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UNIVERSITY OF CALIFORNIA
SANTA CRUZ

**GERMANIC IT-CLEFTS:
STRUCTURAL VARIATION AND SEMANTIC UNIFORMITY**

A dissertation submitted in partial satisfaction of the
requirements for the degree of

DOCTOR OF PHILOSOPHY

in

LINGUISTICS

by

Judith Fiedler

June 2014

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Abstract

Germanic It-Clefts: Structural Variation and Semantic Uniformity

by
Judith Fiedler

The subject matter of this dissertation is the it-cleft construction, exemplified in (1):

- (1) It was Mary who drank all the vodka.

It-clefts have attracted the long-standing interest of researchers in a number of linguistic subfields for the reason that this is a construction within which converge a variety of phenomena touching on issues central to linguistic theory. This work addresses several of these issues, including the construction of copular sentences, the properties of the left periphery and their relevance to the grammar of *wh*-movement, the interaction of syntax, semantics, and information structure, and the linguistic sources of connectivity and reconstruction effects.

The core predicational structure of the it-cleft is identified as a small clause containing an atypical predicate - a CP λ -abstract - and this has repercussions in several domains. Among these is the availability of two derivational options: the clefted constituent may be first merged either within or above the subordinate clause. Each derivation places a set of demands on the syntactic system and therefore, although both of these derivations are attested in the Germanic languages, some languages are restricted to one or the other option due to language-specific syntactic constraints.

This cross-linguistic variation in the structure of it-clefts provides a means of isolating morphosyntactic connectivity from interpretive reconstruction effects. A comparison of German it-clefts with the structurally distinct it-clefts of Norwegian reveals that, contrary to expectation, variation in structure is not reflected in variation for the availability of reconstruction effects. On the basis of these data, the analysis argues that it-clefts having distinct syntactic structures are semantically identical at the point of interpretation. Differences in structure, however, will require that each language make use of distinct syntactic and semantic operations in reaching this ultimate semantic uniformity.

For my parents:
Ruth Steinberg Fiedler
and
Israel Abraham Fiedler
1925–2012
ע"ה

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— Schlimm genug! Wieder die alte Geschichte! Wenn man sich sein Haus fertig gebaut hat, merkt man, unversehens etwas dabei gelernt zu haben, das man schlechterdings hätte wissen müssen, bevor man zu bauen — anfang. Das ewige, leidige “Zu spät!” — die Melancholie alles Fertigen!...

Friedrich Nietzsche, *Jenseits von Gut und Böse*

Chapter 1

Introduction

1.1 Introduction

The subject matter of this work is the odd specimen of copular construction known as the it-cleft, exemplified in (2)

- (2) It was the pastry chef who dropped the gougère.

Since the introduction of this construction to the linguistic literature by Otto Jespersen in 1927, the it-cleft has continued to attract the interest of researchers. Part of its appeal is its universality: cleft forms are cross-linguistically widespread. It-clefts are, as well, a construction within which a number of phenomena touching on questions of central interest to linguistic theory converge. Among these are the issues which I address throughout this work: the grammar of copular sentences, the grammar of the left periphery and movement to the left periphery, the interactions between syntax, semantics, and information structure, and the sources of and relationship between syntactic connectivity and interpretive reconstruction effects.

Chapter 2 functions as introductory material, reviewing the identifying semantic and pragmatic properties of the construction. As is well known, it-clefts are subject to contextual felicity conditions and therefore have a restricted discourse distribution. This is due to certain characteristics which they introduce: existence presupposition and exhaustive identification. The fact that these are characteristics which they have in common with other, related forms of copular sentences is often taken as an indication that it-clefts and other specificational sentences are semantically identical and contextually interchangeable. I suggest in Chapter 2 that, despite

significant overlap in discourse function, it-clefts access the discourse structure in a way which distinguishes them from related constructions.

The observations laid out in Chapter 2 form the basis of the material which follows in Chapter 3, an analysis of it-cleft syntax. Here, I argue that, just as it-clefts are unique in their discourse function, they are unique in their structure. Drawing on several sources of evidence, I identify the it-cleft as a copular sentence built on an atypical small clause, one which contains as predicate a CP λ -abstract. The nature of this predicate predicts cross-linguistic variation in the derivation of it-clefts, a prediction which is confirmed by examination of cross-linguistic morphosyntactic derivation within the Germanic languages. The choices any particular language makes in its derivational strategy are determined and constrained by the characteristics of the items available in the lexicon, and in particular, as one would expect, the characteristics of the functional heads relevant to movement to the left periphery and to agreement.

In Chapter 4, I apply the information developed in Chapter 3 to a topic which moves beyond the specifics of the it-cleft construction and into a more fundamental question for linguistic theory: the foundations of connectivity and reconstruction. The structural variation identified in the Germanic languages provides a means of distinguishing between morphosyntactic connectivity and interpretive reconstruction effects. Contrary to expectations, the interpretive options made available by it-clefts of distinct structures are identical. This forms the basis of an analysis which argues for a more complex interaction of the syntax and the semantics in triggering reconstruction effects. Despite the significant structural variation in the it-clefts of Germanic languages, the semantic representations which the structures attain are identical. The paths a language must take towards this representation is, though, impacted by the syntax of the construction. The analysis then leads to the conclusion that the syntactic and semantic systems each have the flexibility and the capacity to respond to the constraints which they place upon each other.

Chapter 2

Specifying answers: The discourse function of it-clefts

2.1 Introduction

The most basic procedural tool within the field of theoretical linguistics is the observation of empirical data, and the first step towards an analysis is to formulate the generalizations which can be drawn from observation. A generalization might then be stated along the following lines:

- (3) Structures of type *X* have in common semantic property *y* and syntactic property *z*.

Generalizations such as this form the basis of the predictive power of linguistic theory, leading towards statements such as those in (4):

- (4) a. Any structure of type *X* will have semantic property *y* and syntactic property *z*
b. A structure which is lacking either semantic property *y* or syntactic property *z* is not of type *X*

Interest in the copula and in copular sentences has a long history in the study of language. Sentences containing a copula show a significant range of variation in form, meaning, and syntactic behavior, so that the semantic contribution of the copula itself is difficult if not impossible to isolate and define.¹ The uncertain status of the copula, though, need not hinder research

¹There are numerous works on this topic. See, for example, Rothstein (1999); Partee (1986) for argumentation in favor of a semantic role for the copula in predication; Sharvit (1999) for argumentation in favor of “ambiguous

into the constructions in which the copula appears. It is here that the methodology outlined above has been applied in order to discover generalizations relative to subclasses of copular sentences, and then, based on the clusters of characteristics which distinguish between subclasses, to establish a typology of copular sentences.

Precisely how many classes should be distinguished, and whether these are, indeed, constructions which are fully independent of one another, or rather variants on one or more basic types, is the question at the center of a great deal of research. The set of sentences below illustrates just a very few of the numerous classes which have been argued for.²

	He is Bryn.	<i>pronominal identity construction</i>	Büring (1998)
	That is Bryn.	<i>identificational</i>	Heller and Wolter (2008)
(5)	Cicero is Tully	<i>identity statement</i>	Higgins (1979)
	Kiri is the Countess.	<i>predicational</i>	Higgins (1979); Moro (1997) Mikkelsen (2005); Den Dikken (2006)
	The Countess is Kiri.	<i>specificational</i>	Higgins (1979); Moro (1997) Mikkelsen (2005); Den Dikken (2006)

The subclass relevant to the matter at hand is that of specificational copular sentences, as this is the subclass to which the subject of this work, the copular sentence known as an *it-cleft*, is typically assigned.³ English *it-clefts* have a fairly invariant form. They always contain the four components indicated in the gloss of example (6): the cleft pronoun, the copula, the *clefted constituent* or *pivot*, and the cleft clause. The term *cleft* derives from the descriptive notion that cleft sentences appear to have been *clefted* into two parts, resulting in the presence of a gap within the subordinate clause which corresponds to the clefted constituent.

(6)	It	was	John [who/that dropped the cake].
	<i>Cleft Pronoun</i>	<i>Copula</i>	<i>Pivot Cleft Clause</i>

The material in this chapter serves two purposes. The first of these will shortly become evident: to consider what *it-clefts* mean, what role they play in a discourse, and consequently *be*", Heycock and Kroch (1998); Den Dikken (2006) for argumentation in favor of a vacuous copula. For general discussion of the issue, see Partee (1998).

²I include in the listing of copular sentence types citations of one or two of numerous authors who have pursued analytical work on that type; the number of researchers who have worked on this material is simply too large to begin to do it justice here. There are several proposed typologies, with varied and overlapping definitions and terminology. See the comprehensive review and discussion in Den Dikken (2006), and sources cited there.

³It has been argued there are as well predicational *it-clefts* Hedberg (2000); Declerck (1988); Han and Hedberg (2008); Reeve (2010); see discussion in §2.1.3.

in which sense they *specify* something and therefore count as specificational sentences. This presentation is also the prelude to the chapter which follows, in which the syntactic structure of it-clefts is explored. In organizing the presentation in this way, I follow a long-established tradition which may be traced back to Jespersen (1949), the work in which it-clefts are first introduced as a construction of linguistic interest.

It is almost inevitable that syntactic analyses of it-clefts will include some discussion of their semantics. That a syntactic analysis of a construction may draw upon the semantics of that construction is by no means uncommon, but it-clefts are nevertheless a special case in this regard, and for good reason. The syntax of it-clefts is so obscure that an analysis of this construction is, to an unusually high degree, dependent on an understanding of its meaning and discourse usage.

The classification of it-clefts as specificational has consequently had an influence on the diagnosis of their structure. As discussed in the following section, it-clefts are taken to be a type of specificational sentence because they display several of the interpretational properties which characterize this class. This leads to the possibility that it-clefts may be identical, or nearly so, to other members of this class in their formal semantics, and this in turn provides the basis for the conclusion that this (near) identity can be extended to their syntax as well.

I will argue in this chapter for a different conclusion: it-clefts are unique members of the class of specificational copular sentences. This argumentation will begin with the identification of subtle but clear differences in the discourse usage of it-clefts versus other, formally similar specificational sentences. I will then make use of the discourse model proposed in Roberts (2012) and further developed in Büring (2003) as a means of illustrating and analyzing the distinctions between it-clefts and headed pseudoclefts in terms of their interactions with the discourse structure. Finally, I propose an initial formalization of the conclusions drawn from this analysis, and discuss the consequences of those conclusions for the syntactic analysis to follow in Chapter 3.

2.1.1 Specificational versus Predicational Copular Sentences

Since the seminal work of Higgins (1979) in detailing the numerous syntactic and semantic distinctions between specificational and predicational sentences, these two construction types are often defined in comparison to one another. Predicational copular sentences are commonly

identified as sentences which have an individual-denoting subject and a property-denoting post-copular constituent, which may be represented by more than one lexical category.⁴ Simple predicational sentences such as those in (7) are usually of the form DP-*be*-DP or DP-*be*-AP . These compose by function application, and are understood to assert that the referent of the subject DP may be characterized as having the property expressed by the postcopular constituent.

- (7) PREDICATIONAL COPULAR SENTENCES: $\lambda P\lambda x.P(x)$
- a. John is a pastry chef.
 - b. John is clumsy.
 - c. John is the clumsy pastry chef.

The semantics of specificational copular sentences are less easily defined. I begin with the following examples.

- (8)
- a. The clumsy pastry chef is John.
 - b. John's most famous creation is the Framboise Crémé Sablée.
 - c. The most reliable customers are Balducci's and Truffles.

Specificational sentences have been described as providing a value for a variable: the precopular constituent supplies the variable, and the postcopular constituent specifies its value. Alternatively, the postcopular constituent may be understood as supplying an answer, in the form of an exhaustive list, to a question represented by the precopular constituent. Taking two examples from (8), their interpretation might be illustrated in one of following two ways.

- (9) The clumsy pastry chef is John.
- a. $\exists x[\textit{pastry-chef}'(x) \wedge \textit{clumsy}'(x)]$ and $x = \textit{John}'$
- (10) The best customers are Balducci's and Truffles.
- a. Q: *Who are the best customers?*
 - b. A: Balducci's and Truffles.

⁴This is not the only possible definition of predicational copular sentences. A broader definition states that the semantic composition of a predicational copular sentence involves function application; that is, its two constituents are a function and its argument, but logical types of these constituents are not restricted to property- and individual-denoting; see Heller and Wolter (2008)

2.1.2 Cleft Types

There are at least two other copular sentence types which, like it-clefts, contain a clefted constituent corresponding to a gap within a subordinate clause: *wh*-clefts or *pseudoclefts* and *headed-pseudoclefts*. These three types of cleft sentence have a number of properties in common.

2.1.2.1 Predicational Cleft Forms

Both pseudoclefts and headed-pseudoclefts come in predicational and specificational varieties (see, again, Higgins (1979) for a detailed examination), and, depending on its constituency, a single sentence may be ambiguous between these two readings.⁵

The predicational reading of a pseudocleft is easily triggered if the postcopular constituent is an AP, as in example (12). The subject clause is interpreted as referential - it refers to something that John baked - and the property of *being delicious* is said to hold of John's creation.

- (12) What John baked was delicious.

Predicational clefts may also be formed with post-copular DPs. The examples in (13) may be understood as predicational.

- (13) a. What John dropped was a cookie sheet.
b. The thing that John dropped was a cookie sheet.

The predicational interpretation is most easily comprehended given an appropriate context; the question in (14) encourages the interpretation of the subject in these two examples as a

⁵The well-known minimal pair below, taken from Higgins (1979), illustrates restriction in interpretation resulting from the constituency of each sentence. Disambiguation between readings is due the pronominal form - a personal pronoun in (11a) and a reflexive pronoun in (11b) - which appears within the postcopular constituent. Example (11a) is predicational: the precopular phrase is interpreted as referential, and the postcopular AP predicates a property of it. If John is a pastry chef, for example, the pseudocleft asserts that being a pastry chef is important to John (that is, if the postcopular pronoun and *John* are coreferent as is indicated here). (11b) has only a specificational interpretation (i.e. **Q**:*Which characteristic defines John?* **A**: *Self-importance*).

- (11) a. What John_i is is important to him_i.
b. What John_i is is important to himself_i.

referential DP, of which *being a gougère* is predicated. The prosody of the sentence plays a role in interpretation as well; the predicational reading for these sentences will have the nuclear pitch accent fall on a constituent within the precopular constituent, in these instances likely on *John*.

- (14) PERSON A: *A gougère? What's a gougère? I've never heard of a gougère.*
- a. PERSON B: What John dropped is a gougère.
 - b. PERSON B: The thing that John dropped is a gougère.

2.1.2.2 Specificational Cleft Forms

I provided a context in the examples immediately above in order to force the predicational reading. This was necessary because precisely the same examples may be read as specificational. In this case, the precopular constituent is understood to introduce a variable, and the value of the variable is supplied by the post-copular DP. In this case, a focus pitch accent falls on the post-copular constituent (as indicated by small caps).

- (15) PERSON A: *Did John just drop an quiche?*
- a. PERSON B: No. What John dropped was a GOUGÈRE.
 - b. PERSON B: No. The thing that John dropped was a GOUGÈRE.

The canonical usage of it-clefts is as specificational sentences. Given the context in (15), PERSON B might well respond with the it-cleft in (16a). All three cleft sentences seem to provide the same information: *there is a thing x such that John dropped x .*

- (16) PERSON A: *Did John just drop a quiche?*
- a. PERSON B: No. It was a gougère that John dropped.

2.1.3 A Note on Predicational It-Clefts

This section has, at this point, illustrated the similar usage of the various cleft types as specificational in contexts such as that in (16), and I have discussed as well the predicational use of pseudo- and headed pseudoclefts.

It has been claimed that it-clefts may also be predicational. Here we find, again, that identification of a sentence as belonging to a particular subclass leads to the prediction that it should

show all of the behaviors of the other members of that class: because it-clefts are members of the subclass of cleft sentences, and other types of cleft sentences have both a specificational and predicational interpretation, we expect that it-clefts too will have both a specificational and a predicational usage.

It is not entirely clear that this prediction is correct. There is variability in the literature as to which type of cleft-like construction is to be identified as a predicational it-cleft, and whether there may be predicational sentences which appear superficially similar to it-clefts but are in actuality quite distinct constructions.

We have seen that the predicational sentences in our sample are those whose subjects are referential. The predicted isomorphism between all cleft types indicates that predicational it-clefts would be constructions in which the subject - understood to be the initial pronoun - is a referential DP. The following examples have been argued to be predicational it-clefts.

- (17) Those are real eyeglasses that Mickey is wearing. (Ball, 1978)
(18) They're just fanatics who are holding him. (Han and Hedberg, 2008)

These examples clearly do have referential pronouns in initial position. One sees as well that matrix T agrees with the initial pronoun, which does not normally occur in English it-clefts.⁶ The status of these two examples is disputed, however. Reeve (2010), for example, refers to these as “false predicational clefts”, and identifies them instead as instances of extraposition from subject.

Declerck (1983) argues that it-clefts are inherently specificational, but that there are examples of it-clefts which show some of the characteristics of predicational sentences. An example is given in (19a). Declerck suggests that the meaning of this sentence is predicational in the sense that it appears to have the same interpretation as the paraphrase in (19b); that is, Declerck views the cleft in (19a) as predicational on the grounds that its communicative function is to assert that the property *interesting* holds of *the meeting*.

- (19) a. It was an interesting meeting that I went to yesterday. (Declerck, 1988)
b. The meeting that I went to yesterday was interesting.

⁶Variation in agreement pattern could, of course, be a formal characteristic which distinguishes between predicational and specificational it-clefts.

He does note, though, that there is another way of understanding this sentence. Perhaps this is a specificational sentence, but the variable in need of a value is property-denoting; in this case the variable is introduced not by the cleft clause, but by the pivot itself.⁷ I suspect that this approaches the correct understanding of such examples. It is possible, of course, that the initial pronoun in (19a) is referential, and refers to *the meeting*; in this case, the example corresponds to that in (17) (although again this may depend on the prosody of the two examples in context).⁸

The lack of consensus on the status of predicational it-clefts is in itself an indication that it-clefts do not precisely mirror the behavior of other cleft types, as the distinction between predicational and specificational varieties of (headed)-pseudoclefts is easily identified.

There are a number of issues at stake in the classification of examples such as these; in particular, the conditions under which a relative adjunct to a subject DP may extrapose, and whether the cleft pronoun is indeed of a semantic type which may be interchanged with referential DPs to form predicational counterparts to specificational it-clefts. There is, as I suggested above, a presumption that it-clefts should behave like other types of specificational sentences, but there are also reasons to question whether this presumption is correct.

I will take the position that the availability of both predicational and specificational (headed) pseudoclefts does not predict that it-clefts should also manifest in both varieties. Although I believe that this question requires and deserves fuller examination, I will treat it-clefts as exclusively specificational constructions.

⁷By this I mean that the variable corresponds to the attributive adjective, for which reason the adjective is in focus.

⁸As will be discussed further in Chapter 3, there are a variety of diagnostics intended to determine the status of a copular sentence as specificational or predicational. One of these is that predicational clauses, when embedded under propositional attitude verbs such as *consider*, may optionally omit the copula; specificational clauses do not permit this. For this diagnostic, (19a) patterns with predicational sentences. The embedded version, (20), permits omission of the copula, as does the predicational sentence in (21a). A specificational it-cleft embedded under *consider*, as in (21b), is ungrammatical when the copula and non-finite T are deleted.

(20) I consider it an interesting meeting that I went to last night.

(21) a. I consider John a clumsy pastry chef.

b. *I consider it John who dropped the cake.

The significance of this patterning in determining class membership will naturally depend on whether one takes this data to be indicative of the specificational/predicational dichotomy, or whether other factors, perhaps the lexical semantics of the postcopular constituent, are involved in triggering this variance under embedding.

2.1.4 Exhaustivity and Presupposition

All clefts have in common the availability of a specificational reading; the constructions may be understood to provide a value for a variable. They share two additional properties which are characteristic of specificational sentences: they introduce the presupposition that there exists a value for the variable which picks out a referent, and, as noted earlier, the identification they provide of that referent is exhaustive.

For the sentences in (22), the presupposition which is introduced is that *John burned something*; this presupposition survives under negation.

- (22) a. What John burned was a quiche.
b. The thing that John burned was a quiche.
c. It was a quiche that John burned.

- (23) $\left\{ \begin{array}{l} \text{a. What John burned wasn't a quiche,} \\ \text{b. The thing that John burned wasn't a quiche,} \\ \text{c. It wasn't a quiche that John burned,} \end{array} \right\} \# \text{ and/but he didn't burn anything.}$

- (24) $\left\{ \begin{array}{l} \text{a. What John burned was a quiche,} \\ \text{b. The thing that John burned was a quiche,} \\ \text{c. It was a quiche that John burned,} \end{array} \right\} \# \text{ and he also burned a gougère.}$

The identification of the burnt item is exhaustive; it is indicated that the quiche is the one, unique item which John burned and he burned nothing else.⁹

2.1.5 Summary

The material in this introductory section illustrates the behaviors which identify it-clefts as being close kin to specificational copular sentences, and illustrates the shared characteristics

⁹The exhaustivity of it-clefts is sometimes disputed; not all speakers find the continuation in (24) entirely unacceptable. I believe that this is due to the fact that the exhaustive identification which clefts provide is relativized to a domain, and this domain may be sharply delimited. This means that the identified item is exhaustive only with respect to the alternatives available within that domain; this, then, does not exclude the possibility that there are additional relevant items outside of that domain. As I will argue below, restriction to a delineated domain is definitional for cleft sentences. Give the presupposition of such a domain in the context of it-cleft usage, it is perhaps not very difficult for a conversation participant to accommodate the continuation in (24) as referring to an item which is outside the domain of exhaustive identification.

of pseudoclefts, headed pseudoclefts, and it-clefts. The three sentences in (22a) through (22c) are truth-conditionally identical, they each provide the same exhaustive identification, and they each introduce the same presupposition. It is suggested by some analysts that the constructions - particularly, headed pseudoclefts and it-clefts - are identical in their meaning and usage and are interchangeable, and based on the examples provided in this section, it is clear why one might come to this conclusion (Akmajian (1970); Percus (1997); Hedberg (2000); Reeve (2010), among many others).¹⁰

In spite of the data which supports this position, I will argue that there is evidence which points in the opposite direction. It is true that the function of (headed)-pseudoclefts and it-clefts overlap to a considerable degree, but there are contexts in which the two constructions may be teased apart. For the remainder of this chapter, I turn to evidence of distinction between it-clefts and other cleft constructions. On the basis of this evidence, I will take a few steps towards a descriptive formalization of the difference in the interpretation of it-clefts versus (headed)-pseudoclefts, within a hierarchical model of discourse structure.

2.2 Felicity Conditions on Cleft Usage: Observations from Corpus Studies

The properties which *clefts* share place restrictions on the discourse contexts in which they may felicitously be used. It is well known, for example, that clefts cannot be used discourse-initially.¹¹

- (25) SPEAKER A: So, anything new with you?
- (26) SPEAKER B: Yes, there is! I just dropped a quiche.
- a. # What I just dropped is a quiche.
 - b. # The thing that I just dropped is a quiche.

¹⁰It should be noted that *interchangeability* is intended here in semantic and pragmatic terms. There are independent syntactic constraints on each construction which may limit their appropriateness in particular contexts. Clefts, for example, permit PP pivots, while headed pseudoclefts typically do not.

¹¹This ignores the atypical, literary usage of text-initial *clefts*, particularly *it-clefts*, as a rhetorical device. There are additional settings which inherently introduce presuppositions and may support the limited use of discourse-initial clefts. See Prince (1978) for discussion.

c. # Yes, there is! It's a quiche that I just bought.

The restriction on *clefts* discourse-initially, as well as in other contexts, is clearly tied to the existential presupposition. In broad and informal terms, the state of the discourse must be such that the participants recognize the presupposed material as relevant to the subject matter; in the discourse state following *Speaker B*'s utterance, there isn't very much in the way of subject matter at all. The example in (26) is fine in this context, as it carries no presupposition and may be used to introduce the dropping of a quiche as a topic of conversation. The *clefts* in (26a) - (26c) cannot function in this way.

There are two issues which arise with regard to the felicity conditions on cleft usage. One of these is the question of what a context must provide in order to support the presupposition introduced by the construction. The other is whether the contextual requirements, whatever they may be, are identical for all cleft forms. That is, the three distinct cleft forms in (26a) — (26c) are truth-conditionally equivalent, and the content of the presupposition introduced in the clausal component is identical as well. It is therefore to be expected that, if the sentences are simply variants of one another, one should find that the use of different cleft forms varies randomly.

2.2.1 A Contextual Comparison between Cleft Types

Contextual restrictions on cleft usage has long been a subject of research, with the goal of defining with some degree of precision the conditions under which clefts may appear. One can say, for example, that the ban on discourse initial clefts is due to the fact that, at this initial stage of the dialogue, it cannot yet have been established that the discourse participants share enough information to support the presupposition. Thus, what one finds in the literature is that research is directed towards formulating a definition of *enough information*. This is often couched in terms of identifying the relationship between a presupposition and the information to which it refers, or its *antecedent*. The notion that the context must supply enough information is often understood to mean that the antecedent of a presupposition must be *discourse-old* or *given* information. Ultimately, research into this question is concerned with formulating a definition of *givenness*.

In some work, the definition of *givenness* is an extremely narrow one. Rochemont (1986) states that the content of the cleft clause in an it-cleft can be supported only by a linguistic

antecedent, or by an antecedent which is immediately observable in the physical environment. This very restrictive view of givenness is, as Delin (1992) points out, tied to the assumption that the information structure and prosody of it-clefts is fixed and invariant. Delin (p.264) suggests that this assumption arises due to the tendency to consider only “citation forms” of it-clefts such as the one below; the pivot bears informational and prosodic focus, indicating that this is the source of new information, and that it stands in opposition to the old information contained within the cleft clause.

(27) It was MARY who delivered the pecan pies.

A less restrictive view of the information structure of it-clefts emerges from the examination of naturally occurring data gathered from both written- and spoken-language corpora. Corpus studies of cleft forms often examine quantifiable, formal properties of these constructions. These examinations can reveal distinctions between constructions, and although these distinctions may be suggestive they are, in many cases, ultimately less informative than one might hope. Among these observations are that the prosodic structure of all cleft constructions is more flexible than usually assumed: the nuclear pitch accent need not fall on the clefted constituent, and that it is often the case that both the clefted constituent and the subordinate clause contain a nuclear accent (Collins (1991); Delin (1992)). As Delin correctly points out, however, the correlation between prosody and *new* versus *given* is not always maintained in cleft constructions (see fn.(2.2.1), in reference to example (31b) below).

Prince (1978) suggests that the word count of constituents may be correlated with the status of the material as *new* or *given*, reasoning that information which has already been made salient to a listener will be referenced by a shorter string of lexical items. Her data indicate that it-clefts and pseudoclefts do differ with respect to average length of the clefted constituent versus the subordinate clause: the word length of the subordinate clause in an it-cleft exceeds that of the pivot, while the reverse is true of pseudoclefts.¹²

¹²According to the data in Prince (1978, p. 886) the cleft clause in an it-cleft contributes %66 of word length, whereas in pseudoclefts, the subordinate clause constitutes %25 of total word length. Prince excludes in her word count the introductory element of the subordinate clause (i.e. *what*, *that*, or the relative pronoun), as well as the copula *and*, in it-clefts, the cleft pronoun. Similar findings are reported in Collins (1991); however, Prince explicitly indicates that she compares pseudoclefts and it-clefts with clefted DPS; this is not made clear in Collins.

It should be noted that the relevance of these results and the reliability of word count as an indicator of givenness

The more interesting point of examination is the relationship between the cleft construction and its antecedent - that is, the material in the discourse which is identified as licensing or supporting the presupposition of the cleft. The status of this relationship may be couched in terms of the temporal distance between the antecedent and the cleft, in terms of identity of lexical items within the antecedent the cleft clause, and in terms of conceptual distance between the content of the antecedent and cleft.

What is reported with regard to the antecedent-presupposition relationship is that the antecedent of an it-cleft is more “distant” than that of a pseudocleft with regard to all of these parameters (Delin (1992); Collins (1991); Prince (1978)).¹³ This work is usually presented by way of example; I provide a few of the relevant examples here.

The antecedent material preceding a pseudocleft is observed to be, in the typical case, quite local to the cleft with regard to all three notions of locality indicated above. Prince reports that in rare cases the cleft and antecedent may carry identical lexical items as in (28a), although it is more often the case that the lexical items are not identical, but very similar in meaning, as in (28b) (Prince’s examples (12) and (13c), p. 887).

- (28) a. ‘There is no question what they_i are after. **What the committee_i is after** is somebody at the White House. They_i would like to get Haldeman or Colson, Ehrlichman.’ (Nixon in PT, 64)
- b. ‘Nikki Caine, 19, doesn’t want to be a movie star. **What she hopes to do** is be a star on the horse-show circuit.’ (*Today*, 10/10/76, p. 44)

A pseudocleft is licit as well when the material in the cleft permits the listener to construct an inferential “bridge” (Prince (1978, 887), citing Haviland and Clark (1974)). The inference may be constructed on a variety of bases (examples from Prince, p. 889-890). Prince reports that this is the most common relationship between presupposition and antecedent in pseudoclefts; the content of the antecedent and the presupposition are conceptually closely related.

is open to question. The comparison is further complicated by the fact that the underlying structure of pseudoclefts is significantly distinct from it-clefts, thus evaluation of this comparison is not straightforward. See the analysis of pseudoclefts as question-answer pairs in Dikken et al. (2000).

¹³This information is, in these studies, presented informally, perhaps due to the preference of the authors, or perhaps because some of this data is inherently difficult to quantify. The material nevertheless is suggestive, and the authors of these studies come to similar conclusions with regard to its significance.

- (29) a. At first contact he developed **a furious hatred** for the party of the Social Democrats. '**What most repelled me**', he says, 'was its hostile attitude toward the struggle for ...' (Shirer (1960, 22))
- b. 'Precisely how pseudo-clefts are formed **need not concern us ... What is relevant** is that in all the cases examined above - and in fact in most pseudo-clefts - the constituent following *be* is an NP.' (Akmajian and Heny (1975, 316))

The presupposition *something (most) repelled me* in (29a) can be inferred due to the presence of a phrase containing material which bears a close conceptual relationship - *develop a furious hatred*. In (29b), the inference is based on contrast between the lack of relevance (i.e. *not of concern*), *relevance*. Both Prince and Collins (1991) develop proposals for a more encompassing notion of *givenness*, such that linguistic material in the discourse is taken to be *given* if it provides the listener with the basis for the required inference.

The felicity conditions on it-clefts are presented as being somewhat different from those on pseudoclefts. It-clefts appear to be less dependent on the presence of a *given* antecedent, under the revised definition of *givenness* above. The following example, provided with context, illustrates.

- (30) *I've been bit once already by a German shepherd. it was really scary. It was an outside meter the woman had. I read the gas meter and was walking back out...?*
(Meter reader in Terkel (1974, 366))

Notice that the presupposition introduced by the cleft is *the woman had something*. The cleft clause in this instance contains information which has no antecedent whatsoever. The context provides no basis to the listener for building an "inferential bridge", and the substance of the clause is then, in Prince's terms, not *given*. It-cleft examples of the type in (30) will be crucial to the discussion in this chapter.

The difference in the felicity conditions relevant to pseudoclefts versus it-clefts is illustrated most starkly by Prince in her discussion of two distinct types of it-clefts. The it-clefts which Delin (1992) refers to as "citation" forms are those which Prince refers to as *stressed-focus it-clefts*; these are it-clefts which introduce new, focal information as the pivot, and contain *given* information in the cleft clause. Prince identifies a different usage of it-clefts in which it is the pivot which is discourse-old, and the cleft clause which introduces the new information

which is relevant to the continuation of the dialogue (examples below from Prince, p. 898).¹⁴

- (31) a. 'It was just about 50 years ago that Henry Ford gave us the weekend...' (Philadelphia/Sunday (NA, 1/3/76, p. 3L))
- b. 'The leaders of the militant homophile movement in America generally have been young people. It was they who fought back during a violent police raid on a Greenwich Village bar in 1969, an incident from which many gays date the birth of the modern crusade for homosexual rights.'

These are categorized in Prince as *informative presupposition* clefts. Clefts of this type frequently have 'scene-setting adverbials' or anaphoric pronominal DP pivots, as is the case in the two examples cited here.^{15,16} The cleft clause introduces new information - the it-cleft in (31a) is the introductory sentence in a newspaper article, and the content of the cleft clause in (31b) is clearly the focal information - and yet in both, the information is introduced as presupposed.

Based on the differential contextual requirements of pseudoclefts and it-clefts, Prince distinguishes between their usage in terms of the cognitive status of conversation participants. In effect, she suggests that the use of a pseudocleft is restricted by the cognitive status of the addressee, as seen from the point of view of the speaker. That is, pseudoclefts are appropriate when the speaker believes the context has made the antecedent of the presupposition salient. The use of an it-cleft is not as dependent on the effect of the immediate context on the attention state of the addressee. Rather, in using an it-cleft, the speaker herself may bring the antecedent to salience, but does this by introducing the antecedent in the form of a presupposition.

The conclusion to which Prince's analysis leads is that different types of clefts are subject to different discourse constraints. She captures this by formulating definitions for two distinct felicity conditions. The first, her definition of *givenness*, indicates the discourse status of the

¹⁴Prince does not identify the it-cleft in (30) as an *informative presupposition* cleft; I expect that this is because the presupposition, although not supported by *given* information, does not provide information which is central to the narrative; it provides, rather, a context for the narrative.

¹⁵Prince borrows the term 'scene-setting adverbial' from Kuno (1975, 1978)).

¹⁶Notice that the nuclear pitch accent falls on the pivot in this case (or, so it seems to me), despite the fact that the pivot is anaphoric. This is no doubt what Delin (1992) refers to (see discussion in reference to (27) above) when she notes that the prosody of it-clefts may be determined by their syntax, rather than by their information structural content with regard to the state of the discourse.

presupposition introduced by a pseudocleft. The second indicates that the speaker may recognize that the information in the presupposition is not salient - it may not even be known to the addressee - but is introduced by the speaker as though it were *known information*. This latter refers to the status of the it-cleft presupposition.

(32) Conditions on cleft presuppositions (Prince 1978; 903)

- a. GIVEN INFORMATION: Information which the cooperative speaker may assume is appropriately in the hearer's consciousness.
- b. KNOWN INFORMATION: Information which the speaker represents as being factual and as already known to certain persons (often not including the hearer).

In Prince's discussion, she suggests that the utterance of a cleft permits the speaker to disavow responsibility for the new information introduced within the cleft clause; this information is treated as a presupposition and therefore as a "known fact" which the speaker does not assert, but to which the speaker simply makes reference.

Delin (1992) regards the role of the it-cleft presupposition somewhat differently and, in my view, more accurately; the introduction of a presupposition indicates that there must exist an antecedent - one which may not be available in the context, but that the addressee will have to accommodate by forging the necessary inferences. In this way, Delin suggests that the it-cleft establishes "coherence relations" within a conversation (p. 299)

(33) *Quite a few of you have asked about tipping, and these days problems can arise. A nice old-fashioned housemaid, labelled by cap and apron, is easy enough; when you leave you will give her your little present as a thank you for looking after you. It is the 'lady who obliges' that can confound you;....*

The it-cleft, Delin suggests, may be employed by the speaker to draw attention to an antecedent which is not immediately accessible. In (33), the cleft establishes a coherence relationship with the preceding dialogue, the relationship being one of contrast.

2.2.2 Summary

The use of corpora in the examination of cleft forms is informative in illustrating that the distribution of the different forms in naturally-occurring dialogue and text is not random. This does

strongly suggest that there is a difference in meaning between pseudoclefts and it-clefts. The researchers who present these data report their observations concerning distinctions in context of usage, and draw on these in proposing an analysis of the felicity requirements on and discourse function of cleft forms.

I believe that the conclusions reached by these analysts provide insight into the distinctions between cleft forms, and I will draw on these conclusions in approaching the data from a different perspective. The first step towards this perspective is to notice that the proposals discussed above were phrased in terms of the cognitive status of the addressee from the point of view of the speaker: the speaker might use a pseudocleft if she believed that the addressee should be able to find the relevant antecedent based on the immediate context, or the speaker might use an it-cleft if she determined that she had to introduce that antecedent in her utterance.

One might then rephrase these proposals, considering the use of cleft forms not in terms of what the speaker assumed the addressee to be immediately aware of, but rather in terms of the communicative intent of the speaker. In other words, the use of one or the other cleft form may be determined by whether it is the speaker's intention to adhere to the immediate context, or whether she wants to steer the dialogue in another direction.

The crucial point which emerges from the data presented is this: a presupposition introduced by a pseudocleft and a presupposition introduced by an it-cleft are somehow distinct from one another. A context which supports the presupposition of an it-cleft may not support that of a pseudocleft, and this must mean that these presuppositions are incorporated into a conversational context differently. In the following section, I move towards a more precise examination of the interaction between cleft forms and contexts as I begin to consider the distinctions between cleft types in terms of the structure of the discourse.

2.3 Clefts and Discourse Structure

As we have seen, the analyses arising from corpus studies are often presented from the point of view of the attention state of listeners and the appraisal of that state by speakers. The question which now arises is how to reframe the concept of attention state in terms of the state of the discourse. More specifically, the path forward must involve a consideration of the structure of discourse and how it-clefts interact with this structure. The goal is then to determine how the use of it-clefts contributes towards conversational goals and in which way this contribution

differs from that of pseudoclefts.

2.3.1 Background: Conversational Goals in a Possible World Semantics

I will adopt the conception of discourse as presented in Stalnaker (1978) in terms of the goals of conversation participants, and importantly, the role of assertion in pursuing these goals. The basis of Stalnaker's proposal is that the function of conversation is the acquisition of knowledge, and the acquisition of knowledge requires the consideration of *propositions* with the aim of reaching mutual agreement as to their truth or falsehood.

Informally, a proposition is the meaning of a declarative sentence. In formal terms, the denotation of a sentence is the set of possible worlds in which its truth conditions are met - that is, the set of worlds in which it has a truth value of 1. If a person is in a state of complete ignorance, then the actual world in which he or she lives might well be any of countless possible worlds; such a person has no basis for excluding any of them. That is to say, in a state of complete ignorance, anything at all could be true.

This is in direct opposition to the quest for knowledge, which is in the end a quest to determine specifically which of the countless possible worlds is the "actual" world. This in turn requires knowledge of the truth value of every single possible proposition - essentially, an infinite list of propositions. In other words, the ultimate goal is to reach a state of omniscience.

In making determinations about the truth values of sentences, one begins to build a basis for excluding possible worlds from the field of contestants. The tools of the discourse model work in the following way. Assume that the participants in a conversation are discussing the following two sentences, S_1 and S_2 . The denotation of each, P_1 and P_2 respectively, is the set of possible worlds in which its truth conditions are met.

$$(34) \quad \llbracket S_1 \rrbracket = P_1 = \{ w_8, w_{10}, w_{29}, w_{803}, w_{62}, w_{12} \}$$

$$(35) \quad \llbracket S_2 \rrbracket = P_2 = \{ w_{29}, w_{62}, w_{967}, w_3, w_8, w_{70} \}$$

The participants may come to the determination that both of these sentences are true. In this case, both P_1 and P_2 are added to the *Common Ground* or CG - the list of propositions which have been mutually accepted.¹⁷

¹⁷This is, again, a very basic model of discourse, assuming what Stalnaker refers to as a "non-defective" context - one in which speakers share the same knowledge base, at least with regard to knowledge relevant to a specific dialogue.

(36) CG:

- a. $P_1 = \{w_8, w_{10}, w_{29}, w_{803}, w_{62}, w_{12}\}$
- b. $P_2 = \{w_{29}, w_{62}, w_{967}, w_3, w_8, w_{70}\}$

The intersection of the CG forms the *Context Set* or CS. It is the CS which contains the possible worlds still under consideration as being the actual world. Those possible worlds which are not in both P_1 or P_2 are no longer under consideration; such worlds do not satisfy the truth conditions of two sentences which have now been determined to be true.

(37) CS:

- a. $\cap CG = \{w_8, w_{70}, w_{29}, w_{62}, w_{803}\}$

2.3.1.1 Summary

Stalnaker makes use of a possible world semantics in representing how discourse functions as a procedure for moving towards the goal of knowledge acquisition. Conversations are venues for the consideration of the truth or falsehood of propositions. Propositions which are deemed true are added to the list of true propositions: the *Common Ground*. The intersection of the CG results in the elimination of worlds which are no longer under consideration as representing the actual world. The worlds which remain after this process of elimination form the *Context Set*.

2.3.2 It-Cleft Types and Discourse Integration

Delin and Oberlander take a step in the direction of examining the discourse effects of it-clefts within a discourse model. In doing so, they are concerned with addressing the fact that it-clefts may take on the variety of discourse functions discussed earlier in §2.2: the *stressed-focus* it-clefts, *informative presupposition* it-clefts, and the use of it-clefts in establishing coherence relations such as contrast.

Delin and Oberlander assume a quite simple discourse model. Any given point in the discourse may be identified as the current state of the discourse. The example in (38) may be used to illustrate.

- (38) a. PERSON A: So who broke this?
b. PERSON B: It was John who broke it.

The state of the discourse immediately following the question uttered in (38a) is that in (39). The it-cleft in (38b) is a *stressed-focus* it-cleft, and it is this which must now be added to this discourse.

