarded as syntactically dependent expressions. Rather, I proposed characterizing polarity items as semantically sensitive expressions that sometimes need to rely on syntactic licensing, namely in evaluable environments. What is still left unexplained by the current theory, however, is why polarity items should be sensitive to evaluability. While I have no conclusive answer to this question, I will propose an alternative outline of the nature of polarity sensitivity in this chapter.

The primary aim of this chapter is to review the present hypothesis in relation to previous semantic accounts of polarity phenomena. I begin by discussing Giannakidou's (1998) influential Veridicality hypothesis. However, I argue here that the Evaluability Hypothesis is better suited to account for the Swedish data, since the Veridicality hypothesis makes some incorrect predictions for both English and Swedish. Further, I argue that Ladusaw's (1979; 1980) Downward Entailment Hypothesis – see section 2.2.2 above – can be naturally subsumed under my current theory.

8.1 Veridicality Revisited

We have already discussed the notion of veridicality in relation to Swedish clause structure distinctions; see the discussion in subsection 5.1.2 above. At the core of this concept lies the dichotomy between that which is true (veridical) and that which is non-true (nonveridical). The latter category thus contains both that which lacks a truth-value and that which is false in the technical sense of denoting 0 (anti-veridical). The Veridical classification in (162) is repeated from (100) above.



THE VERIDICAL CLASSIFICATION

In a number of works, Giannakidou (1998, 1999, 2006) has argued that polarity sensitivity can be understood in terms of veridicality. Based on the distribution of polarity items in Greek, the Veridicality Hypothesis is arguably the most influential semantic account of polarity item licensing since Ladusaw (1979, 1980). In the next subsection, I present an overview of Giannakidou's hypothesis, and subsequently relate it to the downward entailment hypothesis of Ladusaw.

8.1.1 Giannakidou (1998): The Veridicality Hypothesis

Giannakidou's (1998) Veridicality hypothesis is fundamentally different in spirit from Progovac's (1994) syntactic Binding account. According to Giannakidou's theory, polarity sensitivity can be seen as a semantic dependency relation holding between the polarity item and the hosting environment. From this characterization there is no obvious need for syntactic binding or structural licensing con-

ditions.¹ Consider the definition of polarity items in (163), from Giannakidou (1998:17).

(163) DEFINITION (polarity item)

- i. A polarity item α is an expression whose distribution is limited by sensitivity to some semantic property β of the context of appearance.
- ii. β is (non)veridicality.

The view of polarity items as outlined in the definition above provides a change of perspective from syntactic theories. Instead of focusing on the syntactic/semantic properties of PI-licensors, Giannakidou basis her proposal on the lexical-semantic properties of the PIs. She rephrases the definition in informal terms thus (1998:17):

[The definition] gives priority to sensitivity: PIs are sensitive and thus dependent on semantic features of the context for grammaticality. We can envision sensitive expressions as expressions with a semantic “deficiency”. Such expressions are unable to be properly interpreted unless they are found in a context that “cures” their deficiency somehow.

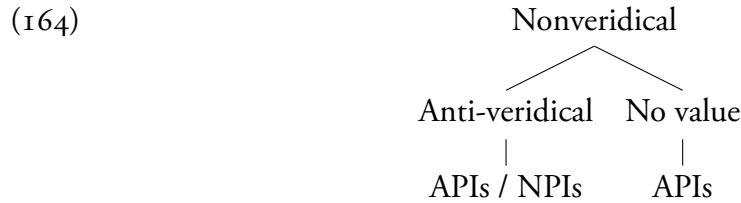
Note that Giannakidou’s characterization of polarity items is similar to the one I proposed in the previous chapter. Polarity items are inherently sensitive expressions (having a semantic “deficiency”), and can be “cured” by occurring in the right kind of environment. I argued that polarity items are sensitive to evaluability, Giannakidou proposes that polarity items are sensitive to veridicality.

According to the Veridicality Hypothesis, *weak* negative polarity items are licensed by nonveridicality, that is, by undetermined truth-values. *Strong* NPIs, in contrast, have a more limited distribution and are licensed by *anti-veridicality*, i.e. by clauses or operators entailing the falsity of p . Using a slightly different terminology, Giannakidou labels the weaker class *affective* polarity items (APIs), whereas the stronger class is labeled *negative* polarity items (NPIs).

Remember from subsection 5.1.2 that anti-veridical clauses form a subset of the nonveridical clauses. Hence, any element that is licensed by nonveridicality is licensed also by anti-veridicality, but not *vice versa*. The Veridicality Hypothesis thus makes a straightforward prediction: both NPIs and APIs are licensed

¹Giannakidou (1998:chapter 4) does, however, suggest a syntactic correlate of the semantic dependency relation at LF.

by anti-veridical operators, whereas only APIs are licensed by (strict) nonveridical operators. This pattern is summarized in (164).



Since Giannakidou's hypothesis provides a systematic understanding of the different distribution of weak and strong NPIs, it steers clear of some of the problems associated with Progovac's (1994) Binding Hypothesis. As we saw in section 7.2.2, Progovac's theory could not without stipulations account for the weak and strong discrepancy.

Perhaps the most attractive feature of Giannakidou's proposal is that it allows for a unified account of a large number of NPI-hosting environments. For example, the occurrence of APIs in yes/no-questions and conditionals is straightforwardly accounted for by the Veridicality hypothesis. Both yes/no-questions and conditionals are nonveridical, since they do not presuppose the truth of p . Hence, they are correctly predicted to host APIs, but not NPIs. The applicability of Giannakidou's theory can thus be extended also to sentence types that are not successfully handled by Ladusaw's downward entailing hypothesis – recall from section 2.2.2 that the licensing properties of yes/no-questions and conditionals remained unaccounted for by the DE-hypothesis.

As a matter of fact, Giannakidou argues that the DE-hypothesis can be naturally subsumed under the Veridicality hypothesis. This means that her theory can be seen as an extension of, rather than an alternative to, Ladusaw's theory. In the next subsection I discuss the implication of this claim, and ultimately argue that veridicality and monotonicity are best kept separate.

8.1.2 Veridicality and Monotonicity

Importantly, both Ladusaw's DE-hypothesis and Giannakidou's Veridicality hypothesis are related to the availability of truth-entailments. An operator F is veridical if from the truth of Fp one can infer that p is true. In other words, a veridical operator is truth *preserving*. In comparison, a monotone increasing function (i.e. an upward entailing expression) is also truth-preserving, in the sense that it pre-

serves the relation between ordered sets: if the sentence *John bought a Ford Thunderbird* (the subset) is true, then the sentence *John bought a Ford* (the superset) is also true. Consider the formalized definitions in (165).

- (165) a. **Upward entailing function:** $x \subseteq y \rightarrow f(x) \subseteq f(y)$
 b. **Veridical operator:** $Fp \Rightarrow p$

In contrast, a monotone decreasing function (i.e. a downward entailing expression) is truth-reversing. The direction of the inference is from the general to the specific: from *John didn't buy a Ford* (the superset) it follows that *John didn't buy a Ford Thunderbird* (the subset). While a nonveridical operator F is not truth-reserving, it is not truth-preserving either: from the truth of Fp , the proposition p may or may not be true. Compare the formalized definitions in (166).

- (166) a. **Downward entailing function:** $x \subseteq y \rightarrow f(y) \subseteq f(x)$
 b. **Nonveridical operator:** $Fp \not\Rightarrow p$

Based on these observations, Zwarts (1995:293) suggests that all downward monotone environments are also nonveridical. As an immediate consequence, downward monotonicity can be subsumed under nonveridicality. The reasoning is as follows:

- (167) i. a) Veridical operators are truth-preserving
 b) Downward entailing functions are truth-reversing
 ii. Therefore, a veridical operator cannot be downward entailing.
 iii. Hence, a downward entailing function is necessarily nonveridical.

From the conclusion in iii), it follows that the notion of nonveridicality is weaker than downward entailment. The immediate implication of this claim is that Ladusaw's DE-hypothesis can be subsumed under the Veridicality hypothesis. This is a rather appealing conclusion, since it means retaining the insights of the DE-hypothesis, while getting rid of (at least some of) its drawbacks.

But while it is technically true that all DE-expressions are also nonveridical, I would nevertheless argue that these two notions are better treated as logically independent of each other. The observed correlation between the two is only a consequence of the rather broad notion of nonveridicality: every sentence that does not assert/presuppose the truth of a proposition p is nonveridical.

There is an asymmetry problem involved here that is not properly addressed by Zwarts (1995) or Giannakidou (1998). A veridical operator entails the truth of p , and an anti-veridical operator entails the falsity of p . However, a nonveridical operator does not entail anything. Giannakidou's definition of nonveridicality states that whenever Fp is true, p may or may not be true. It is therefore a mistake, I would argue, to claim that downward monotonicity can be subsumed under the notion of nonveridicality. Let me explicate this point.

Naturally, if a proposition p has an undecided truth-value, it does not lend itself to truth-value based inferencing. For example, from the (nonveridical) yes/no-question *Has John bought a Ford?* one cannot decide whether the proposition *John bought a car* (the superset) is true, nor can one establish the truth of *John bought a Ford Thunderbird* (the subset). A nonveridical clause is thus best characterized as non-monotone, as it does not allow truth-based inferencing in any direction. In contrast, an *anti-veridical* clause is clearly downward entailing. For instance, if the sentence *John didn't buy a Ford* is true, then the sentence *John didn't buy a Ford Thunderbird* is also true. But this does not in itself prove that monotonicity and anti-veridicality are related notions. It only shows that they *correlate* to a certain extent. And while it is technically true that a downward monotone expression is also nonveridical (in not entailing the truth of p), the intuitive difference between anti-veridical clauses – which are downward entailing – and nonveridical clauses – which are nonmonotone – is blurred.

To summarize, the alleged connection between veridicality and monotonicity is perhaps not as strong as Zwarts (1995) and Giannakidou (1998) assume; it is furthermore dubious to what extent such a connection is explanatory adequate. In section 8.3, I will instead argue that evaluability and monotonicity is intrinsically related, as all evaluable clauses are also monotone. But let us not jump to conclusions. In the next section, I review the Veridicality Hypothesis in relation to the Evaluability Hypothesis.

8.2 Evaluability vs. Veridicality

In this section, I compare the applicability of the Veridicality Hypothesis and the Evaluability Hypothesis in relation to a number of empirical and theoretical issues in Swedish. While the Veridicality Hypothesis cannot account for these issues, it is shown that the Evaluability Hypothesis is more successful.

The most important difference between veridicality and evaluability concerns the view on negated sentences. According to the Veridicality Hypothesis, a negative declarative asserts the *falsity* of p ; hence a negative declarative pattern with other nonveridical clauses which do not assert/presuppose the truth of p . According to the Evaluability Hypothesis, in comparison, a negative declarative asserts the truth of not- p , from which it follows that both p and $\sim p$ are semantically distinct from sentences which are not used to claim a truth-value, such as yes/no-questions and conditionals. These opposing perspectives ultimately make the Evaluability Hypothesis and the Veridicality Hypothesis incompatible with each other.

However, there are points of contact between the two hypotheses. A non-evaluable clause is necessarily also nonveridical, since it neither asserts nor presupposes the truth of p . And a veridical clause is necessarily evaluable, since it asserts or presupposes the truth of p . But the reverse does not hold: a nonveridical clause is not necessarily non-evaluable, and an evaluable clause is not necessarily veridical. This discrepancy is directly related to the opposing views on negative sentences, since a negated declarative is nonveridical but evaluable; it is as acceptable or rejectable in an ongoing communicative exchange as an affirmative declarative. This means that the evaluable class contains both veridical and nonveridical clauses. Consider (168) below.

- (168) i. Evaluable: veridical and nonveridical clauses
 ii. Non-evaluable: nonveridical clauses

I would argue that the empirical and theoretical problems associated with the Veridicality hypothesis – as discussed in the next two sections – can in part be attributed to this mismatch between evaluability and veridicality.

8.2.1 Empirical issues

The Veridicality Hypothesis runs into at least three empirical problems with regards to the distribution of NPIs in Swedish. The first concerns the NPI-licensing properties of factive predicates.

Predicates like *regret* and *be surprised* presuppose the truth of their complements, and are as such veridical (since $Fp \Rightarrow p$). This is illustrated by the fact that the truth of the embedded proposition is constant under negation.

- (169) a. I'm surprised that he failed the test \Rightarrow he failed the test
 b. I'm not surprised that he failed the test \Rightarrow he failed the test

The Veridicality Hypothesis predicts veridical environments to disallow the occurrence of NPIs and APIs. But complements to factive predicates are well-known to host NPIs in both English and Swedish, irrespective of their veridical status; see (170) below.

- (170) a. I'm surprised that he's *ever* failed a test
 b. Jag är förvånad över att han *någonsin* kuggat en tenta
 I am surprised that he ever failed a test

It should be pointed out that the Veridicality Hypothesis makes the right predictions for Greek, in which polarity items are banned from complements to emotive factive predicates. Regardless, the very fact that English and Swedish allow NPIs in veridical environments is of consequence for the general applicability of the hypothesis. In Giannakidou (2006) this problem is addressed in some detail, and she proposes that the so-called *any*-class (consisting of *ever*, *at all* and English minimizers) is not licensed but *rescued* in certain environments:

Rescuing, however, does not happen in the syntactic scope of a nonveridical expression; rather, it can go beyond the entailments of expressions in the sentence of occurrence and exploit the global context, which includes information that is derived from, without necessarily being entailed by, the sentence. In extreme cases, rescuing can also exploit purely contextual information and allow, for example, PIs even with positive emotive factive verbs. In every case, rescuing involves exploiting a nonveridical proposition.
 (Giannakidou 2006:600)

In order to explain the occurrence of PIs in veridical contexts in English, Giannakidou is thus forced to assume that certain PIs may be *tolerated* in veridical contexts, provided they exploit information from the global context. This move is rather unfortunate, I think, since it allows a non-formalized (and thus rather arbitrary) optionality into the system. Furthermore, not only the weakest NPIs (i.e. APIs) may occur in complements to factive predicates. We see in (171) below that *vara förvånad* 'be surprised' may license the NPI *ett rött öre* 'a red cent'.

- (171) Jag är förvånad att han gav dig *ett rött öre*.
 I am surprised that he gave you a red cent
 'I'm surprised he gave you a red cent.'

All in all, it seems as though the licensing properties of factive predicates remain unexplained by the Veridicality Hypothesis. The Evaluability Hypothesis fares decidedly better here, however. In fact, the licensing properties of factive complements fall out naturally, at least with respect to English and Swedish. Presupposed environments are evaluable, so any occurrence of NPIs in the absence of an overt licenser will be illicit. The licensing element may be either a local operator or, in the case of complement clauses, the embedding predicate. However, only adversative factive predicates are proper licensors (see chapter 9 for discussion). Consequently, only complements to emotive factive predicates may host NPIs; any occurrence of NPIs within complements to semi-factive predicates will be illicit in the absence of an overt local licenser.

The second problem concerns the licensing properties of Swedish exclaimatives. Since exclaimatives are presuppositional they are inherently veridical. Hence, Giannakidou's hypothesis predicts exclaimatives to be non-licensing environments. This prediction is correct for *wh*-exclaimatives in Swedish, as illustrated below:

- (172) * Vilka stora fötter du *någonsin* har!
 what big feet you ever have

For the same reason we would expect that *att*-exclaimatives are non-licensors. But as we have seen previously, they readily host NPIs. Consider the licit occurrence of the weak NPI *ens* 'negatively even' in (173) below.

- (173) Att du *ens* vågar!
 that you NPI dare
 'I'm amazed that you even dare!'

It is not clear how the difference between *wh*- and *att*-exclaimatives can be accounted for by the Veridicality Hypothesis. As a matter of fact, the issues involved here are similar to those just reviewed for complements to emotive factive predicates. Recall from section 6.1.4 that *att*-clauses easily embed under emotive factive predicates, whereas *wh*-complements do not. Semi-factive predicates embed both *att*- and *wh*-complements. Now, the Veridicality hypothesis does not successfully account for the licensing properties of factive predicates and *att*-exclaimatives. It does, however, correctly predict the non-licensing properties of semi-factive predicates and *wh*-exclaimatives. But since all these environments are strictly speaking veridical, the relevant licensing property must be something other than veridicality.

Following the Evaluability Hypothesis, we find that the different licensing properties of exclamatives are related to the evaluability differences. *Wh*-exclamatives are subjected to evaluation in on-going discourse, and only allow overtly licensed NPIs. This is because the overt realization of Spec-CP blocks the possibility of external influence. The *att*-exclamative in (173), in contrast, is evaluable but *not* subjected to evaluation. Although NPIs must rely on formal licensing also in these environments, they are open to external licensing in the form of negative inferencing.²

The third problem for the veridicality hypothesis concerns declarative counterfactuals and V2 yes/no-questions. As we have seen previously, such sentence types do not allow APIs, even though they are clearly nonveridical (or, in the case of counterfactuals even anti-veridical):

- (174) a. *Polisen borde *någonsin* ha gjort något för att förhindra
 police.DEF should ever have done something for to prevent
 dödandet.
 killing.DEF
- b. *Polisen borde *ens* ha försökt kommunicera med
 police.DEF should NPI have tried communicate with
 demonstranterna.
 demonstrators.DEF
- (175) a. *Du har *ens* varit i Paris?
 you have NPI been to Paris
- b. *Du såg *någonsin* Ingmar Bergman på Fårö?
 you saw ever Ingmar Bergman at Fårö

The ungrammaticality of (174)–(175) remains a mystery under the Veridicality Hypothesis, since a yes/no-question must be regarded as inherently nonveridical, irrespective of its structural configuration.

²Based on syntactic criteria alone, one could argue that *att*-exclamatives are of type 2 (rather than of type 1b), and consequently lack Spec-CP. With respect to NPI-licensing, *att*-exclamatives have been noted to allow both PPIs and NPIs (see section 4.2.2), so they seemingly pattern with type 2-clauses also in this respect. These observations tentatively suggest that *att*-exclamatives belong to the non-evaluable category. The problem with such an analysis, naturally, is the fact that *att*-exclamatives are presuppositional, and hence necessarily evaluable. Therefore, I maintain that *att*-exclamatives are evaluable, but not subjected to evaluation, and that NPIs are formally licensed by negative inferencing.

However, the licensing facts fall out naturally from the Evaluability Hypothesis. The counterfactual declaratives in (174) are still declaratives, and as such subjected to evaluation in on-going discourse. Consequently, NPIs must be overtly licensed, which they are not in the sentences in (174). The ‘non-open’ yes/no-questions in (175) are also subjected to evaluation in discourse (see the discussion in section 6.2.1). The illicit occurrences of *ens* and *nāgonsin* can thus be attributed to the absence of any overt licensing element also in this case.

From the empirical issues reviewed above, we see that the Evaluability Hypothesis straightforwardly accounts for the licensing properties of a number of environments not sufficiently handled by the Veridicality Hypothesis. Let us in the next section turn our attention to some theoretical issues.