Delin and Oberlander adopt a hierarchical discourse structure such that when information is to be added to the context, it must be integrated via attachment to the existing structure which represents the current context. A stressed-focus it-cleft is integrated into the current state of the discourse as illustrated in (39b). It forms a sisterhood relationship with the question for which it supplies an answer; this is accomplished by adjunction to the existing node representing the question.

(39) Stressed-focus it-cleft:

a. broke-this(x)

b.
$$\begin{array}{c} \text{broke-this}(x) \\ \diagdown \quad \diagup \\ \text{broke-this}(x) \quad \text{broke-this}(\text{john}) \end{array}$$

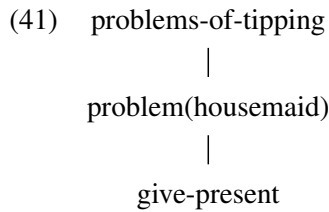
Notice that this supplies a straightforward representation of the variable for which a specificational sentence identifies a value: according to (39b), the it-cleft assigns the value *John* to the variable *x*.

The authors suggest that the reason it-clefts may serve a variety of discourse functions is that they have the capacity to be integrated into the existing discourse by a variety of different attachment options.

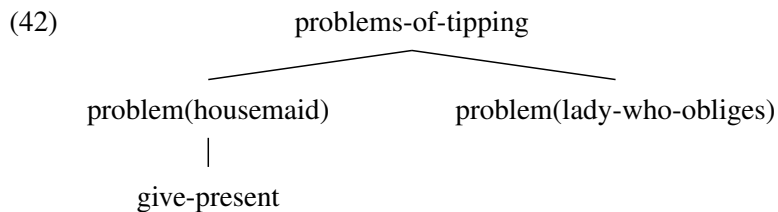
The it-cleft introduced earlier in reference to the context in (33), repeated here as (40), represents the capacity of it-clefts to establish *coherence relations* to the preceding dialogue; the relationship here is, again, one of contrast.

(40) *Quite a few of you have asked about tipping, and these days problems can arise. A nice old-fashioned housemaid, labelled by cap and apron, is easy enough; when you leave you will give her your little present as a thank you for looking after you. It is the 'lady who obliges' that can confound you;....*

The state of the discourse prior to the utterance of the it-cleft is represented as in (41).



At this point, the *problem-of-tipping* has been considered in reference to the *housemaid*, and it is asserted that the *problem* is non-existent due to the availability of the option *give-present*. The addition of the it-cleft to the discourse introduces the presupposition that *someone will confound you*. Due to the close conceptual relationship between *confound* and *problem*, the *problem-of-tipping* is re-established as the topic of conversation. The information provided by the cleft is incorporated as a sister node to *problem(housemaid)*, and in this way “coheres” to an earlier point in the dialogue. The *lady-who-obliges*, for whom there is no solution corresponding to *give-present*, stands in contrast to the easily death-with *housemaid*.



The final discourse function Delin and Oberlander address is *informative presupposition*; this, they suggest requires a process of integration into the discourse which differs from those introduced above. The discourse, prior to the introduction of the cleft, is as follows.¹⁸¹⁹

¹⁸In (44), I have created an example based on (43) below; this latter is the example supplied by Delin and Oberlander as illustrative of an *informative presupposition* it-cleft (their example (20), p. 11). I find it difficult to interpret this example in the way they describe; they argue that the it-cleft provides the interpretation of 'temporal regression', as the 'authorization of action' refers to an event which has occurred prior to the reference time of the passage - i.e. the time immediately preceding the *demonstration* noted in the text. I use a variation on their example so as to provide the additional clarity I will require in developing the discussion to follow.

(43) *Mr. Butler, the Home Secretary, decided to meet the challenge of the 'Ban the Bomb' demonstrators head-on. Police leave was cancelled and secret plans were prepared. It was Mr. Butler who authorized action which ended in 32 members of the Committee of 100 being imprisoned. The Committee's president and his wife were each jailed for a week.*

¹⁹I follow Delin and Oberlander in illustrating a truncated version of the context.

(44) *Professor Kym, the department chair, decided to meet the challenge of introducing new technology into the classroom head-on. Media cabinets were installed and suitable teaching materials prepared. It was Professor Kym who established the study abroad program with the Pädagogische Hochschule in Karlsruhe. Thus far 32 students have spent a full academic year in Germany.*

Prior to the introduction of the it-clefts, the conversation is focused on the specific upgrades to classroom technology which had been initiated by Professor Kym; this is represented in (45).

(45) decided(Prof. Kym)
 |
 installed-cabinets

At this point, there is no overt question to be addressed; there is, therefore, no variable which requires a value - an odd position for a specificational sentence to find itself in, if the *raison d'être* of specificational sentences is to perform this valuation function. The it-cleft must find an alternative means of attaching to the structure; instead of finding a variable, it finds a matching *topic*: *Professor Kym*.

The attachment in this environment is quite unlike those discussed thus far, in that it requires the projection of a new mother node. This new node permits accommodation of the informative presupposition. The fact that the two utterances share the topic “*Prof. Kym*” makes it possible to superimpose a new, broader topic of conversation within which both the it-cleft and the preceding material are relevant.

(46)

 properties-of(Prof. Kym)

 ───────────────────────────

 decided(Prof. Kym) establish-program(Prof. Kym)

 |

 install-cabinets

The model of discourse which Delin and Oberlander (1995) introduce is intended to capture the cognitive processes involved in the interpretation of it-clefts in a way which accounts for the variety of influences they exert on the discourse, modeling this as distinct discourse interactions.

A question which remains open, though, is how this model distinguishes between it-clefts and other cleft constructions. In fact, the contexts discussed here do differentiate between it-clefts and headed pseudoclefts; two of these contexts are amenable to the use of headed pseudoclefts as well as it-clefts, but the third is resistant to headed pseudoclefts.

- (47) a. PERSON A: So who broke this?
 i. PERSON B: It was John who broke it.
 ii. PERSON B: The one/the person who broke it was John.
- (48) *Quite a few of you have asked about tipping, and these days problems can arise. A nice old-fashioned housemaid, labelled by cap and apron, is easy enough; when you leave you will give her your little present as a thank you for looking after you.*
 a. It is the 'lady who obliges' that can confound you;....
 b. The one who can confound you is the 'lady who obliges'.
- (49) Professor Kym decided to meet the challenge.....Media cabinets were installed and suitable teaching materials prepared.
 a. It was Professor Kym who established the study abroad program with the Pädagogische Hochschule in Karlsruhe
 b. ?# The one who established the study abroad program with the Pädagogische Hochschule in Karlsruhe was Professor Kym.

What we see in these three sets is that the use of an it-cleft and the corresponding headed-pseudocleft overlap given the contexts in (47) and (48). Their usage comes apart, though, in (49): here, the it-cleft is acceptable, but use of the headed-pseudocleft in (49b) severely degraded. This is quite odd, because in crucial ways, the two examples are identical: they are truth-conditionally equivalent, and they introduce exactly the same presupposition - *someone established the study abroad program....*

The usage of it-clefts illustrated in (49) is not often addressed in depth. Such usages do appear in the literature; an example of this use, taken from Prince (1978), was illustrated in (30). That example is repeated here, and is followed by two additional examples of similar contextual uses of it-clefts, the first from Declerck (1988, p. 241), the second a Norwegian example from Svenonius (1998), who notes that this usage is quite common.

(50) *I've been bit once already by a German shepherd. it was really scary.* It was an outside meter the woman had. *I read the gas meter and was walking back out...'* (Meter reader in Terkel (1974, 366))

(51) *Don't worry. There's nothing wrong with the car.* It's the driver who's a little tipsy.

(52) a. Q: *Korfor er det så kalt her?*
why is it so cold here.

b. A: *Det er Ola som har opna glaset.*
It is Ola as has opened the-window.

Declerck remarks that in contexts such as these, it-clefts “hardly look specificational” because “they do not seem to assign a value to a variable” (Declerck, 1988, p. 241). He goes on to suggest that these may not be it-clefts at all, but something more like a pseudo-relative.

I will argue that it is precisely examples of cleft usage as these which provide insight into the function and meaning of it-clefts. I will suggest, further, that the type of discourse integration which Delin and Oberlander propose for informative-presupposition it-clefts is very much on the right track but, contrary to Delin and Oberlander’s suggestion, it-clefts always interact with the discourse in the same way.

In examining the basis of the differential behavior seen in (49) and similar examples, I will make use of a model of discourse which is similar to that of Delin and Oberlander, but represents the broader context of the discourse and is therefore more fully articulated. Based on this examination, I will suggest that the core use of the it-cleft is exactly that which we see these examples. The it-clefts here do run counter to our expectations of what it-cleft do, but this is not because these constructions are not actually it-clefts; rather, these are the contexts which allow us to probe the distinctions between it-clefts and (headed)-pseudoclefts. It-clefts and pseudoclefts are inherently distinct, and consequently they access the discourse structure in different ways, accounting for their non-interchangability in (49) and in additional contexts to be discussed in the following section. It-clefts and pseudoclefts are often more-or-less interchangeable, as in the two earlier contexts Delin and Oberlander discuss, only because the two different means of discourse access may result in precisely the same interpretation in contexts such as these.

2.3.3 Strategies in Discourse

2.3.3.1 Background

In expanding on Delin and Oberlander's work, I will require a more expansive model of discourse. For this purpose, I will adopt the proposal of Roberts (2012), and its elaboration in terms of *discourse trees* or *D-trees* in Büring (2003)

Roberts' discourse model is grounded in the framework developed in Stalnaker (1978), as discussed in §2.3.1. The question which she addresses is how the discourse is structured so as to lead to the narrowing of the context set. Her proposal is that the discourse is propelled by two basic *moves*. One of these is a mechanism for introducing propositions into the discourse for evaluation. This mechanism is the posing of a Question Under Discussion or QUD, as this introduces the denotation of that question, a set of propositional alternatives, among which the answer is to be found. The introduction of a QUD serves as a *set-up move*. When conversation participants come to mutual acceptance of a proposition within this set and then add it to the common ground, this is the *pay-off move*.

Progress through the discourse may proceed indirectly. In order to answer a QUD, it may be necessary to pursue a *strategy* - a series of subinquiries, each of which is itself a QUD, may be evaluated independently, with the resulting answers providing information relevant to answering the original QUD.²⁰ More specifically, *superordinate* questions may be subdivided into *subquestions*, which are then further divided into *subsubquestions*, and so on. Propositions which are accepted as answers are, again, added to the common ground. The knowledge accrued by the answers to subquestions - that is, the gradual narrowing of the context set - should

²⁰Roberts defines *subquestions* or *subinquiries* in terms of entailment: an answer to a subquestion entails a partial answer to the superordinate question. However, entailment here is defined specifically as *contextual entailment*; in Roberts' terms, "rational considerations" and "contextual inferences" determine whether or not a series of subquestions, a *strategy*, is well-formed in terms of entailment relations.

For example, the question *What kinds of seafood does John eat?* may be followed by the subquestion *Isn't John allergic to clams?*. If the answer is in the negative - *John is not allergic to clams* - then the answer to this subquestion does not entail a partial answer to the superordinate question. This sequence is nevertheless a well-formed strategy under the assumption that an answer to the subquestion does provide a partial answer to an implicit *bridging question* such as *What reasons would John have for not eating clams?*

In representing discourse structures or *D-trees* in this chapter, I will assume that the strategies represented are well-formed given the accommodation of bridging questions.

eventually lead towards an answer to the superordinate question.

As example of a strategy, consider the following context:

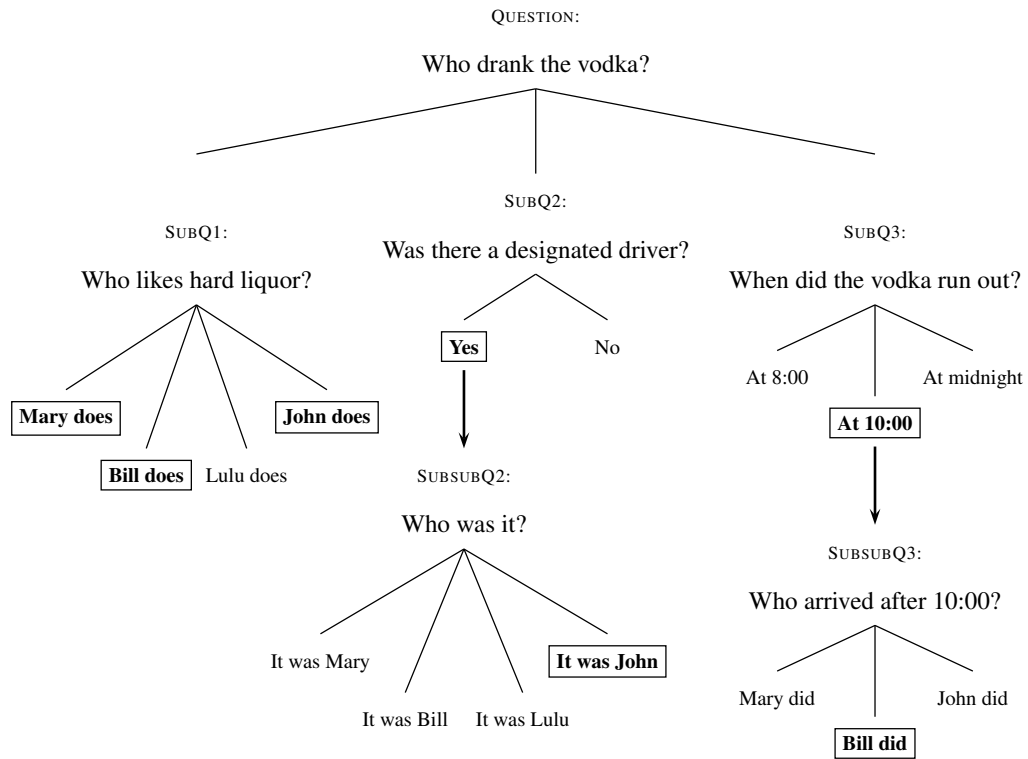
- (53) Several friends have recently had a get together. The next day, a few of these friends are discussing the fact that, although at the start of the party the vodka bottle was at least two-thirds full, it was empty by the end of the evening. They are trying to determine who the drinker or drinkers were.

In considering the question of *Who drank the vodka*, the conversationalists may consider a number of subordinate questions which will lead to a determination - for example, which of the attendees like hard liquor, whether all of the guests were present prior to the emptying of the vodka bottle, whether there was a designated driver, and so on.

The discourse structure in this case may be represented by the discourse tree below. The superordinate question is illustrated here as having three subordinate questions (SUBQs), two of which dominate subsubquestions (SUBSUBQs).²¹ The branching nodes under SUBQs or (SUBSUBQs) illustrate the propositional alternatives comprising the denotation of the question - i.e. these are the possible answers to the question. Answers illustrated within an enclosed text box indicate those which have been mutually accepted and added to the CG.

²¹As noted, I assume the presence of *implicit bridging questions* in the presentation of this structure.

(54)



The conversation participants may at this point come to the conclusion that the vodka-drinker was Mary; the answers to the subquestions contribute the information that, of those people who like hard liquor, Mary is the only one who was not the designated driver, and was in attendance before the vodka ran out at 10:00 PM.

2.3.4 The Discourse Function of It-Clefts

In order to usefully apply the system just outlined to the question of the contextual requirements of it-clefts, I begin by establishing the context below. Given the state of the discourse after the introduction of (56a), a clear comparison can be made between the acceptability of the it-cleft versus the unacceptability of pseudoclefts. Where necessary, I indicate FOCUS using small caps, and bold italics to indicate *contrastive topic*.²²

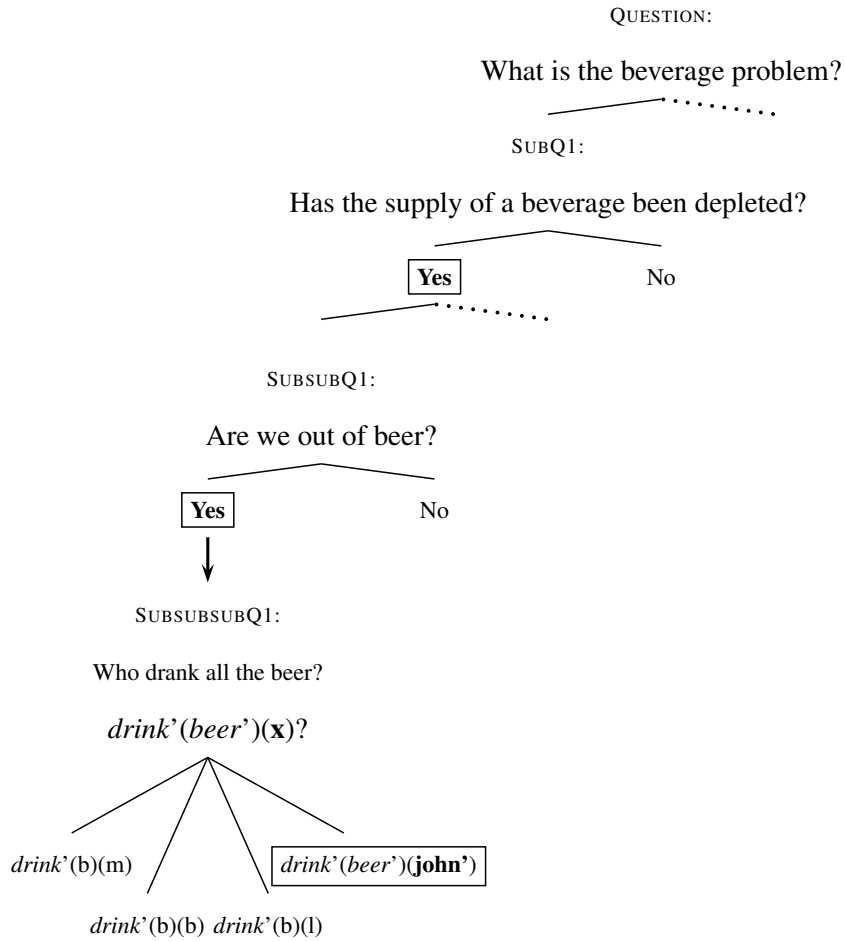
²²I do not indicate focus structure for (56b-i) and (56b-ii); the context requires that *Mary* is the contrastive topic, and *vodka* the focus. This is difficult to achieve with the headed pseudocleft in (56b-i); although it is possible to produce pseudoclefts with this prosodic shape, it is not the default. In any event, neither arrangement of FOCUS-*topic* in the two pseudoclefts can salvage the construction in this context.

Context:

- (55) Fred is having a few friends over one evening. When Max arrives, Fred asks him what he would like to drink. Max requests a beer. Fred replies with the comment in (56a), at which point another attendee, Peter, interjects with the response in (56b).
- (56) a. **Fred:** Oh, too bad. WeŠre having a bit of a beverage supply problem. John drank all the beer.
- b. **Peter:** No, it was *Mary* who drank all the VODKA! There’s plenty of beer left.
- i. # No, the one who drank all the vodka was Mary!
- ii. # No, Mary was the one who drank all the vodka!

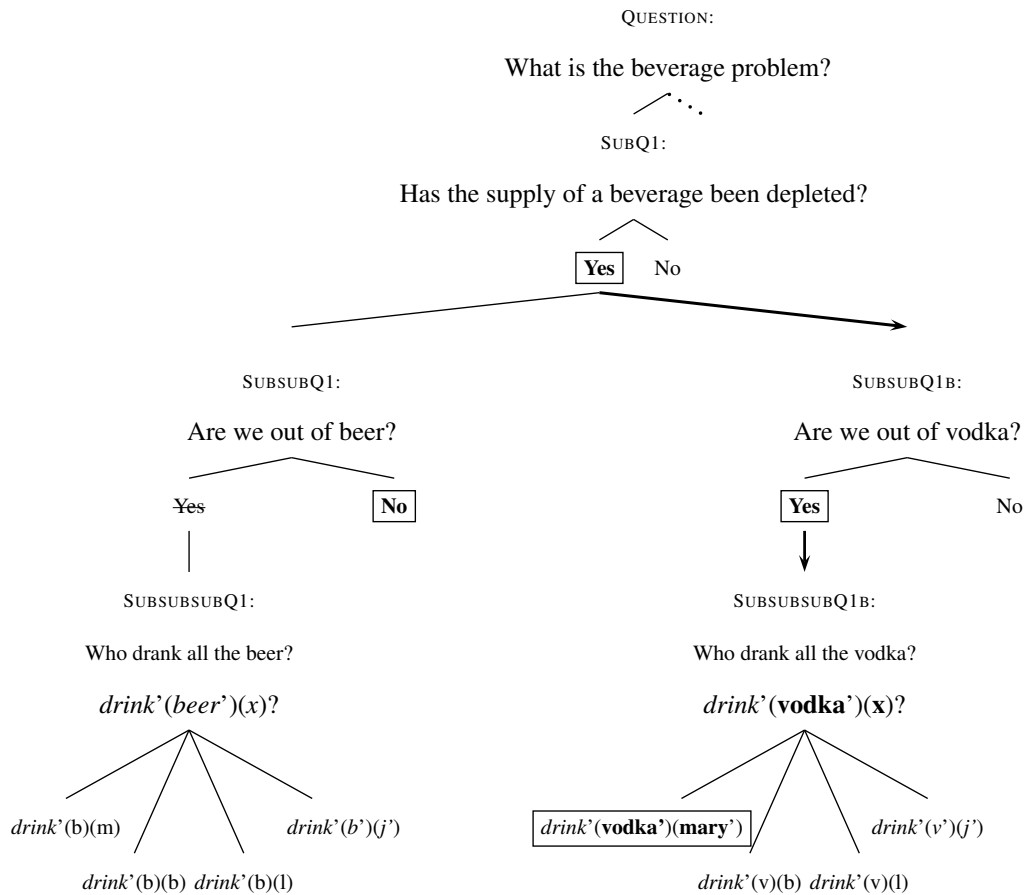
In this dialogue, Fred introduces a QUD, the *nature of the beverage supply problem*, and immediately provides an answer: *the problem is a shortage of beer, and the cause of this shortage is that John has drunk all of it*. At this point, the dialogue would be compatible with the state indicated in (57)

(57)



Peter uses an it-cleft as a means of correcting Fred. What this means is that Peter supplies a different answer. The use of the it-cleft has two consequences, which may be understood by reference to the illustration in (58).

(58)



First, the it-cleft which Peter utters shifts the dialogue into a different subquestion. Prior to Peter's utterance, the dialogue is located within the subsubquestion *Who drank all the beer?*. The dialogue is located here because Fred indicated that the beverage problem concerned beer, and specifically that one of the guests, John, had drunk all of it. Peter is now indicating that the dialogue has ended up in the wrong place; the correct answer to the superordinate question is to be found in a different location in the discourse. The answer is not within the *Who drank the beer?* subquestion, but rather in a different subquestion, namely: *Who drank the vodka?*.

In using an it-cleft, Peter redirects the dialogue, and he does it in a specific way: he moves the dialogue into a different subquestion by identifying the answer to that subquestion. That is, he indicates the presence of the correct subquestion by selecting the one propositional alternative within its denotation which provides an answer. Notice that in doing so, the proposition is interpreted an exhaustive accounting of the beverage problem: the sole problem is that resulting from Mary's indulgence in vodka. In other words, the *exhaustive listing* the it-cleft supplies is

the specification of the single cause of the problem: the it-cleft rules out any other proposition, in any subquestion, as a possible answer in place of or in addition to the it-cleft in (56b).

In the preceding discourse, then, in order to perform its function, the it-cleft must return the conversation to an earlier stage, and from that point redirect the conversation into an alternate subquestion. An it-cleft may also abruptly move the discourse ahead into a more deeply embedded subquestion. The context below provides an example.

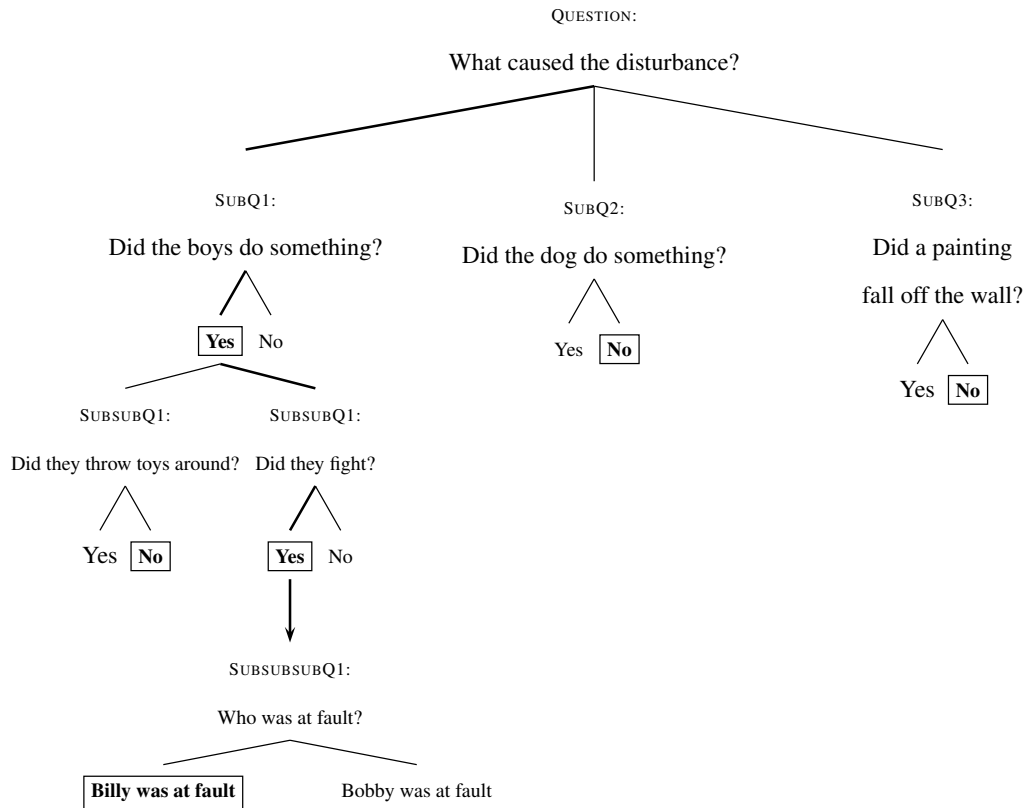
Context:

John has had a difficult morning with his two ill-behaved young sons, Billy and Bobby. John eventually settles them in front of the TV in the living room, and retreats to his study. Soon, though, he hears a commotion down the hall. He returns to the living room, sticks his head in the door, and says: *Hey, what's going on in here?*

The children both look at him innocently:

- (59) *Bobby*: It was Billy who hit me!
- a. # The one who hit me was Billy!
 - b. # Billy was the one who hit me!

(60)



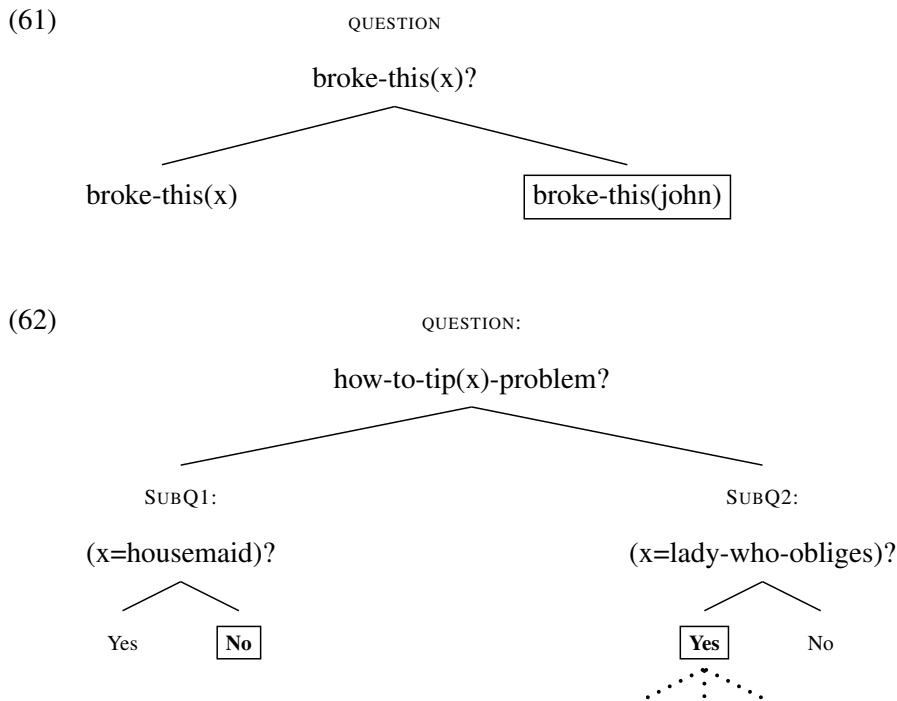
The it-cleft is, here again, an acceptable construction, and in this way contrasts with the headed pseudoclefts in (59a) and (59b). The important property of the it-cleft in this instance is its exhaustivity; Bobby answers his father's question, but in the same breath exonerates himself of responsibility. The single event triggering the disruption was the hitting event in which Billy was the aggressor.

I believe that it is possible to interpret the answer to indicate that the reading is exhaustive only in a limited way - in the sense, again, that Billy's act was the sole cause of the disturbance. This does not, it seems to me, rule out the possibility that Bobby responded in kind, or even that some degree of aggression may have led up to the central act of hitting. This is an indication that the exhaustivity in it-clefts is very tightly restricted to a specified domain of alternatives. Here, that domain contains a large section of the structure: it is the domain within which the exhaustive answer to the question *what caused the disruption* is to be found. This, though, doesn't rule out the possibility that there were additional hitting events; these might be represented in propositional alternatives under the QUD *hat happened next*. Rather, the it-cleft only excludes as the cause of the disruption.

The headed pseudoclefts in (59a) and (59b) were, as we have seen with earlier contexts, infelicitous in this environment. The presupposition introduced by these two sentences cannot be accommodated — and this is odd, given that it is identical in content to that of the acceptable it-cleft. The difficulty, I believe, is based on the type of access to the discourse structure to which headed pseudoclefts are restricted.

2.3.5 Clefts and Locality in Discourse

For the examples (47), (48), (49), discussed in connection with the proposal in Delin and Oberlander (1995), it was pointed out that in the first two contexts, the it-clefts could be replaced with headed pseudoclefts, while the final context permitted only the it-cleft. Looking back at that discussion, one may notice that the contexts suitable for headed pseudoclefts are those in which an individual variable is directly accessible. One may observe that the structures which Delin and Oberlander assume are quite similar to those I have adopted from Roberts (2012); I repeat two of those structures here with minor reformulations.



What one can observe, informally, is that the discourse structures here are quite limited. What the two have in common is that the superordinate questions in both cases introduce an individual variable x . The scenario in (61) is straightforward; the headed pseudocleft supplies a referent, *John*, for the variable. In (62), the superordinate question likewise introduces a variable over individuals; in this context, the domain of individuals is likely to be the service staff at a hotel. The situation can be understood to introduce a series of subquestions, under each of which the value assigned to the variable is updated. However, the variable itself which is presented for identification remains unaltered: it is always the x introduced by *how-to-tip(x)*. Although the value assigned to the variable varies by subquestion, they always identify the same variable. The pseudocleft may move from one subquestion to the next, in the sense that it can provide a value for the variable and then supply an updated value, but its access to the discourse structure beyond the subquestion which supplies that variable is restricted.

The subquestion to which the pseudocleft provides an answer is deeply embedded within the tree, and at this level, the subquestion at hand is narrowly defined; this is perhaps why it is always a question which introduces a variable over individuals, as in these instances the question has been narrowed down to *what*, and what remains undetermined is *who*.

The presupposition refers to an antecedent which would, under Prince's definition, have the status of given. The presupposition - *someone will confound you* - finds the antecedent *problem* in the immediate linguistic context. One can say, then, that the pseudocleft is confined to a domain within which it can find the antecedent which supports the presupposition it introduces. In this situation, then, the pseudocleft never 'escapes from' the subquestion in the discourse which, first, introduces the relevant variable, and second, in which the presupposition has a local linguistic antecedent.

Because the structures which Delin and Oberlander employ are quite basic, there is not enough information provided about the entirety of the discourse. In comparing the discourse structures based on Roberts and Büring on the one hand with those provided in Delin and Oberlander, one notes that the latter most closely resemble the deeply embedded subquestions. There is a single (partial) exception to this, and that is the structure that Delin and Oberlander suggest for *informative presupposition* clefts. The two structures involved in the incorporation of the informative presupposition cleft are repeated here:

(63) decided(Prof. Kym)
 |
 installed-cabinets

(64) properties-of(Prof. Kym)
 ───────────────────┬──────────────────
 decided(Prof. Kym) establish-program(Prof. Kym)
 |
 install-cabinets

There is a clear connection between this representation and the discourse model based Roberts (2012) and Büring (2003); Delin and Oberland are suggesting that the it-cleft can only be incorporated in this instance if the discourse builds a superordinate question dominating the existing discourse node. Recall as well that this was the single context of the three presented as (47), (48) and (49) which permitted only an it-cleft, and not a headed pseudocleft.

It may be useful to think about the discourse contexts available to the two cleft types in terms of *locality*. I note here that it is the purpose of this section to provide observations in as explicit a manner as possible, rather than to develop a full discourse analysis of it-cleft usage. These observations are in the main limited to what can be gleaned from the discourse contexts provided above.

We have seen that pseudoclefts are most comfortable when they remain embedded within the domain of a narrowly defined question. Here, they have local access to the variable they must provide a value for, and the antecedent to the presupposition they introduce is locally available as well. They cannot go looking for these requirements in the broader world of the discourse structure. The local domain of a pseudocleft is limited to this single subquestion; it's job is to select the one true proposition from within a single set of propositional alternatives.

The it-cleft is not burdened by the same restrictions. If we consider the notion of locality with regard to this type of cleft, we see that a domain can be too local: in (64), it has to access a larger domain than that which the context overtly provides. This, in fact, is precisely what we have seen in all the contexts which distinguish between it-clefts and pseudoclefts: it-clefts range over the discourse at a higher level of the structure than do pseudoclefts.

I use the term “local” quite imprecisely here; in fact, there is no doubt that the conditions I am claiming apply to pseudoclefts are too restrictive, and those I claim for it-clefts too permissive. A more precise formulation is beyond the scope of this work, and will have to be reserved for future research. One comment, though, which may provide a degree of clarity is that the definition of locality is relative; locality is computed differently for each particular cleft construction.

A pseudocleft looks into a domain which is defined by a single question. The propositional alternatives in the denotation may be said to be members of a single set, such that the propositional alternatives are built on one individual variable. The domain over which a pseudocleft ranges is, in the sense defined here, a single set of propositional alternatives.

An it-cleft looks for a proposition which answers a question at some level of the discourse, but as we have seen, that level may be either higher or lower in the discourse than the immediate linguistic context suggests. It-clefts are not restricted to looking only at a single set of propositional alternatives which, as defined above, are built upon the same variable. Rather, the it-cleft ranges over a selection of subquestions, and finds a single proposition somewhere within the broad domain. In this sense, the local domain of an it-cleft consists of propositional alternatives embedded within propositional alternatives. In other words, the domain of the it-cleft, in contrast to that of a pseudocleft, is a set of *sets* of propositional alternatives.

2.3.5.1 Domains and Presupposition Accommodation

If these observations are on the right track, then we may have a clearer understanding of why, although a pseudocleft and an it-cleft may introduce identical presuppositions, a discourse may support the latter but not the former. The difficulty introduced by the (headed)-pseudocleft may be entirely independent of presupposition accommodation. It may rather be a question of how the pseudocleft, as a *construction*, is able to function, and therefore the circumstances under which the pseudocleft can be interpreted. More specifically, I am proposing that there is one factor relevant to the interpretation of a pseudocleft: a pseudocleft is interpretable as a construction if it performs its role within its specified domain. The circumstances under which the discourse can support the presupposition is an independent matter, and is not relevant to the interpretation of the pseudocleft itself. The pseudocleft’s range in the discourse is bounded because locality is defined for pseudoclefts as a single set of propositional alternatives. If a

pseudocleft tries to reach out into a different domain, it fails; it is uninterpretable as a construction because it has wandered into territory where it doesn't belong. Its uninterpretability is independent of presupposition accommodation.

Because the domain of the it-cleft is defined over sets of sets of propositions, it can be interpreted across a broader swath of territory. This domain will provide the antecedent of the presupposition, and although the domain is, measured objectively, larger, it is still local with regard to the range of the it-cleft. As long as the it-cleft does not move beyond its domain - whatever the extent of that domain may be - it is interpretable as a construction. The accommodation of the presupposition is, in a sense, independent of the interpretability of the it-cleft as a whole, although, presumably, the definition of the domain and the requirements on the locality of the presupposition coincide.

It-clefts and pseudoclefts are two distinct constructions; they have distinct functions in the discourse, and this can be traced to how locality is defined in each case. Pseudoclefts and it-clefts may overlap in distribution, but this is due simply to the fact that the definition of their domains overlap. Pseudoclefts are restricted to a single set of propositional alternatives. It-clefts have access to a set of sets of propositional alternatives; however, a set of sets may be, in fact, a singleton set.

I have suggested that the differentiation between it-clefts and pseudoclefts with regard to presupposition accommodation should be seen as a consequence of domain restrictions; in the next section, I will propose that this same argument can be extended towards an understanding of distinctions in prosody.

2.3.6 Discourse Structure and Prosody

One of the observations reported relative to the corpus studies is that the intonational contour of it-clefts shows a great deal of variance. The nuclear pitch accent may be located within the pivot or the clause, or pitch accents may be located in both constituents. We have seen this in some of the examples above; the it-clefts in (65a) and (65b), repeated here, would have a contrastive topic accent on the pivot, and a (contrastive) focus accent on the final word of the cleft clause.

- (65) a. It was *Mary* who drank the VODKA. (*There's plenty of beer left.*)
b. It was *Billy* who hit ME!

The prosody of headed pseudoclefts is not entirely invariant either; however, the contour of these sentences is somewhat more restricted. This is not unexpected, as it is well known that the focus accent of specificational sentences of the form DP-*be*-DP falls on the post-copular constituent in the unmarked case. It is possible to find the pitch accent within the precopular relative clause if the context is correctly constructed. Such a context is that in (66), in which *Fred* responds to *Max*'s assertion:

- (66) a. *Max* The one who drank the beer was JOHN.
 b. *Fred* No! The one who drank the VODKA was John. (*MARY drank the beer.*)

The relevance of this example is that the pseudocleft does have some capacity to alter the topic of the discourse. The example (66a) has a focus accent on the postcopular constituent. We are therefore in a context in which we are either treating the beverage as *given*, or one in which *Max* is going through a mental list of beverages and identifying the drinker; in either case, the postcopular constituent is the focus. The pseudocleft in (66b) reverses the discourse roles: in providing a correction from *beer* to *vodka*, *Fred* introduces the beverage with corrective or contrastive focus, and the postcopular constituent - the drinker *John* - as given.

This is, I believe, pretty much the extent to which the prosody of a pseudocleft can atypically place the focus accent within the relative clause, and have the effect of a slight shift in the discourse. In the example which follows, the alteration in context is slightly different. In (66), the discourse may be interpreted to be focused on *what John did*; the postcopular constituent remains constant between the two headed pseudoclefts. In (67), *Fred*'s response in (67b) has exactly the same relationship to the preceding pseudocleft as the response in (66b) has to the preceding pseudocleft (66a). *Fred*'s response, though, seems somewhat degraded in this example, and this may be because *Max* has provided two pseudoclefts, and this makes it more certain that the dialogue is not just about *John*; rather, the speakers are matching drinks to drinkers, and the drinker is always in focus. Shifting the dialogue to *what John did* through use of a pseudocleft is less acceptable here. Again, use of the it-cleft is fine.

- (67) a. **Max:** Hmm, now I can't remember. I think the one who drank all the scotch was Lulu, and the one who drank all the beer was John.
 b. **Fred:** No, the one who drank all the VODKA was John. Paul drank all the beer.
 i. **Fred:** No, it was John who drank the VODKA. Paul drank all the beer.

This indicates that not only is the prosody of it-clefts in general more flexible than had been assumed in early work on the construction. It is also possible to use the flexibility of it-cleft prosody to reverse the information structure relative to the sentences in the immediate context. This, again, is a capacity which is for headed pseudoclefts at least quite strained.

If the context is slightly altered, this variation in the prosody of the headed pseudocleft which seems perhaps marginally acceptable in (67b), is further degraded. In the following two examples, the content of the context is unchanged from that above, but the sentential forms used by the first speaker, *Max*, are different. In (68), his sentences are simple declarative sentences, and in (69), it-clefts are used. The use of the pseudoclefts in the (b) examples in these cases is not, I think, as crashingly bad as it was in the contexts given in earlier contexts such as (56) and (59), but they are here at best severely degraded, and certainly compare unfavorably to the it-clefts, which may be used in either context.

- (68) a. **Max:** Hmm, now I can't remember exactly. But I think that LULU drank all the scotch and JOHN drank all the beer.
- b. # **Fred:** No, the one who drank all the VODKA was John. PAUL drank all the beer.
- i. **Fred:** No, it was John who drank all the VODKA. PAUL drank all the beer.
- (69) a. **Max:** Hmm, I'm not quite sure. But I think that it was LULU who drank all the scotch and JOHN who drank all the beer.
- b. # **Fred:** No, the one who drank all the VODKA was John. PAUL drank all the beer.
- i. **Fred:** No, it was John who drank all the VODKA. PAUL drank all the beer

I will make the argument here that difference in prosodic flexibility between cleft constructions - that is, the variation in prosody which is common for it-clefts and highly restricted in pseudoclefts - does not stem from inherent prosody restrictions on pseudoclefts. I suggested earlier that the failure of presupposition accommodation is simply a reflex of the domain restrictions of pseudocleft constructions; I will propose here that the prosody facts have precisely the same status. That it-clefts may have a greater range of prosodic contours is a reflex of the domain over which they range, and the associated role they play in the discourse. The restricted prosody of pseudoclefts is likewise a direct consequence of their domain restrictions.