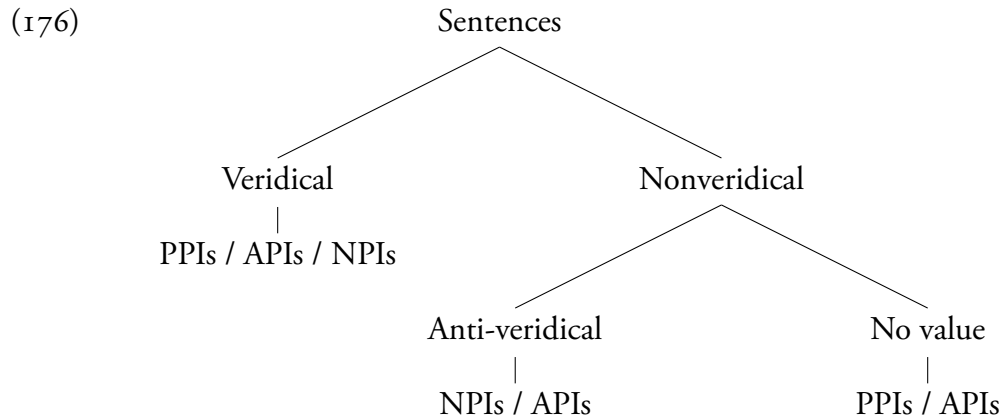
8.2.2 Theoretical issues

Similar to Progovac’s Binding hypothesis, the main theoretical problem for Giannakidou’s Veridicality hypothesis concerns the non-complementary distribution of NPIs and PPIs in nonveridical contexts. In fact, Giannakidou explicitly refrains from discussing the distribution of PPIs (1998:19). This is perhaps somewhat surprising, since we have seen repeatedly that yes/no-questions and conditionals, for instance, host *both* APIs and PPIs. Since these environments are *bona fide* examples of nonveridical contexts, one might assume that their PPI-licensing property ought to be relevant for the overall hypothesis.

With regards to the distribution of APIs and NPIs, the Veridicality Hypothesis presents a rather promising solution, as mentioned above. Under the assumption that APIs are sensitive to nonveridicality, it is expected to find them in both negative declaratives and yes/no-questions. What is forgotten, it seems, is that PPIs *also* occur in yes/no-questions and conditionals, but not in negative declaratives. Hence, one must conclude that PPIs are insensitive to veridicality, as they are found in both veridical and nonveridical environments. Put somewhat differently, one might perhaps say that PPIs are *anti*-licensed by *anti*-veridicality: they may occur in any environment unless it is anti-veridical.

In combination with the unpredicted behavior of APIs and NPIs discussed in the previous section, the distribution of PPIs and NPIs does not fall out neatly under the Veridicality Hypothesis. PPIs are found in both veridical and nonveridical environments. And we saw above that such veridical environments as complements to factive predicates and *att*-exclamatives may host both APIs and NPIs in

Swedish. But this means that PPIs, APIs and NPIs are all found in both veridical and nonveridical environments. This is clearly an unwanted conclusion. Consider the distributional pattern of polarity items in (176).



VERIDICALITY AND POLARITY

We see from (176) that the distribution of polarity items cuts right across the veridicality border. In fact, if we assume with Giannakidou that polarity items are semantically dependent expressions that are sensitive to the veridical status of the hosting clause, the pattern in (176) all but falsifies this hypothesis.

Note also that the Veridicality Hypothesis does not formally distinguish between overt and covert NPI-licensing. This may actually be a good thing, if it can be shown that underlying semantic properties are responsible for licensing rather than overt/covert operators. But the veridical hypothesis cannot account for the observed fact that the syntactic environments that allow APIs in the *absence of overt licensors* also allow PPIs. In comparison, no environment that contains an overt syntactic NPI-licensor may host PPIs, as established in chapter 4.³ Hence, the

³As discussed by Horn (1989), PPIs can be found in the c-command domain of negation, provided the negative element is interpreted metalinguistically (see Horn 1989:397ff). Consider the echoic sentences in (1) below, taken from Horn and Lee (1995:407):

- (1) a. I DON'T sometimes turn in my assignments late.
b. He ISN'T still living in Chicago.

Interestingly, NPIs are *not* licensed by metalinguistic negation, as in contrastive sentences of the type *Chris didn't manage to solve some/*any problems – he managed to solve all of them*. Thus, “metalinguistic negation is neither an active trigger of NPIs nor a passive countertrigger or inhibitor of PPIs” (Horn 1989:397).

absence of overt syntactic operators and the occurrence of PPIs seem related, and this observation remains a mystery under the veridicality hypothesis.

In comparison, the Evaluability Hypothesis predicts the distribution of polarity items to be restricted in evaluable clauses. Consequently, polarity items require formal licensing in these environments, and NPIs and PPIs are therefore in complementary distribution. Non-evaluable clauses, on the other hand, provide a natural environment for polarity items, and no formal licensing is necessary. Because of this, both NPIs and PPIs may occur in identical syntactic/semantic configurations.

To summarize, the Evaluability Hypothesis successfully explains a number of empirical and theoretical issues that remain unaccounted for under the Veridicality hypothesis: these concern both the (non)complementary distribution of PPIs and NPIs as well as illicit occurrences of NPIs in nonveridical contexts. Rather than seeing polarity items as dependent on the absence of a truth-entailment, I propose that they are sensitive to the evaluative status of the clause. Under this perspective, the truth of p is no longer primary; instead it is the act of claiming a truth-value that is argued to be the decisive factor in accounting for the distribution of polarity items. At least with regards to Swedish, this seems to be a more correct characterization than that of the Veridicality Hypothesis.

In the next and final section of this chapter, I propose to subsume the DE-hypothesis under the Evaluability Hypothesis.

8.3 Evaluability and Monotonicity

According to the Evaluability Hypothesis, polarity items occurring in non-evaluable clauses are in their natural environment, much like an adverb thrives within the verb phrase, but prototypically not within the confinement of a noun phrase. From this, it follows that polarity items are sensitive to their hosting environment, but not necessarily *dependent* on it for their survival. To the best of my knowledge, no-one has suggested that adverbs normally need to be formally licensed in order to licitly occur within the verb phrase. The same, I would argue, holds for polarity items in non-evaluable environments.

If this characterization is correct, we would expect polarity items to be banned from evaluable environments altogether. But this is not the case. Both PPIs and NPIs *do* occur in evaluable contexts, but they are in complementary distribution with each other, and NPIs must be overtly licensed. Why is it so?

This is where Ladusaw's DE-hypothesis comes in. As discussed in section 2.2.2, the main criticism against Ladusaw's (1980) notion of downward entailment was that it could not be extended to yes/no-questions and conditionals. But what if this 'weakness' is not really a weakness at all, but rather a natural consequence of the fact that the notion is not applicable to (or of no relevance for) these environments?

In light of the present proposal, one may argue that the DE-hypothesis is non-applicable to a well-defined semantic class. Intriguingly, the sentence types for which the DE-hypothesis does not account correlate in a one-to-one fashion with our non-evaluable category: the antecedent of conditionals, yes/no-questions, *att*-complements following non-assertive predicates and *om*-complements in general (e.g. the antecedent of counterfactual conditionals and embedded yes/no-questions).⁴ Hence, one might argue that the DE-hypothesis fails to explain the distribution of polarity items in non-evaluable clauses, simply because it only applies to *evaluable* clauses. And the reason for this limitation is straightforward.

In order for a sentence to be evaluable, the speaker must take responsibility for the truth of the expressed proposition (be it affirmative or negative); otherwise a sentence is non-evaluable. Now, since only that which has a truth-value can be subjected to truth-based inferencing, it follows that only evaluable clauses are monotone. Non-evaluable clauses are necessarily non-monotone. The connection between evaluability and monotonicity can thus be captured as in (177) below.

- (177) i. Non-evaluable clauses cannot be challenged in discourse, since the speaker does not take responsibility for its truth.
- ii. For this reason, non-evaluable clauses do not allow truth-based inferencing: they are non-monotone.
- iii. Consequently, the monotonicity principles are not applicable to non-evaluable clauses.

If this line of reasoning is on the right track, the fact that Ladusaw's DE-hypothesis cannot account for the occurrence of NPIs in yes/no-questions should not be taken as a 'weakness', as it is ultimately a consequence of the fact that yes/no-questions are non-evaluable. That is, polarity items may occur freely in all non-evaluable environments contexts *precisely because* they are non-monotone. Evaluable sentences, in contrast, are either monotone increasing or decreasing,

⁴The DE-hypothesis also fails to explain the NPI-licensing properties of certain licensing operators, e.g. superlatives and *only*. I will not address these issues here.

and, depending on which, only PPIs or NPIs will be licensed. Hence, the DE-hypothesis may be subsumed under the Evaluability Hypothesis, but its applicability is restricted to the evaluable class.

To summarize this section, I have argued that Ladusaw's DE-hypothesis can be naturally subsumed under the Evaluability Hypothesis: if a clause is evaluable, it gives rise to either upward or downward entailments. Consequently, only PPIs *or* NPIs may occur, depending on the monotone status of the clause. Non-evaluable clauses, in contrast, are non-monotone: therefore PPIs and NPIs may occur in identical syntactic environments.

8.4 Polarity Sensitivity as Evaluability

Let us now summarize the theoretical implications of the Evaluability Hypothesis, and its relation to previous accounts of polarity item licensing.

According to the most basic characterization, polarity items are sensitive to the opposition between affirmative and negative propositions; cf. section 2.1 above. Since affirmative and negative propositions can be regarded as the linguistic correlates of the distinction between truth and falsity, it seems reasonable to assume that polarity items are somehow sensitive to this distinction. And as we have seen in the preceding chapters, polarity phenomena have repeatedly been related to matters of truth and falsity. Ladusaw's DE-approach builds on truth-value based inferences, Giannakidou's Veridicality Hypothesis builds on the availability of truth-entailments. Yet other theories have referred to truth and falsity in more indirect terms, such as Klima's affectedness hypothesis, and Progovac's suggestion that polarity items are licensed in clauses whose truth-value is not set positively.

However, the Evaluability Hypothesis suggests an alternative explanation to polarity sensitivity as a phenomenon, which does not build on the opposition between affirmative and negative sentences, or on the distinction between truth and falsity. Instead, it builds on the possibility of a clause or sentence being *accepted* as true or false within a communicative exchange.

Evaluable clauses are truly *polar*, since they express either the truth of p or the truth of $\sim p$. It is irrelevant whether an evaluable clause is true or false in the absolute sense of propositional or modal logic; it must only be possible to accept it as true in a communicative exchange. In contrast, non-evaluable clauses are *non-polar*, since they neither express the truth of p nor the truth of $\sim p$. For this

reason, they cannot be accepted or rejected in discourse.

Since non-evaluable clauses are non-polar, they are also non-monotone. This means that both NPIs and PPIs may occur in identical syntactic and semantic environments. From this characterization, so called ‘non-negative licensing contexts’ (such as yes/no-questions and conditionals) have nothing in common with ‘negative licensing contexts’ (such as negative declaratives) – in fact, they display quite opposing semantic properties. This conclusion is in stark contrast with former theories, which have sought to unite negative and ‘non-negative’ licensing contexts. According to the Evaluability Hypothesis, non-evaluable clauses are *bona fide* environments for polarity items, whereas evaluable clauses are exceptional.

We have seen that the distinction between evaluable and non-evaluable clauses is structurally mirrored in Swedish. Evaluable clauses are endowed with an edge-feature in C, while non-evaluable clauses lack an edge-feature in C. At ‘surface structure’, this difference is reflected by the presence or absence of Spec-CP. Hence, the Evaluability Hypothesis straightforwardly accounts for the observed correlation between clause structure and the distribution of polarity items in Swedish – the start of the entire study. None of the previous theories of polarity sensitivity provides a viable account of this observation. I will leave it open for further research to test this hypothesis in other languages.

In the final two chapters of this work, I will apply the Evaluability Hypothesis to two case-studies of areas that deserve further attention: long-distance NPI licensing and NPI-licensing in *wh*-questions. It is shown that the current theory successfully accounts for the rather intricate issues involved in these studies.

Chapter 9

Long-distance NPI-licensing

During the course of the previous chapters, I have gradually developed and arrived at my main account of polarity phenomena in Swedish, the Evaluability Hypothesis. In order to facilitate the discussion leading up to this proposal, I have deliberately postponed the discussion of some rather intricate phenomena. I hope to remedy this by devoting the next two chapters to two separate case studies of issues not completely addressed in the previous chapters.

In the present chapter, I revisit long-distance NPI-licensing in Swedish, i.e. licensing of an embedded NPI by superordinate negation (178a) or by an embedding predicate (178b).

- (178) a. Jag vill **inte** att du *någonsin* gör så igen!
I want not that you ever do so again
- b. Jag är **förvånad** över att han *någonsin* åkte till Paris.
I am surprised over that he ever went to Paris

Taking the licensing properties of different predicate type constructions as my point of departure, I present an elaborated semantic/pragmatic analysis of long-distance NPI-licensing in Swedish which builds on the Evaluability Hypothesis. Predicate licensing and licensing by superordinate negation will be discussed separately in the following two sections. In section 9.3, I compare the current hypothesis with two previous accounts of long-distance licensing: the syntactic approach of Progovac (1994) and the semantic/syntactic approach of Giannakidou and Quer (1997).

9.1 Licensing by Superordinate Negation

First of all, let us review the relevant set of data. Below I have listed a number of predicates, each representing a semantically well-defined group.¹ For each predicate construction in the examples below, the (a)-example illustrates the possibility of licensing embedded weak NPIs (e.g. *ens* ‘even’ and *någonsin* ‘ever’) by superordinate negation, whereas the (b)-example illustrates the possibility of licensing mid-scale NPIs (e.g. *ett rött öre* ‘a red cent’ and *ett dugg* ‘a bit’). Pay close attention to the different licensing properties displayed here. Some predicates will not license NPIs at all, others only weak ones, and yet others also mid-scale ones.

(179) Emotive factive predicates

- a. *Jag är **inte** glad att vi *ens* fick en plats.
I am not glad that we even got a seat
- b. *Jag är **inte** glad att jag gav henne *ett rött öre*.
I am not happy that I gave her a red cent

(180) Epistemic factive predicates

- a. *Jag upptäckte **inte** att han *någonsin* varit i Paris.
I discovered not that he ever went to Paris
- b. *Jag upptäckte **inte** att han givit henne *ett rött öre*
I discovered not that he given her a red cent

¹Omitted from this set are all neg-raising predicates, i.e. predicates allowing negative transport. Negative transport refers to the phenomenon in which higher-clause negatives receive lower-clause interpretations. Most speakers would agree that sentence (1a) below implies, or actually is taken to mean, (1b).

- (1) a. John doesn't think that Bill attended the funeral.
b. John thinks that Bill didn't attend the funeral.

Most neg-raising predicates belong to class B of Hooper and Thompson's (1973) predicate categorization, i.e. weak assertives. There are however some seemingly arbitrary cross-linguistic variation with regards to which predicates allow neg-raising interpretations, see Horn (1978a) for an in-depth discussion. Since it may be argued that ‘superordinate’ negation in such constructions originates in or pertains to the complement (syntactically and/or semantically), neg-raising predicates do not provide a suitable starting point for discussing long-distance licensing phenomena.

(181) Assertive predicates

- a. Jag sa **inte** att vi *någonsin* gjort så.
 I said not that we ever did that
 ‘I didn’t say that we ever did that.’
- b. ?? Jag sa **inte** att vi skänkte *ett rött öre* till dem
 I said not that we gave a red cent to them

(182) Non-assertive predicates

- a. Det är **inte** möjligt att Sven *någonsin* har varit i Paris.
 it is not possible that Sven ever has been to Paris
 ‘It’s not possible that Sven has ever been to Paris.’
- b. Det är **inte** möjligt att Sven skänkt *ett rött öre*.
 it is not possible that Sven given a red cent
 ‘It’s not possible that Sven has donated a red cent.’

(183) Perception predicates

- a. Jag har **inte** sett att han *någonsin* hjälpt dig.
 I have not seen that he ever helped you
 ‘I haven’t seen that he’s ever helped you.’
- b. Jag har **inte** sett att han givit henne *ett rött öre*
 I have not seen that he given her a red cent
 ‘I haven’t seen that he’s given her a red cent.’

(184) Volitional predicates

- a. Jag vill **inte** att du *någonsin* gör så igen!
 I want not that you ever do so again
 ‘I don’t want you to ever do that again!’
- b. Jag vill **inte** att du ger mig *ett rött öre*!
 I want not that you give me a red cent
 ‘I don’t want you to give me a red cent!’

The picture that emerges from these examples is both perplexing and bothersome. Note that factive predicate constructions do not allow long-distance NPI-licensing by superordinate negation at all, as illustrated in (179) and (180). In contrast, perception (183) and volitional (184) predicate constructions allow superordinate licensing of both weak and mid-scale NPIs. Lastly, assertive predicate constructions allow long-distance licensing of weak NPIs, whereas the licensing of mid-scale NPIs is marginal.

Syntactically, it is rather surprising that superordinate negation does not always successfully license embedded NPIs, given that matrix negation *c*-commands the verbal complement. Semantically, the varying distribution of weak and mid-scale NPIs seems uncalled for. Given that sentential negation is the strongest NPI-licensor there is, one would therefore expect it to license *any* kind of embedded NPI.

Previous theories of long-distance NPI-licensing have been more or less successful at handling the variation displayed in (179)–(184), as we will see in more detail in section 9.3. In this section, I propose that the licensing properties of each predicate construction can be calculated from the evaluability relation that holds between the matrix and the embedded clause. Based on this analysis, the Evaluability Hypothesis presents a straightforward account of the rather peculiar data above.

My proposal as developed in this chapter is inspired by Linebarger's (1987) *Immediate Scope Constraint*. Although I will suggest a revised version of this constraint, Linebarger's original definition is formulated thus (taken from Linebarger 1987:338):

- (185) THE IMMEDIATE SCOPE CONSTRAINT
 A negative polarity item is acceptable in a sentence *S* if in the LF of *S* the subformula representing the NPI is in the immediate scope of the negation operator. An element is in the immediate scope of NOT only if (1) it occurs in a proposition that is the entire scope of NOT, and (2) within this proposition there are no logical elements intervening between it and NOT.

At first glance, Linebarger's constraint does not seem applicable to long-distance licensing, since embedded NPIs (according to her definition) fall outside the immediate scope of superordinate negation. In order to rescue her hypothesis, Linebarger assumes that negative implicatures may function as relevant NPI-licensors. Consider the negated assertive predicate construction below:

- (186) I didn't say that there was any food in the refrigerator.

According to Linebarger, (186) carries an implicature such as *I left open the possibility that there would not be any food in the refrigerator*, which in turn is responsible for the licit occurrence of the NPI. The theoretical problem of a hypothesis

drawing on negative implicatures as being prime NPI-licensors, however, is the lack of predictive power – a fact Linebarger herself acknowledges (1987:377).

However, I am sympathetic to Linebarger's overall approach, and I will propose shortly that her Immediate Scope Constraint can be quite naturally implemented within the Evaluability Hypothesis. The key lies in switching focus from *propositions* to *evaluable environments* – an idea which echoes the distinction made in chapter 5.2 between the propositional and evaluative classification of sentences. With this slight revision, the applicability of the Immediate Scope Constraint can be extended to long-distance NPI-licensing.

Before jumping too far ahead, however, we need to discuss the licensing properties displayed in (179)–(184) in more detail. The behavior of factive predicates provides a good starting point.

9.1.1 Factive Predicates

It seems rather uncontroversial to assume that factive predicate constructions are made up from the combination of two distinguishable, independent events: (i) the event expressed in the (asserted) main clause, and (ii) the event expressed in the (presupposed) subordinate clause. With reference to the Evaluability Hypothesis, we may say that factive predicate constructions are made up from two *evaluable* parts, one that is subjected to evaluation in the present discourse (the asserted matrix), and one that is no longer subjected to evaluation (the presupposed complement).²

- (187) a. Mary is surprised that John bought a car.
 evaluable *evaluable*
- b. Mary discovered that John had bought a car.
 evaluable *evaluable*

In factive predicate constructions there is a truth-conditional dependency between the matrix and the complement, since the truth of the latter is dependent on the truth of the former. If the sentence *Mary is surprised that John bought a car*

²As discussed in chapter 5, both *assertions* and *presuppositions* are evaluable. They only differ with regards to when and how the evaluative process takes place, as it were: either prior to or in connection with the utterance. Asserted information is subjected to evaluation in the actual discourse, whereas presupposed information is *no longer* subjected to evaluation, for the simple reason that it has been evaluated prior to the utterance, or at least functions as though it had been.

is true, then the proposition *John bought a car* must be true as well. Importantly, this holds also when the matrix is negated. In other words, the truth of the complement is constant under negation, and as such it adheres to the standard definition of (semantic) presupposition: *A* presupposes *B* iff $A \Vdash B$ and $\neg A \Vdash B$.

We saw from examples (179) and (180) above that factive predicate constructions do not allow long-distance NPI-licensing by superordinate negation. It seems reasonable to assume that this restriction can be attributed to the presuppositional status of the complement. That is, the truth of a factive complement remains unaffected by superordinate negation; hence matrix negation is *not* a truth-functional operator in relation to the embedded environment. As a consequence, it is incapable of licensing an embedded NPI. With reference to the Evaluability Hypothesis, we may say that superordinate negation fails to license NPIs embedded under factive predicates, as it belongs to an evaluable environment *different from* the evaluable environment hosting the NPI. The complement clause, which in itself is an evaluable environment, cannot host NPIs that are not formally licensed, in full adherence to the Evaluability Hypothesis. But the only possible licensing element in (179) and (180) – i.e. superordinate negation – is located outside the (embedded) evaluable environment of the NPI. Hence, the occurrence of embedded NPIs in (179) and (180) is illicit, and the result is ungrammaticality.

Also from a syntactic perspective, the Evaluability Hypothesis succeeds in accounting for the non-licensing property of factive predicate constructions. In section 6.3.1, I argued that factive predicates select complements endowed with an edge-feature in C. This claim was supported by the observation that factive complements allow *det*-insertion, suggesting the availability of Spec-CP:

- (188) a. Jag beklagar (det) att jag sårade dig.
 I regret it that I hurt you
 ‘I regret that I hurt you.’
 b. Jag är förvånad över (det) att jag sårade dig.
 I am surprised over it that I hurt you
 ‘I’m surprised that I hurt you.’

Now, it has often been observed that a polarity operator may only license NPIs within its scope provided there are no *intervening* anti-licensors between the licensor and the licensee (see Horn and Lee 1995 as well as the aforementioned Linebarger 1980). Consider the following sentences, taken from Horn and Lee (1995:416):

- (189) a. John didn't give the charity any money.
 b. *John didn't give every charity any money.
- (190) a. John never reads a book which has any pages missing.
 b. *John never reads many books which have any pages missing.

We see that the (b)-examples above are ungrammatical, since the NPI *any* is separated from its licensor by the anti-licensors *every* and *many*, respectively. In chapter 4, we made a similar observation regarding V₂-complements in Swedish. It was noted that NPIs in embedded V₂-clauses cannot be licensed by superordinate negation. Compare the non-V₂ complement in (191) below with the ungrammatical V₂-complement in (192):

- (191) Jag sa **inte** att vi *någonsin* gjorde så. (Non-V₂)
 I said not that we ever did that
 'I didn't say that we ever did that.'
- (192) a. *Jag sa **inte** att vi gjorde *någonsin* så. (V₂)
 I said not that we ever did that
 b. ...NEG [_C⁰ *att* [_{Spec-CP} vi [_C⁰ gjorde [_{Spec-NegP} *någonsin* ...]]]]

It seems as though the overt realization of Spec-CP is responsible for blocking the scope of the superordinate negative element in (192). In our terminology, we may say that the edge-feature in C creates a syntactic island that blocks the relation between the licensor and the licensee in embedded V₂-clauses. It is thus possible to assume that non-licensing factive predicate constructions can be explained in the very same way. Factive complements are endowed with an edge-feature in C, and consequently constitute syntactic islands. This gives that the (embedded) NPI is not within the immediate syntactic scope of (matrix) negation, and thus remains unlicensed. If this analysis is on the right track, the edge-feature in C (which is overtly realized in V₂-clauses and optionally realizable in factive complements) thus functions as an intervener, separating the NPI from its licensor.

Admittedly, my syntactic analysis bears close resemblance to previous accounts of factive predicate constructions. If one assumes the 'traditional' view of Kiparsky and Kiparsky (1970), factive complements are endowed with a factive complementizer C_{fact} which creates an island that blocks the local relation between the licensor and the licensee:

- (193) a. *John didn't find out that *anyone* left
 b. John didn't find out [_{Island} C_{fact} that anyone left]

One may of course argue that my edge-feature analysis is nothing but a reformulation of the C_{fact}-analysis. However, the edge-feature analysis is not restricted to factive complements, but applies to any clause type that may realize Spec-CP. Furthermore, the edge-feature in C is only indirectly related to the semantic status of the complement. Hence, my syntactic analysis steers clear of a delicate problem marring the C_{fact}-approach, as assuming that the factive status of a factive complement can be attributed to a factive complementizer is close to non-explanatory, and potentially circular. For these two reasons, the present analysis is theoretically more appealing than Kiparsky and Kiparsky's original idea, although it builds on similar principles.

To summarize so far, there are both semantic and syntactic reasons why superordinate negation fails to license NPIs in factive predicate constructions: i) the negative element is not a truth-functional operator with regards to the evaluable environment in which the NPI occurs (i.e. the complement), and ii) the edge-feature in C functions as a structural intervener, separating the licensee from its licensor. According to the Evaluability Hypothesis, these reasons are intrinsically related to each other: the blocking edge-feature can be seen as a syntactic reflex of the semantic fact that (superordinate) negation belongs to an evaluable domain different from that of the complement.

If the characterization outlined above is correct, successful long-distance licensing demands the fulfilment of two equally important requirements, given in (194).

(194) *Requirements for successful long-distance NPI-licensing:*

1. **Syntactic requirement**

The licensee must not be structurally separated from its licensor by an intervening element.

2. **Semantic requirement**

There must be a semantic bond between the licensing element and the embedded environment in order for the NPI to be properly licensed.

As the observant reader may have acknowledged, these two requirements are reminiscent of Linebarger's Immediate Scope Constraint as presented on page 158.

In fact, by a slight reformulation of her original definition, the Immediate Scope Constraint may be incorporated into the Evaluability Hypothesis:

- (195) THE IMMEDIATE SCOPE CONSTRAINT, VERSION 2.0
 A negative polarity item is acceptable in an evaluable sentence *S* if it is in the immediate scope of the negation operator. An element is in the immediate scope of NOT only if (1) it belongs to the same *evaluable environment* as NOT, and (2) within this domain there are no logical elements intervening between it and NOT.

By switching from Linebarger's original focus on propositions to *evaluable environments*, it appears as if the Immediate Scope Constraint can be successfully applied also to long-distance NPI-licensing. Just as Ladusaw's DE-hypothesis could be subsumed under the Evaluability Hypothesis (its applicability being restricted to the evaluable category), so the major insights of Linebarger's hypothesis can be maintained under the present proposal. One welcome consequence of this move is that superordinate licensing need not rely on negative implicatures, as it had to in Linebarger's original version.

In order to test its applicability, I relate all remaining predicate type constructions to the revised Immediate Scope Constraint. In the next subsection, the focus is on volitional and non-assertive predicate constructions, which were noted to *allow* licensing by superordinate negation.

9.1.2 Volitional and Non-assertive Predicates

All embedding predicates are bound to their complements to a certain degree. For any co- or subordinating construction, the conjoined clauses and events are syntactically and semantically *integrated* to a higher or lesser extent. Givón (2001:chapter 12) argues that the semantic integration of two conjoined events can be measured (at least in part) by taking co-referentiality and co-temporality restrictions into consideration.³ The more co-referential and co-temporal two events are, the more likely they are to be construed as a single, albeit complex, event.

In the previous section, I argued that factive predicate constructions are made up from two independent, evaluable parts: the asserted matrix and the presup-

³Givón presents a number of criteria relevant for his rather fine-grained complementation scale, such as intonation contour, agentive control and manipulative success. The reader is referred to Givón (2001:chapter 12) for an in-depth discussion.

posed complement. Using a different terminology, we may say that factive predicate constructions consist of two weakly integrated events. This claim is supported by Givón's two criteria: a) the grammatical subject of a factive predicate need not be co-referential with the grammatical subject of the complement, and b) the two events need not be co-temporal. See (196) below:

- (196) Jag är glad att Maria åkte till Paris.
 I am glad that Maria went to Paris
 'I'm glad that Maria went to Paris.'

Following Givón's criteria, volitional predicate constructions display a considerably higher degree of event integration, however; they tend to take non-finite complements which in turn gives that the (unexpressed) embedded subject must be co-referent with the subject/object of the matrix, as in (197).

- (197) a. Mary wants to go to Paris.
 b. I want Mary to go to Paris.

In Swedish, *vilja* 'want' may take finite complements, in which case the embedded subject need not be co-referential with any NP in the matrix, cf. (198a) and (198b). However, the matrix event and the complement event tend to be co-temporal; consider the marginality of (198c) below:

- (198) a. Maria vill åka till Paris.
 Maria wants go to Paris
 'Maria wants to go to Paris.'
- b. Jag vill att Maria åker till Paris.
 I want that Mary goes to Paris
 'I want Mary to go Paris.'
- c. ??Jag ville att Maria åker till Paris.
 I wanted that Mary goes to Paris

The strong event integration of volitional predicate constructions is of relevance for the evaluable properties of the clause. Rather than being made up of two independent, evaluable clauses (as was the case with factive constructions), I would argue that a volitional predicate construction constitutes a single (albeit complex) evaluable unit. Intuitively, it makes little sense to evaluate the two events of a volitional predicate construction separately in discourse. Since the speaker does

not take responsibility for the embedded proposition, it cannot be evaluated in isolation. Consequently, the hearer may only accept or reject the *combination* of the matrix and the complement (i.e. *X wants p*), as illustrated in (199).

- (199) A. Sven vill inte att du åker till Paris.
 Sven wants not that you go to Paris
 ‘Sven doesn’t want you to go to Paris.’
- B. Nej, det är inte sant.
 no, that is not true
 ‘No, that’s not true.’

In the above example, B’s reply may only refer to A’s entire utterance. It cannot be used to deny the truth of the embedded proposition. Importantly, this means that the complement does not constitute an evaluable context in itself, but belongs to the same evaluable unit as the matrix clause.⁴

There is thus a fundamental difference between complements to factive and volitional predicates, respectively. The former constitutes an independent evaluable unit, whereas the latter is *part of* the complex evaluable unit consisting of the matrix and the complement. A similar line of reasoning is found in Nichols (2001:126) (my italics):

[T]he complement of an attitude predicate like ‘regret’ (...) is evaluated using a world set that includes the actual world. Accordingly, factive subordinate clauses simply make use of the default evaluation context. (...) Factive complement propositions and factive main clause propositions therefore make use of the same (default) basic evaluation context. (...) In contrast, the proposition in a non-factive complement clause is not evaluated in the default context; some interpretive element has been added by the selecting attitude predicate that changes the composition of the evaluation set of worlds. Subordinate non-factive propositions therefore have an *evaluation context that is special with respect to the conversational common ground*.

⁴Since my notion of evaluability is independent from logical truth-relations, the dependent evaluative status of a non-asserted complement holds irrespective of the possibility of evaluating its truth with reference to possible worlds. It is also independent from Giannakidou’s (1998) relativized view on veridicality, according to which volitional predicates embed propositions that are veridical with regards to the epistemic model of the grammatical subject.

It is precisely this evaluability difference between factive and volitional predicates that is of relevance for the possibility of long-distance licensing by superordinate negation. We saw in (184) above (repeated below as (200) for convenience) that volitional predicates readily allow both weak and mid-scale embedded NPIs to be licensed by matrix negation:

- (200) a. Jag vill **inte** att du *någonsin* gör så igen!
 I want not that you ever do so again
 ‘I don’t want you to ever do that again!’
 b. Jag vill **inte** att du ger mig *ett rött öre*!
 I want not that you give me a red cent
 ‘I don’t want you to give me a red cent!’

Following the revised Immediate Scope Constraint, this fact follows naturally. Since volitional predicate constructions constitute but one evaluable unit, ‘superordinate’ negation is a truth-functional operator with respect to the ‘embedded’ NPI. In other words, both licensor and licensee belong to the same evaluable environment despite being structurally located at different clause levels. Crucially, the evaluable environment is *not* the complement in isolation, but the *combination* of the matrix and the complement. Thus, the requirement that NPIs must be in the immediate scope of its licensor is upheld. Note that the situation is fundamentally different from the one noted for factive predicate constructions, which were argued to contain two independent evaluable units. In such cases, the immediate scope constraint cannot be upheld, and NPIs cannot be licensed by superordinate negation.

Also from a syntactic perspective, the licensing properties of volitional predicates can be understood according to the revised Immediate Scope Constraint. There is little to support the idea that complements to volitional predicates are endowed with an edge-feature in C, due to the fact that Spec-CP cannot be overtly realized by *det*:

- (201) ?? Jag vill *det* att han åker till Paris.
 I want it that he goes to Paris

If it is correct that complements to volitional predicates lack an edge-feature in C, there is thus no structural obstacle intervening between the (matrix) negative element and the (embedded) NPI. Consequently, the NPI is within the commanding scope of the negative element. Note also that this analysis is perfectly

in line with the Evaluability Hypothesis, as the non-evaluable status of the complement clause is structurally mirrored by the absence of the edge-feature in C.

The story is similar for (non-adversative) non-assertive predicates, as a non-assertive complement is not independently evaluable, but constitutes part of the (complex) evaluable unit together with the matrix. We see that B's objection in (202) below refers to A's entire utterance:

- (202) A. Det är möjligt att Sven har åkt till Paris.
 it is possible that Sven has gone to Paris
 'It's possible that Sven has gone to Paris.'
- B. Nej, det är inte sant.
 no it is not true
 'No, that's not true.'

Simons (2007:1042) makes a similar observation when discussing non-assertive predicates: "main point content cannot be identified with the content of either the subordinate clause alone or the main clause. Rather, main point content emerges from the interaction between the subordinate clause content and the attitudes to that content expressed by the other predicates used".

It is thus perfectly in line with our expectations to find that non-assertive predicate constructions allow long-distance licensing by superordinate negation, as in (182) below (repeated from above).

- (182) a. Det är **inte** möjligt att Sven *någonsin* har varit i Paris.
 it is not possible that Sven ever has been to Paris
 'It's not possible that Sven has ever been to Paris.'
- b. Det är **inte** möjligt att Sven skänkt *ett rött öre*.
 it is not possible that Sven given a red cent
 'It's not possible that Sven has donated a red cent.'

To summarize, we see that volitional and non-assertive predicate constructions fulfil the semantic and syntactic requirements for successful long-distance licensing: the licensor and licensee belong to the same evaluable environment, and there is no intervening anti-licensor between the licensee and its licensor (i.e. the edge-feature).

Let us now finally discuss the last construction type, i.e. constructions with assertive and perception predicates.

9.1.3 Assertive and Perception Predicates

It should be relatively uncontroversial to assume that both assertive and perception predicate constructions are made up from two evaluable units, much in the same way as factive predicates: the matrix and the complement express two distinguishable, independent events.⁵

- (203) a. Romeo said that Juliet was dead.
 evaluable *evaluable*
 b. Romeo saw that Juliet was dead.
 evaluable *evaluable*

However, the issues involved are somewhat more complex than for factive predicate constructions, which in turn motivates a separate analysis.

Let us begin with perception predicates. Affirmative predicate constructions are clearly implicational: the truth of the matrix implies the truth of the complement:

- (204) Jag såg att mannen lämnade huset kl. 7.
 I saw that man.DEF left house.DEF clock 7
 ‘I saw that the man left the house at 7 o’clock.’

In the above example, the speaker is quite naturally responsible for the truth of the embedded proposition, and the complement is thus an independent evaluable unit that may be accepted or challenged in discourse.

Negated perception predicate constructions, in contrast, are decidedly more complex. In certain contexts, the truth of the complement is constant under negation, in other contexts superordinate negation triggers nonveridical readings. Compare the two sentences in (205) and (206).

- (205) Oj, jag såg inte att du stod där! ⇒
 oops I saw not that you stood there
 Du stod där.
 (206) Nej, jag såg inte att mannen lämnade huset kl. 7. ⇒
 no I saw not that man.DEF left house.DEF clock 7
 Mannen lämnade huset kl. 7.

⁵Assertive and perception constructions are obviously not quite on par with each other, however: for one thing, the latter is implicational, whereas the former is not.

In (205) the embedded proposition is unaffected by superordinate negation: this is the factual interpretation, in which perception predicates function similarly to semi-factive predicates.⁶ In (206), however, the negated matrix indicates that the speaker is unable/unwilling to take responsibility for the embedded proposition. The proposition may very well *be* true, but since the speaker does not vouch for its truth it cannot be accepted or challenged by the hearer. In terms of evaluability, the complement in (205) is an independent evaluable unit, whereas the complement in (206) is part of the complex evaluable unit consisting of the whole predicate construction.

The interpretive differences between (205) and (206) is of importance for long-distance NPI-licensing. Only when the complement does *not* constitute an independent evaluable environment is long-distance licensing possible. Compare the examples in (183) below, repeated from above:

- (183) a. Jag har **inte** sett att han *någonsin* hjälpt dig.
 I have not seen that he ever helped you
 ‘I haven’t seen that he’s ever helped you.’
- b. Jag har **inte** sett att han givit henne *ett rött öre*.
 I have not seen that he given her a red cent
 ‘I haven’t seen that he’s given her a red cent.’

We see that both examples are non-presuppositional, as the speaker is not responsible for the truth of the embedded proposition. Quite the opposite, in fact, since the speaker implies (but crucially not asserts) the *falsity* of the complement proposition. This means that superordinate negation affects the interpretation of the complement, and hence is a truth-functional operator with regards to the embedded proposition. As a consequence, the NPI may be properly licensed.

⁶Note that the speaker necessarily refers to a previous perceptual state when uttering a negated perception construction: *I didn’t see it, but now I do see you standing there!* There is a similar effect with negated semi-factive predicates like *know* and *discover*, which refer to previous knowledge-states:

- (1) I didn’t know/discover that the book was out of print! ⇒
 The book was out of print.

Quite naturally, such sentences only make sense if the speaker subsequently came to know/discovered that the book was out of print. Note that for this reason both negated semi-factive and negated perception predicates are somewhat deviant in the present tense.

Semantically, perception predicates may take evaluable (veridical) or non-evaluable (nonveridical) complements. Syntactically, it is conceivable that the evaluable status is mirrored by complement selection: a perception predicate may select either an edge-feature complement or a complement lacking an edge-feature in C. If correct, this means that a complement to a perception predicate may, but need not, involve Spec-CP in Swedish. This assumption is not merely a convenient solution, but empirically supported by the fact that *det*-insertion is possible only when the complement is presuppositional.⁷ Compare the veridical complement in (207) with the nonveridical complement in (208):

(207) Såg du (det) att hon hade färgat håret rosa? ⇒
 saw you it that she had colored hair.DEF pink
 Hon hade färgat håret rosa

(208) Såg du verkligen (*det) att hon har färgat håret rosa? ⇏
 saw you really it that she had colored hair.DEF pink
 Hon hade färgat håret rosa

We see that *det*-insertion is impossible when the speaker does not take responsibility for the truth of the embedded proposition, as is the case in (208). This suggests that the complement lacks Spec-CP, as expected from the Evaluability Hypothesis. The clause is non-evaluable, and the edge-feature in C is a syntactic characteristic of evaluable clauses only.