The association of discourse structure and the determination of topic and focus intonation is at the core of the analysis in Büring 2003, in which he further develops the Roberts discourse

model. He examines contexts which bear a similarity to those instantiated (67), (68), and (69). His examples, based on Jackendoff (1972), tie in well with the contexts given here, in which various people have drunk various beverages, and the QUD is *who drank what*.²³ This question can be divided into a series of subquestions of two different forms, “going by people” as in SET A or “going by drinks” as in SET B (Büring 2003; 513; examples below based on those given on pp. 519-520):²⁴

(70) **Set A:**

- a. What did Lulu drink?
- b. What did John drink?
- c. What did Paul drink?

(71) **Set B:**

- a. Who drank the vodka?
- b. Who drank the scotch?
- c. Who drank the beer?

The propositional alternatives within SET A and SET B are identical in terms of their propositional content, and of the linear order of constituents, as can be seen here:

(72) Referencing **Set A:**

- a. **Q:** What did John drink?
- b. **A::** John drank the vodka.

(73) Referencing SET B:

- a. **Q:** Who drank the vodka?
- b. **A:** John drank the vodka.

The sentences in (72b) and (73b) are not identical, though, in their intonational contours. As an answer to (72a), the subject *John* will be realized as a *Contrastive Topic* with a fall-rise pitch accent, and the object VODKA will be realized with a falling FOCUS accent. The pitch

²³The context in Jackendoff which Büring makes use of concerns the same situation with food items rather than beverages (i.e. *who ate what*).

²⁴In Büring’s original work, it is of course ‘going by people’ or ‘going by food’.

accents are reversed if the sentence is an answer to (73a): in that case, JOHN bears the FOCUS accent, and *vodka* the *Contrastive Topic* accent.

The answers to (72a) and (73a) are to be found in distinct sets of propositions, despite their truth conditional equivalence, and Büring argues that it is this which determines their differential intonational contours. The denotation for each question type is a set of sets, and the sets of alternatives are distinct from one another. *Set A* contains sets of propositions which are defined by the *drinkers*, and *Set B* contains sets of propositions which are defined by *type of beverage*. The sets are therefore not identical, and the difference between them is represented in the way that they are structured internally. Büring represents the difference in structure using a notation similar to that in (74) for SET A and (75) for SET B (based on Büring 2003; 522):

(74) a. What did x drink? = { { $drink'(x,y) \mid y[beverage'(y)] \mid x[drinker'(x)]$ } }

(75) a. Who drank y ? = { { $drink'(x,y) \mid x[drinker'(x)] \mid y[beverage'(y)]$ } }

Each set of propositions α in SET A is built on an individual *drinker*. The *drinker* identifies the 'outer' variable x , and this identification remains constant for all propositions in α . This has the consequence that the intonational contour of any propositions selected from any set α within SET A will place the *Contrastive Topic* accent on the *drinker*, and the *Focus* accent on the item which varies for each proposition in α - the *type of beverage* - represented by the variable x . The representation in (76) illustrates the structure of one possible set α . Here, the drinker, *Lulu*, will be the *Contrastive Topic* for any proposition pulled from this set, and the FOCUS accent will fall on the beverage.

(76) $\left\{ \begin{array}{l} \text{(drank vodka) Lulu,} \\ \text{(drank scotch) Lulu} \\ \text{(drank beer) Lulu} \end{array} \right\}$

Conversely, for each set of propositions β in SET B, the external variable is identified by the *type of beverage*, and it is this identification which remains invariant in β . Propositions within β will vary for the identification of the internal variable x - the *drinker*. The intonational contour of propositions contained within SET B will be realized as a CONTRASTIVE TOPIC accent on the *type of beverage*, and a *Focus* accent on the *drinker* - the opposite arrangement from that of the SET A propositions.

- (77) $\left\{ \begin{array}{l} \text{drank (John) vodka} \\ \text{drank (Lulu) vodka} \\ \text{drank (Paul) vodka} \end{array} \right\}$

This conceptualization of the relationship between intonational contour and the structure of the sets of propositions which represent questions in the discourse tree is relevant to understanding the function of it-clefts, and their difference from pseudoclefts. Under this analysis, the relevance of this relationship is bidirectional. The intonational contour of an utterance is informative; it provides an indication of where within the discourse structure the proposition it represents is located (on this point, see also Rooth (1992)). The fact, then, that it-clefts may vary in the position, type, and number of pitch accents serves as a mechanism which indicates to the listener where the speaker has directed the discourse.

More important, though, than the fact that it-clefts do vary in prosody is the question of why they have this capacity, and why pseudoclefts do not. I have argued that the domain of it-clefts is instantiated as a set of sets of propositions. Adopting Büring's analysis, distinctions in the prosody of sentences having identical truth conditions and the identical order of constituents can be traced to the fact that it is the structure of the set of propositional alternatives that determines sentential prosody: a difference in the prosodic structure of two otherwise identical sentences indicates that the propositions instantiated by each sentence are located in different sets. The relevant context is, again, the one repeated here:

- (78) a. **Max:** Hmm, now I can't remember exactly. But I think that LULU drank all the scotch and JOHN drank all the beer.
- b. **#Fred:** No, the one who drank all the VODKA was John. PAUL drank all the beer.
- i. **Fred:** No, it was John who drank all the VODKA. PAUL drank all the beer.

In (78a), Max is drawing propositions from SET B. Fred, in correcting Max, draws a proposition from SET A. This fails when he chooses a headed pseudocleft for this purpose, and succeeds when he chooses an it-cleft. If what I have suggested thus far is on the right track, this is because, in referring to SET B, the set of propositions is such that the "inner" variable corresponds to the *drinker*: this is a set which makes available the variable *x*. A pseudocleft should be acceptable, then, if it is now used to select a proposition from this same SET B, as it is then still specifying a value for the same variable *x*.

In moving from one set of propositions to the other, though, Fred is selecting propositions which have available a different variable for identification; variable *y*. This is fine for use of the it-cleft, because the superordinate question is *who drank what*. This, presumably, is the domain of the it-cleft, and therefore, the it-cleft can access any of the sets of propositions dominated by the superordinate question. The headed pseudocleft is restricted to the set of propositions which the immediate subquestion supplies - that is SET B - and the attempt to draw a proposition from a set beyond its local domain results in ill-formedness.

The conclusion is that the limitation on the prosody of headed pseudoclefts is a consequence of the role that they are destined to play in the discourse; the more flexible prosody of an it-cleft is, likewise, a direct consequence of its role. This prosodic distinction is predicted if we view the difference between cleft forms in terms of domain definition. The fact that the prosody facts fall out as they do is, then, further evidence in favor of this analysis.

2.4 Consequences

2.4.1 Discourse Role and Semantic Constituency

This chapter has been devoted to an examination of the pragmatics of cleft forms, and to teasing the function of the headed pseudocleft apart from that of the it-cleft by close examination of their behavior in context. We have seen that the two constructions are, indeed, distinct in their interaction with the discourse. The discussion has worked towards an initial analysis of the two constructions, making use of formal models of discourse structure.

Pseudoclefts access a single set of propositional alternatives which are built upon a single variable, and this is a variable over individuals. In selecting a proposition from this set, the pseudocleft does have the effect of *providing a value for a variable*. This interpretation is no doubt associated with the presence in the headed pseudocleft of the initial DP - i.e. *the one (that) or the thing (that)*. The pseudocleft is designed to identify entities.

It-clefts also select propositions, and at least for the it-clefts examined thus far, the pivot has always been a referential DP. But, we have seen that the role of it-clefts is not inherently that of identifying entities: it is rather, identifying propositions. I will claim that, just as the presence of *the one* is tied to the inherent function of pseudoclefts of identifying individuals, the lack of such a constituent in it-clefts is tied to the fact that its inherent function is different. More

specifically: the cleft pronoun does not make reference to an individual-denoting antecedent. Rather, what the cleft pronoun does appear to make reference to is a propositional antecedent. In other words, the fact that it-clefts are not restricted to the identification of individuals can be traced to the fact that the role of the initial constituent is not equivalent to the initial constituent of headed-pseudoclefts.²⁵

In this chapter, I have used the discourse functions of the two cleft constructions to make the case that they are not semantically identical. This in itself rules out the possibility that they are derivational variants of one another. However, this is not the only evidence we have in support of the claim that there is no derivational relationship between it-clefts and pseudoclefts; this same claim can be supported by an entirely independent type of evidence. That evidence is to be found in the differential syntactic behavior of the two cleft forms; I begin an examination of the syntax of it-clefts and headed pseudoclefts in Chapter 3.

²⁵In Chapter 3, §3.6.3, I take up a further consideration of the role of the cleft pronoun. For reasons discussed there, I leave the precise function of the pronoun undefined.

Chapter 3

The architecture of it-clefts

3.1 Introduction

In conducting research on a grammatical construction, the analysis will typically take one of two possible paths: the construction may either be identified as a member of an existing class of forms, or it may be identified as something new and unique. The history of research into the syntax of it-cleft has, from its earliest beginnings, moved forward on both of these pathways, and still there is no general consensus on even the most basic aspects of the structure. This itself is one of the reasons for the continuing interest in it-clefts — they are strikingly similar to constructions we recognize, but also significantly distinct from any other construction so that, although it has been nearly a century since it-clefts first became a subject of linguistic interest, both analytical pathways remain open. The analytical options which have been and continue to be explored can be roughly divided into two classes. One way of considering the structure of it-clefts is through the lens of the syntax-information structure interface. From this perspective, there are two key aspects of it-cleft syntax. First is the relationship between the pivot and the cleft clause, and the way that this relationship encodes information structure. Second is the fact that this information-structural unit is embedded within a matrix clause which, for most analysts following this path, makes little or no meaningful contribution. The second is that which was addressed in Chapter 2 from the perspective of discourse usage, and that is the assimilation of it-clefts to the class of specificational copular sentences.

In Chapter 2, I examined the discourse usage of it-clefts in comparison to other types of specificational sentences and came to the conclusion that, despite their many shared characteris-

tics, it-clefts have a unique meaning and function, and cannot be fully assimilated to apparently similar constructions. In this chapter, I will examine a different aspect of it-clefts, but will come once again to the conclusion that they are a unique construction and cannot be assimilated to other specificational copular sentences.

In this case, though, that argument will refer to the uniqueness of their syntactic structure. I will begin by considering previous analyses of it-clefts which may be said to fall into two classes: those which focus on their information structure and those which focus on their status as copular sentences. There are numerous characteristics of it-clefts which these analyses get right. There are, though, also crucial characteristics of it-clefts which are ignored in these analyses, and which, I will argue, force us to adopt a different analysis of their structure. In pursuing this analysis, I will draw on English clefts, but also on data illustrating cross-linguistic variation in Germanic it-clefts. Ultimately, I will sketch an approach to the constituency of it-clefts which has the potential to tie together their syntax, semantics, and discourse function.

3.1.1 Unto Us a Cleft is Given

The it-cleft is first introduced into the linguistic literature by Otto Jespersen in 1927, although not by this name. He refers to it as a “restrictive clause[...introduced by *it is*” (Jespersen (1949, p. 88)).¹ He provides, among others, the following two examples.

(79) It is the wife that decides

(80) It was the battle of Waterloo that decided the fate of Europe

The structure is, he writes, “interesting from a logical point of view because it is not really the antecedent (or what looks like the antecedent) that is restricted by a relative clause.” By this he is referring to the interpretation of the cleft clause; it appears to be a restrictive relative, but does not act as a restrictor of the phrase which immediately precedes it. That is, the sentence does not pick out some subset of wives who are decision-makers to the exclusion of that subset of wives who aren’t. Jespersen expresses this observation by providing a paraphrase of (79) as *the wife is the deciding person*. In other words, he recognizes that if one considers the meaning of the sentence, it seems to be that of a certain type of copular sentence, one which in current

¹Jespersen’s preface to this volume is dated August 1927. I have been unable to find the original publication dates for the individual volumes; the seven-volume series was published between 1909 and 1949.

terminology is of the form DP- *be* - DP and has an equative or identificational semantics. This evidence leads Jespersen to propose that the subordinate clause does not modify its (apparent) antecedent. Rather, the actual antecedent of the restrictive relative is the precopular pronoun *it*.

By the time his book *Analytic Syntax* is published nine years later, Jespersen has adopted the term *cleft sentence* for this construction. He has also rejected his 1927 analysis and proposed an alternative one. Here, he notes two forms of evidence which prompt him towards a reanalysis. The first is his recognition that cleft sentences may have constituents other than DPs in post-copular position - for example, an adverb.

(81) It was here that he died.

This example cannot be rephrased as *that he died was here*; it does not have the type of equative meaning produced by the DP-pivot clefts. Further, it is not at all certain that the complementizer in (81) is actually a relative complementizer. The complementizer which appears in adverbial clefts in Danish, Jespersen's native language, is *at*; this is the complementizer which introduces finite CP verbal complements, and is never found in relatives. More compelling evidence against identifying the subordinate clause as a relative comes from dialects of Danish in which *at* is found not only in clefts with adverbial pivots, but also DP pivots.

(82) Det var her (at) han døde.
It was here (that) he died.

(83) Det var Jens at jeg saa.
It was Jens that I saw.

This leads to Jespersen's revised analysis that the core structure of a cleft such as that in (82) is a simple sentence, *here he died*, to which optional insertion of a complementizer or relative pronoun may apply. The modification of the simple sentence into the form of a cleft is, he suggests, related to the prominence of the postcopular constituent. In particular the prominence of this constituent is in some way to do with the initial pronoun. The role of the pronoun is identified as, essentially, a deictic which "points at" the upcoming pivot.

(84) *It was here (that) he died*

The aspects of meaning and structure which Jespersen is concerned with in his two brief sections on it-clefts are essentially those which we are still trying to understand today. What is

the internal constituency of the cleft: does the cleft clause form a minimal constituent with the pivot or with the pronoun? What is the role of the pronoun; does it serve as the antecedent of a relative clause, or does it have a less easily identified, perhaps more abstract function? How are the syntax and discourse function of the construction related?

Jespersen proceeds from two quite different perspectives in trying to address these questions. In the first instance, he takes the individual components of the cleft to be the familiar constituents they appear to be. This, in combination with his intuition about the meaning of the cleft, permits him to assimilate clefts to a known sentential structure - to copular sentences of the form DP-*be*-DP. However, upon more comprehensive consideration of the construction, he finds that his intuitions about cleft meaning are at odds with the cleft's formal properties. The consequence is that, in addition to the formal distinctions implied by the later analysis in comparison to the earlier one, there is also a shift in analytical perspective. The cleft is now seen as a construction which has its own unique structure. As a result, the identification of the constituents is considerably more difficult, and it becomes much more difficult to figure out how they fit together. However, the relevance of this odd structure, whatever it may be, is that it has a particular discourse-functional consequence.

The literature on it-clefts in the decades following Jespersen is vast and varied. One could say that the history of it-cleft analyses tracks the state of the discipline, as the semantic and syntactic properties of clefts provide fodder for many of the evolving research questions of the discipline over time. Many of the early syntactic analyses of the 1970s and -80s, for example, are concerned with basic questions about the types of structures the syntax could base generate, the types of movement operations it could perform, and the triggers for such operations.

In presenting prior work on the syntax of it-clefts, I will restrict the discussion in such a way that it follows the structure which I have just established. That is, I will move forward by dividing analyses into two classes, one of which treats the cleft as a unique structure more-or-less in the spirit of Jespersen's second proposal, and one which assimilates the cleft to specificational copular sentences and is therefore more in the spirit of Jespersen's original proposal. It is important to note, therefore, that I will fail to discuss much important and valuable research. It is also important to note that my treatment of these proposals as two clearly delineated classes is to some degree artificial. There are of course points of overlap between the two, and more so points of significant distinctions within the classes, so that one might easily determine a dif-

ferent criterion for classification and organize the material quite differently. I refer the reader to the original sources or to the many fine overviews of earlier work which are available in the literature.

I have three goals in presenting the material here. One of these is to make clear how crucial the insights and implementations provided by previous analyses are in understanding it-clefts, as well as in understanding the difficulties they present for any analysis. Many of the proposals are geared towards capturing some particular subset of characteristics of the structure; in many cases these are characteristics which I myself will not address in any depth, so that the second goal in presenting this work is to provide a glimpse into the multitude of research questions which the construction accommodates. Finally, I will propose a somewhat different view of the syntax of it-clefts, one which I believe illustrates that both classes of analyses are right in important ways, but that each nevertheless leaves important properties of it-clefts uncaptured. I hope this proposal will take at least some initial steps towards understanding why it-clefts have this amalgamation of syntactic and discourse-related properties.

3.2 It-clefts and the Syntax of Information Structure

In the two Jespersen analyses, the pronoun receives two different identifications. In current work on the syntax of it-clefts, the role of the cleft pronoun continues to be a topic of debate, and a point on which significant variation between analyses is founded. In English, as in all of the Germanic languages, the cleft pronoun is morphologically identical to an expletive, and in a number of analyses this is precisely what the pronoun is claimed to be (Chomsky (1977); Heggie (1993); É. Kiss (1998); Büring (1998), among many others).

If the pronoun serves only to satisfy the formal syntactic requirements of T, then the semantically contentful components of the structure are the pivot and clause.² Consequently, the relationship between these two constituents is a common focus for analyses of this type. They share as well the supposition that the syntax of it-clefts is directly related to the information structural properties of the construction, so that in examining the structural position of the pivot relative to the clause, the underlying question is, more precisely, how this relationship corresponds to the discourse-functional prominence of the pivot.

²Treatment of the cleft pronoun does not rule out the possibility that the matrix copula makes a semantic contribution; however, the analyses to be addressed in this section do not assume this.

In reviewing the developments in approaches to the information structure of it-clefts, one notes that work in this area from the 1970s and 1980s and up to the present tracks the stages of development of theories of the left periphery and its information structural relevance. The earlier work on this topic in uses the structure of it-clefts as a construction which may shed light on basic properties of the syntax: which types of structures could be base generated, and which types of construction-specific derivational operations should be assumed. Within this work one finds proposals that the surface structure of the pivot results from either rightward or leftward focus-driven movement (Emonds, 1976), but also proposals which see the it-cleft as evidence that the syntax has the flexibility to base-generate a diverse range of structures (Delahunty, 1982).

3.2.1 Discourse Functional Predication

A discussion of it-clefts is included in Chomsky (1977) for the evidence they provide in identifying the characteristics of *wh*-movement. Among these characteristics is that operator movement to the left periphery - in the terminology of the time, to COMP at the *S'* level - creates an open proposition which requires an argument for saturation. The *wh*-movement configuration is always recognizable, as in (85).³

(85) [*S''* [*S'* *what*_{*i*} *x* [*S**t_i*.....]]]

Topicalization is an instance of *wh*-movement, and as expected conforms to the configuration in (85). Movement of an operator to COMP in a topicalization structure therefore creates a predicate. The argument which saturates the predicate is base generated in the TOPIC position, *S''* (SPEC-C).⁴ Overt material in COMP is obligatorily deleted when topicalization occurs in a matrix clause.

(86) [*S''* This book [*S'* ~~*what*~~ *x* [John said I should read *x*]]]

The resulting predication is not purely truth-conditional; rather, the open proposition *John said I should read x* has the function of, in essence, predicating a discourse function of its argument *this book* or, as Chomsky states, it “says something about it” (p.89;91;94).

³*S'* is equivalent to the C or C' position, and *S''* to SPEC-C

⁴Chomsky assumes that the elimination of *what* creates an open proposition.

The pivot of an *it*-cleft, then, is a constituent base generated in SPEC-C as the subject of a discourse-functional predication. An *it*-cleft such as that in (87) differs from the topicalization structure (85) only in that the full CP i.e., (85)) is embedded within a matrix clause consisting of the expletive *it* and the copula, which is, presumably, vacuous as well.⁵

(87) [S'' It was [S'' this book [S' ~~what~~ x [John said I should read x]]]

I begin with this analysis, taking this to be the point at which the correlation between A'-movement and information structure is clearly cited. Both this analysis and that of Heggie (1993) take the position that the prominence of the pivot is established by a type of predication which triggers a discourse-functional interpretation.

The structure given in Heggie is nearly identical to that in Chomsky, except that she invokes movement of a null operator to SPEC-C in place of Chomsky's raising and then deletion of an overt operator in C itself.⁶ Because SPEC-C is occupied, the pivot must be in a higher

⁵It may seem surprising that Chomsky identifies the pivot as located in TOPIC position. This is a point taken by Huber (2002) to be problematic for the analysis, as the default discourse function of the pivot is assumed to be FOCUS. I believe there may be a misunderstanding of Chomsky's use of the term TOPIC in the 1977 paper. As he does apply the term *focus* to the pivot, the notion of topic is likely not intended in this work as a description of the discourse function of the pivot, but refers more broadly to a syntactic position, SPEC-C in current terminology, which is associated with the displacement of constituents for discourse-functional reasons.

⁶The proposal regarding focus structure from Heggie which I draw on here is actually a fairly minor point in her paper, although the structural relationship between the pivot and clause is crucial to her for independent reasons. The main focus of her analysis is to account for the distinction in grammaticality between clefts which appear superficially similar in terms of the lexical category of the clefted constituent. An example of this distinction is given in (88) and (89), from Heggie (1993, 56;57)

(88) It's drunk that John sounds intelligent.

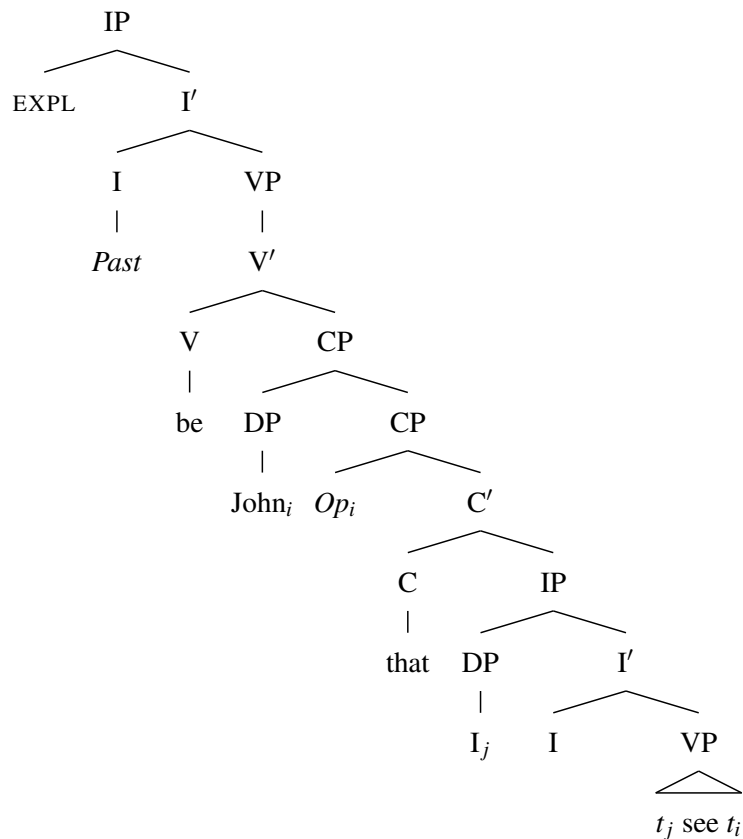
(89) * It's white that I saw John turn.

For the two sentences above, Heggie argues that the adjectives have different grammatical functions, and that the pivot in (88) is of a different category from that in (89). The adjective in the depictive construction in (88) is, she suggests, not a bare AP, but the predicative constituent within a small clause modifier of the subject *John*. The pivot is then the entire small clause consisting of the adjectival predicate and its external argument PRO, controlled by *John* (i.e. [PRO [_{ap} drunk]]). The adjective in the resultative example (89) is not a modifier of this type, but a secondary predicate of *John*. The clefted constituent in this instance is a simple AP whose external argument has been stranded within the clause.

The difference in grammaticality stems from limitations on the inventory of null operators: English, Heggie suggests, has no null operators which are of the correct type to bind predicate variables. The types of relative

position, and Heggie proposes that it is a CP adjunct. She then suggests that it is precisely this structural configuration, in which an argument is adjoined to a predicative CP, which is a “possible representation of focus at LF (p. 49).”

The concept is clearly quite similar to that in Chomsky (1977). Heggie too identifies the structural relationship itself - that between the pivot and the open proposition formed by lambda abstraction - as the basis of discourse-functional predication.



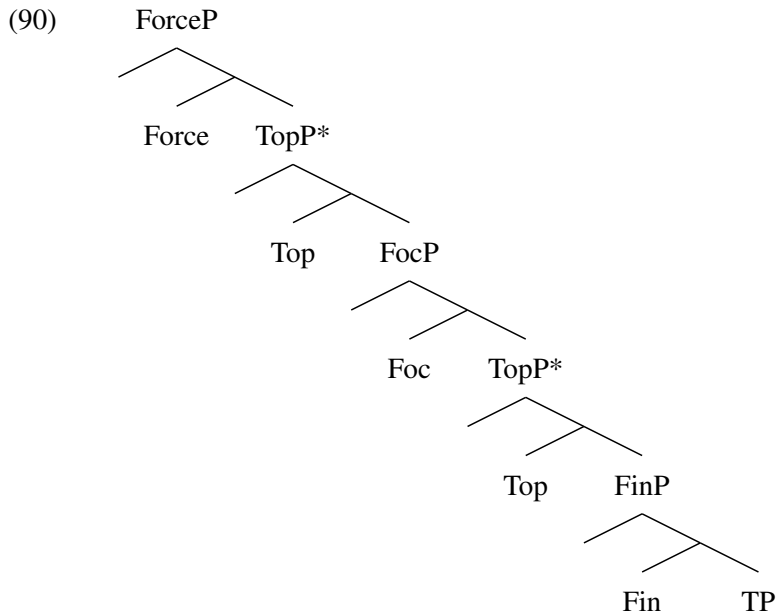
3.2.2 The Left Periphery and Information Structure

Both Chomsky and Heggie point to the relevance of the left periphery in establishing sentential information structure; in each case, this relevance is couched in terms of the structural representation of predication. Their work presages developments in the theory of the syntax-information structure interface, which likewise begin with the role of the left periphery of CP, operators will become relevant in Chapter 5, although the issue to be addressed is somewhat different from that which Heggie presents.

and more specifically, with the formalization of its role in Rizzi (1997).

Rizzi proposes that the syntactic domain dominating the inflectional layer of the clausal structure functions as the interface between, on the one hand, grammar-internal thematic and inflectional requirements, and on the other, contextually determined interpretive aspects of language usage. This mediating function is instantiated in the syntax of CP as a series of functional projections whose heads carry discourse-related syntactic features. A head carrying such a feature may, depending on language, trigger movement of a constituent bearing a matching feature into its specifier.

Rizzi's original work proposed the representation of the left periphery shown in (90); a single projection encoding focus is flanked by two, iterable topic projections.



As the cartographic approach to the syntax-information structure interface has been developed and applied to the examination of cross-linguistic data, the role of the syntax in establishing interpretation of discourse functions has been further elaborated. FOCUS has come to be seen not as a unitary discourse function, but as a cover term for various types of FOCUS — presentational, contrastive, corrective, and so on — and similar developments have been proposed in the area of *backgrounded* or *topical* sentential material. Consequently, it is argued in much current work that the interpretation of subtypes of FOCUS and of TOPIC is dependent on the presence of several syntactic projections in the left periphery, each of which encodes a narrowly

defined discourse function (for a variety of analyses of the syntax-information structure interface, see, among many others, Vallduví and Engdahl (1996); É. Kiss (1998); Frey (2004, 2006); Belletti (2008a)).

This clearly has relevance to it-clefts in terms of understanding the leftward displacement of the pivot.⁷ The availability of a variety of discourse roles for the pivot can, conversely, be used as a means of examining the structure of the left periphery and the discourse functional projections it provides.

A case in point is to be found in Belletti (2008a,b). In this analysis, Belletti argues that the discourse functions of the pivot may be restricted by syntactic constraints on movement, in the sense that there exist functional projections which are syntactically inaccessible to certain types of pivots - namely, non-subject pivots.

The data she appeals to in this proposal are the following. In both Italian and French, although the cleft clause may be elided to create a reduced form of an it-cleft, this deletion process is limited to clefts having subject pivots. It-clefts in which an object DP has been clefted are infelicitous. This is illustrated in the contrast between (91) and (92).

As an answer to (91a), the cleft clause in (91b) may either be pronounced or elided. In Belletti's analysis, the pivot in (91b) introduces *new information focus*, as opposed to, for example, contrastive focus.

- (91) a. **Q:** Qui est-ce que qui a parlé? (or: *Qui a parlé?*)
 Who is-it that who has spoken? (or: *Who has spoken?*)
- b. **A:** C'est Jean (qui a parlé).
 It-is Jean (who spoke).

An it-cleft whose pivot is a non-subject DP cannot be interpreted as a new information focus in a reduced cleft; (92b) is unacceptable as an answer to (92a).

- (92) a. **Q:** Qu'est-ce-que t'as acheté? (or: *Qu'as-tu acheté?*)
 What-is-it-that you-have bought? (or: *What-have-you bought?*)
- b. ***A:** C'est un livre.
 It-is a book.

⁷In using the term *displacement*, I refer only to the pivot's position relative to the clause-internal gap; this may be, but is not necessarily, the result of a syntactic movement operation.

Belletti argues that the greater flexibility of subject pivots is due to the syntactic arrangement of discourse-functional projections.⁸ The syntactic position corresponding to *new information*, the specifier of FOCP_{NI} is accessible only to subject DPs. Consequently, only subject pivots may escape from that domain of the cleft which is deleted in reduced clefts.^{9,10}

⁸The syntactic positions of discourse functional projections is only one part of Belletti's analysis; a number of additional syntactic constraints must be assumed as well.

⁹Belletti states that movement of an argument located lower in the structure will require it to skip over an A position, leading to a violation of Relativized Minimality. The details of the analysis are not crucial here; see Belletti (2008a,b).

¹⁰I include Belletti's proposal because it is an interesting application of the cartographic approach to syntactic structure to the information-structural properties of different types of clefted argument DPs. It would, though, be useful to probe at the influence of discourse context in licensing reduced object clefts with new-information pivots.

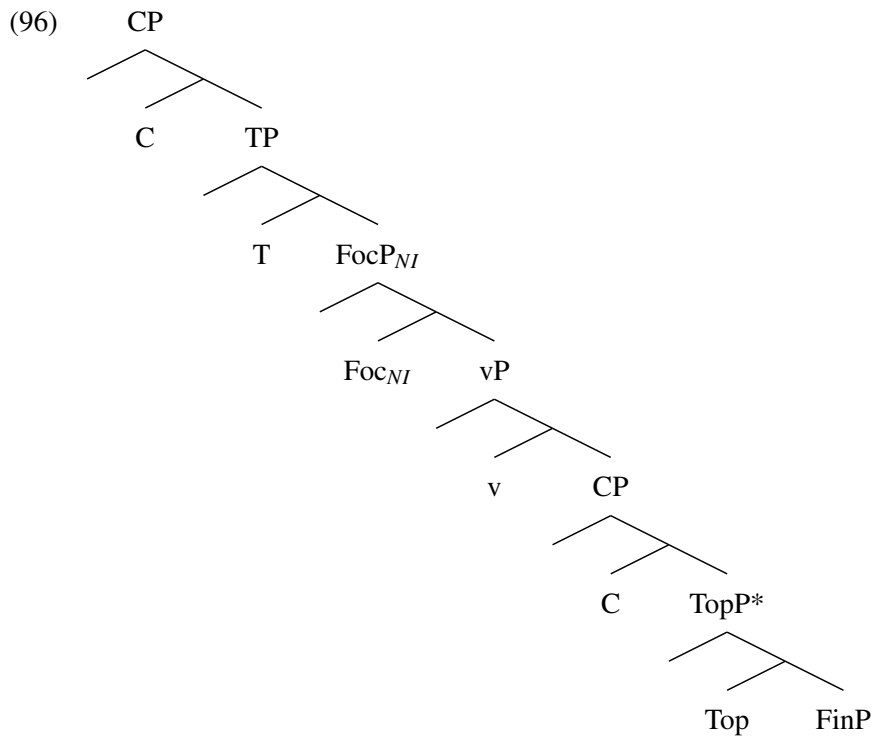
The restriction which Belletti notes for French and Italian seems to be active in English too, at least to some degree — the it-cleft as an answer to (94a) is quite odd in comparison to the acceptability of the it-cleft in (93b).

- (93) a. Q: Who was on at the door?
b. A: It was Mary.
- (94) a. Q: What did you buy Mary for her birthday?
b. # A: It was a book.

This is the type of contrast which Belletti points to in arguing for a syntactic constraint on representing new information with non-subject pivots. However, the use of a non-subject pivot for this purpose is improved in a context such as that below, in which the it-cleft is used to provide additional information in response to a polar question.

- (95) a. Q: Didn't you buy something recently at that new store in town?
b. A: Yes. It was a book (*that I bought*).

The distinction between (93) and (94) does indicate that subject and non-subject cleft pivots are not used in the same way to introduce *new information* focus; however, the acceptability of the response in (95b) indicates that non-subject pivots are able to take on this information-structural role. The availability of this reading is, though, dependent on a suitable context, although I cannot say precisely what a suitable context must provide. It may have to do with a distinction in the way that subjects versus objects can be established as prominent antecedents. That is, perhaps the context in (95a) serves to establish the indefinite *something* as the referent about which new information will be provided, therefore making a new-information non-subject pivot felicitous. If something along these lines is correct, then it may be that interpretation within a context is the crucial factor distinguishing subject and non-subject pivots, and that the latter are not syntactically restricted from representing new information.



3.2.2.1 Exhaustivity

The subtypes of Focus are given a different treatment in É. Kiss (1998). Her analysis addresses a crucial characteristic of it-clefts: exhaustivity. Exhaustivity is not typically addressed in the examination of the structure of the left periphery; exhaustivity is, though, the one property which is shared by all pivots, regardless of their discourse role, and for this reason É.Kiss' analysis is particularly relevant.

The analysis observes a close correlation in information structural status between the pivot position of English it-clefts and the preverbal focus position in Hungarian. In both cases, a constituent is displaced to the left and bears information-structural prominence.

Establishing a constituent as the focus in a Hungarian sentence does not in and of itself depend on this displacement; vP internal constituents may be focused as well. However, displacement to the preverbal position triggers an additional interpretational effect; constituents in this position are obligatorily interpreted as exhaustive.

É.Kiss proposes that there are two distinct types of focus, and that exhaustivity is the factor which truly distinguishes the preverbal or 'identificational' focus position from in-situ

or ‘presentational’ focus. The exhaustivity associated with the identificational focus has truth-conditional implications which do not arise for presentational foci (pg. 251)

In the example dialogue in (97) concerning Mary’s purchase of winter accessories, the preverbal placement of the object *egy kalapot* (‘a hat’) produces the interpretation that Mary purchased a hat and nothing else. The response of the second speaker indicates that she accepts the proposition itself - that Mary picked out a hat - as true. She can nevertheless felicitously reject the truth of the utterance on the basis that the claim of exhaustivity is false.

- (97) a. Mari egy kalapot nézett ki magának.
Mary a hat.ACC picked out herself.DAT.
It was a hat that Mary picked for herself.
- b. Nem, egy kabátot is ki nézett.
No a coat too out picked.
No, she picked a coat too.

Presentational focus differs from identificational focus in that it does not introduce the assertion of exhaustivity. If the claim that Mary bought a hat is accepted as true, it is infelicitous to then deny the truth of the utterance, as in (98b), based solely on the fact that Mary made additional purchases as well.

- (98) a. Mari ki nézett magának egy kalapot.
Mary picked herself a hat.
- b. # Nem, egy kabátot is ki nézett.
No, she picked a coat too.

There are additional parallels between the Hungarian identificational focus construction and it-clefts. É.Kiss points out that universal quantifiers are ungrammatical in the pivot position of a cleft, as are the modifiers *even* and *also*. The same restrictions hold of the Hungarian preverbal position, and, again, this can be contrasted with constituents which bear presentational focus.

- (99) a. *It was everything that John bought
b. John bought everything.
- (100) a. *It was even John who knew the answer.
b. Even John knew the answer.

- c. *It was also John who knew the answer.

The correlation between sentential position of the focused constituent and truth-conditional interpretation leads to the proposal that identificational focus is introduced by a functional head F. This head is available in many languages, but may vary crosslinguistically with regard to its selectional feature. In Hungarian it selects for *v*, and in English for C. The constituent bearing identificational focus is attracted to the specifier of FP, resulting in an operator variable chain.¹¹

The proposal developed in É.Kiss can be seen to be quite similar to the others discussed in this section in that it addresses the nuances of Focus as a discourse function and does this by reference to syntactic structure. Yet her analysis incorporates the additional, and I believe crucial, property of exhaustivity; exhaustivity is in fact the one identifying characteristic of the it-cleft pivot - the characteristic which is invariant, and which sets it-clefts apart from other constructions. As was discussed in Chapter 2, and is addressed in Belletti's analysis, the discourse function of the pivot may vary; what remains consistent for the information structure of all it-clefts is the exhaustive reading of the DP pivot.

3.3 The non-expletive status of the pronoun

One point which most of the analyses introduced in the preceding section share is the assignment of all meaningful content to the pivot and cleft clause.¹² It follows that the remaining constituents - the copula, and particularly the pronoun - are characterized as expletives. The identification of the cleft pronoun as an expletive is entirely reasonable given the analyses reported above. The cleft pronoun is morphologically identical to an expletive. English T invariably requires a DP in its specifier, and the pivot itself is apparently ineligible to fill this position; this is clearly the case given the ungrammaticality of (101b).

¹¹E.Kiss proposes that the moved constituent itself functions as an operator; in her terminology, the operator is "coextensive with an XP available for operator movement". She does state that an identificationally focused constituent may also be base generated (i.e. first merged) in SPEC-F, in which case the movement operation is that of *wh*-movement to SPEC-C in English. I assume that what is intended under the raising analysis is that movement of an identificationally focused constituent into SPEC-F triggers the insertion of a lambda operator at F, thereby creating a predicative λ -abstract. The raised constituent then functions as the argument of the predicational CP.

¹²This is not entirely true of Belletti. She suggests, following Moro (1997)'s analysis of predicate inversion in specificational copular sentences, that the pronoun is a predicate. She does not develop this point, and it is not crucial for her proposal. The predicate inversion analysis is discussed in the next section.

- (101) a. It was a teddy bear that John stole.
 b. * A teddy bear was that John stole.

There are reasons one could posit for the ungrammaticality of (101b), and consequently for the obligatory insertion of an expletive in SPEC-T. Perhaps, for example, the pivot is located in a criterial position and ineligible for further movement.¹³ Alternatively, if the pivot is first merged within the CP, raising into matrix SPEC-T would require illicit movement from an A'- into an A- position.

However, analyses which identify the pronoun as an expletive tend to focus on English, and English is not the most informative language for the examination of the cleft pronoun. English finite T always carries an EPP feature, and precisely because there may be restrictions on pivot movement to T, circumstances may lead to obligatory expletive insertion.

3.3.1 Cleft Pronoun Morphology

If one looks beyond English, though, there are two forms of evidence which argue against treatment of the pronoun as an expletive. One form of evidence is morphological. In French *it*-clefts, as discussed in Hedberg (2000, p. 85-86), use of the expletive *il* is impossible and the demonstrative pronoun *ce* is required:

- (102) Il neige.
EXPL SNOWS.
 a. *Ce neige.
 It snows.
- (103) Il me semble que tu as tort.
EXPL to.me seems that you have wrong.
It seems to me that you are wrong
- a. *Ce me semble que tu as tort.
- (104) C'est un livre que je vois.
 It-is a book that I saw.
It's a book that I saw.

¹³The specifiers of some functional heads associated with information structure have relevance for interpretation, and therefore Rizzi argues that constituents raised into such a specifier — a criterial position — can neither reconstruct nor move further, but must remain in this position at LF.

- a. * Il est un livre que je vois.
EXPL is a book that I saw.

Similar evidence against treatment of the cleft pronoun as meaningless is provided in Gundel (1977, p. 550) from Russian it-clefts. The cleft pronoun in Russian is *èto*, as the examples in (105) illustrate.¹⁴ However, Russian is a *pro*-drop language; it has no overt expletive pronoun, for which reason the attempt to insert *èto* in contexts suitable for expletives - for example, with the raising verb in (106b) - leads to ungrammaticality. By this criterion, the pronoun which appears in initial position in it-clefts cannot be an expletive.¹⁵

- (105) a. Èto Ivana ja videl.
Pronoun Ivan.ACC I saw.
It was Ivan that I saw.
- b. Èto Ivan kogo ja videl.
Pronoun Ivan..NOM whom I saw.
It was Ivan whom I saw.
- (106) a. Kažetsja čto on ušel.
Seems that he left.
It seems that he left.
- b. * Èto / Ono kažetsja čto on ušel.
Pronoun seems that he left.