All in all, the licensing properties of perception predicate constructions are thus similar to those noted for volitional predicate constructions: whenever matrix negation belongs to the same evaluable unit as the embedded NPI, there is no intervening element (i.e. the edge-feature in C) between the licensee and its licensor. Hence, both the semantic and syntactic requirements for successful long-distance licensing are fulfilled. Crucially, long-distance licensing is only possible in perception predicate constructions provided the complement clause does not constitute an independent evaluable unit. Whenever it does so, the complement clause will be closed to external influence, much like complements to factive predicates.

⁷Example (208) may be deemed grammatical by certain speakers if *det* is interpreted anaphorically, referring to a previous utterance (or salient fact). However, it cannot have cataphoric reference, as in (207). This difference is also marked prosodically: the anaphoric interpretation is distinguished by a slight pause in-between the pronoun and the complement.

Let us now finally turn to assertive predicates. In section 6.1.2, I argued that assertive predicates take evaluable complements. There are two possibilities: either the complement is subjected to evaluation in on-going discourse (in which case the V2-word order is preferred), or it is evaluable but not subjected to evaluation in on-going discourse, since the V2-matrix is interpreted as the salient proposition. Compare the non-V2 complement in (209) with the V2-complement in (210), as well as the hearer responses (repeated from examples (110) and (111) above).

- (209) A. Sven sa att han *aldrig* **har** varit i Paris. (Non-V2)
 Sven said that he has never been to Paris
 ‘Sven said that he’s never been to Paris.’
- i. B. Det sa han inte alls! (Preferred)
 that said he not at.all
 ‘That’s not at all what he said.’
- ii. B. Men det har han visst varit!
 but that has he sure been
 ‘But he definitely has!’
- (210) A. Sven sa att han **har** *aldrig* varit i Paris. (V2)
 Sven said that he has never been to Paris
 ‘Sven said that he’s never been to Paris.’
- i. B. Det sa han inte alls!
 that said he not at.all
 ‘That’s not at all what he said.’
- ii. B. Men det har han visst varit! (Preferred)
 but that has he sure been
 ‘But he definitely has!’

The very fact that the hearer may react against either the matrix or the embedded clause suggests that assertive predicate constructions are made up from two independent, evaluable units. This means, however, that we would expect assertive predicates to disallow long-distance licensing altogether, as superordinate negation belongs to an evaluable domain that is different from the evaluable domain hosting the NPI. We have previously seen that this is actually the case for V2-complements in Swedish: the activation of Spec-CP syntactically blocks the scope of matrix negation. Hence, the embedded NPI remains unlicensed, as seen from (211) below (repeated from (192) above):

- (211) a. *Jag sa **inte** att vi gjorde *någonsin* så.
 I said not that we ever did that
- b. ...NEG [_{C⁰} *att* [_{Spec-CP} vi [_{C⁰} gjorde [_{Spec-NegP} *någonsin* ...]]]]

As for assertive non-V2 complements they *do* allow long-distance licensing, as illustrated by the following authentic examples taken from Google:

- (212) a. Jag sa **inte** att jag *nånsin* skulle komma på tanken själv.
 I said not that I ever would come up idea.DEF myself
 ‘I didn’t say that I ever would come up with the idea myself.’
- b. Jag sa **inte** att vi *någonsin* gjort så.
 I said not that we ever did that
 ‘I didn’t say that we ever did that.’
- c. Jag säger **inte** att jag *någonsin* skulle göra bort mig.
 I say not that I ever would do away me
 ‘I don’t say that I would ever make a fool of myself.’

Even in the light of these sentences, however, it appears that long-distance licensing in assertive predicate constructions needs a certain amount of contextual rescuing in order to be fully acceptable. This becomes particularly evident when compared to the licensing properties of negated volitional and non-asserted predicates, where the occurrence of NPIs is decidedly more natural and in less need of contextual reinforcement. My intuitive qualms are strengthened by empirical data. Searching Google for the strings *säger/sa inte att* [pronoun] *någonsin* ‘say/said not that (pronoun) ever’, I found only a handful of examples – all with the matrix subject in first person. In each case the subject of the complement clause was (at least partially) co-referential with the matrix subject as well, although we see from (212c) that co-temporality restrictions do not apply. This is an important point to take into consideration.

Frequently, negating the assertive matrix does not affect the evaluable status of the embedded proposition. For example, the proposition *Juliet is dead* is evaluable irrespective of whether Romeo said so or not. In such cases, we would expect superordinate negation to be unable to license embedded NPIs.

However, when a negated assertive construction is in the first person, the evaluable status of the complement *is* affected. Naturally, the speaker cannot be held

responsible for the truth of something he or she explicitly states not to have said.⁸ In other words, the complement becomes non-assertive (and therefore also non-evaluable) when embedded under superordinate negation. Bear in mind also that embedded V2 is less frequent (and often ungrammatical) in complements following negated assertive predicates in Swedish (as discussed in 4.2.1 above). In so much as embedded V2 is a syntactic reflex of the semantic status of the complement (as has been argued ever since Andersson 1975), this provides independent support for assuming that complements following negated assertive predicates are informationally different from those following affirmative predicates.

What remains a mystery under the present analysis, however, is the curious fact that assertive predicate constructions do not allow long-distance licensing of mid-scale and strong NPIs, as illustrated below:

- (213) a. ?? Jag sa **inte** att jag skänkt dem *ett rött öre*.
 I said not that I given them a red cent
 b. *Jag sa **inte** [att jag anlände *förrän kl. 7*].
 I said not that I arrived until clock 7

Note that the marginal acceptance of (213a) and the ungrammaticality of (213b) is uncalled for under the present analysis: there is no principled reason superordinate negation should be able to license weak NPIs only.

Tentatively, one might assume that superordinate negation license NPIs in assertive complements only directly. That is, one may argue that assertive predicates always select edge-feature complements (or in semantic terms evaluable complements), which in turn makes them ‘immune’ to matrix negation. When embedded under a negated asserted predicate in the first person, however, the interpretation

⁸This peculiar effect of superordinate negation may be used by the speaker to make indirect suggestions or accusations:

- (1) Jag säger inte att jag är bäst, men jag har inte sett något bättre!
 I say not that I am best but I have not seen anything better
 ‘I’m not saying that I’m the best, but I haven’t seen anyone better!’
 (2) Jag säger inte att jag hatar dig, men du har ett sätt!
 I say not that I hate you but you have a way
 ‘I’m not saying that I hate you, but you have a certain way about you.’

It is of course close to impossible for the hearer to react against a suggestion/accusation that is embedded under negation, a fact that makes this construction rhetorically effective.

of the embedded proposition is necessarily affected. But this could be argued to be an effect of pragmatic/conversational circumstances, which do not in themselves effect the semantic and syntactic status of the clause. Under this view, the weak NPI is thus not *licensed* by matrix negation, but its occurrence is made licit by the non-evaluable status of the embedded proposition. The Evaluability Hypothesis states that only weak NPIs may occur freely in non-evaluable contexts. Hence, the ungrammatical occurrence of the strong NPIs in (213) above can be accounted for. Demanding overt licensing, they remain unlicensed by superordinate negation, which is syntactically and semantically external to the complement. Admittedly, this alternative outline is rather sketchy, and I leave it to the reader to judge the validity of the argumentation.

By and large, however, the (non)licensing properties of assertive predicates can be understood in a way similar to perception predicates – at least regarding weak NPIs. Whenever the complement is evaluable, long-distance NPI-licensing is impossible for two reasons: i) matrix negation is not a truth-functional operator with regards to the complement, and ii) the edge-feature in C intervenes between the licenser and the licensee. Both assertive and perception predicates may select non-evaluable complements, however, in which case long-distance licensing becomes available. For assertive constructions, this possibility is available only when the matrix predicate is in the first person.

9.1.4 Summary

In this section, I have discussed licensing by superordinate negation in Swedish. It was argued that long-distance licensing can be accounted for by a revised version of Linebarger's Immediate Scope Constraint. My proposed re-definition is repeated in (185) below:

- (185) THE IMMEDIATE SCOPE CONSTRAINT, VERSION 2.0
 A negative polarity item is acceptable in an evaluable sentence *S* if it is in the immediate scope of the negation operator. An element is in the immediate scope of NOT only if (1) it belongs to the same *evaluable environment* as NOT, and (2) within this domain there are no logical elements intervening between it and NOT.

With reference to these requirements, I proposed that the varying licensing properties of factive, volitional/non-assertive and perception/assertive predicates

could be accounted for.

Factive predicates disallow licensing by superordinate negation, since the matrix negation belongs to an evaluable environment distinct from the one hosting the NPI. Syntactically, this is mirrored by the instantiation of the edge-feature in C in the complement. The edge-feature blocks the syntactic scope of matrix negation, thus effectively functioning as an intervener.

Volitional/non-assertive predicate constructions allow long-distance licensing. This is so, since the matrix and the complement constitute a single (albeit complex) evaluable unit. This means that the ‘superordinate’ negation and the ‘embedded’ NPI belong to the same evaluable environment. Syntactically, this is mirrored by the lack of an intervening edge-feature in C in the complement.

Assertive/perception predicates, finally, also allow long-distance licensing, although their licensing properties are dependent on the evaluative status of the embedded clause. Both predicate types may select evaluable or non-evaluable complements, and only in the latter case is long-distance licensing possible. In such cases, both the semantic and syntactic requirements are fulfilled, just as with volitional predicates. Whenever the selected complement is evaluable, in contrast, the Immediate Scope constraint is violated and long-distance licensing becomes impossible.

The picture that has emerged in this section is not yet complete, however; we still need to address long-distance licensing by embedding predicates. This will be the topic of the next section.

9.2 Predicate Licensing

So far, we have been concerned only with long-distance licensing by superordinate negation. However, some embedding predicates – often referred to as ‘adversatives’ – have been noted to be inherent NPI-licensors. With reference to Hooper and Thompson’s predicate classification, adversatives are either non-assertive or factive.

Cross-linguistically, adversative non-assertives provide the most salient group of NPI-licensing predicates. These include for example *doubt*, *deny*, *be impossible* and *be unlikely*. We see from the examples below that both weak and mid-scale NPIs may be licensed by such non-assertives in Swedish:

- (214) a. Jag tvivlar på att jag *någonsin* kommer se henne igen.
I doubt that I ever will see her again
'I doubt that I'll ever see her again.'
- b. Jag tvivlar på att han fick *en blund* i ögonen i natt.
I doubt that he got a wink in eyes.DEF to night
'I doubt that he slept a wink last night.'
- (215) a. Jag förnekar att jag *någonsin* såg henne igen.
I deny that I ever saw her again
'I deny that I ever saw her again.'
- b. Jag förnekar att jag fick *ett rött öre* av honom.
I deny that I got a red cent from him
'I deny that I got a red cent from him.'

In some languages (notably English and Swedish), a number of emotive factive predicates are also 'adversative' and may license NPIs in their complements: *regret*, *be surprised*, *be odd/strange* and *be sorry* are a few examples. As seen from (216), the Swedish emotive factive *ångra* 'regret' may license weak NPIs, whereas *vara förvånad* 'be surprised) in (217) licenses both weak and mid-scale NPIs.

- (216) a. Jag ångrar att jag *någonsin* åkte till Paris.
I regret that I ever went to Paris
'I regret that I ever went to Paris.'
- b. ?Jag ångrar att jag skänkte *ett rött öre* till välgörenhet.
I regret that I donated a red cent to charity
- (217) a. Jag är förvånad över att han *någonsin* varit utomlands.
I am surprised that he ever been abroad
'I'm surprised that he's ever been abroad.'
- b. Jag är förvånad över att han skänkt dem *ett rött öre*
I am surprised that he given them a red cent
'I'm surprised that he's given them a red cent.'

Intriguingly, the licensing property of factive predicates is not a stable cross-linguistic phenomenon. In a number of languages (e.g. Greek and Serbo-Croatian) emotive factive predicates are non-licensors. Recall from section 8.2.1 that Gianakidou's Veridicality hypothesis correctly predicted the non-licensing property of factive predicates for Greek, but had trouble accounting for the NPI-licensing factive predicates in English and Swedish.

In the two subsections that follow, I discuss non-assertive and factive predicates in turn.

9.2.1 Non-assertive Predicates

In section 9.1.2, I proposed that non-assertive predicate constructions constitute single (albeit complex) evaluable units, consisting of the matrix and the complement. It was argued that ‘superordinate’ negation may successfully license ‘embedded’ NPIs, since both elements belong to the same evaluable environment; consider (218) below.

- (218) a. Det är **inte** möjligt att Sven *någonsin* åkt till Paris.
 it is not possible that Sven ever went to Paris
 ‘It’s not possible that Sven ever went to Paris.’
 b. Det är inte möjligt att Sven någonsin åkt till Paris.
evaluable

The evaluative property of non-assertive predicate constructions is of crucial importance. The complement to a non-assertive predicate is non-evaluable in isolation, which is structurally mirrored by the absence of an edge-feature in C. Nevertheless, it is *part of* an evaluable unit, i.e. the combination of the matrix and the complement.⁹ This means that an NPI embedded under a non-assertive predicate actually resides in an evaluable context, despite being superficially located in a non-evaluable clause. Hence, it requires overt licensing. Non-assertive complements are thus conceptually different from ‘independently’ non-evaluable clause types, such as *if*-clauses and yes/no-questions.

One further theoretical implication of this line of reasoning concerns the relation between the selecting predicate and its complement. The embedding non-assertive predicate takes immediate scope over its complement, as it belongs to the same evaluable environment as the NPI, and there is no structural intervener (i.e. an edge-feature in C) between the licensing predicate and the licensed element. Provided it has the relevant NPI-licensing properties, the embedding predicate is

⁹As noted in section 9.1.2, Simons (2007) makes a similar claim with regards to non-assertive predicates, arguing that *main point content* in non-assertive predicate constructions cannot be identified with the content of either the subordinate clause alone or the main clause, but emerges from the interaction between the complement and the predicate.

therefore predicted to be able to license NPIs. Example (214) is repeated from above:

- (214) a. Jag tvivlar på att jag *någonsin* kommer se henne igen.
 I doubt that I ever will see her again.
 ‘I doubt that I’ll ever see her again.’
- b. Jag tvivlar på att han fick *en blund* i ögonen i natt.
 I doubt that he got a wink in eyes.DEF to night
 ‘I doubt that he slept a wink last night.’

Not all non-assertive predicates are NPI-licensors, however. Only the so called ‘adversative’ predicates – such as *doubt*, *be impossible* or *deny* – may license NPIs in their complements. Although the exact lexical property relevant for licensing is not clear, it should be noted that these predicates have a definite negative feel to them. That is, *doubting p* more or less equals (or at least conversationally implies) *thinking that ~p*; *denying p* is close to *saying that ~p* etc.

Unless the embedding predicate is adversative, NPIs in non-assertive predicate constructions are ungrammatical. Consider for example the illicit occurrence of the NPI *någonsin* when embedded under *vara troligt* ‘be likely’ and *vara möjligt* ‘be possible’:

- (219) a. *Det är troligt att Sven *någonsin* varit i Paris.
 it is likely that Sven ever been to Paris
- b. *Det är möjligt att Sven *någonsin* varit i Paris.
 it is possible that Sven ever been to Paris

The constructions in (219) constitute single evaluable units, and according to the Evaluability Hypothesis, NPIs must be within the immediate scope of a relevant licensor in their evaluable environment. But as there is no licensor of relevant properties in (219), the occurrence of NPIs is correctly predicted to be grammatical.

To sum up, the revised version of the Immediate Scope Constraint presents a straightforward analysis of predicate licensing in non-assertive predicate constructions. Provided the predicate has the relevant set of licensing properties, these constructions raise no obstacles for predicate licensing as they constitute single (albeit complex) evaluable environments. Let us compare this view on predicate licensing with the one proposed by Progovac (1994).

Progovac assumes that non-assertive predicates select complements endowed with a polarity operator which has cliticized to the complementizer. This operator in turn is responsible for the licensing of the embedded NPI.¹⁰ The complementizer Op is further assumed to be outside the governing domain of NPIs, which means that the NPI must IP-adjoin LF in order to establish a local binding relation. Example (220) illustrates the structure proposed by Progovac.

- (220) a. I doubt that *anyone* has come.
 b. I doubt [_{CP} [_{C⁰} that Op [_{IP} *anyone* [_{IP} has come]]]]

Progovac's main motivation for suggesting the Op in C⁰ comes from binding considerations: the selecting predicate cannot bind an element that resides in a different governing domain. By selecting an Op-complement, the predicate extends its binding properties (although Progovac's proposal also requires the NPI to raise at LF). Following the Evaluability Hypothesis there is no immediate need for an operator in complements to non-assertive predicates, however, since the NPI according to the definition is within the immediate scope of its licenser.

In the next section, I turn my attention to adversative *factive* predicates. As we will see shortly, the story is somewhat less straightforward for these predicates.

9.2.2 Factive Predicates

Perhaps the most perplexing question with regards to factive predicates can be formulated thus: if an NPI embedded under a factive predicate cannot be licensed by superordinate negation, how come the NPI can be licensed by the embedding predicate? Compare the examples below, repeated from above:

- (179) a. *Jag är **inte** glad att vi *ens* fick en plats.
 I am not glad that we NPI got a seat
 b. *Jag är **inte** glad att jag gav henne *ett rött öre*.
 I am not happy that I gave her a red cent
- (217) a. Jag är förvånad över att han *någonsin* varit utomlands.
 I am surprised that he ever been abroad
 'I'm surprised that he's ever been abroad.'

¹⁰Note that Op is externally licensed by the embedding predicate, and is as such conceptually somewhat different from the C⁰-operator Progovac's assumed for 'inherently' licensing clauses (i.e. yes/no-questions and conditionals), which seemingly need no external motivation for its existence. As far as I can tell, Progovac does not address the implications of this difference, however.

- b. Jag är förvånad över att han skänkt dem *ett rött öre*.
 I am surprised that he given them a red cent
 ‘I’m surprised that he’s given them a red cent.’

It is not immediately obvious how this discrepancy can be accounted for. The non-licensing by superordinate negation could be quite naturally handled by the revised version of the Immediate Scope Constraint, as seen in section 9.1.1. Since the licensor and the licensee belong to two independently evaluable environments, the embedded NPIs in (179) remain unlicensed in their evaluable domains. But following the same line of reasoning, we would expect also licensing by embedding predicate to be impossible, contrary to fact.

The problem can be formulated thus. In (217), the relevant licensor (i.e. the factive predicate) is located *outside* the NPI-hosting environment, just as the non-licensing superordinate negation in (179). But it is nevertheless able to license embedded NPIs, and this is unexpected under the revised Immediate Scope Constraint.¹¹

However, I would argue that there is one important difference between (179) and (217) above. While no semantic relation holds between superordinate negation and a factive complement (as discussed in section 9.1.1), there is a strong *emotive bond* between a (true) factive predicate and its complement. And this bond may be the key to the observed licensing differences.

Givón (1980:345) characterizes emotive factive predicates as involving an “emotional *impact resulting from* the event/state in the complement having already turned out to be true” (italics in original). Put differently, this means that the truth of an emotive factive complement is a prerequisite for the *emotional state* of the matrix subject: if X *regrets/is surprised* that *p*, then *p* is necessarily true – confer the discussion in Field (1997).

As is well-known, only emotive factive predicates (such as *be surprised* and *regret*) may license NPIs in their complements. Semi-factive predicates (e.g. *know* and *discover*) are non-licensors, as shown in (221).

- (221) a. *Sven vet/upptäckte att Maria *någonsin* varit i Paris.
 Sven knows/discovered that Maria ever been to Paris
 b. *Sven vet/upptäckte att Maria skänkt *ett rött öre*.
 Sven knows/discovered that Maria given a red cent

¹¹Note that this problem does not arise in non-assertive predicate constructions, as the selecting predicate belongs to the same evaluable environment as the NPI.

This point is important, since it shows that there is nothing inherently licensing (or anti-licensing) about factivity. Rather, there must be some distinguishable feature associated with emotive factive predicates that is lacking in semi-factive (or epistemic) predicates. Giannakidou (2006) argues that the emotive component of factive predicates gives rise to a nonveridical inference, which in turn is responsible for licensing NPIs, as in (222).

- (222) John regrets that I bought a car. →
 John would prefer it if I had not bought a car.

Since epistemic factives lack any emotive component, they are void from nonveridical inferences; and consequently, they are also incapable of licensing NPIs. Or, in the words of Giannakidou (2006:595):

[S]ince emotive factives convey an expressive attitude toward the propositional content of their complement, it makes sense to argue that they all conventionally encode this attitude. With a negative factive, the attitude is negative in that it expresses a counterfactual (...), and this is consistent with the fact that the appearance of the *any*-class with negative factives is systematic. Epistemic factive verbs, in contrast, do not convey an expressive attitude (and do not allow PIs).

Note that Giannakidou's line of reasoning is in spirit similar to Linebarger's (1980) *Negative Implicature*-approach to long-distance licensing, as mentioned above and briefly discussed in section 7.2.2.

Perhaps we must admit that contextual interpretation in certain cases may override the lexical content and by itself license embedded NPIs. The licensing properties of non-adversative emotive factive predicates provide a case in point; consider the sentences in (223) below.

- (223) a. I'm glad I got *any* tickets at all!
 b. Jag är glad att jag *ens* fick en plats!
 I am glad that I NPI got a seat

The interpretation of *glad* in these examples is closer to *surprised* than *happy*. The sentences voice some tacit negative expectation, along the lines of *I didn't expect to get any tickets/seats*. Note that embedded NPIs become decidedly worse (perhaps even ungrammatical) whenever the contexts rules out a surprise/negative expectation reading of the factive predicate:

- (224) a. ?? I'm so glad I bought *any* car!
 b. *Jag är så glad att vi *ens* köpt ett nytt hus!
 I so am glad that we NPI bought a new house

But if we admit the possibility of negative implicature licensing, it is crucial that we delimit this possibility in a systematic and formalized way. Baker (1970:182) gives an intuitive description of adversative emotive predicates, arguing that they express “a relation of contrariness between a certain fact and some mental or emotive state”:

We say that we are *surprised* when a certain fact does not conform with our *expectations*; *relieved* when it does not conform to our *fears*; *disappointed* when it is not in line with our *hopes*; and *lucky*, if it is not in line with some standard set of *probabilities*. Likewise, we say that a certain fact is *odd* or *strange* if it seems counter to our view of what is logical.

Based on Baker's characterization, one may argue that the adversative reading is always potentially available for emotive factive predicates, and this would account for their NPI-licensing properties in Swedish and English. One may assume that the negative implicatures associated with factive predicates are (at least prototypically) instances of generalized (conventionalized) implicatures; this seems correct at least for the predicates mentioned by Baker in the quote above. As for *glad*, one would expect that the licensing in (223) is due to a conversational implicature that does not arise in the 'prototypical' usage of the predicate in (224). Note that only the weakest NPIs may be licensed in the latter case.

Although I admit partial defeat with regards to factive predicate licensing, I believe it may be roughly understood in the following way. There is a strong emotive bond between a true factive predicate and its selected complement. Since factive complements are endowed with an edge-feature in C, the matrix predicate cannot license embedded NPIs directly, however. Instead the licensing comes about from the negative implicatures conventionally associated with the emotive component of these predicates. More specifically, these imply a contrary relation between the truth of the embedded proposition and the emotive state of the matrix subject. Using the words of Baker (1970:183), complements to emotive factive predicates can thus be said to *pseudo-negative*.

Note also that the licensing ability of emotive predicates is affected by negation, as in (225):

- (225) a. *Jag **ångrar inte** att jag *någonsin* åkte till Paris.
 I regret not that I ever went to Paris
- b. *Jag är **inte förvånad** över att han *ens* frågade.
 I am not surprised that he NPI asked
- c. *Det är **inte konstigt** att han *ens* frågade.
 it is not strange that he NPI asked

Whenever a factive predicate is negated, the contrariness between the fact of the complement and the emotive state of the matrix subject is denied: we are *not surprised* by facts that conform with our expectations; a fact is *not strange* if it is in line with our view of what is logical etc. Negation thus effectively reverses the implicatures of these predicates, which in turn affects their ability to license NPIs. The examples in (225) above thus support rather than provide a counter-argument for the negative implicature based approach to factive licensing.

9.2.3 Summary

In this section we have seen that the revised version of the Immediate Scope Constraint successfully accounts for the licensing properties of adversative non-assertive predicates. However, the behavior of factive predicates remains partially unexplained by the present theory. It was argued that it can be tentatively accounted for by reference to negative implicatures.

Nevertheless, I believe that the Evaluability Hypothesis in combination with the revised Immediate Scope Constraint succeeds in giving a more systematic account of long-distance NPI-licensing than previous attempts, especially with regards to licensing by superordinate negation. Before ending this chapter, let us review two previous accounts of long-distance licensing and compare their analyses to the present proposal.

9.3 Previous Accounts

In this section, I will briefly review two previous accounts of long-distance NPI-licensing: that of Progovac (1994) and that of Giannakidou and Quer (1997). The primary focus will be on licensing by superordinate negation, since neither theory discusses factive predicate licensing in any detail. Progovac's approach to non-assertive predicates was presented in section 9.2.1 above, whereas Giannakidou and

Quer (1997) do not explicitly discuss non-assertive predicate constructions.¹² The two theories will be presented separately, and they will be subsequently compared to the current proposal.

9.3.1 Progovac (1994)

In section 9.2.1, we saw that Progovac (1994) suggested an Op-approach to account for predicate long-distance licensing. According to her theory, however, licensing by superordinate negation does not require the presence of Op in the structure. This assumption seems intuitively correct, but it is problematic with regards to her overall binding approach to NPI-licensing. This is so, since superordinate negation is *outside* the governing category for embedded polarity items. The NPIs will thus remain unbound, in clear violation of Principle A.

In order to solve this problem, Progovac (1994:83) assumes that the embedded NPI raises to the embedded Spec-CP at LF, thus extending its governing category to the matrix IP. The assumed structural difference between predicate licensing and licensing by superordinate negation is illustrated below in (226).

- (226) a. I doubt that *anyone* has come.
 I doubt [_{CP} [_{C⁰} that Op [_{IP} *anyone* [_{IP} has come]]]]
- b. Mary does not claim that John hurt *anyone*
 Mary does not claim [_{CP} *anyone*_i [_{C⁰} that [_{IP} John hurt t_i]]]]

In example (226a) the NPI *anyone* has IP-adjoined at LF in order to extend its governing domain; in (226b) the NPI has raised to Spec-CP in order to establish a relation with matrix negation. Hence, there are two possibilities for a weak NPI like *anyone* to be licensed within a complement: either by IP-adjunction or by raising to Spec-CP. As pointed out by Horn and Lee (1995:412), one may wonder why an NPI sometimes IP-adjoints, and sometimes raises to Spec-CP. Progovac admits that she does not have an answer to this.

It is to me not clear how Progovac's theory accounts for instances in which superordinate negation fails to license embedded NPIs, as in the case of factive predicate constructions. The examples in (227) are taken from (179) and (180) above:

¹²It should be pointed out, however, that non-assertive predicate constructions pose no immediate problem for Giannakidou's veridicality hypothesis.

- (227) a. *Jag är **inte** glad att vi *ens* fick en plats.
 I am not glad that we NPI got a seat
- b. *Jag upptäckte **inte** att han *någonsin* varit i Paris.
 I discovered not that he ever went to Paris

As far as I can tell, Progovac's raising hypothesis does not restrict LF-movement in different kinds of complements in any principled manner. Following her hypothesis, one would therefore expect the embedded NPI to be able to raise to Spec-CP in (227) in order to establish a relation with superordinate negation. But this option seems to be unavailable in factive predicate constructions, and Progovac's hypothesis leaves one wondering why.

Another challenge for Progovac's theory comes from the fact that superordinate negation may also license mid-scale NPIs. Recall from section 7.2.2 that her theory posed restrictions on which NPIs can raise at LF. In relation to Op-licensing, she argued that only quantified NPIs could IP-adjoin at LF, whereas non-quantified NPIs must remain low. This restriction makes the following incorrect prediction: mid-scale (non-quantified) NPIs can be licensed by clausemate negation only, while weak (quantified) NPIs may raise at LF and may consequently be licensed both by Op and superordinate negation. However, we have seen that both volitional and non-assertive predicates readily allow also mid-scale NPIs to be licensed by superordinate negation. The examples are taken from (182) and (184) above:

- (228) a. Det är **inte** möjligt att Sven skänkt *ett rött öre*.
 it is not possible that Sven given a red cent
- b. Jag vill **inte** att du ger mig *ett rött öre*!
 I want not that you give me a red cent

Following Progovac's proposal, the grammaticality of the sentences in (228) is unexpected. The strong NPI *ett rött öre* 'a red cent' should be unable to raise to Spec-CP at LF, which in turn would render it unbound within its governing category.

We see that the Evaluability Hypothesis fares decidedly better here. The non-licensing property of the factive predicate constructions in (227) is due to the fact that the NPI is not within the immediate scope of its licensor: superordinate negation belongs to an evaluable environment different from the one hosting the NPI, and the edge-feature of the complement intervenes between the licensor and li-

censee. The non-assertive and volitional predicate constructions in (228), in contrast, constitute complex single evaluable units, consisting of the combination of the matrix and the complement. Consequently, the ‘superordinate’ licenser and the ‘embedded’ licensee belong to the same evaluable environment, without any intervening element separating them from each other. Hence, both weak and mid-scale NPIs are predicted to be licensed, in accordance with fact.

9.3.2 Giannakidou and Quer (1997)

Giannakidou and Quer (1997) suggest a slightly different analysis of long-distance licensing which also builds on LF-raising. Focusing on the discrepancy between strong and weak NPIs, they argue that weak and strong licensing are subjected to different syntactic restrictions (1997:97): “Weak licensing is perceived as *in situ* licensing via application of existential closure under the relevant operator which must c-command the NPI at some syntactic level.” Strong NPI-licensing, by comparison, requires syntactic Spec-Head agreement in order to satisfy to the NEG-criterion (see Haegeman 1995, 1997).¹³

From this characterization it follows that matrix negation cannot establish a Spec-head relation with an embedded NPI. Hence, long-distance licensing of strong NPIs is predicted to be impossible by Giannakidou and Quer’s analysis: “embedded CPs are mapped onto the scope of negation and as a result only the weak *in situ* licensing for the the NI [Negative Indefinite] is available” (Giannakidou and Quer 1997:100-101). This hypothesis is obviously too strong, however, since we have already seen instances of strong NPIs being licensed by superordinate negation.

To account for this fact, Giannakidou and Quer (1997:101) suggest that “it is (...) conceivable that under certain circumstances the embedded domain does not block LF movement of the NI across the CP boundary up to the superordinate Spec,NegP”. (Note the obvious similarity to Progovac’s proposed LF-raising). The problem, of course, is how to delimit these different environments in a principled way: what syntactic/semantic feature distinguishes complements that allow LF-raising across the CP-boundary from those that do not?

Giannakidou and Quer argue that the possibility of LF-raising depends on

¹³In order to avoid terminological confusion, it should be pointed out that included in Giannakidou and Quer’s category of ‘strong’ NPIs are also NPIs which I have classified as ‘mid-scale’, such as *ett rött öre* ‘a red cent’ and *ett dugg* ‘a bit’.

complement selection. According to their hypothesis, there are two types of selecting predicates: i) verbs that select complements endowed with an independent tense domain, and ii) verbs that select complements that exhibit tense dependency. The former class contains assertive and epistemic predicates, the latter class volitional and modal predicates.¹⁴ The hypothesis is that LF-movement is restricted to a single tense domain: NPIs cannot cross the boundaries of a tense domain. Hence, embedded domains of type (i) are predicted to be opaque to strong long-distance licensing, since the NPI cannot cross the tense domain at LF to establish Spec-Head agreement with the superordinate negation. Embedded domains of type (ii) will be transparent to both strong and weak long-distance licensing, however, since the NPI only raises within a single tense domain.

However, Giannakidou and Quer (1997) remain rather vague as to the definition of tense domains; it is not clear what it means for a complement to have a dependent or an independent tense domain. From a theoretic perspective, it should be pointed out that their notion seems unrelated to Givón's *event integration*, as discussed in section 9.1.2. From an empirical perspective, Swedish provides some rather intriguing data which cast doubt on the validity of the notion.

First, some predicates that select complements which are not co-temporal with the matrix nevertheless allow long-distance licensing of 'strong' NPIs, as in (229).

- (229) a. Jag **tvivlar** på att han **gav** henne *ett rött öre*.
 I doubt that he gave her a red cent
- b. Det **är** inte troligt att han **gav** henne *ett rött öre*.
 it is not likely that he gave her a red cent

We see that the matrix predicates in (229) are in the present tense, while the embedded predicates are in the simple past. According to Giannakidou and Quer's hypothesis, complements to (non-assertive) modal predicates have dependent tense domains. But in what sense are the complements in (229) temporally dependent on the matrix? One would assume that a dependent tense domain necessarily gives a co-temporal interpretation of the matrix and the complement, but this does not seem to be an absolute requirement for tense dependency according to Giannakidou and Quer.

Second, the behavior of Swedish auxiliaries also cast doubt on the notion of tense domains. It is a well-known fact that Swedish allows deletion of the auxiliary

¹⁴Note that Giannakidou and Quer's division of selecting predicates is not compatible with Progovac's distinction between predicates taking Op-complements and those that do not.

ha ‘have’ in all kinds of complements. But in instances of *ha*-deletion, the tense interpretation of the embedded clause is crucially dependent on the matrix’s tense; this holds also for complements that allegedly have independent tense domains, such as the assertive complement in (230) below. Note that the present tense of the matrix in (230a) percolates down to the complement, similar to the past tense of (230b):

- (230) a. Han **säger** att han gjort allt han kunnat.
 he says that he done all he could
 ‘He says that he has done everything he has been able to do.’
 b. Han **sa** att han gjort allt han kunnat.
 he said that he done all he could.
 ‘He said that he had done everything he had been able to do.’

In combination, the examples in (229) and (230) question the stability of *tense domains* as a conceptual notion. Not only may dependent tense domains have independent tense interpretations as in (229), but independent tense domains may have dependent tense interpretations as well, as in (230). These facts are clearly bothersome if we want to relate the dependency of tense domains to the structural possibility of raising across the CP-boundary at LF.

However, the notion of tense domains is not fundamentally different from my notion of evaluable environments. Only, the latter notion gives a more straightforward understanding of the phenomena at hand. Rather than focusing on tense, I have argued that certain predicate constructions are made up from two independent evaluable units, others constitute complex single evaluable unit (i.e. the combination of the matrix and complement). This semantic difference is in Swedish reflected by the absence/presence of an edge-feature in C in the embedded clause.¹⁵

If one adopts Giannakidou and Quer’s raising analysis, one may argue that the edge-feature in C blocks the possibility of LF-movement out of the complement. However, one advantage of the Evaluability Hypothesis and the revised Immediate Scope Constraint is that LF-raising no longer is necessary. Either, superordinate negation has immediate scope over the complement (in which case both strong

¹⁵As a matter of fact, I believe Giannakidou and Quer’s tense domain distinction can be better recast in terms of evaluability: complements that allegedly has ‘dependent’ time frames form a complex evaluable unit with the matrix predicate, whereas complements that allegedly has ‘independent’ time frames constitute independent evaluable environments.

and weak NPIs are licensed), or it does not have immediate scope over the complement (in which case long-distance licensing is ruled out). The current hypothesis thus suggests a simpler and more uniform analysis of long-distance licensing than Giannakidou and Quer's analysis, which must rely on LF-raising across the CP-boundary.

9.3.3 Summary

In this section, we have reviewed two previous accounts of long-distance licensing; Progovac (1994) and Giannakidou and Quer (1997). The two hypotheses present two alternative views on how superordinate negation establishes a relation with the embedded element, both building on LF-movement. However, both hypotheses have difficulty explaining the discrepancy between the licensing of strong and weak NPIs. For Giannakidou and Quer, the problem lies in presenting a principled categorization and distinction of the environments that would allow strong NPIs to cross the CP-boundary. For Progovac, the problem lies in accounting for why not all NPIs can be licensed by superordinate negation given her assumption of LF-raising to Spec-CP.

The proposed solutions to these problems are summarized below:

- Giannakidou and Quer (1997): LF-raising is hypothesized to be limited to single tense domains. This means that NPIs can only raise to establish a Spec-Head agreement with the matrix NegP from complements endowed with a dependent tense frame.
- Progovac (1994): Only quantified NPIs or QPs can raise at LF (such as English *any* and Swedish *någonsin*). This means that non-quantified NPIs cannot extend their governing category to Op in COMP or to the matrix IP; they must therefore revert to licensing by clausemate negation in INFL.

As we have seen from the discussion above, neither solution is satisfactory. Giannakidou and Quer's definition of *tense domains* is too vague, and seems to make incorrect generalizations for Swedish. Progovac's restriction on LF-movement fares even worse. Firstly, it incorrectly predicts a number of strong NPIs to fall outside the licensing domain of superordinate negation. Secondly, it gives no principled solution to the observed fact that NPIs may be licensed by superordinate negation in the complements to certain predicates (e.g. volitionals), but fail to be licensed in others (e.g. factives).

9.4 Summarizing Discussion

In this chapter I have discussed long-distance NPI-licensing in Swedish, both by superordinate negation and embedding predicate. According to the proposed hypothesis, successful long-distance licensing demands the fulfilment of two independent requirements, one semantic and one syntactic in nature:

(194) *Requirements for successful long-distance NPI-licensing:*

1. **Syntactic requirement**

The licensee must not be structurally separated from its licensor by an intervening element.

2. **Semantic requirement**

There must be a semantic bond between the licensing element and the embedded environment in order for the NPI to be properly licensed.

These two requirements led me to suggest an revised version of Linebarger's (1987) *Immediate Scope Constraint*. By switching from her original focus on *propositions* to *evaluable environments*, the constraint could be reformulated thus:

(185) THE IMMEDIATE SCOPE CONSTRAINT, VERSION 2.0

A negative polarity item is acceptable in an evaluable sentence *S* if it is in the immediate scope of the negation operator. An element is in the immediate scope of NOT only if (1) it belongs to the same *evaluable environment* as NOT, and (2) within this domain there are no logical elements intervening between it and NOT.

The crucial point in the present analysis is that long-distance NPI-licensing can be subsumed under the more general Evaluability Hypothesis as developed in the previous chapters. Whenever the complement clause belongs to the same evaluable environment as the matrix – irrespective of the propositional or clausal boundary between the two – superordinate negation will be able to license NPIs within the complement. Hence, the revised Immediate Scope Constraint may account for the possibility of long-distance licensing by superordinate negation in volitional, (non)assertive and perception predicate constructions.

In case the matrix and the complement constitute two distinct evaluable environments, however, long-distance licensing by superordinate negation will be im-

possible. Consequently, the current proposal correctly predicts the non-licensing of superordinate negation in factive predicate constructions.

As for licensing by embedding predicates, the Evaluability Hypothesis straightforwardly accounts for the licensing properties of adversative non-assertives, such as *doubt*, *deny* and *be impossible*. However, it was shown that the present analysis cannot successfully account for the licensing properties of emotive factive predicates (such as *regret* and *be surprised*) without reverting to negative implicatures.