3.3.2 Cleft Pronoun Distribution

Within Germanic, one does not find this type of morphological evidence: the cleft pronoun always takes the form of an expletive.¹⁶ There are, though, two forms of evidence distinguishing

¹⁴In introducing the examples in (105) Gundel does not indicate that the initial pronoun is optional (p. 550), however states at a later point in the paper that Russian it-clefts “typically” appear with the pronoun (p. 553).

¹⁵The non-expletive status of the cleft pronoun is noted more generally for Slavic languages in Reeve (2010).

¹⁶More precisely, the pronoun takes the form of an expletive in canonical it-clefts. Hedberg points out that English and German may have other pronominal forms in cleft sentences, as in sentences of this type:

- (107) That was John who said that.

It is an open question whether or not structures of this type are it-clefts with a different form of cleft pronoun, or rather an independent construction. Note, for example, the contrast in acceptability between the two following examples:

- (108) It's not John who ever cleans the litterbox.

the cleft pronoun from an expletive which are made available in the Germanic languages; one is based on distributional distinctions between these two pronominal forms, the other concerns control of PRO.

In contrast to English and the Mainland Scandinavian languages, German and Icelandic both permit, and in certain contexts require, expletive drop. Contexts which may require expletive drop are transitive expletive constructions and impersonal passives. In these constructions, the position of the expletive is restricted to SPEC-C — the position into which it is first merged.¹⁷ The expletive may not occur lower in the structure and therefore, if SPEC-C is unavailable, the expletive cannot appear at all. This means that, when there is a topicalized phrase filling SPEC-C in a matrix clause, the only position available to the expletive is occupied. Similarly, it can not appear in (verb final) subordinate clauses due to the restriction on the co-occurrence of overt elements in both C and SPEC-C of an embedded clause (i.e. the *Doubly-Filled Comp Filter* in those languages, such as Standard German, which exhibit this constraint.).

German

- (110) Es wurde hier geraucht.
Expl became here smoked.
 There was smoking here.
- (111) Hier wurde (*es) geraucht.
 Here became (**expl*) smoked.
- (112) Es heisst, dass (*es) geraucht wurde.
 It is-called that (**expl*) smoked became.
 They say that there was smoking.
- (113) Es haben einige Kinder mit dem Teddybär gespielt.
Expl have some children with the teddy bear played.
 Some children played with the teddy bear.

(109) ?* That's not John who ever cleans the litterbox.

See §3.5.4 for discussion of NPI licensing in cleft constructions.

¹⁷This expletive is often referred to as *Vorfeld-es*, due to the restriction on its position to initial position. The function which expletive forms fulfill in German and Icelandic differs from the function of English and Mainland Scandinavian expletives. The underlying variation between these languages concerns the nature of T; this will become relevant in §3.7.5.

- (114) Ich glaube, dass (*es) einige Kinder mit dem Teddybär gespielt haben.
 I believe that (*expl) the children with the teddy bear played have.

The *Vorfeld-es* is not the only expletive-like element available in the lexicon, though. The expletive *es* which occurs with propositional adjectives is not subject to the same positional constraints as the SPEC-C *es*. This expletive form may occur lower in the structure, and is acceptable both in matrix clauses when SPEC-C is occupied, and in embedded clauses.

Importantly, though, this expletive may optionally be omitted. Because SPEC-C of the matrix clause in German must obligatorily be filled, the absence of the expletive, as in (116) is grammatical if another constituent is located in this position.¹⁸ For example, if the adjective itself is topicalized the expletive may appear below C, the position of the copula, or it may be absent. The optionality of the expletive in the same circumstance is seen for Icelandic in (118), an example from Reeve (2007, pg. 172).

German

- (115) Es ist klar, dass Hermann den Teddybären gestohlen hat.
 It is clear, that Hermann the teddy bear stolen has.
- (116) Klar ist (es), dass Hermann den Teddybären gestohlen hat.
 Clear is (it), that Hermann the teddy bear stolen has.
- (117) Ich glaube, dass (es) klar ist, dass Hermann den Teddybären gestohlen hat.
 I believe, that (it) clear is, that Hermann the teddy bear stolen has.

Icelandic

- (118) Að sjáfsöðu er (það) gott að þú ert kominn.
 Of course is (it) good that you are come.

In both Icelandic and German, the cleft pronoun is unlike either of the two expletive types just discussed in that it not only may, but must be present in the construction, even when SPEC-C is filled. In (116) and (121a) - this latter example again from (Reeve, 2007, 172) - an adverb appears in SPEC-C, so that the pronoun and pivot must both be located below C. In German, it

¹⁸See Alexiadou and Anagnostopoulou (1998) and Holmberg and Platzack (1995) for two distinct but similar accounts of V2 and movement to SPEC-C.

is possible as well for the pivot itself to raise into SPEC-C, producing an inverted order of pivot and pronoun ¹⁹

(121) ICELANDIC

- a. Í gær var * (það) Jón sem ég hitti í bænum
 Yesterday was it Jón that I saw in the-town

(122) GERMAN

- a. Es war Dietrich, der den Teddybären gestohlen hat.
 It was Dietrich who stole the teddy bear.
 b. Dietrich war *(es), der den Teddybären gestohlen hat.
 c. Ich glaube, dass *(es) Dietrich war, der den Teddybären gestohlen hat.
 I believe, that *(it) Dietrich was who the teddybear stolen has.
 d. Ich glaube, dass Dietrich *(es) war, der den Teddybären gestohlen hat.

¹⁹In Icelandic, inverted order of pivot and pronoun is both more restricted and less informative. This is because Icelandic has an additional cleft construction, presumably a pseudocleft, in which the first elements in the initial clause are a pronoun and the relative complementizer. When the postcopular constituent is inanimate, the pronoun in this construction - the neuter singular - is identical to the cleft pronoun. As a result, inversion of the pronoun and pivot in Icelandic would appear identical to an inverted pseudocleft.

The two constructions are nevertheless distinct, a point made in Svenonius (1998) and confirmed by my informants. Svenonius provides the following examples of this circumstance for Norwegian. The it-cleft pronoun is always the neuter singular, regardless of the referent of the pivot. In pseudoclefts, though, the form of the pronoun varies depending on the referent of the pivot. The it-cleft pronoun is the neuter singular *det*; the masculine/feminine form is *den*, but this is ungrammatical when used as an it-cleft pronoun. The pronoun *den*, though, can and must be used in a pseudocleft construction, recognizable below in (120) in which the pronoun is immediately followed by the relative clause.

- (119) a. Det var Håvard som vir såg.
 It was Håvard that we saw.
 b. *Den var Håvard som betalte.
 He was Håvard who paid.
- (120) a. Den som betalte var Håvard.
 He that paid was Håvard.
 b. *Det som betalte var Håvard.
 It that paid was Håvard

The it-cleft pronoun is invariant, regardless of variation in the pivot. The pseudocleft pronoun shows a sensitivity to the animacy of the clefted constituent, so that animate and inanimate-referring pivots appear with different pronominal forms.

CONTROL

One final piece of evidence is to be found in English it-cleft constructions such as the following:

(123) It was, despite appearing (to you) to be Fred, Bill that I gave the documents to.

The cleft pronoun in (123) has the capacity to control PRO in the non-finite adjunct; this capacity is quite limited, however. The following attempts at control are less successful:

(124) ?? It was, despite being misidentified as Fred, Bill that I gave the documents to.

(125) * It was, in addition to being a redhead, Bill that I gave the documents to.

I return in §3.4.6 to a fuller examination of the factors which permit and disallow control by the cleft pronoun. For the moment, I note briefly that there are two constraints on the adjuncts into which the cleft pronoun may control PRO. The acceptable instance of control involves an adjunct which may be understood to be a specificational clause - specifically, a non-finite truncated cleft. The adjunct in (124) has a similar identificational reading, but is not formally equivalent to an it-cleft and is therefore quite marked. The adjunct in (125) predicates the property of redheadedness - presumably, this is intended as predication of the pivot *Bill*, an operation which is in conflict with the semantics of the construction. The grammatical example is, again, specificational, in that it provides a contrasting specification of the pivot - a specification which is then rejected by the matrix cleft.

(126) It was, despite appearing to you to be Fred that I gave the documents to, (actually)
Bill that I gave them to.

a. It appeared to be Fred that I gave the documents to

(127) ?? It was misidentified as Fred that I gave the documents to.

Despite their surface similarity, expletives and cleft pronouns can be distinguished from one another in those languages which provide the relevant evidence. In some languages, the distinction between them is morphologically overt, in others, they can be distinguished on the basis of distribution or of control. This poses something of a problem for analyses such as those discussed in section 3.2, because the nature of the structure as proposed does not appear to permit any additional meaningful constituents. The pivot and cleft clause combine to form

a proposition, and there is no semantic slot available for a contentful pronoun. I offer some commentary on the nature of it-clefts as propositions and potential approaches towards the significance of the cleft pronoun in §3.6.3.

3.3.3 Excursus: a Note on PP- and Adverbial-Pivot It-Clefts

In the examples given thus far, the pivot is, in each case, a DP. A number of other categories may function as pivots as well, although the variety of permissible pivot types varies by language. The Germanic languages show a range of tolerance; Standard English clefts show a greater variety of pivot categories than German, but less variety than non-Standard varieties of English and than the Scandinavian languages.

As was noted in the introductory section, the availability of adverbial pivots was one of the factors which led Jespersen to reject his original 1927 analysis of it-clefts as a form of DP-*be*-DP copular sentence. In taking this step, he made the crucial assumption that it-clefts should receive the same analysis regardless of the category of the pivot. A broader examination reveals that it is far from certain that this is the correct approach. The first analysis to identify some of the differences between PP and DP pivots is Pinkham and Hankamer (1975). They notice that, whereas *wh*-extraction from a PP pivot is ungrammatical, extraction from picture-NP pivots may be permitted. These observations lead them to propose that the superficial similarity of it-clefts having pivots of different categories may be misleading. They propose that there are, rather, two distinct means of producing it-clefts, both of which are available for the generation of DP-pivot clefts, but only one of which is involved in producing non-DP pivots.

In this work I limit the discussion almost exclusively to DP pivots, in large part because I suspect that Pinkham and Hankamer are correct in their claim that DP and non-DP-pivot clefts are distinct. At the very least, this is likely the case in some languages.²⁰

The information structure of PP-pivot clefts is in some ways similar to that of DP clefts; the pivot may, depending on context, take on a variety of discourse roles and consequently bear a variety of pitch accents. However, in clefts such as that in (128), the pivot, it seems to me, is unlike a DP pivot in that it need not bear discourse functional prominence.

²⁰For careful and detailed explication of the typology of pivots in English, see Delahunty (1982) and Heggie (1993); for a comparative study of German and Swedish, see Huber (2002) and for the Scandinavian languages, Svenonius (1998) and Thráinsson (1979). Variation between German and Scandinavian for type of pivot will become relevant in Chapter 4.

(128) It was in 2008 that Barack Obama was elected President of the United States

The pivot provides temporal information and may therefore be taken to be a type of spatiotemporal topic. This cleft could be classified as an *information presupposition* it-cleft, the name Prince supplies for clefts in which the new or focal information is contained within the cleft clause rather than the pivot, and thus the PP seems to have a backgrounded or ‘scene-setting’ role. And adverbial pivots which play this role are quite unlike DP-pivots in that they are iterable.

(129) It was in the alleyway after midnight that the cats began to yowl.

(130) It was in the rain on 57th St. after the concert that I unsuccessfully attempted to hail a taxi.

These examples provide an initial indication that, despite the uniformity in the surface form of cleft sentences, there may be deep distinctions between them, and that this is correlated with the status of the pivot with regard to category, and as well the status of the pivot as argumental or adjunctival. One finds in this regard an interesting asymmetry in German regarding the availability of PP pivots. Most speakers find that PP arguments are impossible as pivots, while adjunct PPs may be acceptable. However, the acceptability of a PP pivot decreases when the PP is more argument-like in the sense that it introduces an event participant. This gradience in acceptability can be seen in the following set of examples: PP arguments are out, spatiotemporal adjuncts are acceptable, while the instrumental and comitative pivots in (133a) and (133b) are judged to be marginal.

(131) * Es war auf den Tisch, dass/wo Hans das Buch hingelegt hat.
It was on the.ACC table that/where Hans the book down-laid has.
It was on the table that Hans put the book.

(132) Es war auf dem Tisch, wo/??dass Hans das Buch gefunden hat.
It was on the.DAT table where/that Hans the book found has.
It was on the table that Hans found the book.

(133) a. ?? Es war mit einer Haarklammer, dass Hans den Schloss geknackt hat.
It was with a hairpin that Hans the lock picked has.
It was with a hairpin that Hans picked the lock.

b. ?? Es war mit Anna, dass Hans ins Kino gegangen ist.
It was with Anna that Hans in-the movie-theater gone is.

It was with Anna that Hans went to the movie.

It may be noted as well that the subordinate clause in (132) is introduced by the pronoun *wo*. *Wo* may function as either a relative or interrogative pronoun, so that its identification here is uncertain. However, it may well be an interrogative here; this cleft differs from DP clefts in that the pivot and cleft clause may be inverted - a behavior typical of pseudoclefts, but not of it-clefts. And somewhat surprisingly, two of my informants found that inversion of the cleft clause and pivot was grammatical in examples such as (134b); the very limited data I currently have would be consistent with the limitation of this phenomenon to temporal PP adjuncts.

- (134) a. Es war nach dem Semester dass Hans sich endlich ausruhen konnte.
It was after the semester that Hans_{REFL} finally out-rest could.
It was after the semester that Hans could finally relax.
- b. Dass Hans sich ausruhen konnte war nach dem Semester.
That Hans_{REFL} out-rest could was after the semester.

As these examples show, the cleft pronoun is omissible where inversion is permitted. Whether in fact the two sentences in (134a) and (134b) are derivationally related variants of one another is open to question. However, the fact that the pronoun is not obligatory does indicate that these structures are unlike typical it-clefts, and raises the possibility that the pronoun in this case is an expletive in construction with an extraposed subject.

There is one further distributional constraint on the pronoun in PP pivot clefts which is illustrated by the contrast between (135a) and (135b) on the one hand and (135c) on the other. Whereas PP pivots, like DP pivots, can be inverted with the cleft pronoun in matrix clauses, inversion of PP pivots is, unlike DP pivots, impossible in embedded contexts. This restriction is similar to that which holds of the pronoun appearing with CP-complement adjectives. As shown in (136a) through (136c), the pronoun may be inverted with the adjective in a matrix clause, but in an embedded context inversion with the adjective is ungrammatical.

- (135) a. Im Sommer war es, dass Hans sich endlich ausruhen konnte.
In-the summer was it that Hans_{REFL} finally out-rest could.
It was in the summer that Hans could finally relax.
- b. Ich glaube, dass es im Sommer war, dass Hans sich endlich ausruhen konnte.
I believe that it in-the summer was that Hans_{REFL} finally relax could.
- c. * Ich glaube, dass im Sommer es war, dass Hans sich endlich ausruhen konnte.
I believe that in-the summer it was that Hans_{REFL} finally relax could.

- (136) a. Klar ist es, dass der Satz ungrammatisch ist.
 Clear is it that the sentence ungrammatisch is.
It is clear that the sentence is ungrammatical.
- b. Ich glaube, dass es klar ist, dass der Satz ungrammatisch ist.
 I believe that it clear is that the sentence ungrammatical is.
- c. *Ich glaube dass klar es ist, dass der Satz ungrammatisch ist.
 I believe that clear it is that the sentence ungrammatical is.

At a minimum, the informal observations given here indicate that whether or not DP and non-DP-pivot clefts are in fact the same construction is open to question. The PP-pivot clefts may perhaps be more similar to pseudoclefts, or the PP may be predicative, with the CP functioning as the logical subject. The answers to these questions require a fuller examination of non-DP-pivot clefts, an undertaking which is beyond the scope of this work. The several distinctions between DP and non-DP pivots is significant enough, though, that it seems wise not to draw conclusions about the structure of the former based on observation of the latter.

3.4 It-clefts as Specificational Copular Sentences

The analyses discussed in §3.2 treat the it-cleft as a type of proposition embedded within a matrix clause; the unusual properties of the embedded proposition are tied to the syntactic representation of information structure. The matrix clause itself makes no meaningful contribution; the two overt constituents within this clause, the cleft pronoun and the copula, are there, presumably, only to fulfill formal syntactic requirements. We have seen though, based on the morphological and distributional evidence discussed in §3.3, that the cleft pronoun cannot be equated with an expletive, and therefore a significant shortcoming of the information-structural approach to it-cleft structure is their identification of the matrix constituents as semantically inert.

In another strand of research, the matrix constituents are of central importance. The defining properties of it-clefts, according to this class of analyses, derive from the presence of the copula and the sentence-initial definite pronoun, because these constituents attest to the membership of it-clefts within the class of specificational copular sentences.

An analysis of it-clefts which takes as its starting point the classification of the structure as specificational will typically have a very different type of goal from that pursued in the studies

discussed in §3.2. Broadly stated, the goal of these approaches is to determine the place of it-clefts within the class of specificational sentences, and to consider how the properties of it-clefts fall out from their class membership.

One of the reasons for the continuing interest in it-clefts as a research topic is that there are a number of poorly-understood syntactic and semantic phenomena which converge within this single construction. It follows that a researcher may choose one or a subset of characteristics as the focus of research, and, as will be seen in the discussion below, an analysis examining one set of characteristics of specificational sentences may entirely reasonably come to one conclusion about the structure of the it-cleft, while an analysis examining a different set of characteristics may quite reasonably argue for a very different syntax.

Despite the significant differences between analyses of this type, they all attribute semantic content to the cleft pronoun; in light of the evidence, and is therefore a crucial point of distinction between these and the information-structural analyses. However, the semantic identification of the pronoun varies across these proposals, and this variance influences, or is influenced by, the syntactic structure a proposal argues for.

In what follows, I will review several analyses of it-clefts as specificational sentences. These can be roughly divided into two types. One way of assimilating it-clefts to the class of specificational sentences is to take a very broad view, examining those properties which are shared by all members of this class, and how these properties manifest in it-clefts. The other option is to take a more narrow view of it-clefts as members of a *subset* of specificational sentences: the class of cleft constructions. In this case, the goal is to determine the place of it-clefts within this subclass, comparing the characteristics of these constructions and drawing conclusions as to the relationship between them.

3.4.1 Specificational versus Predicational Copular Clauses

In Chapter 2, the interpretational distinctions between predicational and specificational copular sentences were introduced. The discussion followed the widely shared view that predicational sentences assert that a certain property holds of the subject, whereas specificational sentences specify a value for a variable. Specificational sentences have, additionally, certain recognizable characteristics which are related to their function in identifying referents: these sentences carry the presupposition of the existence of a unique referent for the variable, and they provide

exhaustive identification of that referent.

These, though, represent just a tiny fragment of the numerous characteristics which distinguish between the two classes. One of the distinctions worth noting here is that the prosody of predicational sentences is more flexible than that of specificational ones. The following data from Heycock and Kroch (2002) illustrates that the copular sentence in (137b) permits either the pre- or postcopular constituent to be focused (as indicated here with small caps), depending on whether the context requests information about an individual, or about the role which the individual played.

- (137) a. Who was the culprit? (John or Bill?)
b. JOHN was the culprit.

- (138) a. What was John? (The victim or the culprit?)
b. John was THE CULPRIT.

The copular sentence in (139b) contains the same constituents, but the linear order of DPs is reversed. In this instance, the focus pitch accent is necessarily borne by the postcopular constituent. Even in a context such as that in (140) which demands that *the culprit* be the information structural focus, this constituent cannot bear the prosodic correlate of focus when it is the precopular constituent.

- (139) a. Who was the culprit?
b. The culprit was JOHN.

- (140) a. What was John?
b. * THE CULPRIT was John.

Due in part to data of this type, copular sentences such as these - that is, those having the form DP-*be*-DP - are usually identified as predicational when the “more referential” DP precedes the copula. Many, but not all, researchers identify as specificational DP-*be*-DP sentences only those which appear in the inverted order seen in (139b), as these represent the non-canonical order of constituents and are more restricted in usage.

The two types can also be differentiated on the basis of a variety of syntactic and semantic behaviors - so many, in fact, that I will make no attempt to provide a full accounting here, but

introduce only those which are immediately relevant, at the point at which they become relevant. For now, I introduce just two instantiations of variance.

CONNECTIVITY EFFECTS

Pseudoclefts are among the types of copular sentences which have both predicational and specificational variants. These constructions provide examples of perhaps the most intensively studied property of specificational sentences: connectivity effects. For current purposes, we can say that connectivity effects arise where the behavior of a constituent is incompatible with its surface syntactic position, but compatible with the position it, by hypothesis, occupies at an earlier derivational stage - for example, the grammatical appearance of reflexive forms in positions which do not satisfy Principle A. The following is a well-known minimal pair provided in Higgins (1979, p. 8); the predicational example in (141) conforms to Principle B, but the specificational example (142) should incur a Principle A violation.

(141) What John_i is is important to him_i.

(142) What John_i is is important to himself_i.

In (141), the precopular constituent is interpreted as referential; it refers to some role which *John* plays and which, in this instance, is used as a means of identifying *John*. The postcopular constituent predicates of that role the property of *being important to John*. If, say, John is a famous pastry chef, then the sentence may be paraphrased as *being a famous pastry chef is important to John* or *John's being a famous pastry chef is important to him*. In this example, the personal pronoun *him* is co-referent with the R-expression. As expected, the pronoun is grammatical in this context as it is not (locally) c-commanded by its antecedent.

The example in (142) is nearly identical to that in (141); the two examples differ only in the form of the pronoun within the postcopular AP. Example (142) has a reflexive in place of the personal pronoun, and this results in a different interpretation. The precopular constituent provides a variable over some property which defines *John*; the value for this variable is supplied by the AP *important to himself*. The intended meaning can be paraphrased as: *John is the following: self-important*. The unexpected constituent in this sentence is the reflexive pronoun, as it is located in a syntactic environment which, as seen in (141), supports a non-reflexive form.

EMBEDDED CONTEXTS

For the examples below, (143a) is the exemplar of a predicational sentences and (143b) of its specificational counterpart. The pair of sentences in (144) illustrate that either the predicational or specificational sentence may be embedded under *consider* as a non-finite copular clause. However, the embedded predicational sentence in (145a) remains acceptable when the copula (and non-finite T) are omitted. Omission of the copula when the embedded clause is specificational, though, leads to a loss of acceptability. This indicates that among the differences between the two sentence types is that specificational sentences require the copula under embedding, but predicational sentences do not.

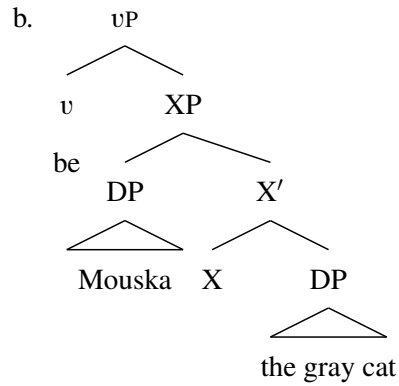
- (143) a. Bibsy is the fattest cat I've ever seen.
 b. The fattest cat I've ever seen is Bibsy.
- (144) a. I consider Bibsy to be the fattest cat I've ever seen.
 b. I consider the fattest cat I've ever seen to be Bibsy.
- (145) a. I consider Bibsy the fattest cat I've ever seen.
 b. * I consider the fattest cat I've ever seen Bibsy.

3.4.2 The Source of Differentiation: Semantics or Syntax?

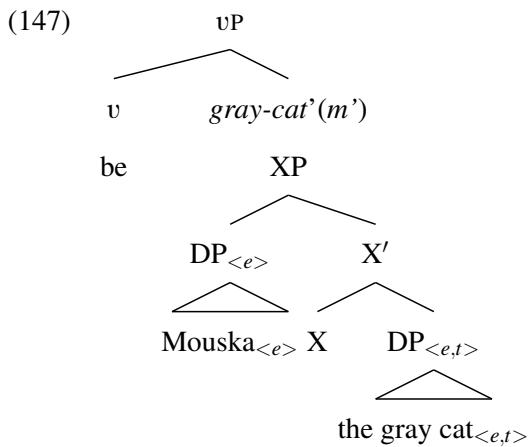
The fact that specificational and predicational sentences display these differential behaviors is broadly agreed upon; how these distinctions are to be accounted for is disputed. The syntax and semantics of copular sentences continue to be the foci of a great deal of important research and there are, in broad terms, two approaches towards understanding why these two types of copular sentences differ: one approach argues that the two types differ in their semantic constituencies, the other that their semantic constituents are identical, but that their syntactic derivations differ. As this chapter is concerned with syntactic analyses of it-clefts, I will first briefly outline the semantic view, and then move on to the syntactic approach.

The underlying structure of a copular sentence such as (146a) would be as illustrated in (146b). This assumes the usual analysis of the copula as a raising verb which selects a propositional small clause.

- (146) a. Mouska is the gray cat.



The semantic constituents in the small clause of a predicational sentence are an entity-denoting DP and a property-denoting DP, as illustrated in (147); these compose via function application.

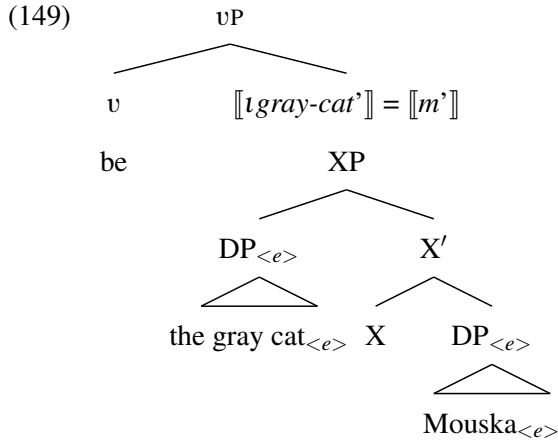


The specificational copular sentence in (148) appears to contain the same two DPs, *Mouska* and *the gray cat*, found in its predicational counterpart, shown above as (146a).

(148) The gray cat is Mouska.

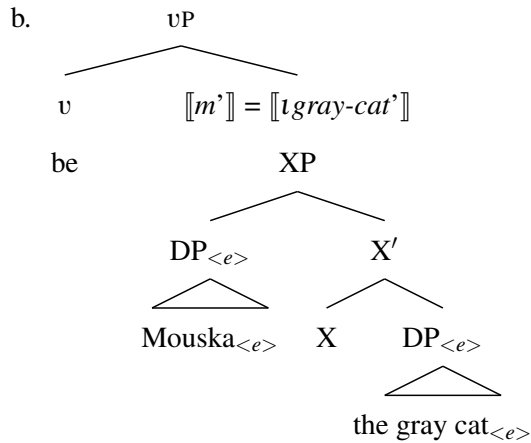
However, a semantic account of the difference between these sentences claims that the constituents in the specificational (148) and those in (146a) are not of the same logical types. As expected, the DP *the gray cat* is property-denoting in (147), but in the corresponding specificational sentence this DP is entity-denoting. There is, then, no predicative constituent in this structure, and the mode of semantic composition cannot be function application. The specificational version of the sentence involves an equative semantics; it does not assert that the

grey-cat property holds of *Mouska*, but asserts rather that *Mouska* and *the gray cat* are identical individuals; each constituent denotes the very same furry gray referent.



The structure of the predicational sentence is determined by the nature of its semantic composition: the subject is hierarchically more prominent than its predicate. Under the analysis of specificational sentences as equatives, this restriction in principle need not hold. Although, as discussed above, specificational sentences are usually identified as having the constituent order in (147), the equative semantic approach predicts that the alternative order may have a specificational semantics as well. For those analysts who take this point of view, a specificational sentence may also be generated as in (150); it may then be superficially identical to a predicational sentence, but semantically an instance of equation rather than predication (Heycock and Kroch (1998)).

(150) a. *Mouska is the gray cat.*



There are various proposals for the mechanism which determines whether semantic composition will involve predication or equation. Clearly, this will depend in the main on the types of the two constituents, and it may be that this is the entirety of the explanation: the composition requires no mediating functional head, and the constituents undergo whichever form of composition their denotations permit (Partee (1998)).

There are, though, analysts who see the copula as semantically contentful. Under this view, it is proposed that the source of distinction is a *polysemous* 'be' - that is, the copula *be* is ambiguous between a predicational head having the denotation in (151) and an equative head as in (152) (see, for example, Sharvit (1999)).

(151) Predicational *be*:

a. $\lambda x \lambda P.P(x)$

(152) Specificational *be*:

a. $\lambda X \lambda Y.X=Y$

The determination of the semantics may, alternatively, be attributed to the head of the small clause. Heycock and Kroch avoid recourse to polysemous *be*, instead tracing the equative/predicational distinction to the head of the small clause which hosts the two sentential constituents. In their view, the copula is a contentless functional head, but the heads of the small clauses are not - in other words, the denotations in (151) and (152) represent not the copula, but the predicational and specificational small clause heads.

This distinction in semantics has been argued to be the basis for the variant patterning of the two copular clause types, particularly with regard to connectivity effects. Connectivity in it-clefts will become relevant in Chapter 4; however, as the current chapter is devoted to the syntax of it-clefts, I will turn to a somewhat more detailed overview of the competing proposal that properties of the two classes are determined by their syntactic structures.

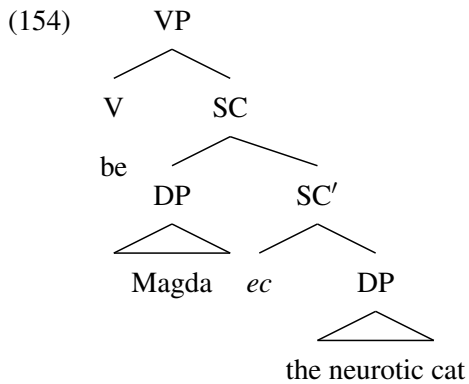
3.4.3 Specificational Sentences as Predicate Inversion

For an analysis of copular sentences which traces dissimilarities between predicational and specificational forms to the syntax, the notion of variant modes of semantic composition does not come into play. Rather, it is argued that the semantics is the same for both types - they

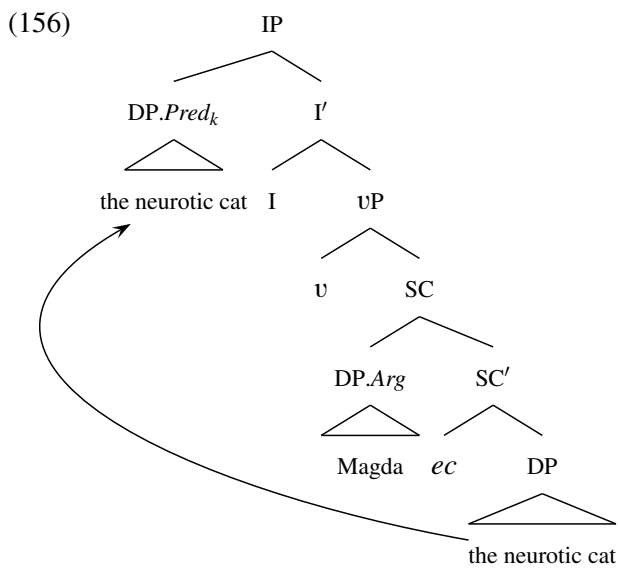
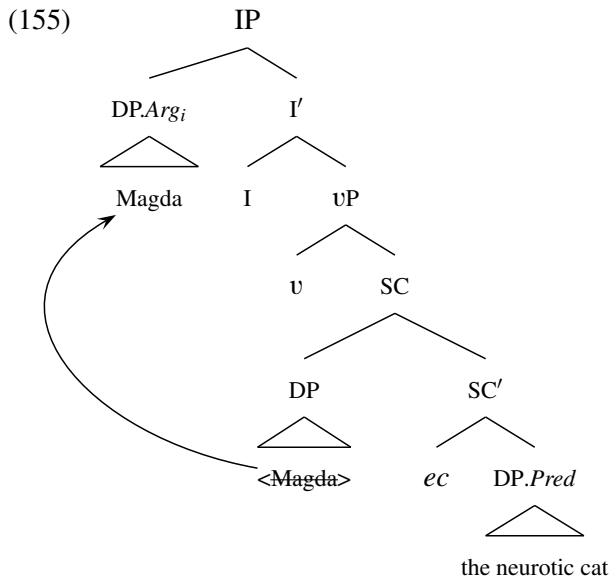
are both underlyingly predicational - and that they differ only in one step of their syntactic derivation (Moro (1997); Den Dikken (2009); Mikkelsen (2005), among others).

As above, the core structure of a copular sentence is a small clause. However, there is no difference between the small clause which is the basis of a predicational sentence and that of the specificational sentence. For both (153a) and (153b), *be* (or, the functional head which *be* lexicalizes) selects a small clause of which the predicative DP *the neurotic cat* is the complement and the argument DP *Magda* the specifier. At this point in the derivation, the sentences are identical.

- (153) a. Magda is the neurotic cat.
 b. The neurotic cat is Magda.



When TP is merged, the EPP feature on T will trigger movement of one of the small clause-internal DPs to SPEC-T. Either DP is eligible for movement, thus whether a predicational or specificational sentence surfaces is entirely dependent on which of the two DPs moves out of the small clause. Raising of the argument DP results in a predicational copular sentence, and raising of the predicative DP across its argument to SPEC-T produces the specificational version.



The syntactic account then claims that the semantics of the two copular clause types are identical. Predicational sentences preserve the canonical ARGUMENT > PREDICATE order because it is the argument DP which is raised to SPEC-T. Specificational sentences surface in the inverted order because the lower, predicative DP raises across its argument.

3.4.3.1 Consequences of Predicate Inversion

The inversion of constituents leads to the observable variation in the linear order of the two sentence types, but this observable distinction conceals more significant, covert structural distinctions which arise as the result of predicate inversion. The postcopular DP in a predicative sentence is located in the complement position of the small clause, but the postcopular DP in a specificational sentence occupies the specifier position. This has consequences for the syntactic behavior of each sentence type.

Embedding

We have already seen an example of this in section 3.4.1 in reference to (143) through (145). The relevant contrast is repeated here. The non-finite copula of the predicational clause may optionally be omitted when embedded under *consider*. The embedded specificational clause does not have this option; the copula is obligatory.

- (157) a. I consider Bibsy the cuddliest cat.
b. I consider Bibsy to be the cuddliest cat.
- (158) a. I consider the cuddliest cat to be Bibsy.
b. *I consider the cuddliest cat Bibsy.

This contrast is due to the selectional feature of *consider* which permits selection of either a small clause or non-finite TP. Within the small clause itself, the position of constituents is invariant: the argument DP is structurally higher than the predicate. Therefore, should *consider* select the bare small clause, no copula is present and the result is sentence (157a). This order of constituents is likewise available if *consider* selects TP. In this case (157b) results: the copula must appear, and the argument DP has been raised to SPEC-T.

In order to produce the inverted order, the predicative DP must be raised to a position above the small clause. Therefore, the minimal structure in which the constituent order of the specificational sentence can manifest is one which provides a landing site for the predicate and, according to this analysis, the smallest phrase which can accommodate this is TP. Should *consider* select TP, this both permits the inverted constituent order and ensures that the copula is present, as in (158a). (158b) is ungrammatical because it requires a constituent which does not exist: a specificational small clause. In the predicate inversion analysis, all small clauses are

predicative - there is no small clause in which the “less referential” DP is in a higher position than the “more referential” one.

Extraction Asymmetries

In (159), the post-copular DP is predicative; it has remained in situ in a right-branching complement position. This is a position from which extraction is expected to be available. However, the post-copular DP in the specificational sentence (160) is in a left-branching position; it remains in the specifier of the small clause. The inversion analysis thus predicts that extraction from a post-copular DP will be licit in a predicational sentence, but not in a specificational one. The analysis therefore predicts the asymmetric constraints on extraction which are evidenced here.

- (159) a. A video of the cats was the cause of the delay.
b. What was a video of the cats the cause of <what>?
- (160) a. The cause of the delay was a video of the cats.
b. * What was the cause of the delay a video of <what>?

Predicational Subjects

The predicate inversion analysis claims a second crucial distinction between the two copular sentence types, and this is that the semantic type of the subject varies between predicational and specificational sentences. In predicational sentences, it is the argument DP which raises, thus the subject in this case is referential. In specificational sentences, though, a predicate raises, so that the formal subject is property-denoting. Den Dikken (2009, p. 2), arguing that a non-referential DP cannot control PRO, cites the logical type of the subject in accounting for variation in grammaticality between (161) and (162).

- (161) Bibsy, in addition to PRO being very cuddly, is the fat cat.
(162) * The fat cat, in addition to PRO being very cuddly, is Bibsy.

Given the theoretical underpinnings of the predicate inversion analysis, these three points of variance between predicational and specificational sentences simply fall out from their derivational histories. The behavior of the specificational sentence is in each case tied directly to its structure: the obligatory copula under embedding is due to the size of the constituent required

to produce the predicate inversion ordering, limitations on extraction are due to the left-branch position of the postcopular constituent, and incompatibility with PRO is due to the fact that the constituent in subject position is not entity-denoting, but property-denoting and therefore non-referential.

3.4.4 Diagnosing It-Clefts as Predicate Inversion

One approach to an analysis of it-clefts is then to begin with a theory of the syntax of specificational sentences, and to consider how it-clefts can be understood as a manifestation of this syntax. We now have such a theory, and the theory predicts certain syntactic constraints on predicate inversion constructions. It-clefts are copular sentences, and they can be subjected to the diagnostics just reviewed. In many respects, it-clefts do pattern with specificational sentences in response to these tests.

Embedded Contexts

It is possible to embed it-clefts under propositional attitude verbs such as *consider*. Specificational sentences in this environment require the copula and T. The examples (163a) and (163b) illustrate that omission of the copula does indeed lead to ungrammaticality. It-clefts pattern with specificational sentences in this regard.

- (163) a. I consider it to be Bibsy who's exceptionally chunky.
b. *I consider it Bibsy who's exceptionally chunky.

Extraction from the Post-Copular DP

The post-copular DP under predicate inversion is in situ in the specifier of a small clause. In an it-cleft, the post-copular DP is the pivot. Extraction out of the pivot of it-clefts is quite awkward, but not impossible.²¹ The example in (164b) is an instance of wh-extraction from an it-cleft pivot which is, in my judgement at least, fairly acceptable, and more acceptable than the wh-extraction from the post-copular constituent in the non-cleft specificational sentence shown

²¹It is, in fact, the availability of extraction out of a *picture*-DP in pivot position which leads *Pinkham and Hankamer (1975) to the conclusion that the pivot DP may be externally merged in its surface position, rather than reaching this position via raising from a lower position. If the latter were the case, it is expected that extraction out of the pivot should be impossible, as extraction out of moved constituents is typically ungrammatical.

in (165b).²²

- (164) a. It was a picture of some kittens that delayed everyone.
b. What was it a picture of that delayed everyone?
- (165) a. The cause of the delay was a picture of some kittens.
b. What was the cause of the delay a picture of?

Control

The fact that specificational subjects are unable to control PRO was traced to the non-referential status of this subject. Again, this is a diagnostic which may be applied to it-clefts. I will first present the data which Den Dikken (2009) cites as evidence of the similarity between DP-*be*-DP sentences and it-clefts in this regard. The facts, though, are more nuanced than the data thus far indicates; I return to this point in §3.4.6.

The comparison which Den Dikken illustrates is repeated here. When the copular sentence is predicational, as in (166), the non-finite adjunct is licit; PRO is controlled by the referential subject. However, the specificational variant does not permit the adjunct, and thus the it-cleft clearly patterns with the specificational example with regard to the availability of control

- (166) The murderer, besides PRO being a bad guy, is insane.
- (167) a. * The murderer is Ryan, besides PRO being a bad guy.
b. * It was Ryan who murdered Brian, besides PRO being a bad guy.

If this is, indeed, diagnostic of the referentiality of the formal subject, then the difference between the grammaticality of (166) in contrast to the ungrammatical examples in (167) is expected if it-clefts are derived via predicate inversion.

3.4.5 The Predicate-Inversion Analysis of It-Clefts

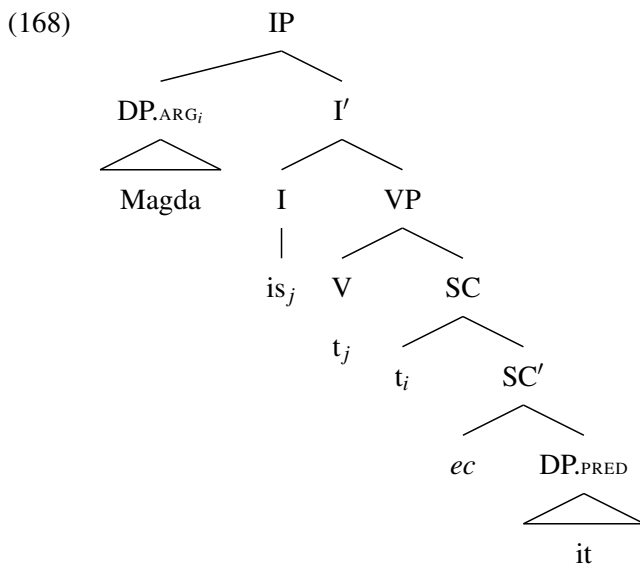
The fact that it-clefts pattern with specificational sentences for the diagnostics applied in §3.4.4 may be taken to indicate that these constructions are, in the relevant ways, structurally identical. If so, then this offers a means of understanding not only the syntactic behavior of it-clefts which we have just examined, but also their semantic and information-structural characteristics: these

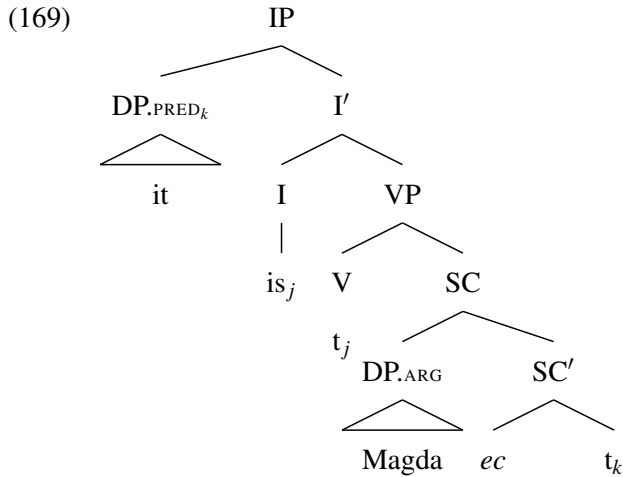
²²The marked status of extraction from the it-cleft pivot may be traceable to a weak subject island effect.

are the identifying characteristics of specificational sentences, and it-clefts are specificational sentences.