The Evaluability Hypothesis in combination with the revised Immediate Scope Constraint thus suggest an alternative approach to long-distance licensing which builds on the evaluability status of the matrix and the complement, and the relation between licensor and licensee. As such, it dispenses with a number of problems, both conceptual and empirical in nature, that plague previous hypotheses of long-distance licensing as reviewed in this chapter.

The final chapter of this dissertation is concerned with yet another case study, namely the licensing properties of *wh*-questions.

Chapter 10

Polarity Items in *Wh*-questions

In the preceding chapter, we saw that long-distance NPI-licensing could be quite naturally subsumed under the Evaluability Hypothesis. In this chapter, I turn my attention to NPIs occurring in *wh*-questions. As a matter of fact, *wh*-questions pose a potential problem for my overall hypothesis on both empirical and theoretical grounds, so we need to look closer at this licensing environment.

As argued in section 6.1.3, *wh*-questions constitute evaluable environments since – in contrast with (non-evaluable) yes/no-questions – they are implicational. The speaker when uttering (231a) implies the open proposition p , or when uttering (231b) the negative open proposition $\sim p$:

- (231) a. Who left the party before ten o'clock? \Rightarrow
Someone left the party before ten o'clock.
b. Who didn't leave the party before ten o'clock? \Rightarrow
Someone didn't leave the party before ten o'clock

According to the Evaluability Hypothesis, NPIs in evaluable environments must be formally licensed by an overt operator. It is not immediately obvious how this claim can be upheld for *wh*-questions, however. It seems as though *wh*-questions may host NPIs even in the absence of overt licensors, as illustrated by the Swedish examples (232) below:

- (232) a. Vem vill *någonsin* stiga upp när det är måndag?
who wants ever get up when it is Monday
'Who does ever want to get up on a Monday?'

- b. Vad har du *någonsin* gjort för mig?
 what have you ever done for me
 ‘What have you ever done for me?’
- c. När har du *någonsin* skrivit något intressant?
 when have you ever written something interesting
 ‘When have you ever written anything of interest?’
- d. Var har du *någonsin* fått den idén?
 where have you ever got that idea
 ‘Where did you ever get that idea?’

The very fact that *wh*-questions may host NPIs is problematic. Empirically, it seems that *wh*-questions are exceptional in being the only type 1a-clause in Swedish that may host NPIs in the absence of an overt licenser. Theoretically, it seems that *wh*-questions are exceptional in constituting the only evaluable environment in which NPIs may occur freely.

In this chapter, I present an account of NPI-licensing *wh*-questions that is fully compatible with the Evaluability Hypothesis. It is argued that the licensing behavior of *wh*-questions can be predicted by taking into consideration the implication of existence associated with the *wh*-word and the presupposition induced by the expressed proposition. Under this proposal, the licensing property of *wh*-questions does not constitute an exception to the overall hypothesis, but rather falls out naturally from it.

10.1 Empirical and Theoretical Issues

As was observed for English already by Klima (1964), NPI-hosting *wh*-questions tend to be used for rhetorical rather than for information-seeking purposes. *Wh*-questions thus differ from yes/no-questions, which were noted in section 4.3.1 to be natural hosts for NPIs in information seeking contexts. Progovac (1994:97) even goes as far as claiming that “the rhetorical reading is obligatory, rather than optional, in *wh*-questions with NPIs, suggesting that there is something about the combination of the two that forces rhetorical readings.”

However, Progovac’s characterization is arguable too strong, as suggested by the findings of Heim (1984). Although mid-scale NPIs (e.g. *lift a finger, give a damn*) definitely give rise to rhetorical interpretations, Heim argues that weak NPIs (e.g. *any, ever*) may occur also in information-seeking contexts in English. Confer

the interpretations of (233) and (234) below, the latter taken from Guerzoni and Sharvit (2007:362).

- (233) a. **Who** gives *a damn* about bankers and their lost fortunes?
 b. **Who** will *lift a finger* to legislate for the voiceless and powerless?
- (234) a. **Who** cooked *anything*?
 b. **Who** was *ever* in Paris?

As argued by Guerzoni and Sharvit (2007), the *wh*-questions in (234) are not necessarily rhetorical, but may be used also as proper information-seeking questions.

To complicate matters further, the rhetorical interpretation seems more readily available in NPI-hosting *who*- and *what*-questions than in *why*- and *how*-questions. The questions in (235) below may be used quite naturally in information-seeking contexts, also when hosting NPIs; cf. the discussion in Lawler 1971.

- (235) a. Why did you *ever* become involved in QA/testing?
 b. How did you *ever* end up with a deaf cat?

Even from this brief presentation, we may conclude that any viable account of polarity item licensing in *wh*-questions should preferably be able to explain the connection between NPIs and the shifting rhetorical properties of the hosting questions.

To the best of my knowledge, the issue of NPI-licensing in *wh*-questions has not been previously addressed in the literature in relation to Swedish. But Swedish is similar to English in that NPI-hosting *wh*-questions tend to be interpreted rhetorically. Furthermore, this tendency is weaker in NPI-hosting questions introduced by *varför* 'why' and *hur* 'how', which may be used in information-eliciting contexts. Consider the questions in (236) below.

- (236) a. **Varför** skulle jag *någonsin* vilja göra det?
 why would I ever want do that
 'Why would I ever want to do that?'
- b. **Hur** kan jag *någonsin* gottgöra dig?
 how can I ever compensate you
 'How can I ever make it up to you?'

It is less clear that Heim's (1984) suggested restriction holds for Swedish, though: it seems to me that even Swedish weak NPIs are prone to induce rhetorical interpretations, at least in questions that are introduced by *vem* 'who', *vad* 'what', *när* 'when', and *var* 'where', as in (232) above.¹

There is also a contrast between the licensing properties of 'prototypical' and clefted *wh*-questions in Swedish, a contrast which has hitherto gone unnoticed in the literature, as far as I am aware. Clefted *wh*-questions cannot host NPIs in Swedish. As seen from (237) below, this restriction seemingly holds for all question types, irrespective of the introducing *wh*-word.

- (237) a. ***Vem** var det som du *någonsin* åt lunch med?
 who was it that you ever ate lunch with
 b. ***Vad** var det som du *ens* ville mig?
 what was it that you even wanted me
 c. ***När** var det (som) du *någonsin* var i Paris?
 when was it that you ever were in Paris
 d. ***Var** var det som du *någonsin* åt lunch?
 where was it that you ever ate lunch
 e. ***Varför** var det (som) du *någonsin* ville åka till Paris?
 why was it that you ever wanted go to Paris
 f. ***Hur** var det (som) man *ens* skulle börja göra detta?
 how was it that one even should begin do this

In relation to the pattern in (237), it is worth pointing out that clefted *wh*-questions are deviant in rhetorical contexts. Consider the context in (238) below.

- (238) Efter att vi har seen konsekvenserna av bankmännens girighet ...
 after that we have seen consequences.DEF of banker.DEF greed
 'After having seen the consequences of the bankers greed' ...
 a. Jag undrar – Vem vill sponsra deras bonusar?
 I wonder who wants sponsor their bonuses
 'I wonder – Who'd like to sponsor their bonuses?'
 b. # Jag undrar – Vem är det som vill sponsra deras bonusar?
 I wonder who is it that wants sponsor their bonuses
 'I wonder – Who is it that wants to sponsor their bonuses?'

¹This difference may at least partially be attributed to the fact that Swedish lacks NPIs corresponding to the particularly weak English *any*-class.

As illustrated in this example, the clefted *wh*-question in (238b) is clearly dis-preferred in a rhetorical context, whereas the non-clefted variety in (238a) is felicitous.

By combining the data in (237) and (238), we see that clefted *wh*-questions differ from non-clefted ones in two respects: i) they may not host NPIs, and ii) they are not used in rhetorical contexts. For this reason, the behavior of clefted *wh*-questions may shed new light on the observed interrelation between rhetorical interpretations and NPI-licensing. Can the non-licensing property of clefted *wh*-questions be attributed to their non-rhetorical status? Or is the non-rhetorical status a consequence of the fact that clefted *wh*-questions cannot license NPIs? Or are the two notions independent of each other?

Considering the issues discussed above, it is far from clear how the empirical data concerning NPI-licensing *wh*-questions can be given a single, unified account. In the next few sections, I will, however, present an account that is fully compatible with the Evaluability Hypothesis. I propose that the licensing behavior of *wh*-questions can be predicted by taking into consideration the implication of existence associated with the *wh*-word and the presupposition induced by the expressed proposition. In a rhetorical (affirmative) *wh*-question, the *wh*-word necessarily refers to an empty set, the denotation of which is a downward entailing function. As a consequence, the *wh*-word may function as an overt licensor for NPIs. In contrast, an information seeking *wh*-question prototypically presupposes the truth of the expressed proposition, which in turn gives that the reference of the *wh*-word is non-empty. Hence, the *wh*-word cannot function as a relevant NPI-licensor. From this characterization, the rhetorical interpretation and the NPI-licensing property of a given *wh*-question are only indirectly related to each other, as both are dependent on the properties of the *wh*-word.

In an attempt to systematize my approach, I begin the next section by presenting a categorization of *wh*-questions. This section paves the way for my subsequent analysis of NPI-hosting *wh*-questions.

10.2 Three Kinds of *Wh*-questions

In light of the empirical data in the previous section, it is helpful to distinguish between different types of *wh*-questions before attempting to provide a generalized analysis of their NPI-licensing properties. On an intuitive level, we may distin-

guish at least three distinct categories:

1. Argument questions: *vem* ‘who’, *vad* ‘what’, *vilken* ‘which’
 Questions belonging to this category request the identification of an unspecified syntactic argument as selected for by the verb. Syntactically, this information belongs to the V-domain.
2. Framing questions: *när* ‘when’, *var/vart* ‘where’
 The function of these questions is to request specification of a spatiotemporal anchor to the event under discussion. Prototypically, this kind of information is expressed by adverbials, which may be adjoined to the V- or I-domain.
3. Propositional questions: *varför* ‘why’ and *hur* ‘how’
 This class of *wh*-questions requests the specification of e.g. the reasons for, the consequences of or the explication of the expressed proposition. Such information is extra-propositional, since it lies outside the structural domains of the sentence.

First of all, it should be pointed out that the categorization of *hur*-questions ‘how’ as being propositional rather than framing is not uncontroversial. The most correct categorization would probably be one in which *hur*-questions constitute a separate group, somewhat between the *när/var*- and *varför*-questions. However, the present categorization has no major implications for our purposes.

Note also that the categorization is based on the semantic properties of each question type. That is, the morphological form of the *wh*-word is not in itself important, since there may be various paraphrases filling the same function: *why* may be paraphrased with *for what reason*, but the expression still requests propositional information. A given *wh*-word may also have different functions. For example, prototypical ‘argument’ *wh*-words may be used to request an event rather than an argument, as in (239a). And spatiotemporal *wh*-words may request specification of an argument as selected for by the verb, similar to argument *wh*-words (239b). Finally, *how* may be combined with adverbs requesting spatiotemporal information (239c), for instance. Thus, we must keep the semantic function of the question distinct from its syntactic and morphological correlates.

- (239) a. Vad ska du göra imorgon?
 What will you do tomorrow
 ‘What are your plans for tomorrow?’
- b. Var står din bil?
 Where stands your car
 ‘Where is your car?’
- c. Hur länge har du arbetat här?
 How long have you worked here
 ‘For how long have you worked here?’

Following the classification above, I discuss each question type in turn in the next three subsections, starting with argument *wh*-questions.

10.2.1 Argument *Wh*-questions

Argument *wh*-questions prototypically request the identification of an argument as selected for by the verb. As has been well-discussed in the literature, that type of *wh*-question gives rise to an implication of existence (see e.g. Karttunen 1977), i.e. an implication to the effect that the set to which the *wh*-word refers is non-empty.

- (240) a. Who bought that book? →
Someone bought that book
- b. What did you buy? →
 You bought *something*

However, Fitzpatrick (2005) refutes the long-standing assumption that argument questions give rise to an existential *presupposition* (but see Comorovski 1996 for an alternative view, and Katz and Postal 1964 for the ‘traditional’ view). Based on the trivial but crucial observation that argument *wh*-questions can be felicitously answered in the negative, he argues that the existence implication is pragmatic rather semantic (i.e. an *implicature* rather than a *presupposition*).

- (241) A. Vem träffade du igår?
 who met you yesterday
 ‘Who did you meet yesterday?’
- B. Ingen
 nobody
 ‘Nobody.’

- (242) A. Vad åt du till lunch igår?
 what ate you for lunch yesterday
 ‘What did you have for lunch yesterday?’
- B. Ingenting
 nothing
 ‘Nothing.’

I agree with Fitzpatrick’s characterization, and will consequently adopt his view of argument questions throughout this chapter.

Interestingly, there is a distinct difference in Swedish between clefted and non-clefted *wh*-questions with regards to the implications of existence they give rise to. A clefted argument *wh*-question cannot be felicitously answered in the negative, as the following examples show:

- (243) A. Vem var det som du åt lunch med igår?
 who was it that you had lunch with yesterday
 ‘Who was it that you had lunch with yesterday?’
- B. # Ingen
 nobody
- (244) A. Vad var det (som) du åt till lunch igår?
 what was it that you had for lunch yesterday
 ‘What was it that you had for lunch yesterday?’
- B. # Ingenting
 nothing

By reversing Fitzpatrick’s argument, the examples in (243) and (244) suggest that clefted *wh*-questions *presuppose* rather than *implicate* existence. Put differently, we may suggest that the implication of existence in clefted *wh*-questions is semantic in nature (i.e. a presupposition), whereas the implication of existence in non-clefted *wh*-questions is pragmatic (i.e. a generalized conversational implicature). For further discussion on the implicational nature of clefts, the reader is referred to Prince (1978).

It should be pointed out for non-Swedish speaking readers that cleft questions are abundant in Swedish, a fact often overlooked in the literature (but see Huber 2002). Cleft-questions are preferred in any situation in which the identity, but crucially not the existence, is unspecified/unknown to the speaker. For example, if A wants to know who just called B (in a situation where A has overheard B’s

talking on the phone), this question would be formulated as a cleft rather than a standard *wh*-question, see (245).

- (245) a. Vem var det som ringde?
 who was it that called
 ‘Who called?’
 b. # Vem ringde?
 who called

For the same reason, if A points to an unknown person in the distance and wants to know who that person is, a cleft would be the natural choice, (246).

- (246) a. Vem är det som står där borta?
 who is it that stands there away
 ‘Who is that over there?’
 b. # Vem står där borta?
 who stands there away

In both contexts, the existence of the argument denoted by the *wh*-word is non-negotiable, which explains the use of the clefted variety.

As seen from this characterization, clefted and non-clefted questions request different types of information. A non-clefted argument *wh*-question, I would argue, requests *existential identification* of the argument denoted by the *wh*-word: the argument is neither existentially presupposed nor referentially specified. Clefted argument *wh*-questions, on the other hand, request *referential specification* of the argument denoted by the *wh*-word: the argument is referentially unspecified but existentially presupposed.

10.2.2 Framing *Wh*-questions

In contrast with argument questions, framing *wh*-questions express full propositions. Prototypically, a question of the form *When p* or *Where p* presupposes *p*. Consider the questions below:

- (247) a. **When** did you move to New York? ⇒
 you have moved to New York
 b. **Where** did you buy that sweater? ⇒
 you have bought that sweater

If framing *wh*-words are viewed as predicates, we may say that they are factive. That is, a framing *wh*-word “embed” a presupposed proposition similar to a factive predicate. However, the presupposed status of the proposition is not constant, as discussed by Lawler (1971). Note for example the effect of definite and indefinite NPs in (248) and (249) below:

- (248) När är konserten på Palladium? \Rightarrow
 when is concert.DEF at Palladium
 There is a concert being held at the Palladium.
- (249) När är det en konsert på Palladium? \nRightarrow
 when is there a concert at Palladium
 There is a concert being held at the Palladium.

We see that the definite NP in (248) gives a factive reading, whereas the indefinite NP in (249) triggers a non-factive reading of the proposition.² If we want to maintain the parallelism with factive predicates, these examples suggest that framing *wh*-words are *semi*-factive, rather than truly factive.³

In relation to this, it should be pointed out that NPIs are only compatible with the non-factive reading:

- (250) *När är *någonsin* konserten på Palladium?
 when is ever concert.DEF at Palladium
- (251) När är det *någonsin* en konsert på Palladium?
 when is there ever a concert at Palladium
 ‘When is there ever a concert at the Palladium?’

In conformity with argument questions, clefted framing *wh*-questions are unambiguously factive. Their function is slightly different from that of argument questions, though. A clefted framing question is primarily used to request reactivation of information that for some reason is unavailable to the speaker at the time of utterance. Such information may have been mentioned in previous dis-

²It should be pointed out that tense distinctions may affect the (non)factive reading of the complement as well: the simple past prototypically give a factive interpretation (e.g. *When were you in Paris?*), whereas the future tense may trigger a non-factive interpretation (e.g. *When will you go to Paris?*).

³Based on the evasive presuppositional character of *when*-questions, Lawler (1971) labels them *essential* rather than *factive*, a terminological distinction that eludes me.

course, or may constitute part of what is generally referred to as ‘common knowledge’.⁴ Consider (252) and (253) below:

- (252) A. **Vart** var det du skulle åka på semester (nu igen)?
 where was it you should go on vacation now again
 ‘Where did you say you were going on vacation?’
 B. Det har jag ju redan sagt – till Florida!
 that have I PART already said to Florida
 ‘I’ve already told you – to Florida!’
- (253) A. **När** var det som Andra Världskriget bröt ut (nu igen)?
 when was it that second world.war broke out now again
 ‘When did World War Two break out?’
 B. Det vet väl alla – 1939!
 that know PART everyone
 ‘Surely everyone knows that – in 1939!’

The difference between clefted and non-clefted framing questions thus seems to be related to information structure considerations: only information that is part of common knowledge or known but unavailable to the speaker felicitously licenses the clefted variety.

To summarize this section, we have seen that framing questions prototypically presuppose the truth of the embedded proposition. Based on the observation that definiteness may affect the presupposed status of the proposition, I argued that framing *wh*-words can be regarded as semi-factive. Only non-factive interpretations are compatible with NPIs, however.

⁴Clefted argument questions may have the very same function, but often demand additional material, such as *nu* (‘now’ or *nu igen* (‘now again’). This addition is highly preferred, but not necessary:

- (1) a. **Vem** var det *nu* som var först på månen?
 who was it now that was first on moon.DEF
 ‘I forget – who was the first man on the moon?’
 b. **Vad** köpte du till Maria *nu igen*?
 what bought you for Maria now again
 ‘I forget – what did you buy for Maria?’

10.2.3 Propositional *Wh*-questions

Similarly to framing *wh*-questions, propositional *wh*-questions are presuppositional: a question of the form *Why p* or *How p* presupposes *p*. However, whereas framing *wh*-operators are semi-factive, propositional *wh*-operators are truly factive.⁵ We see for example that the presupposed proposition is insensitive to definiteness as well as tense, as shown in (254).

- (254) a. Varför hålls en konsert/konserten på Palladium? ⇒
 why holds a concert/concert.DEF at Palladium
 There is a concert being held at the Palladium
- b. Varför hölls/ska det hållas en konsert på Palladium? ⇒
 why held/will there be a concert at Palladium
 There is a concert being held at the Palladium

irrespective of whether the NP in (254a) is definite or indefinite, the questions presuppose the event of a concert being held. The same holds for (254b): regardless of whether the question is in the simple past or the future tense, it presupposes the event of a concert being held.

Clefted propositional questions function similarly to framing ones, in that they request re-activation of previously salient information. Thus, the reason for using clefted propositional questions seems again to be related to information structure considerations. The clefted *wh*-questions in (255) imply that the requested information is already known but unavailable to the speaker A, as seen from B's replies.

- (255) A. Varför var det (som) du skulle åka till Israel (nu igen)?
 why was it that you should go to Israel now again
 'Why are you going to Israel, you said?'
- B. Det har jag redan sagt – för en konferens
 that have I already said for a conference
 'I've already told you – for a conference!'
- (256) A. Hur är det (som) man säger (nu igen)?
 how is it that you say now again
 'How do you say ...?'

⁵Fitzpatrick (2005) argues against this characterization, and proposes that *how come* is the only truly factive *wh*-operator in English. Although he points to a number of differences between *how come* and the almost synonymous *why* (see Fitzpatrick 2005:2-5), it is nevertheless clear that the factive status of *why* is more constant than that of *when* and *where*.

- B. Jo, bättre fly än illa fäkta
 well better run than bad fencing
 ‘He who fights and run away lives to fight another day’

To sum up, propositional *wh*-questions are similar to framing *wh*-questions in being presuppositional. However, the presupposed status of the proposition is not sensitive to definiteness and tense considerations, since the propositional *wh*-word is truly factive.

10.2.4 Summary

In this section I have discussed the semantic properties of three distinct *wh*-question types in Swedish: argument, framing and propositional questions. Intriguingly, these three categories can be placed on a factive scale: argument *wh*-words are non-factive, framing *wh*-words are semi-factive, and propositional *wh*-words are truly factive. As for the clefted variants of each question type, they were all argued to be truly factive due to their presuppositional status.

In the next section, I will outline a possible solution to the NPI-hosting properties of *wh*-questions based on their presuppositional status.

10.3 NPI-hosting *Wh*-questions

Following standard assumptions, *wh*-words are set-creating: the denotation of a *wh*-word is a specific set which may be empty or non-empty. Under this viewpoint, it follows that a *wh*-word has relatively few semantic and syntactic properties in itself. But crucially, the *wh*-word inherits whatever properties can be attributed to the set it refers to. Hence, we would expect the *wh*-word to be able to license NPIs whenever it refers an empty set (i.e. *no-one* or *nothing*), since the denotation of an empty set is a downward entailing function; cf. section 2.2.2 above. This approach is inspired by the discussion of *wh*-questions in Jackendoff (1972:p. 315), from which the following quote is taken:

The meaning of C_{wh} is that the identification of a referent depends on the answer to the question. *Wh* occurs in a position closely parallel to negatives (*who, what, where, when, which* vs. *nobody, nothing, nowhere, never, no* and perhaps *whether* vs. *not*), so it is plausible that its scope is similar to that of negatives, i.e., all commanded material to the right in surface structure (...).

Just as the scope of negation determines the negated part of the sentence, the scope of *wh* determines the questioned part of the sentence.

If we assume in accordance with Jackendoff that the *wh*-word scopes over everything to the right of it, then we may also assume that a *wh*-word referring to a downward-entailing expression should be able to license NPIs within its scope. Since the *wh*-word and the NPI belong to the same evaluable environment (in a non-clefted question), there are no syntactic or semantic obstacles to block this possibility. Whenever the denotation of the *wh*-word is an upward entailing or non-monotone expression (e.g. an existential quantifier or a definite NP), on the other hand, the *wh*-word will fail to license NPIs. Hence, the NPIs will remain unlicensed within an evaluable environment, which results in ungrammaticality.

Now consider the NPI-licensing questions in (232), repeated from above.

- (232) a. **Vem** vill *någonsin* stiga upp när det är måndag?
 who wants ever get up when it is Monday
 ‘Who ever wants to get up on a Monday?’
 b. **Vad** har du *någonsin* gjort för mig?
 what have you ever done for me
 ‘What have you ever done for me?’

The above questions are prototypically asked with the expectation that the answer will be *no-one* or *nothing*, respectively. One might therefore argue that the NPI *någonsin* ‘ever’ is licensed indirectly by the negative expectations of the speaker. We see that NPIs are licensed in sentences in which this negative assumption is explicitly stated:

- (257) a. **Ingen** vill *någonsin* stiga upp när det är måndag.
 no-one wants ever get up when it is Monday
 ‘Nobody ever wants to get up on a Monday.’
 b. **Ingenting** har du *någonsin* gjort för mig.
 nothing have you ever done for me
 ‘Nothing have you ever done for me.’

By assuming that the denotation of the *wh*-words in (232) above is the same as that of the negative expressions in (257), the licensing properties of *wh*-questions may thus be accounted for. This outlined analysis is basically that of Borkin (1971:56), who summarizes her idea thus:

In [*wh*-]questions, then, the behavior of negative polarity items can be predicted by the negative or affirmative presuppositions of the speaker; for the questions expecting negative responses will generally allow the same polarity items as the corresponding negative existential statements that these questions are often used to convey, while the non-occurrence of polarity items in information-eliciting questions will parallel the non-occurrence of the same polarity items in a corresponding affirmative statement.

Borkin's analysis is intuitively appealing, since it is clear that most *wh*-questions hosting NPIs imply negative responses. However, one cannot help but feel that this is not the entire story. The main problem is that there is really no way of restricting the applicability of her hypothesis, since it builds on speaker presuppositions alone. And we have previously seen in relation to Linebarger's (1987) *Negative Implicature*-approach (see section 9.1) that this in turn affects the predictive power of the hypothesis as a whole. Perhaps one cannot do away with speaker presuppositions entirely, but one would like to be able to predict their possible occurrence more systematically, at least. This can be done by taking the relationship between the *wh*-word and the subsequent proposition into consideration.

If we begin by looking at argument *wh*-questions, we see that they consist of a *wh*-word and a subsequent open proposition (i.e. a proposition lacking the value of at least one argument). In their prototypical information-eliciting usage, argument questions give rise to an implication to the effect that the *wh*-word refers to a non-empty set (see section 10.2.1 above):

- (258) Who left the party before 10 o'clock? →
 Someone left the party before 10 o'clock

I would argue that there is a mutual implication between the referring *wh*-word and the subsequent (open) proposition. If there is a strong implication to the effect that the *wh*-word refers to a non-empty set, then there is also a strong implication to the effect that the (open) proposition is true. And *vice versa*: if there is a strong implication to the effect that the proposition is true, then there is also a strong implication to the effect that the *wh*-word refers to a non-empty set.

These assumptions are of course rather trivial. If there exists an X such that X left the party before 10 o'clock, then the event of someone leaving the party before 10 o'clock must have taken place. And *vice versa*.

This mutual implication has rather far-reaching consequences, however. Most importantly, it follows from this characterization that the *wh*-word of a clefted argument question *must* refer to a non-empty set. Clefts are presuppositional, meaning that the truth of the embedded proposition is conversationally treated as an established fact. Consider (259) below:

- (259) Vem var det som åkte till Paris i onsdags? ⇒
 who was it that went to Paris this Wednesday
 Someone went to Paris this Wednesday

The clefted *wh*-question above presupposes that *X went to Paris this Wednesday* and requests referential specification of *X*. Since the truth of the event entails the existence of *X*, the *wh*-word cannot refer to an empty set (e.g. *no-one/nobody*). This is a logical fact, and therefore independent of speaker expectations.

If correct, this claim explains our previous observation that clefted questions are deviant in rhetorical contexts; see the discussion in relation to example (238) on page 196 above. The very point of asking a rhetorical question is to imply the corresponding negative statement: *Who would do such a thing?* can effectively convey *No-one would do such a thing*. But a clefted *wh*-question cannot be used in this way. Since the presuppositional status gives that the *wh*-word necessarily points to a non-empty set, clefted *wh*-questions always imply *affirmative* responses. For the very same reason, I would argue, we find that clefts never license NPIs either: the *wh*-word lacks relevant licensing properties since its denotation is an upward entailing function. Hence, we the present hypothesis may account for the ungrammaticality of the clefted NPI-hosting *wh*-questions in (237) above.

If we instead turn our attention to *non-clefted* argument questions, they were argued in section 10.2.1 above to be non-presuppositional. I assume that this is why we find a close connection between NPI-licensing and rhetorical interpretations for these question types. That is, an argument *wh*-question never (semantically) presupposes the truth of the open proposition; therefore it is always unbiased with regards to negative and affirmative responses. Since a rhetorical interpretation logically requires the *possibility* of a negative response, argument questions are *bona fide* vehicles for rhetorical purposes. And since the occurrence of NPIs is dependent on the *wh*-word referring to an empty set, argument questions provide a suitable environment: the conversational implicature that the *wh*-refers to a non-empty set can be easily overridden.

In contrast with argument questions, framing questions consist of a *wh*-word and a subsequent (full) proposition, the truth of which is prototypically presupposed. However, this presupposition is sensitive to definiteness and tense distinctions, a fact that lead me to argue in section 10.2.2 that framing *wh*-questions are semi-factive. Note the effect of the indefinite NP in (248) and (249), repeated from above.

(248) När är konserten på Palladium? \Rightarrow
 when is concert.DEF at Palladium
 There is a concert being held at the Palladium.

(249) När är det en konsert på Palladium? \nRightarrow
 when is there a concert at Palladium
 There is a concert being held at the Palladium.

We saw further that only non-factive framing *wh*-questions may host NPIs. Compare the sentences below:

(260) *När är *någonsin* konserten på Palladium? \Rightarrow
 when is ever concert.DEF at Palladium
 There is a concert being held at the Palladium.

(261) När är det *någonsin* en konsert på Palladium? \nRightarrow
 when is there ever a concert at Palladium
 There is a concert being held at the Palladium.

Under the current proposal, we now have a straightforward way of understanding this observation.

The possibility of hosting an NPI is dependent on the *wh*-word referring to an empty set. Given the mutual implicational relation between the proposition and the *wh*-word as explicated above, a presuppositional question necessarily gives that the *wh*-word refers to a *non*-empty set. And this is the reason clefted questions never license NPIs. Quite naturally, any event must be spatiotemporally anchored (in some way or another), even though the exact time and place may be underspecified in a given utterance. For this reason, a framing *wh*-word necessarily refers to a non-empty set whenever the event expressed by the proposition is presupposed to be true, as in (260) above. Consequently, the *wh*-word may only refer to an empty set whenever the ‘embedded’ proposition does *not* presuppose the expressed event. And this is why only non-presuppositional framing *wh*-questions license NPIs, as in (249).

The present analysis is similar to that of Borkin (1971) in that it builds on (negative) speaker presuppositions. The crucial difference, however, is that we are now in a position to systematically predict when these negative expectations may have an effect. The semantic requirement must first be met: there must be a logical possibility for the *wh*-word to refer to a non-empty set. This possibility, in turn, can be calculated by taking the relation between the *wh*-word and the subsequent proposition into consideration. Factive questions – i.e. clefts and ‘prototypical’ framing questions – presuppose a non-empty reference of the *wh*-word. Such questions do not lend themselves to negative expectations, and are thus closed to NPI-licensing. This important restriction delimits the application of Borkin’s original analysis in a systematic way, which enhances its predictive power.

Let us finally address the licensing properties of propositional *wh*-questions, i.e. *why*- and *how*-questions. As discussed in section 10.2.3, these *wh*-words are truly factive: the “embedded” proposition is insensitive to e.g. definiteness and tense considerations, in contrast with propositions embedded under framing *wh*-words. This fact actually provides a delicate problem for our analysis. A presuppositional question always presupposes that the *wh*-word refers to a non-empty set, so it seems we cannot explain the licensing properties of propositional questions in the manner proposed above. Consider (262) below:

(262) Why did Max hit anybody?

According to Lawler (1971:170), this question leaves “open the possibility for the response ‘for no reason’”. However, Lawler does not succeed in explaining *why* this response is possible. And is it really responsible for licensing the NPI *anybody*? If we compare the function of an NPI-licensing propositional question with its corresponding negative statement, we note a fundamental difference, see (265). This becomes particularly evident when compared to argument (263) and framing (264) *wh*-questions:

(263) **Who** has ever trusted John? ≈
No-one has trusted John.

(264) **When** have you ever believe in me? ≈
 You have **never** believed in me.

(265) **Why** have you ever trust John? ≠
 There is **no reason** you trusted John.

We see that this pattern falters with regards to propositional questions. This may suggest that a negative answer like *for no reason* does not underlie (or is not expected from) the *why*-questions in (262) or (265). If so, the occurrence of the NPI cannot be attributed to it, either. This suspicion is further augmented by the fact that the all but synonymous *how come* does not license NPIs, as noted by Fitzpatrick (2005:3):

(266) * How come John ever said anything?

Similar to emotive factive predicates, I would instead argue that NPIs in propositional questions are licensed by the emotive component of the *wh*-word. In its emotive use, a *why*-question – just like an emotive predicate – conveys “a relation of contrariness between a certain fact and some mental or emotive state” (Baker 1970:182). That is, when asking (265), the speaker is simultaneously expressing his/her wish that the addressee had *not* trusted John. And this contrariness is in turn responsible for licensing.

If correct, there is no principled difference between the licensing property of an emotive factive predicate like *regret*, and a truly factive *wh*-word like *why*:

(267) I regret that you ever trusted that man. ≈
I wish that you had never trusted that man.

(268) Why did you ever trust that man? ≈
I wish that you had never trusted that man.

Continuing this line of reasoning, one could further argue that *how come p* is similar to *why p* in requesting the reasons/purposes for *p*, but different from *why p* in lacking an emotive component.⁶ Consequently, it is not able to license NPIs.

If correct, this characterization readily explains the observation that NPIs in propositional *wh*-questions do not necessarily trigger rhetorical readings. In the previous two questions types, the rhetorical reading and the occurrence of NPIs went hand in hand because both were dependent on the empty reference of the *wh*-word. In propositional questions, however, the NPI is not licensed by the referential properties of the *wh*-word; it is licensed by the emotive component of the factive *wh*-word. Since the embedded proposition is presupposed, it does not

⁶Note the emotive difference between exclaiming *Oh why, oh why, oh why?* and *Oh how come, oh how come, oh how come?*.

lend itself to rhetorical interpretations as easily as propositions embedded under argument and framing *wh*-words.

Summarizing this section, I have argued that the possibility of NPIs occurring in *wh*-questions are dependent on the syntactic and semantic properties of the *wh*-word. As such, the present proposal is fully compatible with the Evaluability Hypothesis. Hence, *wh*-questions do not constitute an exception to the overall hypothesis: NPIs cannot occur within an evaluable environment unless overtly licensed by a local licenser. What is exceptional about *wh*-questions is rather the nature of the licenser. Since it is set-creating, it inherits whatever semantic properties associated with the set it refers to. Thus, the *wh*-word may only function as a licenser provided its denotation is a downward entailing function.

10.4 Summary

The focus of this chapter has been the NPI-licensing properties of *wh*-questions in Swedish. In order to pinpoint the elusive licensing properties observed in both Swedish and English, I divided *wh*-questions into three distinct categories: argument, framing and propositional *wh*-questions. The three groups can be placed on a factive scale: argument *wh*-words are non-factive, framing *wh*-words are semi-factive, and propositional *wh*-words are truly factive. As for the clefted variants, they were all argued to be factive due to their presuppositional status.

According to my analysis, *wh*-words are not inherently NPI-licensing operators. But since they are set-creating, they inherit whatever properties are associated with set they refer to. Whenever the denotation of the *wh*-word is a downward entailing expression, it will be able to license NPIs. The current proposal is influenced by Borkin (1971), which builds on (negative) speaker presuppositions.

I have proposed that by taking the factive status of different kinds of *wh*-words into account, we may systematically predict when negative expectations can function as NPI-triggers. It is decisive that the semantic requirement first is met: it must be logically possible for the *wh*-word to refer to an empty set. This possibility, in turn, can be calculated by taking the relation between the *wh*-word and the subsequent proposition into consideration. Presuppositional questions – i.e. clefts and ‘prototypical’ framing questions – imply that the reference of the *wh*-word is non-empty. Such questions do not lend themselves to negative expectations, and are thus closed to NPI-licensing.

Non-clefted argument questions and non-factive framing questions, on the other hand, are non-presuppositional. They are thus unbiased towards a negative or an affirmative response. As a consequence, they may host NPIs. Such NPI-hosting questions tend to be interpreted rhetorically, since both the NPI and the rhetorical interpretation is dependent on the *wh*-word referring to an empty set.

Propositional *wh*-questions, finally, are truly factive and thus always presuppositional. It was argued that NPIs in these questions are licensed by the emotive component of the factive *wh*-word, similar to licensing by emotive factive predicates like *regret* or *be surprised*. Hence, the *wh*-word need not have empty reference in order to license NPIs. This in turn explains why NPI-hosting propositional questions are less prone to be interpreted rhetorically: the rhetorical interpretation demands an empty reference of the *wh*-word, whereas the NPI does not.

The present proposal is fully compatible with the Evaluability Hypothesis. Being evaluable environments, *wh*-questions only host formally licensed NPIs, in analogy with every other evaluable sentence type in Swedish. Any unlicensed occurrence of NPIs is illicit.

During the course of these previous chapters, I have presented and elaborated the Evaluability Hypothesis, and argued that it successfully accounts for the distribution of polarity items in Swedish. Since the issues involved are rather complex, it might be helpful to finish this study by summing up the major ideas and theoretical contributions of the present hypothesis. This summary can be found in the next chapter, followed by a brief summary in Swedish.

Chapter 11

Conclusion

The overarching goal of this dissertation has been to present an explanatory account of the distribution of polarity items in Swedish. In effect, this has resulted in the development of the Evaluability Hypothesis. I have proposed that this hypothesis successfully accounts for both syntactic and semantic aspects of polarity item licensing in Swedish. It also has bearing on Swedish clause structure distinctions, as I have shown that the evaluable status of a clause is mirrored by the configuration of the C-domain.

In this chapter, I summarize the main results from the present study, and discuss the theoretical implications of the Evaluability Hypothesis. This chapter is followed by a brief summary in Swedish.

11.1 Evaluability and Polarity Sensitivity

The most central concept of this dissertation is the notion of *evaluability*, which has no immediate predecessor in the literature. Being primarily pragmatic in nature, the term refers to the possibility of accepting or rejecting a sentence as true within a communicative exchange. Importantly, evaluability is unrelated to the actual truth-value of a proposition, and should not be confused with truth-evaluability within the logico-semantic tradition.

The main distinction is made between *evaluable* and *non-evaluable* sentences. The evaluable category comprises any clause that asserts, presupposes or entails the truth of an affirmative or a negative proposition. Since the speaker (in different ways) takes responsibility for the truth of this proposition, it is possible for the

hearer to assent or dissent. In contrast, the non-evaluable category contains clauses that do *not* assert, presuppose or entail the truth of an affirmative or a negative proposition. Hence, the hearer may neither accept nor reject such sentences as true.

For example, main clause declaratives are evaluable, irrespective of whether they are affirmative or negative. This is an important point, and furthermore one that makes the Evaluability Hypothesis incompatible with propositional logic. Reviving Aristotle's term *logic* (influenced by Horn 1989), I have regarded sentential negation as a mode of predication, rather than an external truth-functional connective. Accordingly, a negative declarative does not assert the falsity of p (as assumed within propositional logic), but rather the truth of $\text{not-}p$. And a negative proposition is potentially as true or false as an affirmative proposition.

I further argued that polarity items are semantically sensitive to the evaluable status of the hosting clause; see chapter 7 discussion. Following this proposal, non-evaluable clauses constitute the natural environment for polarity items. Hence, polarity items may occur without any kind of formal (syntactic) licensing in these environments. This assumption straightforwardly accounts for the non-complementary distribution of PPIs and NPIs in yes/no-questions, for instance. Consider the sentences in (269) below.