If it-clefts are copular sentences derived by predicate inversion, then the relationship between the cleft pronoun and cleft pivot is isomorphic to that between the pre- and postcopular DPs in a specificational sentence. For the it-cleft below, for example, the cleft pivot corresponds to the post-copular DP *Magda* in example (153b), and the cleft pronoun corresponds to the precopular definite DP *the neurotic cat*. The semantic function of the cleft pronoun *it* is equivalent to that of *the neurotic cat*: an it-cleft differs from a canonical specificational sentence in that its precopular DP is a proform for a predicate.

The cleft pronoun and pivot may then be treated as DPs which are first merged in a small clause — the pivot in specifier position and the pronoun in complement position. The propredicate is then raised across its subject.





The diagnostics, then, can be said to provide information about the matrix clause of the it-cleft. In addition to accounting for the syntactic behavior described above, the structure also captures the fact that the pronoun is obligatory in it-clefts and that it must appear in sentence-initial position.²³

The analysis thus far, though, has nothing to say about the integration of the cleft clause. Its syntactic position remains to be identified, and this will require a different set of diagnostics. The presence of the cleft clause is unrelated to the structural properties which, under this proposal, make it-clefts a type of specificational sentence, and it is then not surprising that analysts who are in agreement in their treatment of it-clefts as instances of predicate inversion differ in their conclusions regarding the position and function of the cleft clause. In §3.4.8, I return to this point, and review one proposal for the integration of the cleft clause under a predicate inversion analysis.

3.4.6 PRO in Predicational and Specificational Adjuncts

One of the diagnostics applied in determining the logical type of the formal subject in specificational sentences is control of PRO. This diagnostic relies on the fact that only a referential constituent is capable of control; therefore, the referential subject of a predicational sentence may serve as a controller, but the property-denoting subject of a specificational sentence can

²³That is, the analysis explains the obligatory initial position of the proredicate in specificational sentences. It does not explain why it cannot function as a propredicate in predicational sentences (i.e. **Magda is it*). Den Dikken suggests that obligatory raising of the propredicate is tied to the licensing of this feature-poor constituent.

not. This results in the contrast in grammaticality between example (170) and the two sentences in (167), repeated here.

(170) The murderer, besides PRO being a bad guy, is insane.

(171) a. * The murderer, besides PRO being a bad guy, is Ryan.

b. * It was Ryan who murdered Brian, besides PRO being a bad guy.

The data above, though, do not provide a comprehensive picture of control in specificational sentences. The examples in (172) show that specificational subjects in DP-*be*-DP sentences can, in fact, license PRO.

(172) a. The murderer, despite appearing to be a foreigner/John Doe, is Bill Smith, our neighbor of many years.

b. The one who murdered Fred, despite having been misidentified as John Doe, is (in fact) Bill Smith.

c. The murderer / the one who murdered Fred, despite having misidentified himself as John Doe, is (in fact) Bill Smith.

The specificational subjects in these examples can control PRO, and the final example (172c) is particularly interesting in that the controller of PRO is interpreted as agentive. The data indicate that the distinction in acceptability between (166) and (167) is likely not due to the type of the subject, but to the semantics of both the matrix sentence and the adjunct.²⁴

As I indicated in my initial foray into this topic in §3.3.2, a non-finite adjunct may be acceptable as well in it-clefts; the example in (173a) is a cleft counterpart to the example (172a) above. It seems to me, though, that the adjuncts which are acceptable in examples (172b) and (172c) are progressively degraded in the corresponding it-cleft examples (173b) and (173c).

(173) a. It was, despite appearing (to you) to be Fred, Bill that I gave the documents to.

b. ?? It was, despite having been misidentified as John Doe, Bill Smith who killed the legislation.

²⁴Note that the data do not lead to the conclusion that the subject and postcopular constituents are both referential or both of the same type. Rather, the data raise the question of what it is that the diagnostic is actually testing, and it does not provide solid evidence of a distinction in logical type of the formal subjects of predicational and specificational sentences.

- c. ?* It was, despite having misidentified himself as John Doe, Bill Smith who killed the legislation .

There is an important difference between the examples given here and those given above in (167). The adjuncts in (172a) and (173a) introduce, and also reject, an identification which is contrasted with that given by the matrix clause. The examples in (167), on the other hand, are specificational sentences hosting predicational adjuncts. Although it is not my intention to provide an analysis for this contrast, one might consider this data in light of the exhaustivity of identification which specificational sentence provide.

If we take the specificational sentence in (174) below to assert exhaustive identification of, or equivalence between, *the murderer* and *Ryan*, then the referent of both DPs has been fully defined: the full set of properties which denote *Ryan* is identical to the full set of properties which denote *the murderer*.²⁵

(174) The murderer is Ryan.

It is then peculiar in (171a), or in the very similar example (175), to predicate an additional property of *the murderer*; the properties which define him have already been fully specified.

(175) * The murderer, in addition to being a bad guy, is Ryan.

The ungrammaticality of (175) may well stem not from the (non)-referential status of the formal subject, but from the incompatibility of a predicational adjunct with a specificational sentence. That is to say, the ill-formedness of examples such as this may be due to the presence of an adjunct which predicates additional properties of the subject, as this is incompatible with the exhaustivity presupposition characteristic of specificational sentences — if, that is, exhaustivity is understood to involve exhaustive property specification, as noted just above.

There are two points worth noting with respect to the data in (173). The adjunct in (173a) may be understood to have the meaning of a truncated cleft. That is, (173a) has the meaning in (176):

(176) It was, despite appearing to you to be Fred that I gave the documents to, (actually) Bill that I gave them to.

²⁵This would follow straightforwardly from an equative semantics; I'm not fully convinced that an equative semantics is the only means of establishing the exhaustive identity of the pre- and postcopular constituents, but I assume that exhaustive identity is expressed, however derived.

We see as well a distinction between the licensing of PRO in (172c) and the licensing of PRO in the identical adjunct when it appears with the it-cleft in (173c).

It is interesting as well that the DP-*be*-DP sentences support the adjuncts referring to *misidentification* in (172b) and (172c). These are not specificational copular sentences, but perhaps have the same interpretive effect of introducing a contrasting identification. Of these, the more interesting case is (172c) because in this example, the controller of PRO acts agentively.

The fact that this is grammatical suggests two possibilities. It may be that the precopular DP *the murderer* is referential after all - it is *the murderer* who has acted intentionally in providing a misidentification. This constituent also, presumably, controls *pro*, which in turn binds a reflexive masculine pronoun. Alternatively, this may simply indicate that control of PRO in an adjunct clause, as opposed to a clause selected by a subject-control predicate, is not a solid test for the logical type of the subject.

The it-clefts do not fare as well with the *misidentification* adjuncts, the latter example (173c) being particularly ill-formed. I suggested above that the adjunct in (173a) could be interpreted as a reduced cleft. In fact, *appear* is licit as the matrix verb of a cleft sentence, whereas translating the adjuncts in (173b) and (173c) into true it-cleft form triggers increasing ungrammaticality.²⁶

(177) It appears to be Bill who murdered Fred.

(178) ?? It was misidentified as John who murdered Fred.

(179) * It misidentified himself as John who murdered Fred.

To summarize: the data concerning control of PRO in it-clefts does bear some traits in common with control of PRO in specificational sentences, and yet the pattern for control into adjuncts is not identical between the precopular full DPs in specificational sentences and the cleft pronoun. Precisely what the source of this distinction is remains uncertain. It may be related to the degree of referentiality - or to the type of referentiality - which each DP bears. It is also true that the full DP is more fully specified for semantic information, and this may be tied to differences in the sets of ϕ -features each carries. Of course, these two points - degree of referentiality and featural specification - may simply be two reflexes of the same property.

²⁶To the degree that (173b) is interpretable as an *it-cleft*, it seems to indicate the misidentification of a situation or something similar.

It is not only in specificational analyses of it-clefts that the pronoun *it* is argued to be property-denoting. Mikkelsen (2005) provides evidence from tag questions that the precopular DP in sentences such as those in (172) are non-referential. The pronoun in a tag question always takes the subject as antecedent. When the antecedent is referential, as in (180), this pronoun bears the matching ϕ -features, including gender. When the sentence appears in inverted order, the pronoun in the tag question takes the non-referential subject as antecedent, and in this case the pronoun is always the neuter pronoun. The use of this pronoun rather than a gendered pronoun does support the notion that the pre-copular DP is non-referential, and therefore quite possibly a property-denoting element.

(180) a. Mary was the murderer, wasn't she?

b. Bill was the murderer, wasn't he?

(181) The murderer was Bill, wasn't it?

Here, though, is a peculiar example. In this sentence, the "less referential" DP, *the murderer*, is the apparent controller of PRO in the adjunct clause and here, again, PRO binds a gendered reflexive pronoun (that is, *himself* rather than *itself*.) At the same time, though, it seems to me acceptable to add a tag question which, as in (181), contains the neuter pronoun *it*.²⁷

(183) The murderer, despite having misidentified himself as Fred, was (in the end) Bill, wasn't it?

If my interpretation of these data is correct, this not only places in question the claimed type identity of the cleft pronoun and the specificational precopular DP, but perhaps also raises questions about the significance of the neuter pronoun in the tag question, and the conclusions to be drawn from this diagnostic.

²⁷Sentence (182a) does seem degraded in comparison to (181). This may have to do with the additional complexity of the sentence due to the presence of an adjunct. In any event, the use of a gendered pronoun in the tag question, alone or in combination with the adjunct, seems worse, or at least doesn't seem to be any better:

(182) a. ?? The murderer, despite having misidentified himself as John, was (in the end) Bill, wasn't he?

b. ?? The murderer was (in the end) Bill, wasn't he?

3.4.7 The Cleft-Class Analyses

The identification of it-clefts as an instantiation of predicate inversion is based on the application of the diagnostics described in §3.4.4. These diagnostics apply to the matrix clause of an it-cleft, permitting a comparison between the syntactic behaviors of constituents in the matrix with the constituents of specificational DP-*be*-DP sentences. This leads to an analysis of the matrix clause of the it-cleft as bearing the characteristics common to specificational sentences as a class.

A different approach to the analysis of it-clefts likewise views them as specificational, but more narrowly as members of a subclass within this group: it-clefts belong to the set of specificational cleft sentences along with pseudoclefts and headed pseudoclefts. Seen from this perspective, the syntactic behavior of the full specificational class is less pressing. Instead, the particular characteristics of each type of cleft construction are the focus of examination. As was discussed in the preceding chapter, it-clefts have been claimed to be interpretationally identical with one or the other of these constructions.

(184) What Bibsy likes best is food.

(185) The thing that Bibsy likes best is food.

(186) It's food that Bibsy likes best.

Taking these similarities as the starting point, there are two ways of going about an analysis of it-clefts. One option is to take one of the other cleft forms - headed pseudoclefts or pseudoclefts - as the underlying source of it-clefts: it-clefts are derived from one of these two constructions. The other is to view the it-cleft as a construction which is identical, or nearly so, to one of the cleft constructions in its interpretation and in its core components, but to see it as derived independently of either construction. That is, the it-cleft has its own unique derivation, but at the end of the day is functionally identical to one or both of the other clefts in its subgroup. I will refer to the first option as the *Derivation-from-Pseudocleft* analysis, and to the latter as the *Variant Pseudocleft* analysis.

There is one important point of difference between either of these two options on the one hand, and the predicate inversion analysis on the other. If it-clefts are either derived from, or are a variant derivation of, pseudoclefts, then the structure is partially predetermined. The cleft clause must be directly composed with the precopular DP, represented in the it-cleft as the cleft

pronoun. That is, these two components certainly form a minimal semantic constituent, and may also form a syntactic constituent, at some point in the derivation.

3.4.7.1 The Derivation-from-Pseudocleft Analysis

In this section, I review two analyses of it-clefts as derivational variants of another cleft form. The influential analysis of Akmajian (1970) concentrates on two forms of data — most prominently agreement data, but also the origin of the cleft pronoun — in arguing that pseudoclefts are the source of it-clefts. Percus (1997) provides a very similar analysis but, in focusing on connectivity effects and, particularly, on the status of NPis in pivot position, concludes that it-clefts are derived from headed-pseudoclefts.

Agreement Patterns

The first analysis to tie the syntax of it-clefts directly to specificational copular sentences is that of Akmajian (1970). As noted in Chapter 2, Akmajian assumes that a pseudocleft and corresponding it-cleft are semantically identical, an assumption which clears the way for a derivational analysis. The data on which he draws in establishing the details of the analysis comes from the agreement patterns in each construction.

Akmajian observes that the morphology of the finite verb within the cleft clause shows number but not person agreement with the pivot. In this way, an it-cleft differs from its unclefted counterpart. The agreement morphology of it-clefts does, though, pattern with that of pseudoclefts.²⁸ In the two data sets below, (188) and (189), the focused constituents are, respectively, a first and second person singular pronoun. In each set, the (a) example is a canonical sentence with a first or second person pronominal subject. The copula in the (a) examples bears agreement morphology for both person and number. The corresponding it-clefts in the (b) examples are judged ungrammatical if the copula within the cleft clause agrees for person features with the pronominal pivot.²⁹

²⁸The material Akmajian presents is rather complex, as he discusses it-clefts from three different dialects, each of which shows a unique agreement pattern. The material presented here is labeled *Dialect 1*; this is data from Akmajian's own dialect. The two additional dialects vary from *Dialect 1* in terms of the case morphology of the pivot and of the availability of first and second person verb morphology in the cleft clause. The details of Akmajian's account of these variations are not crucial here.

²⁹There is a great deal of variation in judgments of pronominal pivots in English it-clefts. The second person

The (c) and (d) examples in each set compare a pseudocleft and an it-cleft; both sentence types lack person agreement between the pivot and clause-internal copula, and both are judged to be acceptable.

- (188) a. I **am**/*is responsible.
b. *It's me who **am** responsible.
c. The one who **is** responsible is me.
d. It's me who **is** responsible.
- (189) a. You are/*is responsible.
b. *It's you who are responsible.
c. The one who is/*are responsible is you.SG.
d. It's you.SG who is responsible.

The morphological mismatch between the copula embedded in the cleft clause as in the (d) examples, and the copula in the corresponding, non-clefted sentence (the (a) examples) rules out the possibility that it-clefts are derived from such sentences via a clefting operation. On the other hand, the assumption of a derivational relationship between pseudoclefts and it-clefts will automatically capture the agreement facts.

Although Akmajian presents the agreement data, as illustrated here, by comparing it-clefts and headed pseudoclefts, he ultimately argues that it-clefts must be derived from pseudoclefts. His argument is based, in part, on it-clefts with non-DP pivots such as (191) for which, he argues, no suitable corresponding headed pseudocleft exists. (191) must then have the pseudocleft source in (193).³⁰

singular form of the copula seems acceptable to me in (189b) and the lack of person agreement in (189d) seems degraded, although would be acceptable if the copula were cliticized to the relative pronoun (i.e. *It's you who's responsible*). Akmajian would attribute variation in acceptability judgments to differences in agreement patterns in various English dialects. The acceptability of person agreement with embedded T is typical of his Dialect III, as long as the pivot is nominative:

- (187) a. It's I who am responsible.
b. *It's I who is responsible.

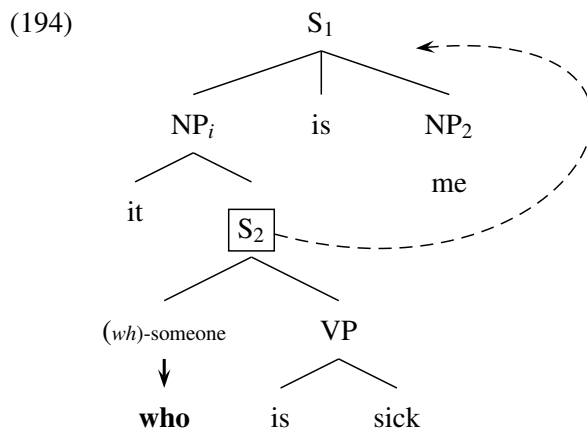
³⁰There is, though, the corresponding difficulty that deriving it-clefts from pseudoclefts overgenerates:

- (190) a. What John did was go.

- (191) It was to Boston that John went.
- (192) a. * The place that John went (to) was to Boston.
 b. * The place to which / where John went was to Boston.
- (193) Where John went was to Boston.

Stranding the Cleft Pronoun

Proposing pseudoclefts as the basis of it-clefts further allows Akmajian to capture the form of the cleft pronoun, given certain assumptions regarding the covert form of the precopular constituent of the pseudocleft, identified as a free relative. Akmajian follows Chomsky in taking the free relative to be a “headless” relative clause situated within an NP projected by the pronoun *it*.³¹



An it-cleft is derived as in (194) by a rule of extraposition which displaces the relative clause S_2 to the right edge of S_1 . The pronominal constituent of NP_1 is then stranded in initial position; this is the cleft pronoun.

This original extraposition analysis has been enormously influential, serving as the basis of numerous later analyses. Many of the proposals which follow Akmajian may focus on properties of the it-cleft other than the agreement data, or may develop a modified version of the syntax

b. * It was go that John did.

Akmajian addresses this difficulty by stipulating a restriction on the derivation (Akmajian, 1970, 166).

³¹Akmajian follows the theory of the time in assuming that relative pronouns were inserted in the course of the derivation by a *relativization rule*, replacing *(wh)* indefinites such *(wh)-someone*.

he argued for. These proposals nevertheless preserve core elements of his analysis - most importantly, they retain Akmajian's claim for the internal constituency of the it-cleft, taking the cleft pronoun and the cleft clause to be directly associated with one another, to the exclusion of the pivot.

3.4.7.2 Derivation from Headed Pseudoclefts

The analysis in Percus (1997) similarly argues in favor of derivation from a cleft type involving extraposition of the cleft clause. The motivation for this analysis comes from the similarity across cleft forms in their semantics, rather than in their syntactic characteristics.

NPI Licensing

In the introductory discussion of predicational and specificational sentences in §3.4.1, it was noted that connectivity effects arise in the latter only. This phenomenon is emphasized in Percus' analysis, including discussion of the following observation.

A comparison between (195) and the two examples in (196) illustrates that pseudoclefts show a type of connectivity between the pre- and postcopular constituents which is not found in either headed pseudoclefts or it-clefts. The sentence-initial clause in the pseudocleft in (195) contains sentential negation and, despite the fact that there is no c-command relationship between this constituent and the postcopular NPI *anything*, the NPI is grammatical. In neither it-clefts nor headed pseudoclefts does sentential negation embedded within the clause license an NPI item on the opposite side of the copula.³² On the basis of this data, Percus argues that the headed pseudocleft is the source construction of it-clefts.

(195) What John didn't see was anything I might recognize.

- (196) a. * It's anyone I know that John didn't see.
b. * The one that John didn't see is anyone I know.

Definiteness and Exhaustivity

³²See Dikken et al. (2000) for discussion of NPI licensing in pseudoclefts under ellipsis of the postcopular licensor.

We have seen that specificational sentences provide exhaustive identification of a variable, and introduce an existential presupposition. An important advantage from Percus' point of view is that both of these characteristics can be tied to the presence of a definite description in precopular position. In (197), this is the DP *the one* along with the relative clause which it hosts.

(197) The one who dropped the cake was John.

Extrapolation of the relative clause creates the representation in (201). The altered form of the initial constituent is due to a phonological rule which spells out the stranded DP *the one* as the cleft pronoun *it*.³³

- (201) a. theone was John who dropped the cake
 b. It was John who dropped the cake.

As in Akmajian, derivation of the *it*-cleft involves extrapolation of the relative resulting in a stranded sentence-initial pronoun. The pronoun has particular significance for Percus, as it does in nearly all analyses along these lines, in that it indicates the presence of a definite description in cleft-initial position which is the source of exhaustivity and presupposition.

3.4.7.3 The Variant Pseudocleft Analyses

The analyses in this class preserve a number of the intuitions captured by the *Derivation-from-Pseudocleft* analyses. Primary among these is again the role of the cleft pronoun in triggering

³³In taking the NPI data to indicate that headed-pseudoclefts are the source construction, Percus introduces an additional complication. The precopular DP in (197) is singular, as is the cleft pronoun. However, the transformation of plural precopular DPs will lead to the loss of formal and semantic features in the spell-out of both the pronoun and the copula. In a headed pseudocleft such as that in (198), *the things* is spelled out as *it* and *were* is spelled out as *was*, thus the morphological correlate of plurality of the precopular DP is lost, as are the formal agreement features hosted by the copula. These problems need not arise in the derivation-from-pseudocleft analysis; the initial constituent may be singular in form, but interpreted as a plural entity. The cleft pronoun is not argued to be an alternative spell-out of a more complex constituent, and at least in specificational pseudoclefts, the copula does not agree in number with the post-copular constituent.

(198) The things that John bought were a pack of cigarettes and the newspaper.

(199) It was a pack of cigarettes and a newspaper that John bought.

(200) What John bought was a pack of cigarettes and a newspaper.

exhaustivity and presupposition. However, rather than treating the cleft pronoun as an alternative form of a determiner with its NP complement, as Percus does for *the one*, these proposals take the pronoun to be a transitive definite determiner. This determiner is semantically linked to the cleft clause so that ultimately, the pronoun and the cleft clause form a definite description which is interpreted as the initial constituent in the it-cleft, precisely as in headed pseudoclefts.

However, the derivation of the it-cleft is taken to be independent of any other cleft form; that is, the it-cleft is not the output of syntactic operations applied to an existing cleft sentence. It has its own derivational process, but this leads to a construction which is semantically identical to a headed pseudocleft.

Discontinuous Constituency

Thus Hedberg, rather than arguing for an account in terms of extraposition, takes the pronoun and the cleft clause to form a *discontinuous* syntactic constituent. The clause is first merged as an adjunct to the pivot, so that it is these two components which form a minimal constituent in the overt syntax. Hedberg, though, is ultimately concerned with the semantic role of the pronoun, and argues that the pronoun and cleft clause form a minimal semantic constituent, with the pronoun functioning, again, as a definite determiner which semantically selects the property-denoting clause.³⁴

In support of this identification, she notes that other forms of definite determiners are licit in it-clefts as well. Her evidence comes from structures like the two below, in which demonstrative determiners appear in initial position of a construction which appears to be a type of it-cleft.

(202) This is not Iowa we're talking about...(this is a different society.)

(203) ...that was the platoon sergeant that said that.

Although Hedberg's view of the syntactic derivation of it-clefts differs technically from the extraposition analyses, the pronoun and clause, despite their overt discontinuity, form a sentence-initial definite DP. The crucial contribution of the pronoun identified in Percus is therefore preserved.

Disengaging the Syntax from the Semantics

³⁴I take Hedberg to mean that they do form a syntactic constituent at LF; see Hedberg (2000, p. 913).

The interesting presentation in Reeve (2010) argues in favor of a syntactic structure very similar to that proposed in Hedberg and can be seen, in part, as a means of motivating and formalizing the discontinuous constituent which she suggests. Like Akmajian, Reeve takes it-clefts to be a type of specificational sentence with a definite DP subject. Like Hedberg, though, he does not assume that it-clefts are derived from pseudoclefts, but proposes an independent derivation which, again, treats the pronoun as a determiner interpreted in conjunction with the cleft clause. His work includes a more explicit proposal regarding the syntactic and semantic processes underlying this structure.

The important aspect of Reeve's work is, from my perspective, his recognition that the cleft clause seems to bear a direct relationship to both the pivot and the cleft pronoun. Although I will propose a very different account of the nature of these relationships, resolving the problem of the dual dependencies between the cleft clause and the pivot on the one hand, and the cleft clause and the pronoun on the other is, I think, the central question in the understanding of it-clefts.

In Reeve's terminology, the cleft clause has two antecedents, By this he means that the response of the cleft clause to a variety of diagnostics indicates that it is a syntactic adjunct to a vP-internal DP, but that its interpretive role indicates that it is a constituent embedded within a definite DP subject. He therefore suggests that in the syntax, the clause is first merged as an adjunct to the pivot, and then extraposed to a higher position, identified as vP. At the same time, although the clause never forms a direct syntactic relationship with the cleft pronoun, it behaves semantically as the restrictor of the pronoun.

Among the several diagnostics that Reeve applies in determining the position of the cleft clause is a comparison with other constructions involving extraposed relatives. As he notes, one of the difficulties for the Percus analysis is that extraposition from definite subject DPs is highly constrained, and in the environment of a headed pseudocleft extraposition is ungrammatical.³⁵

- (204) a. The guest who drank all the vodka was John.
b. * The guest was John who drank all the vodka.

Reeve notes as well that the cleft clause behaves as an adjunct in several respects, rather than as a complement. One such behavior is that it is optional and may be deleted in truncated

³⁵See also Svenonius (1998) on this point, applied as well to the examination of Scandinavian it-clefts.

clefts.³⁶

Despite the syntactic diagnostics indicating that the cleft clause is similar to an object-DP adjunct, the it-cleft is interpretationally equivalent to a pseudocleft - again, suggesting that the clause is interpreted in subject position; this is assumed for the same reasons as it is assumed in the analyses discussed above. Reeve aims to resolve this conundrum by disassociating the syntactic properties of the clause from its semantic properties, thus the notion of two distinct antecedents. The cleft clause is an adjunct to the pivot, thus it is the pivot which is the syntactic antecedent of the clause.³⁷

At no point in the derivation does it overtly or covertly form a syntactic constituent with the cleft pronoun. The it-cleft is, nevertheless, interpretationally identical to a (headed) pseudocleft. The pronoun is the *semantic antecedent* of the clause because it has the function of licensing the presence of the clause. The notion of licensing is based on the revision of the Θ -criterion in Higginbotham (1985). Following this work, Reeve notes that the relationship between the pivot and clause is purely syntactic: this means that the clause does not function as a predicate of the pivot, and it therefore remains unsaturated. The unsaturated argument slot must therefore be Θ -bound by a determiner and, as Θ -binding is a semantic requirement, the cleft clause and pronoun bear a thematic, if not syntactic, relationship to one another.³⁸

³⁶Reeve notes as well that relative clauses require an overt complementizer when the gap corresponds to subject position (at least, in the standard language). This is unlike the behavior of complement CPs; these require the deletion of the complementizer under wh-extraction of a subject.

- (205) a. The man who was carrying a large stuffed animal has disappeared.
b. * The man was carrying a large stuffed animal has disappeared.
- (206) a. * Who does John think that was carrying a stuffed animal?
b. Who does John think was carrying a stuffed animal?

In this, Reeve indicates that requirements on the presence versus absence of complementizers in connection with subject gaps has its source in the syntactic role or position of a CP - that is, its status as an argument in complement position - rather than to the distinctions between relative clauses and finite CP complements. This seems to me to be an unwarranted assumption; relative clauses are identified as complements to D in the raising analysis of relatives. What would be unusual in the behavior of the cleft clause as a complement within an it-cleft is that its function here would be as the complement to a head other than D.

³⁷Reeve points out that given this syntactic constituency, the agreement between the relative pronoun and the pivot for ϕ -features is explained.

³⁸Reeve follows Higginbotham in using the terms Θ -role and Θ -binding. This isn't an accurate description of

Although in its original formulation Θ -binding occurs within a sisterhood relationship, Reeve argues, on the basis of syntactic constraints, that the cleft clause and pronoun cannot form a syntactic constituent. Rather, Θ -binding is accomplished across discontinuous constituents under c-command. Although Reeve suggests that syntactic constituency may be bypassed, he does believe that syntactic locality is necessary. The locality requirement is the factor which triggers (obligatory) extraposition of the cleft clause. It adjoins to the vP edge, creating a local relationship with the cleft pronoun, defined in terms of m-command.

In taking this approach, Reeve presents a careful and detailed examination of the construction, and offers an interesting and well-motivated proposal aimed towards an accounting of the dual association which the cleft clause establishes with the pivot as well as with the cleft pronoun. His analysis also, though, requires a set of assumptions about the sources of the behaviors of the cleft clause, such that the semantic and syntactic aspects of the construction are in large measure isolated from one another. I will suggest in §3.5.4 that this instantiation of the semi-disengagement of the syntax and the semantics of the construction is not entirely successful, and will propose an alternate means of capturing the nature of the dependency between the cleft pronoun and the clause.

3.4.8 The Sentence Finality of the Cleft Clause

The Cleft Class analyses in §3.4.7.1 and §3.4.7.3 agree in viewing the cleft pronoun and clause as a definite description in initial position of the sentence. This is a necessary consequence of their conception of the construction :the most salient characteristic of the it-cleft is that it is a member of the cleft subtype of copular clauses. As we have seen, though, it is not necessary to assign the it-cleft to this subclass. The predicate inversion analyses are concerned with the derivation of the matrix clause, and this leaves open the options for the interpretation and position of the cleft clause. This alternative is exemplified in Den Dikken (2009). The analysis ties the cleft clause directly to the pivot as a type of DP adjunct, although in his proposal, this adjunct is an unusual one. Den Dikken makes two crucial observations about the cleft clause which illustrate that the clause does not behave like a typical postnominal modifier. He notes, first, that the cleft clause is always sentence-final. This is not particularly surprising in an SVO

the argument slot provided by the cleft clause, as Reeve himself notes. He suggests that the definition of Θ -binding must be re-interpreted to have a broader application.

language like English. But the fact that this is true also in the Germanic SOV languages is informative, as this indicates a distinction between the behavior of the cleft clause and that of canonical postnominal relatives which may, but need not, extrapose.³⁹

- (207) a. Hans möchte seiner Tochter einen Teddybären, der eine freundliche
 Hans would-like his.DAT daughter a.ACC teddy bear which has a
 Gesinning hat, schenken.
 friendly disposition, to-gift.
Hans would like to give his daughter a teddy bear that has a friendly disposition.
- b. Hans möchte seiner Tochter einen Teddybären schenken, der eine
 Hans would-like his.DAT daughter a.ACC teddy bear gift, which has
 freundliche Gesinning hat.
 a friendly disposition.
- (208) a. Es ist der Teddybär, der eine freundliche Gesinnung hat.
 It is the teddy bear which a friendly disposition has.
It's the teddy bear that has a friendly disposition.
- b. Es wird wohl der Teddybär sein, der die freundlichste Gesinnung hat.
 It will probably the teddy bear be which the friendliest disposition has.
It's probably the teddy bear that has the friendliest disposition.
- c. * Es wird wohl der Teddybär, der die freundlichste Gesinnung hat, sein, .
 It will probably the teddy bear which the friendliest disposition has be .
- (209) a. Hans glaubt, dass es der Teddybär ist, der die freundlichste Gesinning
 Hans believes that it the teddy bear ist, which the friendliest disposition
 hat.
 has.
Hans thinks that it's the teddy bear that has the friendliest disposition.
- b. * Hans glaubt, dass es der Teddybär, der die freundlichste Gesinnung hat, ist.
 Hans believes that it the teddy bear who the friendliest disposition has is.

Relative Pronoun Constraints

Den Dikken notes further that, in English, the use of the relative pronoun *which* is more tightly constrained in cleft clauses than it is in canonical relative clauses.

³⁹Note that the examples marked with an asterisk are ungrammatical only as it-clefts; they are acceptable as restrictive or non-restrictive modifiers of the DP *der Teddybär*. (208c) is grammatical given an interpretation along the line of “*Oh, that's probably the teddy bear with the friendly disposition.*”

(210) He wants to buy a car which is easy to park in small spaces.

(211) ?? It's a car which he wants to buy.

The nature of the pivot is argued to affect the acceptability of the relative pronoun *which* in it-clefts, based on the judgments reported for (212) and (213). The distinction between the *wh*-pivot in (212) and (213a) is that the latter cannot be D-linked; thus, Den Dikken suggests that *which* is licit in it-clefts only when the pivot is D-linked.

(212) ? What is it which is bothering you?

(213) a. * What the hell is it which is bothering you?
b. What the hell is it that is bothering you?

There appears, then, to be a sensitivity of the relative pronoun in the cleft clause to the D-linked status of the pivot, an indication that the clause bears a direct semantic relationship to the pivot rather than to the invariant pronoun.

Den Dikken captures this in terms of a specificity feature on each constituent. The [SPEC] feature on the pivot may have either a *plus* or *minus* value. Only when the pivot bears a [+SPEC] feature can the clause also bear a positive value for this feature. Consequently, the restriction on the use of *which* is due to the fact that this relative pronoun is inherently [+SPEC], and is only licit when the clause itself is [+SPEC].

Crucially, a dependency of this sort does not arise in the pre-copular DP of a headed pseudoclefts, as the contrast between (211) and (214) shows. This then is an indicator that the relationship between pivot and cleft clause is not the same as that between the head and clause of the initial DP in a headed pseudocleft. The semantic interpretation of it-clefts and pseudoclefts is unlikely, then, be identical.

(214) The one / the thing which he wants to buy is a car.

The structure Den Dikken proposes is directed towards capturing these two properties of the clause: its obligatory sentence-final position, and its sensitivity to the [\pm SPEC] value of the pivot. It-clefts are specificational sentences derived by predicate inversion; the pronoun is the predicate within the small clause selected by *be*. The position of the clause is independent of the inverse predication structure of the matrix clause.

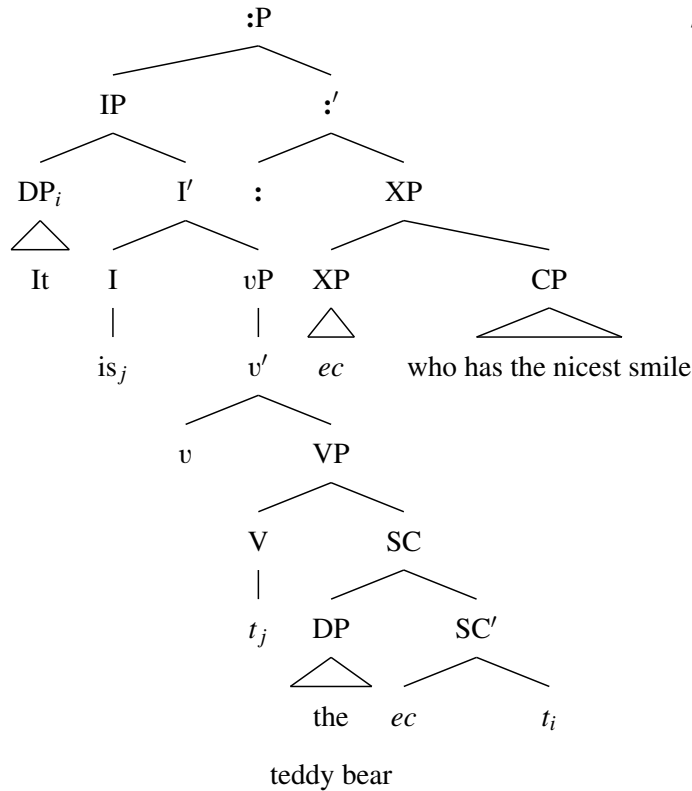
The cleft clause is treated as a type of adjunct which is first merged in an extraposed position. Den Dikken here makes use of a structure proposed in Koster (2000) for extraposed constituents. Within this structure, the *colon phrase*, the specificational sentence *it is the teddy bear* is located in specifier position of the head :, and the cleft clause is located in complement position. The interpretation is one of *parallel construal* - that is, this structure permits the cleft clause to be construed with the TP-internal pivot *teddy bear*.⁴⁰

In order to account for the matching specificity requirement, Den Dikken suggests the presence of a null head which hosts the cleft clause. This head is *radically null* - it has no features save one: an unvalued [α SPEC]. Via a CONCORD relation with the pivot, this head obtains the value for [α SPEC] which is carried by the pivot. Because the relative pronoun *which* is compatible only with [+SPEC], it may only appear when the pivot bears the same value for this feature.

⁴⁰I don't go into the details of Koster's analysis here, except to note two points. The colon phrase is introduced as a means of capturing the behavior of extraposed relative clauses in Dutch, as well as other extraposed modifiers. The extraposed position has consequences for movement operations in the syntax, but presumably does not alter the interpretation of the relative with its head; for that reason I assume that the cleft clause functions analogously as a modifier to the pivot. Additionally, an important point of Koster's analysis is that colon phrases bear similarities to coordinate structures, particularly in being subject to the Coordinate Structure Constraint (CSC). What this means for the structure above is that it is not possible to extract a constituent from the specificational TP in SPEC-: to a position external to the colon phrase unless the identical constituent is extracted via ATB movement from the XP in complement position of the colon phrase. This will become relevant in the discussion of coordinate clefts in section 3.5.

(215)

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3.5 Explananda

As the preceding discussion has illustrated, the treatment of it-clefts as specificational sentences may be approached in more than one way, depending on the nature of the evidence which is the focus of the analysis. As I have noted throughout this discussion, a significant range of crucial insights are brought to light in the work reviewed above. I have, as well, made note of some problematic aspects of this work, pointing out these concerns as they arose for each specific analysis.

I began this chapter by noting that it-clefts are an attractive subject of research because they provide so many avenues of exploration, and that a researcher will of necessity have to select some specific set of characteristics on which to focus. Not surprisingly, then, there are several characteristics of it-cleft constructions which have not been included as part of any of the analyses introduced thus far; some of these are, in fact, rarely addressed at all in the literature on the construction. The focus of this section will be to carefully consider some of these characteristics and their implications for a syntactic analysis. The material introduced

here is, I will suggest, not easily addressed by the structures we have reviewed.

There are three types of data which I will be concerned with. The first is the construction shown in (216); I will refer to this as the *coordinate cleft*.

(216) It was John who scrubbed the kitchen counters and Mary who cleaned the dining room table.

This it-cleft contains what appears to be the coordination of a constituent composed of the pivot and cleft clause. The analyses discussed above do not permit such a constituent, although each analysis would rule it out for different reasons. Consequently, the means by which coordinate clefts can be generated must be assumed to be more complex than the superficial structure would suggest and the distinctions in the identification of constituents between analysis will require different sorts of assumptions in attaining this structure.

Second, I will consider it-clefts containing sentential operators such as those illustrated in (217a) through (217c). The interpretive effects of these operators provide clues about the semantic relationships among constituents.

- (217) a. It wasn't John who took out the garbage.
b. It's rarely John who takes out the garbage.
c. It might be John who takes out the garbage.

Finally, I will examine structures such as that in (218) which touch on the licensing of NPIS within the cleft clause. Again, the two classes of analysis argue for distinct structures, and thus the configuration under which this licensing must be achieved varies.

- (218) a. It's not John who ever cleans the litterbox.
b. It's only the gossip column that John has any interest in.

3.5.1 The Coordinate Cleft

Among the variety of it-cleft constructions considered in Delahunty (1982) are those illustrated in (219) and (220) (pgs. 98 and 100, respectively).

(219) It could have been - and it should have been - Bill who negotiated the new contract.

(220) It must have been Fred that kissed Mary but Bill that left with her.

These two examples illustrate the application of classic constituency diagnostics to it-clefts. Both examples are most easily understood as evidence that the pivot and cleft clause form a minimal constituent which may be targeted for Right Node Raising in (219) and for coordination in (220).

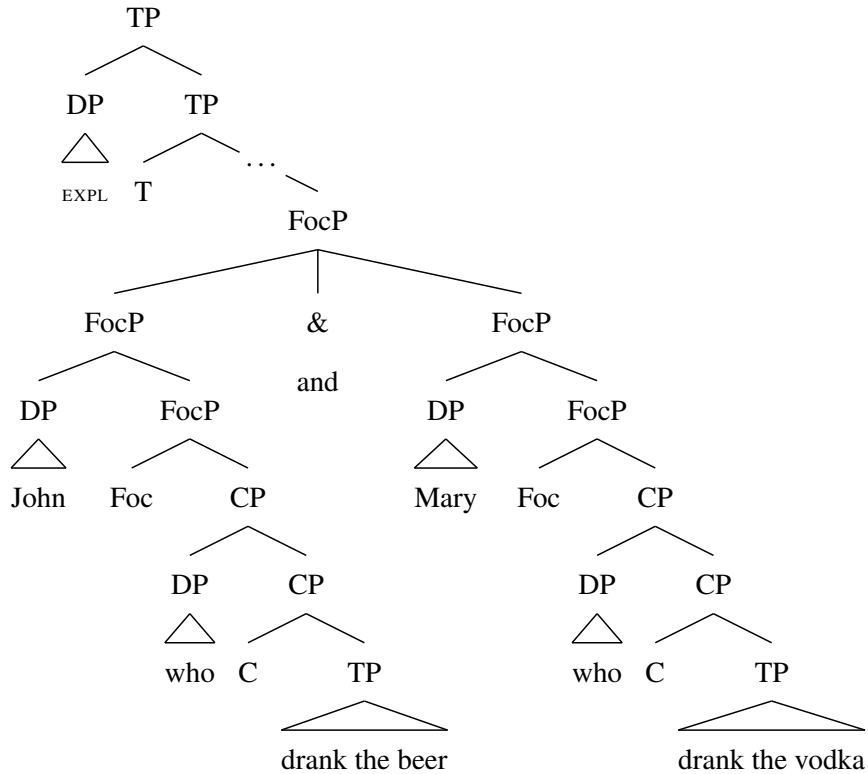
I will focus in what follows on the relevance of coordinate clefts because, for any analysis which treats it-clefts as specificational sentences, capturing this structure will be problematic. More specifically, I will argue that any analysis which assumes the cleft pronoun to be contentful and at the same time claims the pronoun to form a minimal constituent with either the cleft clause or with the pivot will run into difficulty in accounting for a coordinate structure, and that this difficulty is especially severe in the treatment of the pronoun as a predicate.

(221) It was John who drank the beer and Mary who drank the vodka.

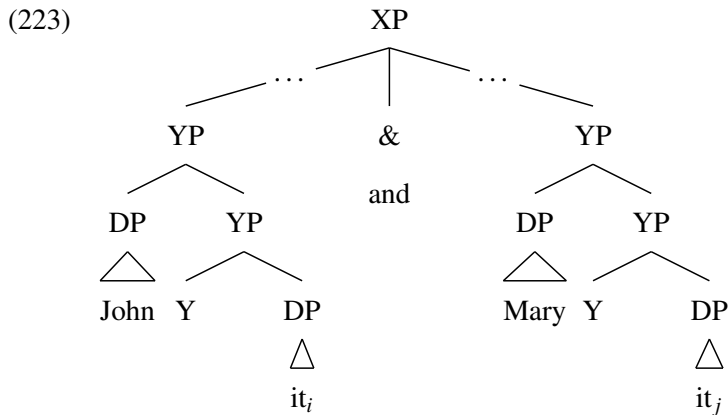
The information-structural analyses discussed in §3.2 can straightforwardly accommodate coordinate clefts. There are two relevant aspects of it-cleft structure which all of these analyses assume: the pivot and cleft clause are treated as a minimal constituent, and the cleft pronoun is identified as an expletive. Under this analysis, each conjunct is a minimal constituent — perhaps CP as in the majority of these proposals, or FP as in É. Kiss (1998) — and the coordination point is located below the expletive.⁴¹

⁴¹It would be more appropriate to say that coordination *appears* to be straightforward. See the Appendix to this chapter for discussion of the complications introduced by German coordinate clefts.

(222)



The situation is different once the pronoun has semantic relevance. When the it-cleft is assimilated to inverted predicational clauses, the pronoun is the predicate within a small clause, and its argument is the pivot in specifier position. For a sentence such as that in (221), there are two pivots: *John* and *Mary*. Each of these must be first merged in subject position of a small clause, and therefore each is, independently, the subject of a predicate. The predicate in it-clefts is the cleft pronoun, so this means that there must be two pronouns in the structure - one takes *John* as argument, the other takes *Mary* as its argument. Each of these pronominal predicates must be first merged in complement position of a small clause.



This means that a coordinate cleft under these assumptions must have more internal structure than is evident in its surface form. The overt form of (221), in which the pronoun in the second conjunct has gone missing, must be the output of some operation which eliminates the second pronoun.⁴²

The analyses which assimilate *it*-clefts to pseudoclefts associate the pronoun directly with the cleft clause rather than with the pivot. Within this class of analyses, the pronoun has been given somewhat different identifications - it is either a determiner, or the spell-out of a DP similar to *the one* of a headed pseudocleft. The analyses are nevertheless conceptually similar in taking the pronoun *it* to be a component of the precopular phrase which contributes definiteness, and which is interpreted with the cleft clause. In this case, each pivot in (221) is a postcopular DP, and each must be paired with its own precopular DP. That is, the pivot *John* is the post-copular phrase in a pseudocleft whose initial constituent is *it/the one who drank all the beer*, and the second pivot *Mary* is in a specificational relationship with the constituent *it/the one who drank all the vodka*. So that in this instance, too, there must be an operation responsible for the fact that the second pronoun is not pronounced.

⁴²Notice that, given the structure in (215), this operation cannot be ATB movement of the pronoun. The minimal constituent housing the *it*-cleft is the :P, a phrase representing a type of coordinate structure. As noted in fn. 3.4.8 above, this phrase type is therefore subject to the Coordinate Structure Constraint (CSC): extraction is licit only if identical constituents are raised out of the phrases in specifier and complement positions.

This means that, even for a non-coordinate cleft, it is impossible to extract a constituent out of the specificational sentence (i.e. *it was John*) without extracting the identical constituent out of the cleft clause *who drank the beer*. Therefore, for clefts as :Ps, only ellipsis, (or a process with a similar output - for example, multidominance) can account for the lack of the second cleft pronoun in a coordinate cleft.

3.5.1.1 Ellipsis Operations

I will begin with a consideration of the coordinate cleft as the output of an ellipsis operation⁴³; the first concern is then identifying the type of ellipsis operation this must be.

The bit of structure which goes missing in the coordinate cleft is not the pronoun alone, but also the copula. If ellipsis is at work here, the simplest means of deriving the coordinate cleft would be to apply a single ellipsis operation targeting both constituents, and I will therefore begin with this assumption.⁴⁴

This then suggests that what we see in the derivation of the coordinate cleft might be an instance of gapping, a form of ellipsis which targets non-constituents. It is true that the coordinate cleft clearly shares some of the characteristics of gapping; the disappearance of the pronoun and copular *is*, for example, restricted to coordinate structures, and cannot apply into embedded coordinates, among a number of other restrictions (for a thorough treatment of gapping constraints, see Hankamer (1979)).^{45,46}

⁴³As noted, an account in terms of ATB movement of the pronoun is a possibility for some of the analyses under discussion. It will become clear in the following that the difficulty faced by the ellipsis operation is one which will also rule out ATB movement.

⁴⁴One could also assume that two ellipsis processes are involved; it will become clear that the assumption of one or the other possibility is not crucial for this discussion.

⁴⁵For consistency with *it*-clefts, I use specificational sentences in the following examples; however, copula deletion is known to be awkward for this class of constructions even where gapping should be licit. For this reason, I additionally supply predicational sentences for comparison.

⁴⁶One of the most recognizable characteristics of gapping is that it always leaves exactly two remnants behind. I do not discuss this, though, because it is difficult to evaluate this property in specificational copular clauses, and particularly in *it*-clefts. Gapping in the specificational coordinate is fine in (224a). It is, though, also possible to form an acceptable gapped sentence with a third remaining constituent - in (224b), these are sentential adverbs, and the coordinate *it*-cleft (224c) is grammatical with these adverbs as well.

This is consistent with the data in Sag (1976) indicating that certain adverbials, including sentential adverbs, are acceptable in “three-remnant” gapped structures (p.221). The third remnant in the specificational sentence in (225a) is a temporal PP adjunct, and this constituent is less acceptable. However, it is impossible to test a temporal PP adjunct as a third remnant in the matrix clause of an *it*-cleft, because the constituency of the matrix clause is quite restricted so that even in the non-coordinate cleft (225b), adjunction of this PP to the matrix clause is unacceptable. The only type of additional constituents permitted in the matrix clause of an *it*-cleft are those which make acceptable ‘third remnants’ in gapped structures. Thus, whether the usual two-remnant restriction imposed on gapping holds in coordinate clefts cannot be determined.

(224) a. The driver was Mary and the passenger John.

- (228) a. i. * The guest of honor was Mary because the host Fred.
 ii. * Mary was the guest of honor because Fred the host.
 b. * It was Mary who drank the vodka because Fred who drank the beer.
- (229) a. i. * Lulu thinks the guest of honor was Mary and Bill thinks the host Fred.
 ii. * Lulu thinks that Mary was the guest of honor and Bill thinks Fred the host.
 b. ?* Lulu thinks it was Mary who drank the vodka and Bill thinks Fred who drank the beer.

There are, though, indications that the deletion operation necessary in the production of a coordinate cleft would be atypical as an instance of gapping. Gapping is usually defined as an operation which targets sentence-medial material, whereas in the it-cleft the deleted material is sentence-initial.

- (230) * John spoke to Harry, and Bill Mike.
- (231) My sister spoke to Mrs. Wimble on Friday and the dean on Saturday.

The form of ellipsis to which this bears the strongest similarity is that referred to as *Left Peripheral Deletion* or LPD.⁴⁷ The status of this ellipsis operation is, though, controversial.

-
- b. The driver was probably Mary and the passenger undoubtedly John.
 c. It was probably Mary who drove the car and undoubtedly John who was the passenger.
- (225) a. ?? The driver was Mary on Sunday and the passenger John on Monday.
 b. * It was Mary on Sunday who drove the car.
 c. It was Mary who drove the car on Sunday.

The data in (226) and (227) are included as an aside. Notice that gapping in the predicational example in (226) deletes the copula and the postcopular constituent, leaving a temporal PP behind, and this example is fine. The following example in (227b) also deletes the copula and the post-copular constituent, but this is a specificational sentence, and in my judgement gapping here is quite bad. At best, (227b) can be interpreted only anomalously as vP coordination.

- (226) Mary was the driver on Sunday and John <was the driver> on Monday.
- (227) a. The driver was Mary on Sunday and the passenger was Mary on Monday.
 b. * The driver was Mary on Sunday and the passenger on Monday.

⁴⁷Sag (1976, Ch.3, §3.2) points out several distinctions between gapping and so-called left-peripheral deletion. Among these, for example, is that gapping cannot target the preposition of a PP, but left-peripheral deletion can.

The material deleted by LPD includes the formal subject, and the distinction between deletion of a subject and deletion of sentence medial material is non-trivial, particularly with respect to how identity of constituents is defined. Identity of the elided constituent and its antecedent is a prerequisite for deletion operations; however, if LPD exists, it must require a particularly stringent definition of identity, and it is unlikely that two cleft pronouns in a coordinate cleft can be accommodated under this definition.

3.5.1.2 Left Peripheral Deletion

I begin this discussion of Left Peripheral Deletion by first reestablishing how it came to be that this discussion is necessary. A consideration of LPD is necessary if it is claimed that the cleft pronoun (1) is semantically contentful and (2) forms a minimal constituent with either the pivot or with the cleft clause. The former situation arises in an analysis of it-clefts as predicate inversion, as the pronoun and pivot are the constituents of a small clause selected by *be*; the latter situation arises in identification of an it-cleft as a type of pseudocleft.

A pseudocleft analysis, for example, predicts that the appearance of a cleft clause in the structure is dependent on the presence of a cleft pronoun. In coordinate clefts, we find two overt cleft clauses, but only one overt pronoun, and this pronoun is located in subject position of the first conjunct. There must then be a pronoun in construction with the second cleft clause, and this missing pronoun is the subject of the second conjunct, located in a position which parallels that of its antecedent. The predicate inversion analysis likewise predicts that a second pronoun is covertly present, in this case because the pivot in the second conjunct is the argument of the missing pronoun and therefore dependent on its presence. For either analysis, then, we have no choice but to assume that the second pronoun is present in the coordinate cleft, but for some reason is not pronounced as the subject of the second conjunct.

The original motivation for assuming an LPD operation is of a different status. LPD has been argued to apply in constructions for which an alternative analysis is almost always available; namely, coordination of a constituent smaller than a full clause.⁴⁸ However, in the view

⁴⁸There are, though, instances of missing subjects in structures which must involve coordination above the position of first merge of the subject; the classic example is asymmetric coordination in German. This construction, though, bears traits unusual for ellipsis and has recently been analysed as involving multidominance of the subject. See Mayr and Schmitt (2008) and Wilder (1994) for analyses along these lines; Wilder (1994) for an LPD analysis, and Buring and Hartmann (1998) for an analysis in terms of second conjunct adjunction.

of some researchers, LPD is theoretically preferable to low coordination because under LPD it is possible to capture several unusual properties of coordinate structures, but do so in a way which, in contrast to low coordination, does not require construction-specific exceptions in the application of several fundamental principles of the grammar. These principles include the θ -criterion and constraints on movement operations affecting the well-formedness of movement chains (Wilder (1994)), and may be illustrated in reference to the following examples.

(232) John is tired and grumpy.

(233) What does John like and Mary hate?

(234) John stole a teddy bear and was arrested by the police.

The structure in (232) is typically understood containing an instance of AP coordination: [_{AP} [_{AP} tired] AND [_{AP} grumpy]]. However, under a narrow, perhaps mechanical view of the Θ -criterion, the assumption of AP coordination is rejected, based on the belief that the a violation is triggered should a single constituent - *John* in (232) - be assigned the experiencer θ -roles of the two independent predicates *tired* and *grumpy*.

The two examples in (233) and (234) are, again, typically understood to involve coordination below the CP level, followed by ATB movement of two identical *wh*-DPs into a single SPEC-C. Here, the θ -criterion is satisfied even under the strict construal stated above- each predicate in (233) takes a *wh*-DP internal argument, and in (234), the external argument of the first predicate is borne by one token of the DP *John* and the internal argument of the second predicate by a second token.⁴⁹ The difficulty for these examples is that the movement chain created by ATB movement does not conform to constraints on chain formation; the head of the chain c-commands two feet, and it is not the case that each foot is c-commanded by all intermediate traces. Once again, the viability of the syntactic representation in a coordinate structure must rely on a construction-specific exemption from restrictions on movement operations (Wilder, 1994).

⁴⁹I assume here the analyses of McNally (1992) and Burton and Grimshaw (1992) in which ATB movement may apply to a constituent functioning as both the subject of an active predicate in one conjunct and of a passive in the second conjunct. These analyses propose that the internal argument of the passive undergoes an initial movement step into SPEC-v (in their original works, into SPEC-V). At this point, the position of the passive subject is parallel to that of the active subject, and ATB movement may apply.

Coordinate structures such as those in (232) through (234) can be brought into compliance with this strict interpretation of the θ -criterion and with constraints on movement if they are understood to involve coordination not of constituents embedded within the clause, but of two full clauses. The surface structures must then be the result of coordination plus ellipsis. Rather than a representation such as that shown in (235), the constructions may have the representations in (236) and (237) containing additional, covert structure.

(235) John [_{VP} drank the vodka] and [_{VP} stole the teddy bear].

(236) John drank the vodka and <John> stole the teddy bear.

(237) [_{TP} John [_{VP} *t* stole a teddy bear]] and [_{TP} <John> was [_{VP} [_{VP} arrested *t*] by the police.]]

It was noted at the end of §3.5.1.1 that LPD cannot be assimilated to gapping because the two operations differ in a number of characteristics. One of these can now be illustrated. Gapping always leaves behind exactly two constituents as in (238); (239) is degraded due to the third constituent which remains in the second conjunct. If LPD is at work in the coordination in (240), though, there is no similar restriction on this form of deletion.

(238) John cleans the kitchen on Mondays and Mary <cleans the kitchen> on Thursdays.

(239) ?* John cleans the kitchen counters with cleanser on Mondays and Mary <cleans the kitchen counters> with bleach on Fridays.

(240) John cleans the kitchen counters with a scrub brush every Monday and the dining room table with sandpaper every Thursday.

3.5.1.3 Ellipsis and Identity

The proposed limitation on coordination to full clauses allows the principles at issue - the Θ -Criterion and the well-formedness of movement chains - to be stated narrowly and applied without exception. But this comes at a cost, because the ellipsis operation which must be assumed is a problematic one.

The property of LPD which sets it apart not only from gapping, but from other ellipsis operations such as VPE, is that the identity requirement between the elided constituent and its antecedent must be calculated more stringently for LPD. This has been noted, for example, in

comparing the effects of the deletion of indefinite subjects and deletion of sentence-medial indefinites (Mayr and Schmitt (2008); Büring and Hartmann (1998)). In (241a) and (242a), there is an indefinite in both the first and second conjunct, and the second indefinite introduces a new referent: Ralph bought some item for Alice/at the five-and-dime, and Norton purchased a different item for Trixie/at the five-and-dime.⁵⁰ The (b) example in each set is derived from the (a) example by gapping and VPE, respectively. In neither case does ellipsis alter interpretation; in both the pre- and post-ellipsis forms of (241) and (242), examples, each man bought a different item.

- (241) a. Ralph bought something for Alice and Norton bought something for Trixie.
b. Ralph bought something for Alice and Norton for Trixie.
- (242) a. Ralph bought something at the five-and-dime and Norton bought something at the five-and-dime.
b. Ralph bought something at the five-and-dime and Norton did too.

In (243a), the two coordinated sentences each have, rather than an indefinite object, an indefinite subject, and as before the second indefinite introduces a second discourse referent. However, if left-peripheral deletion applies to the second indefinite, the meaning is altered: in the derived example in (243b), there can be only a single referent. The same contrast is found between the two sentences in (244); in this instance, the presumed LPD application elides both the subject and the verb of the second conjunct.

- (243) a. Someone bought a scrub brush and someone cleaned the counters.
b. Someone bought a scrub brush and cleaned the counters.
- (244) a. Someone cleans the kitchen counters and someone cleans the dining room table.
b. Someone cleans the kitchen counters and the dining room table.

The important point to worry about is that the identity requirement on deletion which holds of (241) and (242) appears to be different from the identity requirement on deletion which must be met in (244). In the former examples, the lexical denotations of the deleted DP and its

⁵⁰It seems to me that it is difficult to interpret the two indefinites as referring to the same item (or two tokens of the same item) unless this interpretation is coerced by introducing additional context (i.e. *And wouldn't you know it, turns out they each bought exactly the same necklace!*)

antecedent ('something') are identical; this is sufficient to preserve interpretation under ellipsis. The indefinite subject in both conjuncts in (244) is *someone*, so here too, the lexical denotation of the elided DP is identical to that of its would-be antecedent, but this is clearly not sufficient to license ellipsis, because the interpretation of the (a) examples cannot be maintained under ellipsis in the (b) examples: each instance of *someone* in the unelided (244a) enforces its own novelty requirement, something not observed in (244b).

The alteration in meaning which occurs under indefinite subject deletion is found as well with definite subjects.

- (245) a. That guy bought a scrub brush and that guy cleaned the kitchen counters.
b. That guy bought a scrub brush and cleaned the kitchen counters.
- (246) a. That guy is Ralph and that guy is Norton.
b. That guy is Ralph and Norton.
- (247) a. He is Ralph and he is Norton.
b. He is Ralph and Norton.

The evidence thus far suggests that if LPD does exist as a deletion operation, then it is one which requires strict identity between the target of deletion and its antecedent - that is, this is a form of ellipsis which is satisfied only by identity of reference. This identity requirement is, in fact, more like that which holds of the targets of to ATB movement, rather than that found in other ellipsis operations.

This is the point in the discussion at which the patterning of subject ellipsis under referential identity should be examined in reference to it-clefts and the cleft pronoun. This is not a straightforward task, as the cleft pronoun represents, depending to the analysis one adopts, either a property-denoting proform or a transitive definite determiner. It is far from clear how one evaluates either of these for referential identity with an antecedent.

I will address first the scenario in which the cleft pronoun is a predicate. There are two factors which may be helpful in considering this question. One of these is that the cleft pronoun is, in fact, a free pronoun, and therefore one expects that it is interpreted relative to an assignment function; that is, the mechanism of interpretation is like that of an entity-denoting free pronoun, only in this case, the assignment function provides a property-denoting value.⁵¹

⁵¹Den Dikken (2009) suggests that the cleft pronoun has no semantic content at all, but I assume that it must be

If this is a legitimate approach, then we can look at the pair of examples in (247) for guidance. In (247a), each conjunct has as subject an overt masculine singular pronoun. The fact that the second pronoun can be understood to refer to an entity distinct from the referent of the first pronoun indicates that interpretation of the second pronoun requires an update of the assignment function. If (247b) is derived from (247a) via ellipsis of the pronominal subject, then a null pronoun remains in subject position of the second conjunct, but now the sentence can only be interpreted to mean that Ralph and Norton are the same person. In other words, the assignment function update which is available in (247a) is unavailable in (247b), and we would have to conclude that null pronouns are not capable of triggering an update.

The only option that remains, then, is that the coordinate cleft does predicate the same property of the pivot in the first conjunct and that in the second. There is no obvious sense in which the same property is predicated of both *Norton* and *Ralph* in (248). And we would, in fact, expect that it should be impossible for anything along these lines to be the intended meaning. This is due, once again, to the exhaustivity of specification. The postcopular constituent in a specificational copular sentence is an exhaustive identification of the value introduced by the precopular constituent. It is for this reason that a sentence such as that in (249) is unacceptable; the loser has already been exhaustively identified as *Norton*, and therefore the first conjunct is incompatible with a second, alternate exhaustive identification of the loser as *Ralph*.⁵²

(248) It was Norton who played piano and ~~it was~~ Ralph who cored the apple.

(249) The loser is Ralph and the loser is Norton.

Treating the pronoun as a predicate presents a conundrum for coordinate clefts: the structure must contain two independent predicates, but it is then impossible to elide the second pronoun to attain the attested sentential form. For *lpd*, identity is calculated by reference, not by functional denotation. Recoverability of the predicate must then mean recoverability of exactly the same property, and in a coordinate structure, predicating the same property of two different subjects in two distinct predication operations will be incompatible with the exhaustivity of specificational sentences.

assigned content at some point. It would otherwise be impossible to determine the truth conditions of the matrix clause - a specificational copular sentence.

⁵²This naturally excludes an intentionally odd interpretation of this sort - i.e., as the solution to a mystery in which a presumed single loser turned out to be two losers.

3.5.1.4 Determiner Deletion

In considering the efficacy of the predicate inversion analysis in deriving the coordinate cleft, I relied on the fact that the predicate in an it-cleft takes the form of a pronoun. This permitted a comparison of the interpretation of the pro-predicate to the interpretation of individual-denoting pronouns by way of assignment function update, and led to the conclusion that ellipsis of a pronominal subject in a second conjunct is unlikely to be a licit operation. The extraposition analyses treat the pronoun and cleft clause as a discontinuous DP and thus for this class of analysis, derivation of a coordinate cleft via ellipsis would involve deletion of only a transitive determiner. The circumstances which permit determiner deletion in coordinate structures are restricted and not well understood; the atypical nature of the discontinuous DP proposed for it-clefts adds an additional level of uncertainty. For these reasons, I do not consider it particularly fruitful to pursue this line of inquiry. However, for the sake of completeness, I will make a brief excursus into this question, noting that a determiner deletion analysis is unlikely to succeed, but leaving the question open.

Neither determiners nor informationally poor DPs such as *the one* can normally be deleted in coordinate specificational sentences.

(250) * The man who stole the teddybear was John and <the> guy who drank the vodka was Bill.

(251) * The guy who stole the teddy bear was John and <the guy> who drank the vodka was Bill.

(252) ?* The driver is Jill and passengers John and Bill.

However, the possibility of determiner deletion cannot be dismissed out of hand, because there are limited contexts in which a determiner may be acceptably be absent in a second conjunct. The following examples from Johnson (2000) indicate that quantificational determiners may be omitted and, more rarely, a definite determiner as shown in (256), an example from McCawley (1981).^{53,54}

⁵³The example in (256) may be compared with the unacceptable specificational sentence in (252). Except that one is predicational and the other specificational, the examples are similar in that the DP in the initial conjunct is singular, and that in the second conjunct is plural

⁵⁴As Johnson points out, the examples in (255a) and (255b) are not equivalent in meaning to their ungapped

- (255) a. Few dogs eat Whiskas or cats Alpo.
 b. No representative voted for the proposition or senator against it.
- (256) The duck was dry and mussels tough.

Johnson suggests that the internal structure of a DP and its determiner may be a contributing factor in the determination of whether a missing determiner in a second conjunct is licensed, and this does seem to be a reasonable presumption. Whatever the conditions on null determiners may be, though, the available evidence suggests that coordinate clefts do not represent structures having deleted or null determiners.

One point which Johnson notes is that determiner deletion appears to be dependent on gapping; the lack of the determiner in the second conjunct is ungrammatical if the copula has not also been elided. The inverse does not hold, of course; gapping in (258) is not dependent on determiner deletion

- (257) * The duck was dry and mussels were tough.
- (258) The duck was dry and the mussels tough.

The same pattern holds only partially in it-clefts. Similarly to (257), the second cleft pronoun in (259) can not be omitted unless the second instance of the copula is deleted as well. However, the two examples in (260) indicate that in iit-clefts, deletion of the copula in the second conjunct obligates deletion of the cleft pronoun as well. In other words, noting the contrast between the coordinate clefts in (260) and the acceptable instance of gapping in (258), one would have to claim that, in it-clefts only, gapping of the copula is dependent on determiner deletion in it-clefts.

(259) ?* It was John who scrubbed the counters and was Mary who did the dishes.

(260) a. * It was John who did the dishes and it Mary who dried them.

counterparts, illustrated below.

- (253) Few dogs eat Whiskas or few cats eat Alpo.
- (254) No representative voted for the proposition or no senator voted against it.

For both (253) and (189a), the proposition is true if either disjunct is true, but the 'apparent' gapping example in (255a) requires that both disjuncts be true. The alteration in meaning is similar to that discussed in reference to indefinite subjects in (243)-(244) above.

- b. * That was John who was the host and that Mary who was the hostess.

3.5.2 Summary

This section has considered the analyses covered in §3.4 in light of the structure of coordinate clefts. The important point in this discussion was that in assimilating it-clefts either to predicate inversion structures or to pseudoclefts, the cleft pronoun is treated as a contentful element, and it is argued to be directly associated with one or another subconstituent of the cleft - either the pivot or the cleft clause. In assuming either of these possible constituent structures, we lose an explanation for what appears to be evidence for a different constituent structure: the data from coordination and right-node raising provided in Delahunty (1982) which indicates that the pivot and cleft clause form a minimal constituent.

It may well be correct, of course, that this data is not as straightforward as it appears to be. As we have seen, there are a number of factors - the unusual structure of the it-cleft, and variation in pronominal forms - which make it difficult to draw firm conclusions about the interpretation and behavior of the cleft pronoun. Yet, if we look seriously and carefully at the mechanisms, such as Left Peripheral Deletion, that we must appeal to in developing an explanation of these data, the alternative accounts are unlikely to be viable.

3.5.3 Sentential operators

The portion of the Den Dikken analysis covered in §3.4.8 is the only one reviewed here which both assimilates it-clefts to specificational sentences, and argues for a direct relationship between the pivot and cleft clause. As I understand the proposal, the cleft clause is treated as a type of modifier of the pivot. That is, parallel construal is argued to be the structure in which extraposed relatives are associated with their head NPs, so that the means of interpretation is presumably of the same type - that is, the cleft clause is a type of DQ-internal modifier.⁵⁵

The question of how the cleft clause is construed with the pivot is an important one for any analysis which identifies the cleft clause as a DP modifier. DP-internal modification is opaque

⁵⁵The analysis in Den Dikken (2009) is naturally geared towards capturing the syntactic data. The cleft clause is argued to have a head which is radically null except for an unvalued specificity feature which must acquire a value from the pivot itself. Beyond ensuring that the relative pronoun and the pivot share the same value for [SPEC], is not fully clear to me how this head contributes to the semantic composition of the structure. I assume, though, that this head cannot itself serve as the argument of the cleft clause, as it has no lexical content.

to the influence of DP-external operators. If one compares the two sets of sentences here, for example, one notes that modification within the post-copular DP in a specificational sentence is unaffected by sentential operators such as negation, frequency adverbs, and modals.

The following examples are specificational sentences: the propositional content is formed by the pre and post-copular DPs. In each case, the post-copular DP has either a restrictive or non-restrictive relative modifier. The proposition expressed by the copular sentence is interpreted within the scope of the sentential operator, but modification within post-copular DP itself is opaque to these operators. That is, (261a) denies that the man who has red hair is the receptionist, but does not deny that the man has red hair. Likewise, according to (261c), the man with red hair only rarely works as the receptionist, but the sentence does not indicate that the man only rarely has red hair. The same interpretation of sentential operators holds for the examples in (262), in which the modifier is non-restrictive.

- (261) a. The receptionist isn't the man who has red hair.
b. The receptionist might be the man who has red hair.
c. The receptionist is rarely the man who has red hair.
- (262) a. The receptionist isn't John, who has red hair.
b. The receptionist might be John, who has red hair.
c. The receptionist is rarely John, who has red hair.

Whatever the semantic relationship between the cleft clause and pivot is in an it-cleft, it cannot be equated with DP-internal modification because, as the examples in (261) and (262) indicate, sentential operators have no influence on the interpretation of the restrictor within a definite DP. In contrast to the examples in (261) and (262), the it-cleft in (263a) indicates that John does not have red hair, that in (263b) that he may or may not have red hair, and that in (263c) that John is a redhead only on rare occasion.

- (263) a. It isn't John who has red hair.
b. It might be John who has red hair.
c. It's rarely John who has red hair.

This is problematic for the treatment of the cleft clause as an extraposed relative which is construed in parallel with the pivot; the parallel construal relation is, as I understand it, equal in

interpretation to canonical, non-extraposed modification. With regard to the effect of sentential operators on the relationship between the pivot and cleft clause, it-clefts are more similar to pseudoclefts. This is what one would expect given that the cleft clause is treated as a restrictor of the precopular DP.

- (264) a. The one who has red hair isn't John.
b. The one who has red hair might be John.
c. The one who has red hair is rarely John.

In this configuration, the semantic relationship between the precopular DP and the pivot is the main sentential predication, which is naturally within the scope of sentential operators. In other words, these data indicate that the cleft clause is not a secondary predicate of the pivot, but the main sentential predicate.

3.5.4 NPI Licensing

It may be recalled from the discussion in §3.4.7.2 that it-clefts and headed-pseudoclefts pattern together in failing to show NPI connectivity between the clefted constituent and the cleft clause, and in this respect differ from *wh*-clefts.

This was the basis on which Percus (1997) argued that headed-pseudoclefts, rather than *wh*-pseudoclefts, are the source construction for it-clefts.

This is, though, just one configuration within which to examine the relationship between an NPI and a potential licenser in cleft constructions. In this section, I will examine a different type of NPI data in the three cleft constructions: the effect of sentential negation on an NPI embedded within the cleft clause. Unlike the NPI connectivity cases which Percus looked at, the configurations I consider here are ones in which it-clefts can be distinguished from both of the other two cleft constructions. This in turn contributes to the recognition of a crucial syntactic distinction between it-clefts and the other two cleft forms.

3.5.4.1 NPI Licensing under C-Command

The data in (265) indicate that connectivity for NPI licensing is found in WH-clefts, a point on which these structures contrast with both headed-pseudoclefts and it-clefts. In other words, NPIS

are licensed in the absence of a c-commanding licenser in pseudoclefts, but not in either of the other two cleft types.

- (265) a. ? What John hasn't done is ever climb Mt. Kilimanjaro.
b. What John doesn't have is any fear of heights.

The two NPI items *ever* and *any* are indeed licensed by the negation which, in each case, precedes them. However, the negative operator is embedded within the precopular constituent, and therefore the c-command relationship which is typically necessary for licensing is not in place. This is one instance of the several connectivity effects which, as discussed in relation to Percus (1997), arise in specificational sentences despite the apparent lack of the necessary syntactic configuration.

Whatever the source of connectivity may be in these sentences, it is not without limitations. Both (265a) and (265b) illustrate, again, licensing by a non-c-commanding operator. Oddly, though, although sentential negation in the matrix sentences in (266) does c-command the NPI in the postcopular constituent, it does not license it.⁵⁶

- (266) a. * What John has done isn't ever climb Mt. Kilimanjaro.
b. * What John does have isn't any fear of heights..

The behavior of sentential negation here bears a resemblance to that of a different type of operator when found in specificational sentences. As discussed in Higgins (1979), a particular non-deontic reading of the modal *should* becomes available when it is embedded under emotive factives. This interpretation is illustrated in (267) (from Higgins, p. 140).

- (267) It is odd that he should have managed to overcome his fear.

In the specificational sentences in (268) (from Higgins, p. 323), the 'emotive "should"' reading is available only when the modal is embedded within the precopular constituent as in (268b). When the modal is a constituent of the matrix copular clause as in (268c), this interpretation fails.

⁵⁶These two examples may, for some speakers, initially have the ring of grammaticality, but I think that they cannot provide sensible interpretations. The sentence in (266a) would have the reading that *John* has performed some action *x*, and there is no equivalence between *x* and *ever climb Mt. Kilimanjaro*. Similarly for (266b), *John* has some item *y*, and there is no equivalence between *y* and *any fear of heights*.

- (268) a. It's a pity that what John is is proud of himself.
 b. It's a pity that [what John should be] is [proud of himself].
 c. * It's a pity that [what John is] should be [proud of himself].

The failure of matrix negation to license the NPI in (266a) and (266b) is, perhaps, a form of evidence similar to that provided by emotive 'should'. In both instances, the data is precisely the inverse of what is expected: the construction succeeds when the operator is embedded in the precopular clause of the specificational sentence and therefore does not meet the requirement of c-commanding the post-copular material, but fails when the operator is located in the matrix clause and does satisfy that requirement.

This failure of NPI licensing in (266) may be made sense of in light of the proposal of Dikken et al. (2000) that there is additional, covert structure in pseudoclefts such as these. The covert structure is identical to the material in the pre-copular clause, so that (265a) has a representation along the lines of that in (269).

- (269) What John hasn't done is [_{TP} ~~John hasn't~~ ever climb_[ed] Mt. Kilimanjaro].

That is, negation in the initial constituent indicates that negation is covertly present as well in the elided structure, and it is this which licenses the post-copular NPI under c-command. Conversely, the lack of negation in the initial constituent indicates that there is no negation operator present in the post-copular clause. In this case, even a c-commanding licenser cannot salvage the situation. This may be because the final constituent in (266a) is a full clause, and this may form a domain which is opaque to an external operator - here, the matrix clause negation - for the purpose of *npi* licensing.

- (270) * What John has done is not [~~John has~~ ever climb_[ed] Mt. Kilimanjaro.]

If we compare the NPI data from the pseudoclefts given above to that in the specificational sentences below, we will find that the constituent structure is rather different, and yet the same failure of licensing under c-command arises. The crucial distinction in environment is that the post-copular constituents in these specificational sentences are not full clauses, but definite DPS containing an embedded NPI. Thus, as Percus points out, NPI connectivity between pre- and post-copular material fails in (271b) and (271c). But negation in the matrix sentence in (271a) also fails as a licenser.

- (271) a. * The one that John met isn't the man who ever climbed Mt. Everest.
 b. * Who John hasn't met is the man who ever climbed Mt. Everest.
 c. * The one that John hasn't met is the man who ever climbed Mt. Everest.

It appears that this is another instance of the embedding of an NPI in a domain opaque to a c-commanding operator. Here, though, we find that definite DPs have a blocking effect on the licensing of NPIs by DP-external licensors.

It-clefts are then peculiar among the class of specificational sentences in that matrix negation licenses NPIs in the cleft clause.⁵⁷ And, importantly for my current purposes, the contrast between it-clefts and the examples in (271) indicates that the cleft clause is unlike a definite DP in that it is not a domain opaque to external operators.

There is as well a second type of NPI evidence to take into consideration, and this is the licensing of NPIs within the relative clause by a licensor located in the spine of the matrix copular sentence. In (272), (273), and (274), the NPI licensor is sentential negation in the matrix; the fact that this is indeed sentential and not constituent negation is indicated by the contrasting positive polarity of the tag questions.⁵⁸ As the data illustrate, pseudoclefts and headed pseudoclefts pattern similarly in this case; the it-cleft is the odd man out.

- (272) a. * What ever annoys me isn't John's critique.
 b. * What the customers ever complain about isn't the quality of the food.
 c. What the customers (always) complain about isn't the quality of the food, is it?
- (273) a. * The one who ever complains isn't John.
 b. * The (thing) that the customers ever complain about isn't the quality of the food.
 c. The thing that the customers (always) complain about isn't the quality of the food, is it?
- (274) a. It's not John who ever complains (is it?)
 b. It isn't the quality of the food that the customers ever complain about (is it?)

⁵⁷Interestingly, this is not the case for the other Germanic languages I have examined; matrix negation does not license NPIs in the cleft clause. NPIs may nevertheless appear in the clause, as will be discussed in section §3.7.4 below.

⁵⁸In (273), I use a grammatical sentence without the NPI in the tag question example.

3.5.4.2 Surface Structure and Extraposition

The it-cleft differs from the headed-pseudoclefts in two ways which may be significant. First, the NPI precedes the licenser in (273a) and (273b). And second, it is known that c-command at S-Structure may have consequences for NPI licensing. Therefore, if we assume an analysis of it-clefts as involving extraposition of the relative clause to the vP edge, it may be that the derivation itself is responsible for the difference between the two cleft types. That is, extraposition may have two crucial effects: in extracting the clause from its DP-internal position and adjoining it to the vP edge, it places the clause in a position where it is both preceded and c-commanded by sentential negation, and as the definite D now does not intervene at S-Structure between the licenser and the NPI, the blocking effect of a definite DP may be nullified.⁵⁹ If extraposition is the operation which results in NPI licensing, then this difference between (headed-) pseudoclefts and it-clefts is predicted, because under the *derivation-from-pseudocleft* analysis, it is solely extraposition which distinguishes an it-cleft from its source construction.

In order to pursue the question of NPI licensing at S-structure via extraposition, what is needed is an unambiguous instance of extraposition from a definite DP in subject position. The extraposed constituent must be a relative clause containing an NPI, and it should be clear that the adjunction point is, or at least can be, within the c-command domain of sentential negation.

3.5.4.3 Extraposition to vP

There are constraints on extraposition from subject position - certainly in specificational sentences, as discussed in section 3.4.7.3 - but it is possible to extrapose from a subject DP in certain environments. Examples usually involve indefinite subjects (Culicover and Rochemont (1990)).

(275) A man came into the room who had blond hair.

Here, the position of the clause is unclear, and if the adjunction point is above that of negation, this would be uninformative for my purposes. It is, though, possible to determine

⁵⁹The use of the terminology “extraposition to” is not intended to indicate that I take extraposition to involve a movement operation. As I am concerned with S-structure, it is not crucial here to determine whether extraposition should be understood as an (unlikely) downwards movement operation, or as first merge of the relative at the vP edge. The it-cleft data would, though, be incompatible with an account of extraposition as a PF operation, as PF movement would have no consequences for NPI licensing.

whether or not this is a vP adjunct by examining extraposed relatives in coordinate structures to which VPE applies. Culicover and Rochemont (1990) provide the following two sentences.

(276) A man came into the room who had blond hair and a woman did too.

VPE has applied to the second conjunct of (276), and yet it is possible to interpret the sentence to mean that both the *man* and the *woman* who came into the room had blonde hair. This suggests that in each conjunct, the relative clause *who had blonde hair* has been extraposed to the edge of vP, and the second instance has been deleted along with the phrase to which it is adjoined under VPE.

(277) A man came into the room who had blond hair and a woman did [_{<vP} [_{vP} come into the room] ~~who had blond hair~~].

We want to ensure that the deletion of the relative in the second conjunct is actually a consequence of VPE. That is, it may be that this relative is actually adjoined above vP and is deleted in the second conjunct not by the application of VPE, but by a second, independent ellipsis operation. Culicover and Rochemont rule out this possibility by reference to the example in (278).

(278) A man came into the room who had blond hair and a woman came into the room (too).

In this case, the sentence cannot be interpreted to state that both room-enterers were blondes, and therefore a relative-clause deletion operation which is independent of VPE appears not to be available.

This is still not quite what is needed, because the subjects in (276) and (278) are indefinite whereas, for all *cleft class* analyses of it-clefts, the cleft pronoun is seen as evidence of a definite DP in initial position. The definiteness of the subject DP is the crucial advantage of this type of analysis: this gets the presupposition and exhaustivity effects for free. In order to set up the proper comparison, the subject must be a definite.

Extraposition from definite subjects tends to be less acceptable than from indefinites, but it is not impossible, especially when contextualized. The context I will set up is the following.

Context: The sociology department at Acme university is famous for a particular course that they offer: *Lolcats, Doge, and the Acquisition of Illiteracy*. There are two faculty members who have the most experience teaching this course: one is

a professor and the other is a lecturer. The sociology department at nearby Apex University would like to add this course to their major as well, and to this purpose they arrange for one of their faculty members, Professor James, to attend a meeting with the sociology department faculty at Acme. Professor James then reports back to her own department. She begins by listing the meeting participants.

“Well, the chair of the department was there, of course.”

- (279) a. ? ...And the professor came to the meeting who has frequently taught the course, and the lecturer did too."
b. ? ...And that professor came to the meeting who has taught the course many times, and that lecturer did too."
- (280) a. ? ...But as it turned out, the professor didn't come to the meeting who has frequently taught the course, and the lecturer didn't either."
b. ? ...But as it turned out, that professor didn't come to the meeting who has frequently taught the course, and that lecturer didn't either.

Extraposition from the definite subjects is somewhat degraded in comparison to the indefinites in (276), but I think the examples in both (279) and (280) are grammatical. The two examples in (280) are included to illustrate that extraposition is grammatical across sentential negation as well.⁶⁰ In either case, it is possible to interpret the sentences such that the relative clause occurs as a modifier to both subject DPS, indicating that the clause is adjoined to vP in both conjuncts.⁶¹ It is now possible to examine the question of NPI licensing under extraposition

⁶⁰I include the (b) versions because, due to the use of the demonstrative determiner, they may be preferable to the (a) versions. The use of the demonstrative seems to have a cataphoric effect with respect to the restrictive relative - or perhaps the demonstrative simply draws attention to the relevance of the discourse context.