- (269) a. Har du *någonsin* varit i Paris?
 have you NPI been to Paris
 ‘Have you ever been to Paris?’
 b. Har du *fortfarande* kvar dina gamla skidor?
 have you PPI left your old skis
 ‘Do still have your old skis?’

We see from the examples in (269) that both PPIs and NPIs may occur in non-evaluable environments without any overt licenser. Within syntactically based theories, it has repeatedly been proposed that such ‘non-negative’ licensing contexts host some kind of covert operator responsible for licensing (see Progovac 1994). However, I have argued explicitly against this view, as it was shown in chapter 7 that any operator based approach to NPI-licensing runs into a number of severe problems, not the least concerning the non-complementary distribution of PPIs and NPIs illustrated in (269) above. My minimal assumption of no covert operator, however, means abandoning the view of polarity items as syntactically dependent expressions.

In contrast, evaluable clauses are restricted PI-hosting environments. It has been shown that evaluable sentences may only host NPIs that are formally licensed, and that PPIs and NPIs in these environments are in complementary distribution. Consider the pattern in (270).

- (270) a. Jag har **aldrig** *någonsin* / **fortfarande* varit i Paris.
 I have never NPI PPI been to Paris
 ‘I have never been to Paris.’
- b. Jag har **någonsin* / *fortfarande* kvar mina gamla skidor.
 I have NPI PPI left my old skis
 ‘I have my old skis left.’

Importantly, the fact that the NPI *någonsin* ‘ever’ in (270) must be within the scope of a negative element does not in itself prove that NPIs are syntactically dependent by default. Rather, it suggests that formal (syntactic) licensing can be a means of ‘rescuing’ the polarity item from an otherwise hostile environment. According to the characterization as given by the Evaluability Hypothesis, polarity items are semantically sensitive expressions that *sometimes* must rely on syntactic dependency in order to fulfil their semantic requirement.

The present hypothesis incorporates Ladusaw’s (1979; 1980) influential downward-entailment theory in a natural manner. However, its applicability is restricted to evaluable environments. Ladusaw’s theory has repeatedly been criticized for not being able to predict the NPI-hosting properties of, for instance, yes/no-questions and conditionals. However, I showed that the sentence types Ladusaw’s theory cannot account for are all non-evaluable. And this, I argue, is no co-incidence. Only evaluable clauses are open to truth-based inferencing, and are therefore necessarily monotone. Non-evaluable clauses, on the other hand, are necessarily non-monotone. And while the monotonicity properties of evaluable clauses affect their ability to host either PPIs or NPIs, it is precisely because non-evaluable environments are non-monotone that we find *both* PPIs and NPIs in these environments. Thus, the Evaluability Hypothesis presents a straightforward explanation of the “short-comings” of Ladusaw’s theory, while retaining all of its insights.

One further advantage of the Evaluability Hypothesis is that it presents an explanatory account of long-distance NPI-licensing, i.e. licensing by a syntactically superordinate element. The key in the present proposal lies in looking beyond syntactic clause boundaries, since what counts as an evaluable environment is defined

semantically rather than syntactically. Hence, one syntactic sentence may contain two evaluable environments, as was argued to be the case in factive and perception predicate constructions; see chapter 9. Consider (271) below.

- (271) a. I'm not glad that Sven went to Paris.
 evaluable *evaluable*
- b. Sven didn't see that he went to Paris.
 evaluable *evaluable*

In constructions as those above, there are two evaluable units: the matrix clause and the complement clause. The situation in (271) should be contrasted to the one noted for volitional and non-assertive predicate constructions, in which I argued that the combination of the matrix and the complement constitutes one evaluable environment; see (272).

- (272) a. I don't want Sven to go to Paris.
 evaluable
- b. It's not possible that Sven went to Paris.
 evaluable

Since it is impossible to react to the matrix or the complement in isolation, the sentences in (272) above are single evaluable environments, despite containing two syntactic clauses.

According to the Evaluability Hypothesis, an NPI must belong to the same environment as its licenser. Hence, the hypothesis correctly predicts the complements in (272) to be open to “long-distance” licensing, whereas the complements in (271) are closed to the scope of the superordinate negative element; see chapter 9 for details.

The approach to polarity phenomena suggested in this work deviates in several important respects from previous accounts. For one thing, the current proposal does not take the opposition between affirmative and negative sentences as the point of departure. Since the seminal work of Jespersen (1917), the occurrence of negative polarity items in negative sentences has been taken as the unmarked case, while the fact that certain ‘non-negative’ contexts also host NPIs has been regarded as exceptional. Hence, the proposals have been aimed at identifying a syntactic and/or semantic licensing property common to all NPI-hosting environments.

The Evaluability Hypothesis follows an alternative route. The major deviation from previous theories is that the occurrence of polarity items in negative contexts is regarded as the marked, or exceptional, case. As an important consequence, the present hypothesis does not provide a unified analysis of all NPI-hosting environments. Quite the opposite, in fact: the observation that negated declaratives and yes/no-questions may both host NPIs is attributed to distinctly different reasons.

The focus of this dissertation has been on the distribution of polarity items in Swedish. Hence, the general applicability of the Evaluability Hypothesis remains to be tested in other languages. However, I believe that the present study provides a promising alternative account of polarity phenomena, that both challenges and incorporates previous theories put forward in the literature.

11.2 Evaluability and Swedish Clause Structure

Throughout this dissertation, I have argued that the distinction between evaluable and non-evaluable clauses has syntactic correlates in Swedish: evaluable clauses structurally involve Spec-CP, whereas non-evaluable clauses structurally lack Spec-CP. This semantic-syntactic correlation was argued to exist because of an established – but in all likelihood arbitrary – association between evaluability and the edge-feature in C (see Chomsky 2008).

In chapter 5, I proposed to divide the evaluable category into two subcategories: a) clauses subjected to evaluation in an on-going communicative exchange, and b) clauses *not* subjected to evaluation in on-going discourse. This subtle evaluative distinction was argued to have structural correlates as well, pertaining to the overt realization of Spec-CP. Clauses subjected to evaluation overtly realize Spec-CP, whereas evaluable clauses *not* subjected to evaluation covertly realize Spec-CP.

The focus on Spec-CP distinguishes the present work from most structural accounts of Swedish within the generative framework, which tend to be preoccupied with verb movement to C. The theoretical implications of this change of perspective have only been hinted at, since my primary focus has been directed to polarity items licensing. But the Evaluability Hypothesis suggests a rather intriguing approach to Swedish clause structure that certainly would benefit from further study. As pointed out in chapter 6, I believe that a study of embedded V2 in the mainland Scandinavian in terms of evaluability could prove especially fruitful.

There are, of course, a number of things left unexplained by the Evaluability

Hypothesis. The status of imperatives is a case in point, as they have been omitted from the present study. There are also open questions regarding the structure and evaluative status of relative clauses that deserve further attention. While these issues should not be diminished, the Evaluability Hypothesis nevertheless points to a striking correlation between the syntactic form and the semantic function of Swedish clauses. And this observation, in turn, raises questions of a more general nature concerning the interplay between syntax and semantics in forming the linguistic expression. As these questions have not been sufficiently addressed in this dissertation, I hope to return to them in future work building on evaluability and polarity sensitivity.

Sammanfattning på svenska

I denna avhandling har jag behandlat polaritetskänslighet i svenska, med det övergripande syftet att utveckla en förklaringsmodell som på ett tillfredsställande sätt kan redogöra för förekomsten av polaritetsuttryck i olika satstyper. I denna korta sammanfattning redovisar jag de huvudsakliga dragen av min analys, och några av dess teoretiska konsekvenser.

Det bör nämnas att termen *polaritetsuttryck* inte är helt etablerad inom svensk språkvetenskap, vilket delvis kan kopplas till det faktum att ämnet är förhållandevis outforskat. I *Svenska Akademiens Grammatik* används istället termen *negationsberoende uttryck* (Teleman et al. 1999:191) för att referera till ord och idiomatiska uttryck som endast förekommer i icke-affirmativa satser, såsom adverbena *någonsin* och *ens*, eller nominalfraserna *ett rött öre* och *ett dugg*.

Polaritetsuttryck har ofta beskrivits som negationskänsliga, vilket stöds av iakttagelsen att de *negativa* polaritetsuttrycken primärt förekommer i negativa satser, medan de *positiva* polaritetsuttrycken framförallt återfinns i affirmativa satser. Jämför exempelvis distribution av *någonsin* och *ens* i (1) nedan, och *till och med* och *fortfarande* i (2).

- (1) a. Sven har **aldrig** *någonsin/ens* varit i Paris.
b. * Sven har *någonsin/ens* varit i Paris.
- (2) a. Sven har *fortfarande/till och med* mina gamla skidor.
b. * Sven har **inte** *fortfarande/till och med* mina gamla skidor.

I påståendesatser står positiva och negativa polaritetsuttryck i komplementär distribution, eftersom den syntaktiska omgivning som tillåter den ena varianten inte tillåter den andra, och tvärtom. Men det finns en rad icke-affirmativa satstyper som inte uppvisar detta mönster, utan tillåter både positiva och negativa polaritetsuttryck i identiska syntaktiska omgivningar; detta gäller till exempel ja/nej-frågor som i (3) och konditionala bisatser som i (4).

- (3) a. Har Sven *någonsin/ens* varit i Paris?
 b. Har Sven *fortfarande/till och med* dina gamla skidor?
- (4) a. Om Sven *någonsin/ens* varit i Paris, borde han ha sett Eiffeltornet.
 b. Om Sven *fortfarande/till och med* har mina gamla skidor, blir jag vansinnig.

Den uppenbara frågan är hur satserna (3) och (4) förhåller sig syntaktiskt och semantiskt till de tidigare satserna i (1) och (2) ovan: vad är det som gör att dessa satser också tillåter polaritetsuttryck?

Tidigare forskning har till stora delar utgått från att förekomsten av polaritetsuttryck i affirmativa och negativa påståendesatser är den prototypiska, eller mest omarkerade. Fokus har därför legat på att finna en gemensam (syntaktisk eller semantisk) nämnare som förklarar förekomsten av polaritetsuttryck även i ja/nej-frågor och konditionalsatser. I denna avhandling skiftar jag fokus, och argumenterar istället för att förekomsten av polaritetsuttryck i affirmativa och negativa satser är det markerade fallet. Enligt mitt förslag kan polaritetskänslighet kopplas till satsens *utvärderingsbarhet* (eng. *evaluability*), dvs. möjligheten att utvärdera satsens sanningshalt i en pågående diskurs. I nästföljande avsnitt ska jag redogöra mer i detalj för denna hypotes.

Utvärderingsbarhet och polaritetskänslighet

Termen *utvärderingsbarhet* utgör kärnan i min hypotes, och konceptet saknar någon direkt motsvarighet i tidigare litteratur. Det är ett i huvudsak pragmatiskt begrepp, som refererar till möjligheten att acceptera eller förkasta sanningshalten av ett yttrande i en kommunikationssituation. Det faktiska sanningsvärdet av den utvärderade propositionen är ovidkommande (dvs. huruvida satsen verkligen är sann eller falsk), och *utvärderingsbarhet* ska därför inte sammanblandas med termen *truth-evaluability* inom logisk semantik.

Satser kan vara antingen *utvärderingsbara* eller *icke utvärderingsbara*. Alla satser som hävdar, presupponerar eller logiskt implicerar sanningshalten av en affirmativ eller negativ proposition är utvärderingsbara; talaren tar ansvar för sanningshalten av yttrandet, om än på olika sätt, och det är därför möjligt för mottagaren att acceptera eller avfärda den aktuella propositionen. Icke utvärderingsbara är å andra sidan alla satser där sanningshalten av en affirmativ eller negativ proposition *inte*

hävdas, presupponeras eller logiskt impliceras. Sådana satser kan varken accepteras eller förkastas av mottagaren, eftersom talaren inte tar ansvar för sanningshalten av det sagda.

Deklarativa huvudsatser är exempelvis utvärderingsbara, oberoende av om de är affirmativa eller negativa. Det sistnämnda är en viktig punkt, eftersom min analys av negativa satser skiljer sig från den förhärskande analysen inom propositionell semantik. Mitt synsätt är influerat av Horn (1989), och går ursprungligen tillbaka på Aristoteles definition av propositionen. Enligt detta sätt att se är negationen närmast att betrakta som en typ av utsaga (eng. *predication*): en negerad påståendesats hävdar sanningen av inte- p , snarare än falskheten av p (vilket skulle vara analysen inom propositionell logik). Och sanningshalten av en negativ proposition är lika utvärderingsbar som sanningshalten av en affirmativ proposition.

Jag argumenterar för att polaritetsuttryck är semantiskt beroende av satsens utvärderingsbarhet. Icke utvärderingsbara satser är enligt min hypotes helt neutrala och omärkta miljöer för polaritetsuttryck, vilket ger som följd att förekomsten av polaritetsuttryck i dessa kontexter inte är beroende av formell syntaktisk eller semantisk licensiering. Detta antagande stöds empiriskt av att både positiva och negativa polaritetsuttryck kan förekomma i icke utvärderingsbara satser utan något slags synlig, licensierande operator (se (3) och (4) ovan). Om min analys är korrekt är däremot utvärderingsbara satser principiellt stängda för förekomsten av polaritetsuttryck; i dessa miljöer är polaritetsuttryck därför beroende av formell syntaktisk licensiering, exempelvis i form av negation, negativa pronomen osv. Av samma anledning finner vi således i utvärderingsbara satser att positiva och negativa polaritetsuttryck står i komplementär distribution.

En viktig konsekvens av min analys är att polaritetsuttryck inte behöver betraktas som syntaktiskt beroende av en licensierare. De bör snarare beskrivas som semantiskt känsliga uttryck vars förekomst i vissa kontexter (de utvärderingsbara) är beroende av ett licensierande element. Men formell licensiering betraktas då inte som det prototypiska fallet, utan som en möjlighet att utvidga polaritetsuttryckens distributionsdomän.

En ytterligare konsekvens av min analys är att 'inherent' licensierande satser (som ja/nej-frågor och konditionalsatser) kan ges en minimal strukturell beskrivning. De flesta tidigare analyser har förutsatt att polaritetsuttryck är syntaktiskt beroende av ett licensierande element. Som en direkt följd av detta antagande har man tvingats anta att alla licensierande satser som saknar en utsatt licensierare istäl-

let har någon form av osynlig polaritetsoperator. Jag argumenterar emot sådana analyser, och visar att min hypotes ger en teoretiskt enklare och empiriskt mer korrekt förklaring till förekomsten av polaritetsuttryck i ja/nej-frågor och konditionalsatser. Eftersom de är icke utvärderingsbara kontexter, kan vi *förvänta* oss att hitta såväl positiva som negativa polaritetsuttryck i dem.

Den hypotes som förs fram i detta arbete är helt förenlig med Ladusaws (1979; 1980) inflytelserika analys av polaritetskänslighet i termer av *monotonicitet*. Jag visar emellertid att Ladusaws teori endast är tillämpbar i utvärderingsbara kontexter, och detta förklarar i sin tur en del av de svagheter som hans teori har kritiserats för. Exempelvis har det faktum att ja/nej-frågor och konditionalsatser tillåter polaritetsuttryck alltid utgjort ett problem för Ladusaws teori, eftersom dessa satstyper inte är så kallat *downward entailing*; de tillåter inte inferenser från det allmänna till det specifika, från mängd till delmängd, vilket har antagits vara en förutsättning för att negativa polaritetsuttryck ska kunna förekomma. Men enligt min teori är detta ett felaktigt antagande, eftersom det snarare är så att satsens utvärderingsbarhet avgör dess förmåga att licensiera polaritetsuttryck. Utvärderingsbara satser är antingen *upward* eller *downward entailing*, vilket förklarar varför positiva och negativa polaritetsuttryck står i komplementär distribution i dessa satser. Men icke-utvärderingsbara satser är varken *upward* eller *downward entailing*, och det är således därför ja/nej-frågor och konditionalsatser tillåter såväl positiva som negativa polaritetsuttryck. Fördelen med min hypotes är att de centrala teoretiska insikterna av Ladusaws hypotes kan bibehållas, medan dess brister kan undvikas.

Jag visar vidare att min hypotes med goda resultat kan tillämpas på en rad olika fenomen som visat sig svårförklarade inom tidigare teorier. Särskilt kan nämnas förekomsten av polaritetsuttryck i bisatser där det licensierande element förekommer i matrissatsen (så kallad långdistanslicensiering), samt förekomsten av polaritetsuttryck i interrogativa satser.

Sammanfattningsvis erbjuder min utvärderingsbarhetshypotes en alternativ förklaring av polaritetskänslighet, som på många punkter röner större framgång än tidigare teorier. Det bör dock understrykas att mitt huvudsakliga fokus har varit att förklara distributionen av polaritetsuttryck i svenska, varför teorins generella tillämpbarhet måste testas mot andra språk. Jag tror dock att detta låter sig göras, eftersom hypotesen bygger på centrala pragmatisk-semantiska distinktioner som bör ha motsvarigheter i de flesta av världens språk.

Utvärderingsbarhet och svenskans satsstruktur

I denna avhandling har jag också argumenterat för att distinktionen mellan utvärderingsbara och icke utvärderingsbara satser speglas syntaktiskt i svenska. Jag har visat på en slående korrelation mellan satsens utvärderingsbarhet och förekomsten av en satsbas, eller fundament. Utvärderingsbara satstyper har en realiserbar satsbas, medan icke-utvärderingsbara satser saknar satsbas (och följaktligen antingen är verbintiala eller subjunktionsinledda). Inom generativ syntaxteori kan denna variation beskrivas som förekomsten eller frånvaron av Spec-CP. Den uppmärksammade korrelationen mellan Spec-CP och utvärderingsbarhet har jag teoretiskt redogjort för genom att anta en fast – men med all sannolikhet godtycklig – koppling mellan kantdraget i C (eng. *edge-feature in C*) och utvärderingsbarhet.

För att fånga skillnaden mellan exempelvis hävdade och presupponerade satser, har jag föreslagit att kategorin utvärderingsbara satser kan delas upp i två undergrupper: a) satser som utvärderas i den pågående diskursen, och b) utvärderingsbara satser som *inte* utvärderas i den pågående diskursen. Även denna subtila pragmatiska distinktion speglas syntaktiskt: a-satserna har en fonologiskt realiserad Spec-CP, medan b-satserna normalt har en fonologiskt orealiserad Spec-CP (som oftast kan realiseras).

Inom generativ syntaxforskning har svenskans satsstruktur ofta beskrivits med utgångspunkt i placeringen av det finita verbet. Den föreslagna hypotesen skiljer sig därvidlag genom att istället fokusera på satsbasen, dvs. positionen som *föregår* det finita verbet eller bisatsinledaren. Jag har dock inte fullt ut diskuterat de teoretiska implikationerna av detta perspektivbyte, eftersom mitt huvudsakliga syfte har varit att förklara polaritetskänslighet i svenska. Men den föreslagna utvärderingshypotesen erbjuder en intressant, alternativ syn på svenskans satsstruktur, som skulle vara väl värd att utveckla vidare. Jag tror exempelvis att förekomsten av inbäddad V2 i svenska skulle kunna förstås i termer av utvärderingsbarhet, ett förslag som jag också fört fram i arbetet.

Sammantaget menar jag att detta arbete har påvisat en slående koppling mellan syntaktisk form och semantisk funktion i svenska, och denna observation väcker en rad spännande frågor rörande samspelet mellan syntax, semantik och pragmatik. Det är min förhoppning att jag i framtida arbeten får en möjlighet att utveckla och ta itu med dessa frågor, eftersom de inte fått tillräckligt utrymme i denna avhandling.

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