⁶¹Note that due to the effect of the demonstrative discussed in the preceding footnote, the example in (280a) is more convincing evidence than (280b) that the relative clause has been deleted in the second conjunct. This is because, again, the use of the demonstrative in the latter makes more explicit reference to a context in which it is known that a professor and a lecturer are the relevant teachers. Therefore, the interpretation of *the lecturer* as referring to the relevant course instructor may come from the context, rather than from an elided relative clause. This possibility is suggested by the examples in (281).

- (281) a. And that professor came to the meeting who has frequently taught the course, and that lecturer came to the meeting too.
b. And the professor came to the meeting who has taught the course many times, and the lecturer came to the meeting too.

from subject.

In (282), the extraposed relatives each contain an NPI - *ever* and *any* - and the clause is within the c-command domain of negation. The ungrammaticality of these examples illustrates that NPIS cannot be licensed in this way; neither (282a) nor (282b) is acceptable. By contrast, both examples in (283) are perfectly grammatical.⁶²

- (282) a. * But the professor didn't come to the meeting who has ever taught the course, and the lecturer didn't either.
- b. * But the professor didn't come to the meeting who has any experience with the course, and the lecturer didn't either.
- (283) a. But no professor came to the meeting who has ever taught the course, and no lecturer did either.
- b. But no professor came to the meeting who has had any experience with the course, and no lecturer did either.

For the two acceptable examples in (283), the licenser of the NPI is located within the subject DP for which the extraposed relative functions as a modifier. The NPIS in (282) are not licensed within the subject DP, and extraposition to the vP edge under sentential negation does not remedy the situation. The NPIS in (282) are not grammatical here, although in their overt position they have been excised from the definite DP environment and are c-commanded by negation.

Whatever the licensing requirements on these NPIS may be, then, the indications are that if the NPI is located within a relative clause which functions semantically as the modifier within a definite subject DP, displacing the relative to a position within the c-command domain of a downward entailing operator will not result in licensing of the NPI. That is to say, c-command

Although no VPE applies in (281a), the example seems to favor the reading in which *that lecturer* is indeed the one mentioned in reference to the teaching of the course. This bias seems to me not to arise in (281b), although naturally a broader context must be assumed in which some other lecturer is available as an antecedent.

Due to this bias, I do not use the demonstrative determiner in those examples which are crucially dependent on the position of the relative at the vP edge.

⁶²In this instance, of course, the DP is indefinite. For that reason, these two examples are not ideal given the context provided. A more appropriate context would allow the possibility that more than one professor and more than one lecturer have taught the course.

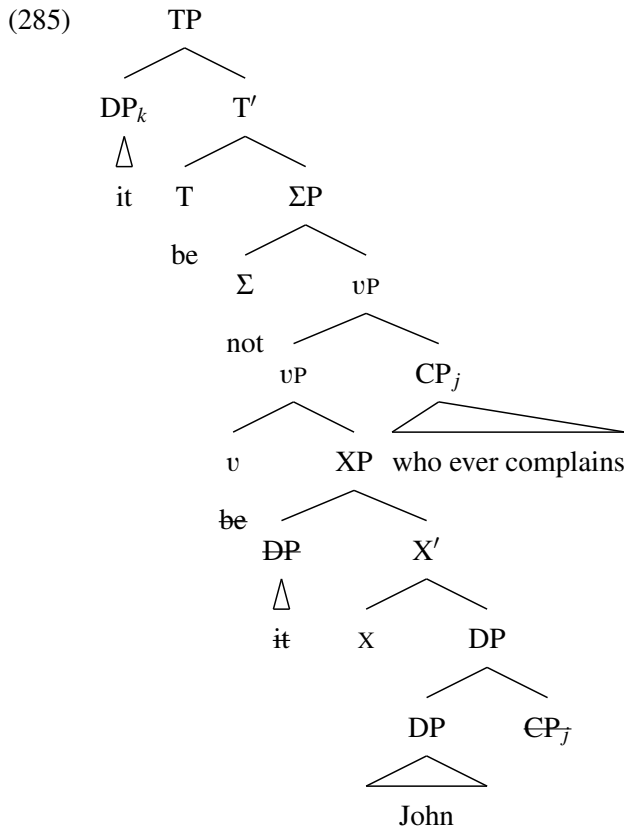
at surface structure is not sufficient in this case. The NPI must, instead, find a licensor within the DP where it is interpreted.

This is a problem for the analysis of Percus, who argues directly for extraposition of the relative clause; in light of the data in (282), the analysis will not capture the data in (274), repeated here as (284).

- (284) a. It's not John who ever cleans the litter box.
b. It's not the New York Times that John ever reads.

The NPI data cannot be captured by the analysis in Hedberg either. She proposes that the clause is first merged as a VP adjunct, but that it then raises at LF to form a syntactic constituent with the cleft pronoun. Therefore, the relative is not within the scope of negation at the point of interpretation, and we have seen that c-command at surface structure is not sufficient in and of itself to license an NPI; it must also be interpreted within the scope of its licensor.

The implementation of the Reeve analysis makes it somewhat more difficult to examine. He argues that the relative clause is interpreted as the complement of the cleft pronoun, but that this does not require the cleft clause to be contained within the cleft pronoun DP at any point in the derivation. The relative therefore remains at the vP edge, within the c-command domain of sentential negation, at LF.



Reeve's analysis is rooted in his observation that the syntactic behavior of the cleft clause is analogous to that of a relative clause adjoined to an object DP, but that, in his view, the cleft clause is interpreted as a definite description in subject position. Distinguishing between the syntax and interpretation of the clause permits him to capture a significant amount and variety of data.

With regard to the current discussion, what is important about his analysis is that it necessarily disassociates the syntax of the it-cleft from its semantics. As illustrated in (285), no syntactic relationship beyond c-command is established between the cleft pronoun and the relative clause. The cleft pronoun is nevertheless the semantic antecedent of the clause - it is the determiner which, in his terms, Θ -binds the unsaturated argument slot of the relative clause, and therefore the constituent to which the clause bears a thematic relationship.

This thematic relationship is important to Reeve's proposal in just the same way that the analyses arguing for syntactic constituency between the pronoun and the clause: the semantic relationship between the cleft pronoun and the clause produces an interpretation equivalent

to that of a definite DP in subject position, and the definite pronoun triggers the existential presupposition and exhaustivity characteristics of the it-cleft.

(286) It was Mary who stole the teddy bear.

In (286), the presupposition is that *someone stole a teddy bear*, and the identification of *someone* will be exhaustive, identifying the unique teddy bear thief.⁶³ But the cleft pronoun/determiner can trigger these properties only in conjunction with the cleft clause - it is the cleft clause which provides the content of the presupposition and of the unique identification. The fact that the pronoun and the cleft clause, although syntactically disjoint, may be interpreted as a definite subject in this way is the basis for the assumed interpretive equivalence of the it-cleft to a pseudocleft.

The evidence is, I think, quite strong that the NPI data is problematic for those analyses arguing for the syntactic constituency of the cleft pronoun and clause. It is less clear whether the LF structure suggested in Reeve's analysis can accommodate NPI licensing within the cleft clause by leaving the clause in its extraposed syntactic position throughout the derivation.

The closest approximation to the cleft pronoun-cleft clause relationship described in Reeve is perhaps relative clauses with split antecedents, the so-called *hydras*. These are relative clauses which take two singular DP antecedents, and which cannot grammatically be adjoined to or modify either antecedent individually. ?, 350 provide the following example of this construction.

(287) A man entered the room and a woman went out who were quite similar.

(288) * A man entered the room who was/were quite similar and a woman went out who was/were quite similar.

This construction requires a syntactically discontinuous relationship between the restrictive relative and its two antecedents. As the Reeve analysis takes the cleft clause to be a relative which maintains a syntactically discontinuous relationship with the cleft pronoun, the hydra construction may be the closest available approximation of this relationship.

In the example in (287) case, the relative may be adjoined as high as the TP level, and the DPs are indefinite. A better example for the question at hand is that in (289); the two antecedents of the relative are the internal arguments within a conjoined VP, and it is therefore likely that the relative is first merged at VP, possibly LVP, but in either case below the polarity head Σ .

⁶³The unique individual may, of course, be a plural entity.

(289) John has met the man and seen the woman who are always yelling at each other.

The construction which is necessary is one in which a relative is adjoined to *vP*, has two discontinuous antecedents, and is within the *c*-command domain of sentential negation. It is therefore quite likely that it remains in situ at the *vP* edge. This allows an examination of its behavior under sentential negation with respect to NPI licensing.

(290) * John hasn't met the man nor seen the woman who are ever yelling at one another.

The conclusion which this section leads to is that relative clauses which are thematically related to definite DPs - that is, those which are interpreted as constituents within a (definite) DP- are opaque to operators external to that DP. This opacity is a consequence of the semantic function of the relative, and is not overcome by syntactic discontinuity between the clause and its definite antecedent in either the narrow syntax or at LF.

Applying these observations to the *it*-cleft NPI data, I will have to conclude that if the thematic antecedent of the cleft clause is the cleft pronoun, the clause cannot at the same time be interpreted as external to that definite DP for the purposes of NPI licensing by a DP-external licensor, sentential negation.

The effect of sentential negation in licensing cleft clause-internal NPIS is one characteristic of *it*-clefts which may be resistant to an analysis requiring the complete disengagement of the syntactic from the semantic properties of the construction. In order to capture the data, it would have to be the case that (i) the position of the cleft clause at the *vP* edge enables syntactic licensing of a clause-internal NPI under *c*-command by sentential negation and at the same time (ii) the thematic relationship between the cleft clause and the cleft pronoun results in the interpretation of the clause within a domain which is structurally higher than and semantically opaque to sentential negation, which are unlikely to be compatible conditions.

3.5.5 Consequences for the Cleft Class Analyses of *It*-Clefts

I began this section by contrasting (headed-)pseudoclefts and *it*-clefts for the effect of sentential negation with respect to a relative clause-internal NPI. I believe that one conclusion to be drawn from this discussion is that this distinction between *it*-clefts and the other cleft constructions is significant, in that the analyses of either the *Derivation-from-Pseudocleft* or *Variant Pseudocleft* type are unable to capture the clefts in (284). The inability of these approaches to capture the

specific data at issue is, though, only one outcome of the discussion; there is a second, more important one.

There are several properties of it-clefts which lead to the conclusion that they should be analysed from the *cleft class* perspective. I have introduced much of that data in reviewing previous analyses. These data include agreement patterns, connectivity effects, and similarity in the syntactic behavior of the cleft clause and canonical relative clauses. However, perhaps the most significant reason for assimilating it-clefts to (headed-)pseudoclefts is, again, the similarity of their identifying semantic characteristics. The presupposition and exhaustivity of, at least, headed pseudoclefts are due to the presence of a pre-copular definite DP. Intuitively the it-cleft seems to have the same set of constituents; certainly the cleft pronoun *it* is a definite D or DP in initial position, and all cleft constructions have some form of a relative.⁶⁴ One may reasonably take this to indicate identity between the constructions.

The outcome of this section, though, can be taken to indicate that there is a serious concern with this concept at a fundamental level. If the discussion of the NPI data is on the right track, then being the complement of a definite D, or an adjunct within a definite DP, is precisely what the cleft clause *cannot* be. This conclusion has a series of consequences for an analysis of it-clefts, because it means that we can no longer get the initial pronoun-plus-clause to do for us all the things we would like it to do. It cannot be a determiner which takes the cleft clause as its complement or θ -binds its argument slot. Therefore, it cannot be the source of presupposition and exhaustivity - at least, it cannot with regard to the content of the cleft clause.

This, then, is additional reason to doubt that the cleft pronoun is a definite D which takes the cleft clause as its syntactic or semantic complement. If the clause is embedded within a definite DP, the NPI within the clause should not be accessible to an external licenser.⁶⁵

⁶⁴This depends, of course, on the interpretation of the wh-phrase in pseudoclefts; this may well be an interrogative CP.

⁶⁵It is often difficult to determine what the predictions of analyses along these lines are. This is to some extent unavoidable in any analysis of it-cleft, as one is always forced into some area of uncharted territory. In the Reeve analysis, for example, the cleft clause is adjoined to vP and the binding of its θ -role by the cleft pronoun occurs under c-command - the cleft clause does not covertly raise to form a constituent with its thematic antecedent. In the syntax, then, sentential negation intervenes between the pronoun and the cleft clause. I am assuming, though, that this configuration will still fail to permit the negative operator access to the NPI within the cleft clause. The clause is clearly identified as having the interpretation of a definite DP - this is, as in other analyses, argued to be the basis of exhaustivity effects. I therefore take it that the cleft clause cannot be the complement of a definite determiner for

I suggested that the failure of sentential negation to license NPIS in the postcopular constituent of a specificational sentence is due to the position of the NPI within an opaque domain, which may be a full clause as in pseudoclefts, or may be a definite DP. That NPIS are licit under sentential negation in it-clefts suggests that the relative clause is not embedded in such a domain.

3.6 The Syntax of It-Clefts: Towards An Analysis

3.6.1 Sentential Operators and the Core Structure of It-clefts

The preceding discussion identified several characteristics of it-clefts which an analysis should capture. I began that section with a discussion of sentential operators in it-clefts, arguing that the interpretive effects of these operators indicate that the cleft clause is not interpreted as a DP-modifier. The relevant examples were, again, of the type in (291) and (292).

- (291) a. It might be John who drank the vodka.
b. It wasn't John who drank the vodka.
- (292) a. The redhead might be John, who drank the vodka.
b. The redhead wasn't the man who drank the vodka.

As I noted in that discussion, the relationship between the cleft clause and pivot is unlike that between a relative clause and its DP host in that the former is transparent to sentential operators, while the latter is not. This distinction in interpretation is problematic for an account which claims the cleft clause to be a secondary predicate of the pivot, as in Den Dikken (2009). The pseudocleft analysis of it-clefts is more successful in predicting the interpretation of sentential operators. The cleft clause is taken to be a component of the precopular DP; the other component is the cleft pronoun functioning as a definite determiner. This constituency, though, runs into problems of its own.

One may recall from the discussion in section 3.4.8 that Den Dikken (2009) identifies the cleft clause as a modifier of the pivot based on very compelling evidence of a direct semantic relationship between these two constituents. This evidence is drawn from his observation that the relative pronoun *which* is available only in restricted contexts in clefts, and that these contexts

some interpretive processes but for other interpretive purposes be interpreted independently from its selector.

are controlled by the semantic status of the pivot: the cleft clause can be introduced by *which* only when the pivot is D-linked. The behavior of *which* in canonical relatives is not restricted in this way.

(293) ?* It's a car which Mary wants to buy.

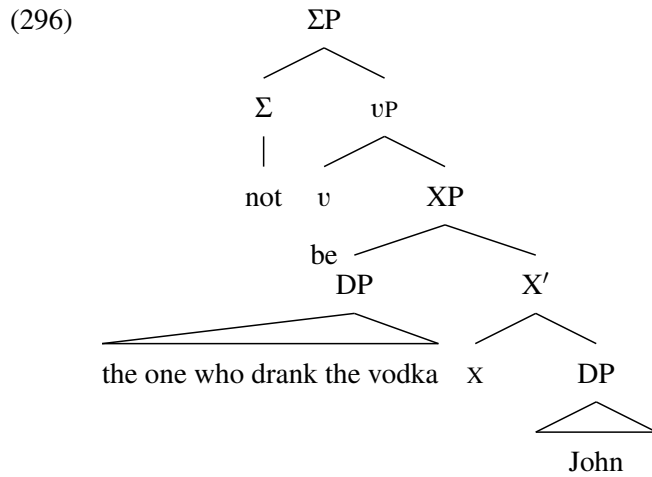
(294) The thing which Mary wants to buy is a car.

The sensitivity of the relative operator to the pivot is, in fact, a more pervasive phenomenon than this one data point reveals; it is not limited to a single relative operator, nor is it limited to English it-clefts. In Chapter 4, I will introduce additional evidence of this type. The analysis I will offer in accounting for the constraint imposed by the pivot on relative operators will differ from that which Den Dikken presents, but I take his observation to be crucial in determining the structure of the cleft, and in particular in identifying the pivot and cleft clause as a minimal constituent.

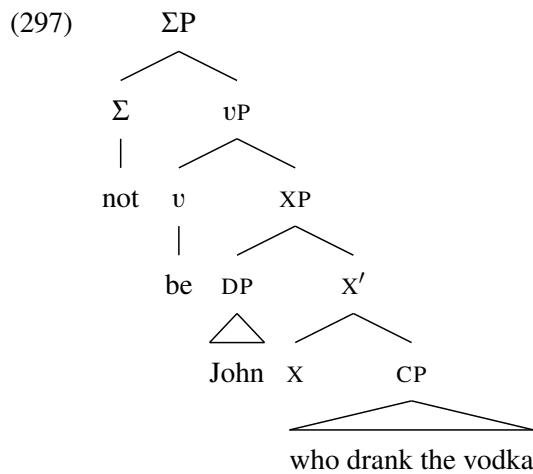
What is needed, then, is an alternative structure which preserves the advantageous aspects of each approach to it-cleft structure. We can begin by noting that the pseudocleft analysis gets the semantics right is that it places the cleft clause, interpretively, on the opposite side of the copula from the pivot; that is to say, it is the pre- and post-copular constituents which together form the propositional content of the sentence, and this is the input to sentential negation.

Taking the core of a copular sentence to be a small clause selected by *be*, the underlying structure of the sentence in (295) is that in (296).

(295) The one who drank the vodka wasn't John.



Sentential negation is interpreted as applying to the propositional content supplied by the small clause [*the one who drank the vodka John*]. This effect can be recreated for it-clefts if the pivot and cleft clause are the components of the small clause selected by the copula.



This structure treats it-clefts as a specimen of copular sentence: the core of the construction is a small clause selected by the copula. It differs from the previous analyses of it-clefts as specificational sentences in claiming that the propositional content is formed by the pivot and cleft clause. The interpretive effect of sentential operators is precisely what is expected, by analogy to the structure in (296).

This structure also claims that the pivot and cleft clause form a minimal constituent, to the exclusion of the cleft pronoun, which is not merged within the small clause.⁶⁶ I adopt this as the core structure of the it-cleft, and provide additional evidence in favor of this structure in addressing the relevance of coordinate clefts and of NPI licensing.

3.6.2 NPI Licensing

The structure is intended also to capture the grammaticality of NPIS within the cleft clause under sentential negation. In this structure, the cleft clause is located within the c-command domain of sentential negation and importantly, the bare clause alone serves as the complement of the small clause head; it is not treated as the complement of a definite D. A canonical relative clause itself is transparent to an NPI licenser, as long as the licenser is within the DP which the relative modifies, as in (298a) and (298b). In (298c), the licenser *only* is adjoined to the definite DP, and therefore the construction is ungrammatical.

- (298) a. No professor who had any experience in mountain climbing was at the meeting.
b. The only person over 90 who had ever climbed Mt. Kilimanjaro was at the meeting
c. * Only the professor who had ever climbed Mt. Kilimanjaro was at the meeting.

Given the structure in (297), the relative is accessible to negation. In fact, this instantiates a typical configuration for NPI licensing into a sentential predicate.

- (299) The professor who has most often taught the class hasn't climbed any mountains recently.

In the cleft structure, then, the NPI is licensed precisely because it is not a constituent in a definite description.

The analysis I suggest identifies the pivot and cleft clause as a minimal constituent. In addition to the points I have just covered in arguing for this structure, this permits as well a resolution for the formation of coordinate clefts. Here, the cleft pronoun is in a direct relationship with neither the pivot nor the cleft clause, and therefore must be somehow related to the

⁶⁶In Chapter 4, I will argue that this configuration represents a semantic relationship between the pivot and clause which captures the influence of the pivot in constraining the choice of relative operator in the cleft clause.

constituent which they together form. Structurally, this means that the pronoun is merged above the small clause, and the point of coordination in coordinate clefts is simply below the pronoun position. I will put off a fuller discussion of this until the relevant data has been introduced.

This resolves the question of the missing pronoun in the second conjunct of coordinate clefts, but also reintroduces the problem which was cited in relation to the information-structural analyses. The structure I have proposed treats the cleft clause as the predicate and the pivot as its subject, or, alternatively, the cleft clause and pivot as the two constituents in an equative relationship. The information-structural analyses also claimed that the propositional content of the it-cleft was provided by the pivot and cleft clause, and as a consequence the pronoun, having no role to fulfill, was identified as an expletive. I argued, though, that this identification must be incorrect, and have now also argued against treating the pronoun as either the predicate of the pivot, or as a definite determiner which, in association with the cleft clause, forms a definite subject DP. The question of the role of the pronoun, and its position above the small clause, is the topic of exploration in the following.

3.6.3 What Is *It*? Ruminations on the Cleft Pronoun

The topic of the cleft pronoun has come up at several points in the material covered thus far. The discussion has in these instances focused on what the pronoun is not: I have argued against the treatment of the pronoun as an expletive, as a definite D or DP in construction with the cleft clause, and as a pro-predicate of the pivot.

I have offered no commentary in support of a positive identification for this constituent, for the reason that I cannot claim to have a insightful conception of the pronoun's role in the construction. In this section, I will make note of some of the atypical aspects of it-cleft composition in sketching a path towards thinking about the function of the pronoun. What follows cannot be classified as an analysis; it may better be understood to be a framing of the questions which the pronoun's obligatory presence raises.

The analysis of the syntax of it-clefts claims the core structure of the it-cleft to be a small clause selected by *be*. As discussed in section 3.4.3, small clauses may be selected by *be*, forming the basis of a copular sentence, or they may be selected by a variety of predicates requiring propositional internal arguments.

When selected by a predicate of this type, the constituents of the small clause remain in

situ.

- (300) a. Mary finds [_{PredP} Fred difficult to understand]
b. Mary considers [_{PredP} Fred an enigma]

When a small clause is selected by the raising verb *be*, a constituent will be raised out of the small clause and serve as the sentential subject. The same small clauses which are selected by *find* and *consider* in (300) may be selected by *be* to produce a copular sentence.

- (301) a. Fred is [_{PredP} <Fred> difficult to understand]
b. Fred is [_{PredP} <Fred> an enigma]

The selection of a small clause by BE in an it-cleft is then par for the course for copular sentences. The small clause has the same predicational structure as in those illustrated above: the predicative CP is in complement position of the small clause head, and the subject DP is in specifier position, as in (302a). This clause is clearly a peculiar one, though, because if we attempt to treat the subject in the usual way and, as in the two examples in (301), raise it to SPEC-T, the result is unacceptable.

- (302) a. [_{PredP} [_{DP} Fred] [PRED^o [_{CP} that Mary finds difficult to understand]]]
b. * Fred is [_{PredP} [_{DP} <Fred>] [PRED^o [_{CP} that Mary finds difficult to understand]]]

In order to derive a well-formed sentence from the small clause in (302a), we must include the pronoun *it*. This is, in fact, the only DP which can be employed to form a grammatical structure given this type of a small clause.⁶⁷ The insertion of the DP *it* in (303) produces a fully grammatical sentence; the attempt to insert an alternate type of DP fails.

- (303) It's Fred that Mary finds difficult to understand
(304) a. * The colleague is Fred that Mary finds difficult to understand.
b. * The one is Fred that Mary finds difficult to understand.
c. * Someone is Fred that Mary finds difficult to understand.

⁶⁷As has been noted earlier, it has been argued that it-clefts may be formed with other pronominal forms - the demonstratives *this* or *that* Hedberg (2000). This may or may not be the correct interpretation of the cleft-like structures Hedberg identifies. For the purposes of this discussion, I consider only canonical it-clefts.

- d. * He's Fred that Mary finds difficult to understand.

A copular sentence which has as its propositional core the small clause in (302a), then, seems to require the addition of a specific lexical item for convergence. One could, though, also consider the situation from the opposite perspective. The small clauses selected by *be* in (301) cannot co-occur with an additional DP in SPEC-T - whether that is the cleft pronoun or one of the alternates attempted above.

(305) a. * It's Fred difficult to understand.

b. * He's Fred difficult to understand.

(306) a. * It's Fred an enigma.

b. * The colleague is Fred an enigma.

The data presented here indicate that the small clause found in an it-cleft is atypical in that it must co-occur with the cleft pronoun; and conversely, the initial *it* can be present in a copular sentence only if the small clause upon which that sentence is built is the small clause of an it-cleft.

There is, in other words, a dependency between the cleft pronoun and the cleft clause. This is hardly a new idea; we have seen in the discussion of the several Cleft Class analyses that there is always assumed to be a dependency between the clause and the pronoun, and this is argued to be evidence that they form a minimal constituent of some sort - either, as in Reeve, a purely semantic constituent, or at some level of the derivation a syntactic one as well.

In §3.5 I argued against the treatment of the cleft clause and the pronoun as a constituent on the basis of the difficulties presented to such an analysis by coordinate clefts and NPI licensing within the cleft clause. Therefore, the dependency between them must be understood in a different way - namely, as a dependency which is not represented in either the syntax or the semantics as minimal constituency.

In aiming towards an understanding, I begin by noting the very obvious way in which the small clause of an it-cleft differs from the more typical types of small clauses. The small clauses which reject a cleft pronoun in copular sentences have lexical predicates in complement position, whereas the small clause of an it-cleft has a derived predicate in this position. By this is meant that small clauses selected by *be* typically contain predicates of the categories AP, PP, and NP/DP, and these categories are predicates by virtue of the lexical denotation of their

heads.⁶⁸ The lexical denotation of the head of a CP is not that of a predicate. Rather, the relative clause CP attains its predicative status via a derivational process: λ -abstraction over a variable.

In terms of the semantic composition of these structures, it is surprising that the small clause in (302a) and those in (301) behave differently, because in all cases discussed here the constituents are presumably of the same type: the property-denoting predicate takes an $\langle e \rangle$ -type argument. This, though, may not be entirely accurate, depending on one's view of the argument structure of predicates.

That Davidsonian eventuality arguments are relevant to the semantics of predication has become a widely held view. Predication involves the specification of the nature of the relationship(s) between the participants of an event or between (an) individual(s) and a state. The argument structure of a predicate is encoded in its lexical denotation, and therefore the denotation of a two-place predicate α is not that in (307), but rather that in (308).

$$(307) \quad \llbracket \alpha \rrbracket \neq \lambda x \lambda y. P(x)(y)$$

$$(308) \quad \llbracket \alpha \rrbracket = \lambda x \lambda y \lambda e. P(x)(y)(e)$$

Although, as suggested above, eventuality arguments have been broadly adopted, there is a great deal of variation in analytical approaches to the semantic and syntactic implementation of this notion. Among the issues under debate are the determination of which arguments are represented in the denotation of a predicate - that is, whether an eventuality argument plus all thematic arguments are in fact arguments of the predicate, or whether some arguments are introduced independently - whether the eventuality variable is syntactically represented and if so, how it is introduced into the syntactic structure. The most pressing questions for the current discussion are the inventory of eventualities, and whether all categories of predicates take eventuality arguments.

Davidsonian arguments are understood to come in two flavors: events and states. Of the two, the existence of event arguments is more broadly accepted; opinion varies on whether stative predication is indeed predication of an eventuality, or of an individual. There is, in addition, the question of whether non-verbal predicates - and in particular, DP predicates - also

⁶⁸The predicate in a DP-*be*-DP small clause is, of course, a DP. I indicate this as NP/DP here in the sense that the denotation of the property is supplied by N. The question of the predicative status of DPs is a problem which I will not attempt to address here.

take eventuality arguments.^{69 70}

The concerns which drive this field of inquiry are too extensive to address at all sufficiently in this work. For the discussion which follows, the single important concern is whether it is the case that predication must involve an abstract argument which is specified within the lexical entries of predicates; whether this is accurately identified as an event or state argument, or another category of abstract argument, is not crucial to the matter at hand.⁷¹ For the sake of concreteness in the presentation, I will take the stance that both stative and eventive predication incorporates an eventuality argument, and that copular sentences involve stative predication.⁷²

If this understanding of predication is applied here, then we can identify a difference between the small clause types under discussion: lexical predicates take an eventuality argument, but the predicate within the small clause of an it-cleft does not. This predicative object is, again, derived by syntactic movement and λ -abstraction, so that the argument required for saturation is limited to that corresponding to the type of the variable within the clause, and there is no reason to believe that λ -abstraction over an event variable is part of the derivation.⁷³ Therefore,

⁶⁹See Roy (2013) for discussion; she argues in favor of eventuality arguments in all instances of predication.

⁷⁰The existence of an event argument, or alternatively an eventuality argument associated with stage-level predication, is considered to be more easily detected. Kratzer argues that only stage-level predication includes an eventuality variable. She points to contrasts such as the following:

(309) When Mary speaks French, she speaks it well.

(310) * When Mary knows French, she knows it well.

The stage-level predication *speak French* supplies a variable over events which is available to be bound by the quantifier introduced by the conditional, and for this reason the example is acceptable. The fact that the conditional is ungrammatical with the individual-level predicate *know* is taken to indicate that no eventuality variable is present. It has, though, been argued that Kratzer's interpretation of this data relies on an overly coarse-grained stage/individual-level dichotomy. For argumentation in favor of a state eventuality see, among many others, Parsons (1990); Jäger (1999); Roy (2013)

⁷¹See, for example, Maienborn (2005) who argues that state arguments are not the same type of semantic object as event arguments, but exist as an independent category of 'Kimian states'.

⁷²Note that Delin and Oberlander (1995) explicitly identify it-clefts as "state-making device[s]", and claim that this is due to the introduction of a state argument in some way associated with the status of the it-cleft as a copular sentence. Their argumentation in support of this claim is not fully clear to me.

⁷³Kiss (2005) explicitly argues that relatives do not have eventuality arguments, by which is meant that the eventuality argument of the relative clause is not available at the level of the CP label. Kiss' reasons for proposing this are only indirectly related to what I discuss in this section. He provides an account, within an HPSG framework,

whereas a one-place lexical predicate such as *thief* has the denotation in (311a), the predicate within the cleft clause takes only an individual-denoting argument.

(311) Fred is the thief.

a. $\llbracket \text{thief} \rrbracket = \lambda x \lambda e_s. \text{thief}'(x)(e)$

(312) It was Fred who stole the teddy bear.

a. $\llbracket \text{who}_x \text{ stole the teddy bear } x \rrbracket = \lambda x. \text{stole-the-teddybear}'(x)$

I will assume that an eventuality argument is obligatory for the purpose of evaluation of the proposition. If so, then the predicate represented in (312a) presents the difficulty that, following function application with its argument, it will be uninterpretable.

We could then instantiate this as a problem for semantic composition in the following way. Kratzer (1996), following Higginbotham (1985), suggests that existential closure over the event variable is introduced by a functional head above the predicational structure. Assuming this to be T, she suggests the following denotation for T_{+PAST} :⁷⁴

(313) $\text{past} = \lambda P_{\langle s,t \rangle}. \exists e_s [P(e) \wedge \text{past}(e)]$

Consequently, the complement to T must be of the type in (314).

of the means by which an extraposed relative establishes an interpretive link to its antecedent. This link is dependent on the featural specification indicated at the CP label of the relative: one of these features must obtain a value from a constituent within the structure - namely, from the DP which it modifies. In connection with this, Kiss argues that the relative does not have a variable over events available at the label; if it did, the feature in question could acquire its value from the matrix clause event variable. In theory, this would lead to interpretation of the relative as a modifier to the eventuality argument in the vP to which the relative is adjoined, rather than to its intended antecedent.

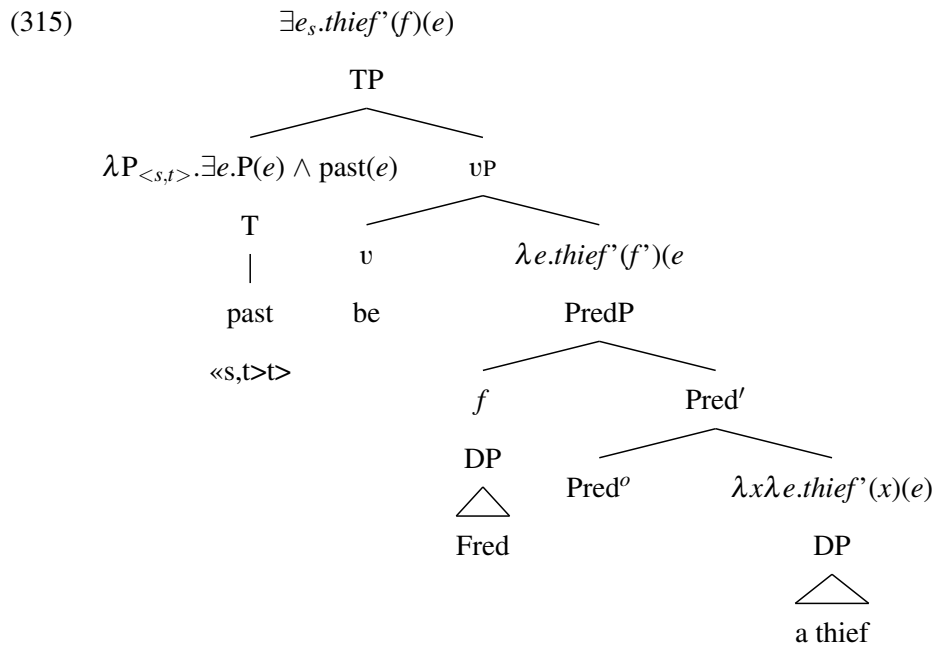
Despite the very different motivation for Kiss' claim that the relative clause lacks an event variable, there is a relationship between Kiss' proposal and that which I put forward here, and that is that a canonical relative clause cannot be an event modifier. This in turn indicates that it cannot take an event argument, which does seem to be correct, as the eventuality described within a relative is necessarily distinct from the eventuality described by the matrix predication. I will take this to mean that, at least in the usual case, the eventuality argument within the relative clause is existentially closed within CP, and not available for further composition.

There are, of course, examples of the type *John didn't go to work today, which was, in the end, a good thing*. This may be a case in which the λ -operator binds a variable over events, thus identifying the event argument within the relative with that in the matrix clause. Matrix negation has, nevertheless, no access to relative clause-internal material.

⁷⁴The subscript on the eventuality variable indicates its type; here, that type is *state*.

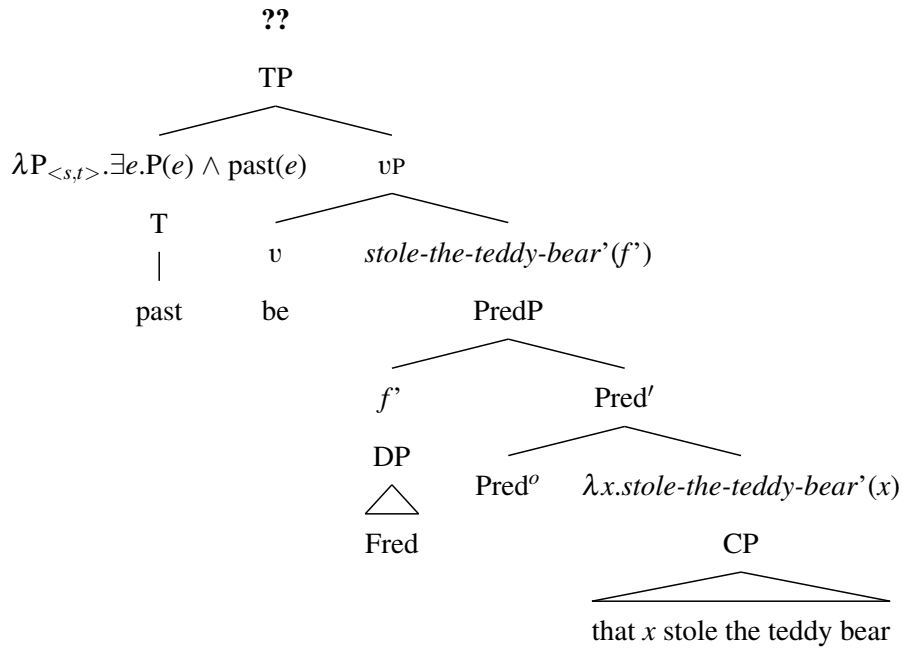
(314) $\langle s, t \rangle = \lambda e. t$

When the small clause contains a lexical predicate, the predicational structure produces the logical type required by T, and the composition converges.



The composition will come to an impasse, though, when the predicate within the small clause is the cleft clause. Predication within the small clause does not produce the type $\langle s, t \rangle$.

(316)



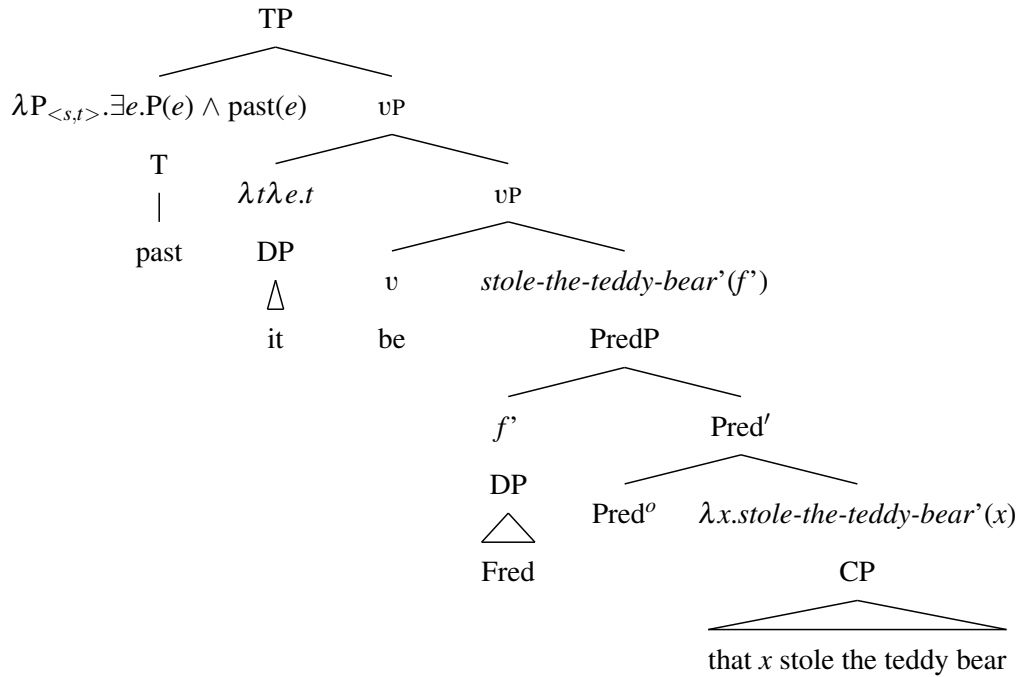
Given this distinction between the successful convergence of (315) and the failure of (316), we can identify the cleft pronoun as a mechanism which rescues the derivation by mediating the type mismatch between the output of predication within the small clause and the argument that T requires. That is, the cleft pronoun is a function from truth values to functions from eventualities to truth values.

(317) $\llbracket \text{it} \rrbracket = \lambda t \lambda e . t$

It is then a matter of inserting the cleft pronoun into the structure in such a way that it can play its role. I will represent the position of the cleft pronoun as the specifier of vP.⁷⁵ In discussion of the German data, we will find that certain aspects of the syntax of German it-clefts will require a minor revision of the structure given here.

⁷⁵It is easy to see that the position of the cleft pronoun could also be identified as the specifier of a functional head between T and vP. As the discussion in this section is more a sketch of a potential analysis than a comprehensive analysis of the location and behavior of eventuality arguments in the syntax, I avoid the identification of a functional projection for this purpose.

(318) $\exists e_s.stole-the-teddy-bear'(f')(e)$



The peculiarity of it-clefts, under this proposal, is that the cleft clause is thrust into a role for which it is actually ill-suited. It is the predicative constituent within the small clause, despite the fact that, as example (302b), repeated below as (319), attests, a relative clause isn't particularly successful as a predicate, and is normally restricted to the status of a secondary predicate.

(319) * Fred is that Mary finds hard to understand.

Rather than viewing the insufficiency of this small clause as problematic, one might take this insufficiency to be a factor relevant for an understanding the nature of clefts and the type of predication which they instantiate.

In the more common types of copular sentences, the small clause constituents contain the semantic stuff which the higher level of composition requires. In an it-cleft, according to the discussion here, the content of the clause is in need of assistance in reaching the required denotation, and the cleft pronoun is a meaningful constituent which provides whatever is lacking. This means that the incorporation of the cleft pronoun is actually dependent on the ill-formed denotation at the level of the small clause label. The grammar then apparently makes avail-

able this round-about means of forming a copular clause, but certainly doesn't require it. The question is why we would ever make use of this option.

I suggested in Chapter 2 that headed-pseudoclefts interact with the discourse as they do because their purpose is to identify an individual referent; I suggested further that this discourse function is tied to the fact that the initial constituent in a headed pseudocleft is individual-referring. An it-cleft has freer range in the discourse, and its function is to identify a unique proposition as the answer to a QUD. This capacity, I argued, is due to the fact that the initial pronoun in an it-cleft is not equivalent to the initial constituent in a headed pseudocleft - it is not entity denoting.

The proposal in the making is based on the idea that what we see in it-clefts is a different type of proposition with a different semantics, and that a by product of its atypical semantics is its atypical discourse function. What one would like to say at this point is that the denotation of the cleft pronoun is directly tied to this discourse function, but the compositional account I have sketched here doesn't do this - the pronoun is simply a predicate - and for this reason does not provide a great deal of insight into the interaction of the syntax and semantics of the construction with its discourse functional usage. I will leave this sketch in its inchoate state, reserving the topic for future development

3.7 Germanic DP-Pivot Clefts

In presenting the analysis above, I made reference to the oddity of the use of a relative clause as the predicate within a small clause, and the consequences this has for the semantic composition of the proposition. The presence of the relative as the complement in the small clause may have, in addition to the semantic consequences detailed above, syntactic consequences which set it apart from lexical predicates.

In canonical small clauses, a lexical predicate is merged as the complement of the small clause head, and its denotation requires that it take an argument; this argument is merged as the subject in specifier position. The relative clause contains a gap or more specifically a variable, and therefore a question arises as to the relationship between the argument DP and its predicate which does not arise for lexical predicates — namely, the nature of the relationship between the clause-internal gap and its DP argument. There are two possibilities: the pivot may be derivationally related to the gap, or it may be related to the gap via a relative operator in SPEC-

C of the cleft clause. In other words, the pivot may be externally merged in SPEC-F, or it may have been first merged within the cleft clause and raised through SPEC-C into the specifier of the small clause. Within a Minimalist framework, in which lexical items may be either internally or externally merged throughout the derivation, it is the default expectation that both options should, in principle, be available, although these options may be limited by language-specific constraints.

It has been argued that English is a language which permits both derivations —one in which the pivot is raised from within the cleft clause, and one in which it is externally merged above the clause (Pinkham and Hankamer, 1975). I will refer to clefts which are derived via pivot raising as R-CLEFTS, and to those in which the pivot is first merged in the specifier of the small clause as *external merge clefts* or EM-CLEFTS.

A classic diagnostic of a raising derivation is Case connectivity, a type of evidence which Akmajian introduces in discussing variation in it-cleft forms across English dialects. However, English is not particularly informative with regard to case connectivity. English has morphological case distinctions only for pronouns, so that only pronominal pivots are relevant. Examination of even this limited data is, though, difficult, for several reasons. Accusative is the default case in English, and a postcopular pronoun typically appears in this form.

(320) It's him

(321) * It's he

In determining the relevance of pivot case, one would want to look at whether the pivot is restricted to default case, or whether nominative pivots may appear under the correct circumstances. The crucial examples are (323) and (324). If the pronoun is raised from subject position within the clause, it is expected to appear in nominative form, but this is possible only if SPEC-C is not occupied by a relative pronoun. If the subject pronoun is first merged above the clause, it would appear in default accusative case: this is compatible with either an overt relative or a null operator. That is, a default accusative pivot should always be an option. A nominative pivot should be an option only in one specific configuration — that illustrated in (323b).

(322) a. It was him (who) I saw

b. It was him (that) I saw

(323) a. * It was he who arrived late.

- b. It was he that arrived late.
- (324) a. It was him who arrived late
- b. It was him that arrived late
- (325) a. * It was he who I saw
- b. * It was he that I saw

The clearest outcome of an informal survey of English speakers is only that there is a significant amount of uncertainty in judging pronominal pivot clefts, as well as a great deal of individual variation. Judgements do trend in the direction supporting a raising option, as the two examples in (325) are generally rejected, whereas some speakers accept one (or both) examples in (323). However, the judgements are too variable to support firm conclusions, at least without a much broader and systematic study.

There is, nevertheless, information to be gleaned from Germanic it-clefts if one looks beyond English. In what follows, I will look at the morphological information available in the it-clefts of Norwegian, German, and Icelandic. As will be seen, these languages provide evidence that the prediction that two modes of derivation exist is correct. Norwegian derives it-clefts by pivot-raising, German by external merge of the pivot, and Icelandic permits both R- and EM-CLEFTS.

3.7.1 Norwegian R-Clefts

Norwegian, like the other mainland Scandinavian languages and like English, shows formal case distinctions only for personal pronouns. These languages lack even the minimal overt reflex of agreement which remains in English for present third person singular. Nevertheless, mainland Scandinavian clefts do provide information which is difficult to discern in English, because speakers have solid intuitions about the use of personal pronouns in cleft constructions.⁷⁶ What one finds in Norwegian cleft sentences is that the case of the pivot is correlated with the gap position: subject gaps in the cleft clause correspond to nominative pronominal pivots, and non-subject gaps to accusative pronominal pivots. The relative complementizer *som* may introduce

⁷⁶This is so for Norwegian and Swedish; for Swedish data, see Huber (2002). I have no information on Danish clefts.

the cleft clause; it is obligatory for subject clefts and optional elsewhere, as is also the case for Norwegian relative clauses.^{77, 78}

NORWEGIAN

- (328) Det var John/hom (som) jeg så.
It was John/him.ACC (that) I saw.

⁷⁷The facts surrounding the use of *som* in Norwegian clefts are more complex than suggested in this initial discussion; the relevance of *som* usage is introduced in Chapter 4.

⁷⁸For the sake of completeness in presenting the data, I note here one type of cleft which is not as clearly accounted for. I restrict this to a footnote because this construction is at least quite marginal, and fully ungrammatical for some speakers. In the following Norwegian cleft, a possessive relative pronoun is found in initial position within the clause.

- (326) Det var Johan hvis presentasjon virkelig imponerte publikum.
It was John whose presentation really impressed audience-the.
It was John whose presentation really impressed the audience.

- (327) Det var han hvis presentasjon virkelig imponerte publikum.
It was he.NOM whose presentation really impressed audience-the.
It was he whose presentation really impressed the audience.

The use of relative pronouns in Norwegian is a marked strategy, yet the examples above were found acceptable by one of my consultants. The version of this construction given in (327) has a pronominal pivot, so that the case of the pivot is morphologically discernable, and for this speaker, only the nominative form was acceptable.

Unlike the previous Norwegian cleft sentences, it is difficult to claim that the pivot is raised from a clause-internal position in this instance; the only position from which the pivot could have been moved is occupied by the possessive relative *hvis*. Even if one were to assume that relative pronouns are transitive Ds, as per the head raising and matching analyses of relative clauses, an explanation for the case of the pivot in (327) is hard to come by. The only means of positioning the pivot within the clause - either as the tail of the movement chain, or as an unpronounced copy, would be to claim that it is the complement of a transitive relative pronoun in Spec-D of the relative DP. However, this would require that the relative D selects a DP complement. This is an unlikely state of affairs and one which would nevertheless fail to account for the nominative form of the pivot. The relative pronoun itself is genitive, so that raising of the pronoun would result in a genitive pronominal pivot. However, if the pronoun were externally merged above the clause, one would not expect it to appear in nominative form. Pronominal pivots in Norwegian always show the case of the gap, thus it appears that the option of AGREE with matrix T is unavailable, yet the alternative strategy - assignment of default case - would result in an accusative pivot *ham*. The fact that relative pronoun usage is quite rare in Norwegian is likely the relevant factor here - it may be that the structure in this instance is archaic, and perhaps therefore more subject to prescriptive judgements. Beyond this, I have at this point nothing insightful to say about this example.

- (329) a. Det var han som ankom sent
It was he._{NOM} that arrived late.
- b. *Det var hom som ankom sent.
It was him._{ACC} that arrived late.

As in English, the default case for postcopular DPs is accusative in Norwegian (Sigurðsson, 2006), so it is the fact that one finds nominative pivots as in (329a) that is revealing, indicating that the pivot has been raised from within the clause. The accusative pronominal subject pivot in (329b) is ungrammatical. This is an indication that raising is the only option in Norwegian, because if the pivot were externally merged in postcopular position, one would expect it to appear in default accusative.

It should be noted that Norwegian and Swedish differ in default case (Sigurðsson, 2006). Nominative is the default case in Swedish, and yet the same correspondence between the case of pronominal pivots and gap position holds in Swedish clefts, as the data below from Huber (2002) illustrates. In the same way that default accusative is impossible for pronominal subject pivots in Norwegian, default nominative is impossible for Swedish pronominal object pivots. This suggests that the distinction in pronominal pivot case is indeed associated with raising; that is, the comparison of the Swedish and Norwegian data provide support to the conclusion that what we see here is not due to a potential distinction in the structure of subject versus non-subject clefts, but rather evidence of Case connectivity.

SWEDISH

- (330) Det är han/ *honom som kommer.
It is he.._{NOM}/ *him.._{ACC} that comes.
- (331) Det är honom/ *han (som) jag gillar.
It is him.._{ACC}/ *he.._{NOM} (that) I like.

3.7.2 German EM-Clefts

German has a richer morphological system than the mainland Scandinavian languages for both Case and agreement. Case morphology of German DPs appears, typically, on the determiner and on pronominal modifiers. DP arguments can be clefted; however, the case of the pivot is invariantly nominative, regardless of the case associated with the clause-internal gap position.

Standard German has neither a relative complementizer nor null relative operators; in DP clefts, the subordinate clause is always introduced by a relative pronoun.

(332) Es war der Hans, der den Teddybären gestohlen hat
 It was..3SG the..NOM Hans who..NOM the..ACC teddy bear stolen has
 It was Hans who stole the teddy bear

(333) Es war ein/*einen Teddybär(*en) den Hans gestohlen hat
 It was..3SG a..NOM/*..ACC teddy bear which..ACC Hans stolen has

(334) Es war der Teddybär mit dem Hans gespielt hat
 It was the teddy bear with which..DAT Hans played has
 It was the teddy bear with which Hans was playing

Matrix T agrees with the pivot for both person and number, as can be determined by the morphology of the copula; the copula is third person plural in (335) but second person singular in (336).

(335) Es waren/*war seine Kinder, für die Hans den Teddybären nach Hause
 It were.3.PL/*3.SG his children, for whom.3.PL..ACC Hans the teddy bear to house
 gebracht hat
 brought has
 It was his children for whom Hans brought the teddy bear home.

(336) Du warst es, der den Wodka aufgetrunken hat
 You.2.SG.NOM were.2.SG it who.3.SG.NOM the vodka up drank has
 It was you who drank up the vodka

One further trait of German DP-pivot clefts which is evident in (336) is the variable position of the pivot relative to the cleft pronoun. The inversion of a personal pronoun with the cleft pronoun in matrix clauses as in (336) is obligatory, and therefore has no information structural consequences.⁷⁹ For full DP pivots, this inversion is optional and, according to Huber (2002, p. 77), does have information structural significance. The sentence in (337) is identical to that in (335) except for the ordering of the pivot and cleft pronoun, and this inversion results in a strongly contrastive reading of the pivot. As (338) shows, inversion of the pivot and cleft pronoun is permitted for embedded clefts as well. This indicates that the inversion of pivot and pronoun is not simply a reflex of V2 movement to Spec-C in matrix clauses.

⁷⁹Or nearly obligatory. Some of my informants find the non-inverted order of pronoun and pronominal pivot grammatical, although somewhat degraded.

- (337) Seine Kinder waren es, für die Hans den Teddybären nach Hause
 His children were.3.PL it, for whom.3.PL..ACC Hans the teddy bear to house
 gebracht hat
 brought has
- (338) Ich glaube, dass seine Kinder es waren, für die Hans den
 I believe that his children it were.3.PL/*2.SG, for whom.3.PL..ACC Hans the
 Teddybären nach Hause gebracht hat
 teddy bear to house brought has

3.7.3 Icelandic

Icelandic permits two distinct forms of cleft sentences. One is of the German type, with a nominative pivot and an agreeing matrix copula; the second is the Norwegian type, with a pivot bearing the case morphology expected in the *gap* position of the subordinate clause. In the latter, the copula appears with third person singular morphology. (Examples (339) through (345) are from Thráinsson (1979))

Case and Agreement Variation

- (339) Nominative — Accusative Case Alternation
- a. Það var Ólafur sem María sá.
 It was Olaf.NOM that Mary saw.
 - b. Það var Ólaf sem María sá.
 It was Olaf.ACC that Mary saw.
- (340) Nominative — Dative Alternation
- a. Það var stefnumótið sem ég gleymdi.
 It was the-date.NOM that I forgot.
 - b. Það var stefnumótinu sem ég gleymdi.
 It was the-date.DAT that I forgot.
- (341) Nominative — Genitive Alternation
- a. Það er Ólafur sem María saknar.
 It is Olaf.NOM that Maria misses
 - b. Það er Ólafs sem María saknar.
 It is Olaf.GEN that Maria misses.
- (342) Nominative Plural & 3rd Plural Copula

- a. Það *var/voru hestarnir sem María sá
It *was/were horses_{S..3PL.NOM} that Mary saw
- (343) Accusative Plural & 3rd Singular Copula
- a. Það var/*voru hestana sem María sá
It was/*were horses_{S..3PL.ACC} that Mary saw
- (344) Nominative Plural Pronominal Pivot & 3rd Plural Copula
- a. Það *er/eru þeir sem María saknar.
It *is/are they_{.NOM} that Maria misses.
- (345) Genitive Plural Pronominal Pivot & 3rd Singular Copula
- a. Það er/(**eru*) þeirra sem María saknar.
It is/(**are*) they_{.GEN} that Maria misses.

The diagnostics I applied to English in the analysis of it-cleft syntax produce the same results for Norwegian, German, and Icelandic. In some instances, language-specific data provide further support to the structure established in §3.6. For Norwegian and Icelandic R-clefts, the pivot is raised from within the clause to its surface position, and therefore that position must c-command the gap. This is accommodated by the small clause structure given in (318).

We cannot appeal to pivot raising in German as a means of determining c-command relations; there is, nevertheless, a good deal of evidence that the structures of both R- and EM-clefts are identical - or close enough to be functionally identical.

German it-clefts are the most difficult to capture. For this reason, I will concentrate on the German data, including Norwegian and Icelandic data where that becomes relevant.

3.7.4 German Cleft Structure

I take the structure of German it-clefts to be similar to that of English clefts. This is because many of the same diagnostics hold. As is evident in the two coordinate clefts (367) and (368), there is only a single cleft pronoun in coordinate clefts. It is also the case that sentential negation has the interpretive effect of negating the proposition produced by the pivot and clause, as in (346).

- (346) Es war nicht der Mann, der den Wodka getrunken hat (es war eher die Frau....)
It was not the man who the vodka drunk has (it was rather the woman....)
“The man did not drink the vodka”

- (347) Der Doktor war glücklicherweise nicht der Mann, der den Wodka getrunken hatte.
 The doctor was fortunately not the man who the vodka drunk had.
"The man drank the vodka"

It was noted earlier (fn. 3.5.4.1) that sentential negation does not license NPIS within the cleft clause in German as it does in English; this is seen in (348a), in which *je* ('ever') creates ungrammaticality. NPIS can appear in the clause, but require a different licensing configuration; the adverb *nur* ('only') licenses the NPI when adjoined to the pivot, as in (348b).

- (348) a. * Es war nicht meine Grossmutter, die mir je einen guten Rat gegeben
 It was not my grandmother who me.DAT ever a good advice given
 hat.
 has.
It wasn't my grandmother who ever gave me good advice.
- b. Es war nur meine Grossmutter, die mir je einen guten Rat gegeben
 It was only my grandmother who me.DAT ever a good advice given
 hat.
 has.
It was only my grandmother who ever gave me good advice.

The licensing of NPIS by the adverb adjoined to the pivot, and the failure of sentential negation to do so, is a pattern which holds true not only for German, but for all of the Germanic languages other than English that I have tested: Icelandic, Swedish, and Norwegian. This suggests that, in these languages as in English, the cleft clause is transparent to an external licenser, but that this licenser must take scope below matrix negation.⁸⁰

⁸⁰I have not examined this point in depth, and do not have an explanation for this distinction between English and related Germanic languages. One possibility is that it is in general more difficult in these languages to license NPIS from a matrix into a subordinate clause. A Google search does return some examples of the licensing of an embedded NPI by matrix negation in German, but in these cases the matrix verb is almost always a *bridge verb*, most often *glauben* ('believe'). One such example is given in (349), found at *Die Max-Planck-Gesellschaft-GEO600*: www.geo600.org/images/geo600-2final-1.pdf (my translation).

- (349) Einstein selbst glaubte nicht daran, dass man Gravitationswellen je werde beobachten können...
 Einstein self believed not at-it that one gravitation-waves ever would observe can...
Einstein himself didn't believe that one would ever be able to observe gravitational waves...

Bridge verbs induce greater transparency between the matrix and subordinate clause, as is known from the atypical availability of extraction from the subordinate clause in such contexts, and the availability of embedded V2 order.

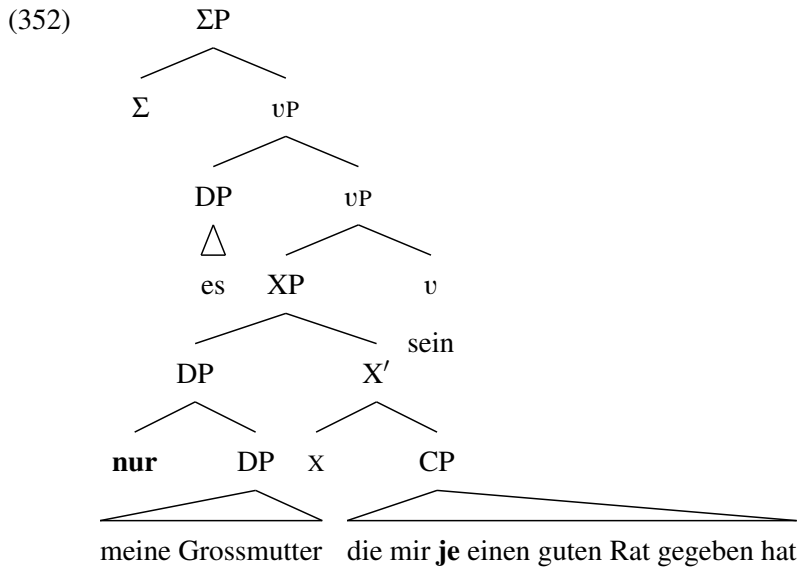
(350) Norwegian

- a. i. ?? Det er ikke John som noensinne klager.
It is not John who ever complains.
- ii. Det er bare John som noensinne klager
It is only John that ever complains
- b. i. ?? Det er ikke prisene kundene noensinne klager over
It is not the prices the customers ever complain about
- ii. Det er bare prisene kundene noensinne klager over
It is only the prices the customers ever complain about

(351) Icelandic

- a. i. * Það er ekki John sem nokkurn tímann kvartar.
It is not John that ever complains.
- ii. Það er bara John sem nokkurn tímann kvartar.
It is only John that ever complains.
- b. Það er bara verðið sem viðskiptavinirnir nokkurn tímann kvarta
It is only the price.NOM that the customers ever complain
yfir.
about.

I assume, therefore, that the pivot must c-command the cleft clause, and that the licensing adverb may c-command the cleft clause as an adjunct to the pivot.



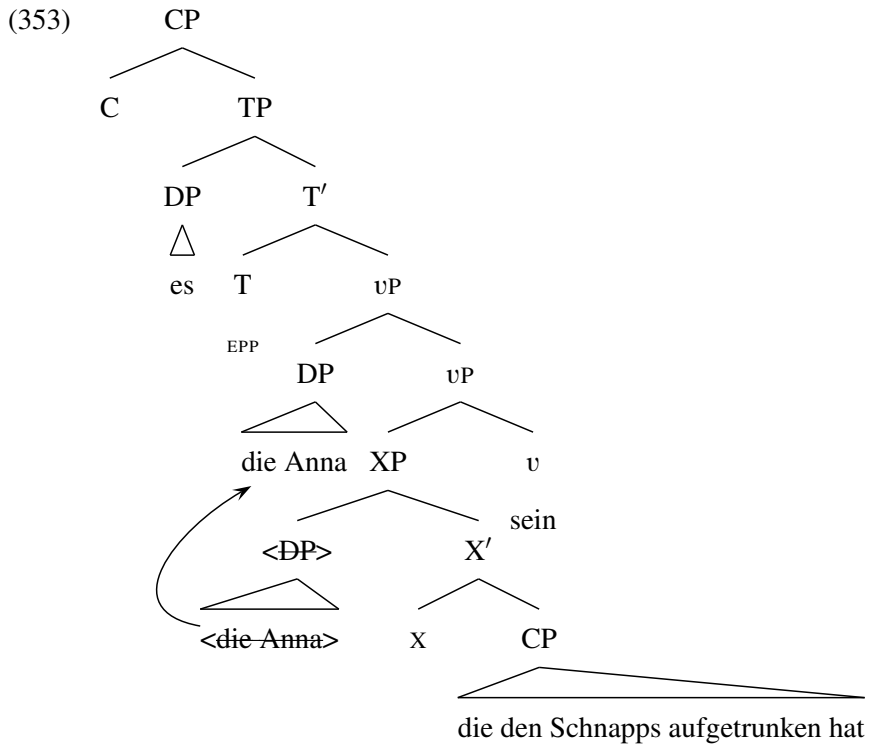
This structure, identical to that proposed for English with the exception of the head-finality of vP , accommodates NPI licensing by a c-commanding licenser into a relative clause which is not contained within a definite DP .

3.7.4.1 AGREE

There are three aspects of German clefts which have not yet been addressed. One of these is German coordinate clefts, a structure which is not easily captured, but which does ultimately provide compelling evidence in support of the analysis given here. A detailed analysis may be found in the Appendix to this chapter.

The second point, which I address here, is the question of AGREE between the pivot and matrix T . Given the structure in (296), it is doubtful that the probe on T has access to the pivot. Because SPEC- v is occupied by the cleft pronoun, vP is a phase. The Phase Impenetrability Condition (PIC) applies, and therefore the pivot is too deeply embedded within the phase to be visible to T .

One option to consider in revising the structure is that the cleft pronoun is merged higher in the structure - say SPEC- T . This leaves SPEC- v available, so that the pivot may be raised to the phase edge.



It is, though, probably incorrect to claim that the pronoun is first merged in SPEC-T. One reason to doubt this explanation is that pronominal pivot must always precede the cleft pronoun, in both matrix and embedded contexts. In order to obtain this ordering in embedded clauses, we would have to posit a functional projection between CP and TP into which a pronominal pivot must always be raised. Frey (2004) has argued that there is a series of discourse functional projections between these two projections in German inversion process. The raising of the pronominal pivot, though, does not have information structural consequences, and it is therefore unlikely that pronominal pivots are by default positioned in a discourse functional projection above TP which differs from the default position of full DP pivots. There may perhaps be some aspect of the featural content of pronominal pivots which requires that AGREE with T triggers raising into SPEC-T, making SPEC-T the default position for pronominal pivots only; this must mean, though, that the cleft pronoun *es* is located below SPEC-T.

- (354) a. Es sind seine Kinder, die Hans besonders liebt.
 It are.PL his children.PL whom Hans especially loves.
 It's his children whom Hans loves most of all.

- b. Seine Kinder sind es, die Hans besonders liebt.
 His children are it, whom Hans especially loves.
 It's his children whom Hans loves most of all.

(355) Du warst es, der den Wodka aufgetrunken hat
 You.2.SG.NOM were.2.SG it who.3.SG.NOM the vodka up drank has
 It was you who drank up the vodka

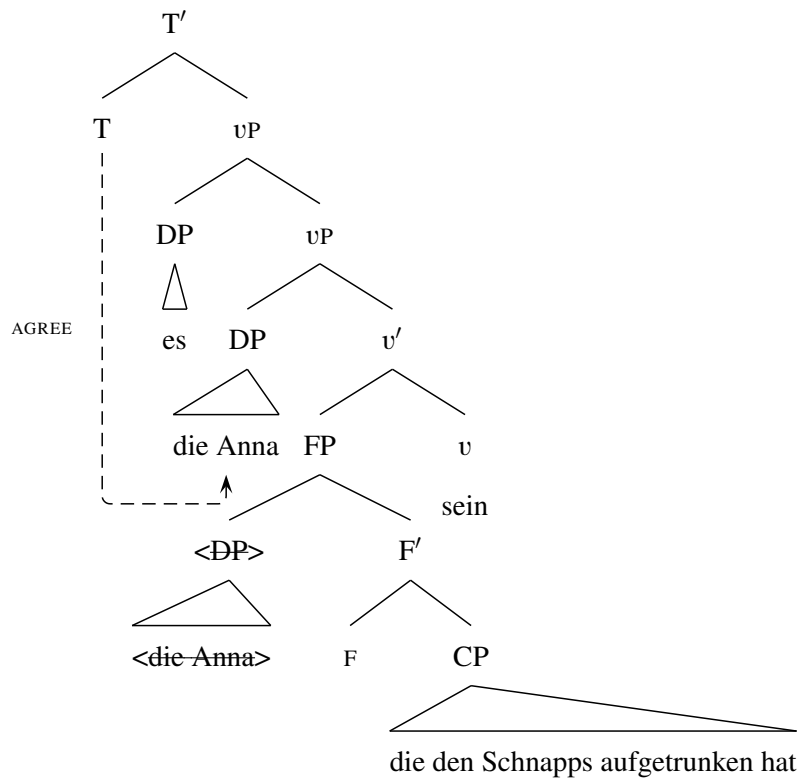
I will suggest that the derivation proceeds as follows. The pivot is externally merged into SPEC-F of the small clause. Due to its unvalued Case feature, the pivot is raised to the phase edge, SPEC-v, as soon as possible - i.e., immediately after *v* is merged. As the cleft pronoun is required for convergence at the next level of semantic composition, it is merged into an outer SPEC-u.⁸¹

When T is merged, it probes for an active goal. The cleft pronoun is deficient for ϕ -features so that, whether or not it has a Case feature which triggers AGREE with T, the pronoun is incapable of valuing the full set of T's ϕ -features and therefore the probe remains active.

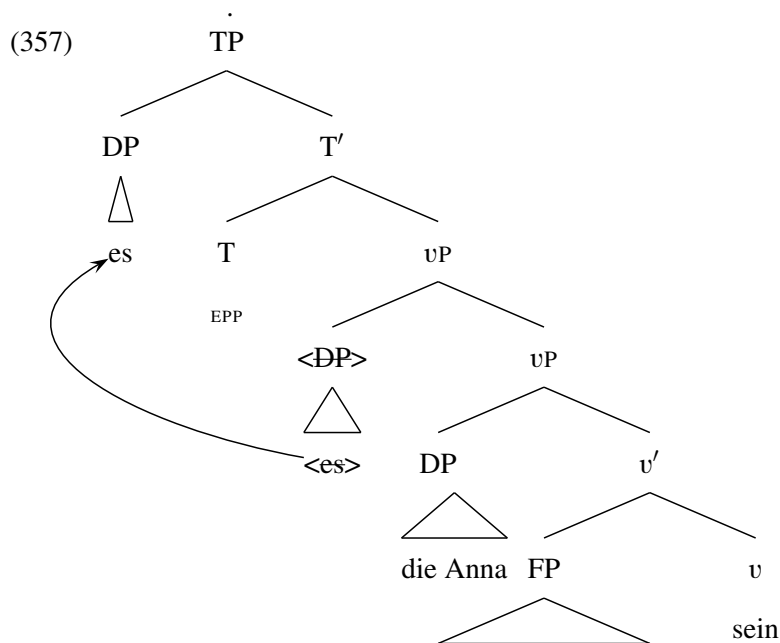
As both SPEC-v positions are phase edge positions, T may now probe the inner specifier for an active goal, and find this in the pivot.

⁸¹It can easily be seen that an alternative is to posit a functional projection between vP and TP as the position of first merge of the cleft pronoun. Of the available possibilities noted in the literature, the most likely option would be the Topic phrase proposed in Frey (2004). This is not an unreasonable notion; however, I am not convinced that the cleft pronoun functions as a topic, nor am I convinced of the necessity of a clause-internal Topic position in German. However, the analysis here is entirely compatible with this possibility.

(356)

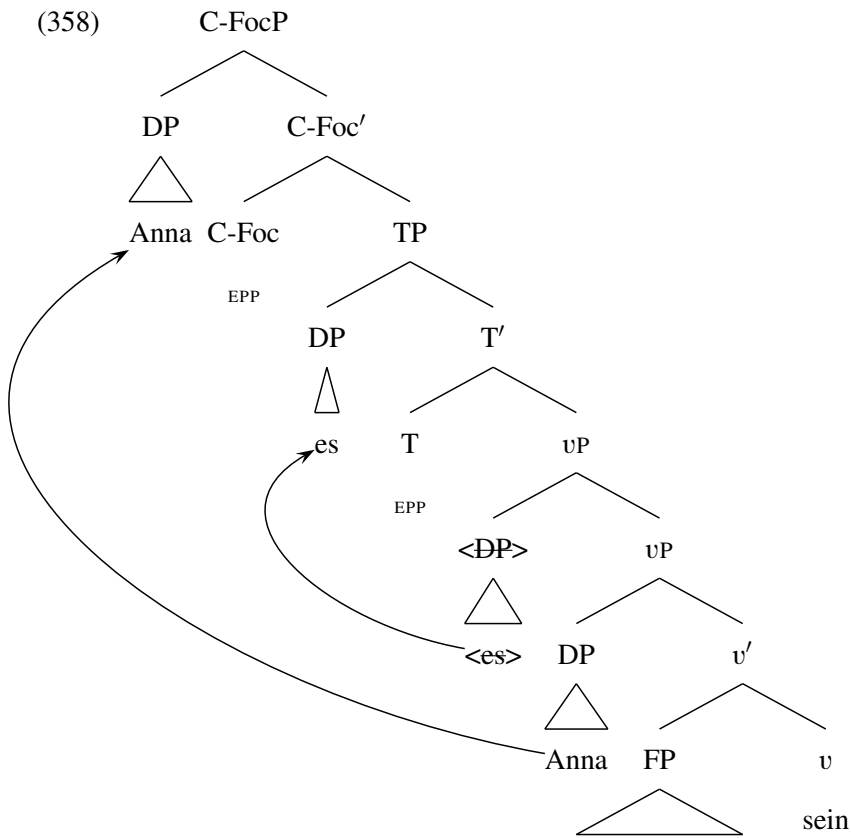


Should T bear an EPP feature, this feature functions independently from AGREE and targets the highest available DP; this is the cleft pronoun in the outer vP specifier. German T does not always bear an EPP feature and therefore subjects may remain in situ in SPEC-v. It is therefore reasonable to assume that a full DP-pivot simply remains in this position by default. Presumably, the cleft pronoun may also remain in the outer specifier in the absence of an EPP feature on T. In a matrix clause, of course, the cleft pronoun must be raised into the SPEC-C position unless the pivot (or some other phrase - an adverb for example) satisfies this requirement.



Inversion of the pivot and cleft pronoun occurs when raising of the pivot across the cleft pronoun is triggered by a probe which is searching for a feature not available on the cleft pronoun, and which is associated with an EPP feature. In the case of pronominal pivots, this probe is likely T itself, again given the lack of discourse functional consequences.

For the inversion of full DP-pivots, the feature is more likely associated with a contrastive focus feature located on a functional head above TP. The position of an inverted contrastive focus pivot is consistent with, for example, the analysis in Frey (2004) of discourse functional projections between TP and the left periphery of the German clause. Notice that, as the full DP-pivot and cleft pronoun may be inverted in embedded clauses in which SPEC-C is unavailable, there must be an position between CP and TP to accommodate this configuration.



3.7.4.2 Cleft Clause Extraposition

As was discussed in §3.4.8, the Den Dikken (2009) analysis of it-clefts as asyndetic coordinate structures places the cleft clause in complement position of a Colon Phrase, :P. This proposal is motivated by the obligatory sentence-finality of the clause in SOV languages such as Dutch and German. The cleft clause must follow a clause-final verb; it does not have the flexibility in positioning permitted to canonical relatives, which may either extrapose or remain adjacent to their host DPs.

I take the sentence-finality of the clause to be an important characteristic of it-clefts in the Germanic SOV languages, and under the account I am pursuing, I can offer no full explanatory account of obligatory extraposition. The proposals given for this in Den Dikken (2009) and in Reeve (2010) are, I believe, incompatible with the data I have presented.

I will note, though, that I treat the cleft clause as a *complement* to a small clause head, and

therefore the analogy to canonical relatives in terms of obligatory versus optional extraposition may not be a perfect one. Given this view, the behavior of the cleft clause would not be the only instance of obligatory CP complement extraposition in the Germanic SOV languages. The requirement that finite CP complements to V must extrapose is a well known instance of this phenomenon, and one which for which a variety of explanations have been posited, but which remains mysterious.

Obligatory extraposition of finite CP complements to V may be contrasted with optional extraposition of finite CP complements to N. The following examples from Buring and Hartmann (1997, §5.2) illustrate that failure of the CP complement of the verb *sagen* to extrapose leads to ungrammaticality in (360a), whereas extraposition of the CP complement of the noun *Dirigent* is optional in (361).⁸²

- (360) a. * ...weil er dass Schnaps gut schmeckt gesagt hat.
 ...because he that schnapps gut tastes said has.
 ...because he said that schnapps tastes good.
- b. ...weil er gesagt hat, dass Schnaps gut schmeckt.
 ...because he said has that schnapps good tastes.
- (361) a. ...weil er den Dirigenten, der gerade den Rosenkavalier dirigiert,
 ...because he the conductor, who actually the Rosenkavalier conducts,
 persönlich kennt.
 personally knows.
 ...because he knows the conductor who is actually conducting *The Rosenkavalier*.
- b. ...weil er den Dirigenten persönlich kennt, der gerade den Rosenkavalier
 ...because he the conductor personally knows, who actually the Rosenkavalier
 dirigiert.
 conducts.

The question of what trigger(s) obligatory extraposition remains unresolved. However, the fact that CP complements to N are not obligatorily, but rather optionally, extraposed may

⁸²Buring and Hartmann (1997) propose that the difference in behavior of complement CPs to V versus N is due to constraints on the government of finite clauses. They propose the following filter (their (61), §5.2):

- (359) Finite sentences may not be governed by V or I.

As far as I can tell, this is intended as a descriptive generalization. The necessity to exclude government by I is due to their assumption of a right headed IP in German, and V^o-to-I^o movement in SOV clauses. Based on the data introduced below in section 3.7.4, I will, following Haider (2010), argue against this assumption.

be related to the proposal that the relationship between N and its CP arguments is unlike that between other heads and their CP complements (Grimshaw, 1992). If it is a property specific to internal arguments to N that extraposition is optional, then the identification of the cleft clause as the complement to a small clause head may help to account for the patterning of the cleft clause with CP complements to V for obligatory extraposition.

There is an additional important question touching on cleft clause extraposition, and that concerns identification of the adjunction point of the extraposed clause. This question is important specifically because of the difficulty it poses in an analysis of German coordinate clefts. As noted earlier, a discussion of this data is included in Appendix A.

3.7.5 The Lexicon and Constraints on Derivation

Although it is, I believe, clear that the cleft pronoun is not an expletive, it cannot be overlooked that the form of the pronoun is identical to that of an expletive in all of the Germanic languages. I interpret this to indicate that in these languages, the cleft pronoun is compatible only with that pronominal form made available by the lexicon which is minimally specified for semantic and syntactic features.⁸³

One of the points which led to the conclusion that the cleft pronoun is not an expletive was the distributional evidence provided by German and Icelandic in §3.3. The cleft pronoun is, again, unlike an expletive in that the cleft pronoun can never be omitted from an it-cleft, regardless of the syntactic environment, whereas an expletive form either may or must be dropped in certain environments.

The data in §3.3 was restricted to German and Icelandic because the comparison between the distributions of the two pronouns is not available in the other Germanic languages under discussion - mainland Scandinavian and English do not permit expletive drop - and there are a number of additional distinctions between these languages in expletive constructions. The following examples illustrate just a small sample of the relevant data, comparing Icelandic (the (a) sentences) and, as an exemplar of mainland Scandinavian, Swedish (the (b) sentences) (examples from Holmberg and Platzack (1995, p. 100;136)).

(362) Transitive Expletive Constructions:

⁸³Note that this does not hold in all languages, as discussed in reference to French and Russian it-clefts in §3.3.1.

- a. Það hefur sennilega einhver maður tíð hákarlinn.
It has probably some man.NOM eaten the-shark.ACC.
Some man has probably eaten the shark.
- b. * Det har troligen någon ätit hajen.
It has probably someone eaten the-shark.

(363) Expletives with Unaccusatives:

- a. Ídag hafa (*það) komið margir málfræðingar hingað.
Today have it come many linguists.NOM here.
Many linguists have come here today.
- b. Idag har *(det) kommit många lingvister hit.
Today have it come many linguists here.

(364) Inversion in Impersonal Passives:

- a. Ígær var (*það) dansað á skipinu.
Yesterday was (it) danced on the-ship.
Yesterday there was dancing on the ship.
- b. Igår dansades *(det) på skeppet.
Yesterday was-dansed there on the-ship.

In (362), we see that Icelandic permits the expletive in initial position in combination with a nominative subject lower in the clause; Swedish does not permit this. In both (363) and (364), the expletive in Icelandic must be omitted under inversion: it can appear only in initial position.⁸⁴ Swedish, on the other hand, requires the expletive for grammaticality under inversion.

This variation in the behavior of expletives within the Germanic languages is recognized as the reflex of differences between these languages with regard to the featural content of T. The probe in T in German and Icelandic may be valued in the absence of an overt nominative subject. This is argued to be associated with the availability of a null morpheme bearing valued ϕ -features and an invariantly nominative Case feature, sometimes referred to as ‘strong’ or

⁸⁴The positions permitted to expletives and clause-internal subjects in Icelandic is a great deal more complex than indicated here. See Thráinsson (2007) for discussion.

'nominal' AGR (Holmberg and Platzack, 1995; Alexiadou and Anagnostopoulou, 1998).^{85,86}

Because AGR in Icelandic and German can serve as a goal for T, there is no expletive in the language which duplicates this function. That is, there is no expletive which is fully specified for ϕ -features - the overt expletive is featurally deficient. The expletive in strong AGR languages does have a necessary function: it may satisfy the EPP feature on C (Alexiadou and Anagnostopoulou, 1998) - but that function is not to supply a goal for an active T.⁸⁷ It is therefore restricted to the SPEC-C position, and must be dropped if this position is occupied.

Strong AGR does not exist in the Mainland Scandinavian languages. For that reason, the expletive in these languages must be fully specified for nominative Case and ϕ features so as to value these features on T in the absence of another DP to serve this role. The function of this expletive is then not limited to satisfying the EPP feature on C. Therefore, it cannot be omitted under inversion.

Importantly too, the expletive cannot be present in the structure when there is another constituent in the structure which is dependent on an active probe in T. The ungrammaticality of the Swedish example in (362b) is due to the dual presence of the expletive *det* and the indefinite *någon*: both of these DPs are fully specified for ϕ - and Case features, and must enter an AGREE relation so as to value the latter, but there is only one functional head - T - available for this purpose. Transitive expletives are therefore impossible in the language.

The relevance of the featural content of the expletive forms in the Germanic languages stems from the suggestion above that, although cleft pronouns differ from expletives in terms of their semantic content, the morpheme representing the cleft pronoun is the most featurally deficient pronoun available in the lexicon. The pronominal forms which a language may make use of in it-clefts plays a role in determining whether that language can produce R- or EM-clefts.

⁸⁵My identification of the head in question as T is something of a simplification of the work reported on this matter. Holmberg and Platzack argue that there are two features associated with the parametric variation in the Germanic (and other) languages; one of these is a Finiteness feature [\pm FIN] located in C, the other the 'strong' or 'nominal' [AGR] which for them is a feature on T. Alexiadou and Anagnostopoulou suggest that strong AGR shares properties with clitic pronouns in terms of its structural position and featural specification.

⁸⁶I state the relationship between AGR and T as a probe-goal AGREE relation. The analyses in Holmberg and Platzack (1995) and Alexiadou and Anagnostopoulou (1998) are not instantiated in this way; however, the consequences are the same.

⁸⁷Holmberg and Platzack interpret the role of the overt expletive in strong AGR languages somewhat differently; they argue that its role is to lexicalize the [FIN] feature on C if there is no other constituent in that position.

The cleft pronoun is an obligatory constituent in it-clefts. This means that in Norwegian, the cleft pronoun must be the goal for T; this AGREE relationship will value the Case feature of the pronoun and, because the pronoun is fully specified for ϕ -features, will also deactivate the probe.

We have seen that assignment of default Case to the pivot does not appear to be an option. Recall that although the default Case in Norwegian is accusative, subject pivots can only be nominative. There is evidence as well that German pivots cannot appear in default nominative Case - the pivot must enter AGREE with T.^{88,89}

In Norwegian, then, the pivot cannot be first merged above the cleft clause, because it

⁸⁸The evidence in question comes from restrictions on gapping in German it-clefts. See Appendix A for discussion.

⁸⁹Two comments are in order here. First, I do not know why default case is an impossibility in German, Icelandic, and mainland Scandinavian; however, a clue may come from the work in Sigurðsson (2006). He argues that that which is normally identified as default Case should rather be identified as 'dependent' Case: this is the Case which is assigned to a constituent when (i) nominative Case has been assigned to another constituent and (ii) there is no requirement that the constituent in question either enter AGREE with a functional head or appear in a lexically-determined Case. In other words, default Case is actually a Case which is 'dependent' on the assignment of nominative to another constituent.

The question which then arises is what counts as the domain of dependent Case. In a typical DP-*be*-DP copular sentence, *be* selects a small clause containing a DP specifier and a DP complement; semantically, a predicate and its argument. One of these will AGREE with T and be assigned nominative. This is a context in which dependent Case will be assigned to the remaining DP.

In an it-cleft, though, the cleft pronoun and the pivot are not co-constituents within a small clause, and they do not share a predicate-argument relationship. The cleft pronoun is merged above the small clause and in Norwegian, this DP will deactivate T's probe. This is potentially a context in which dependent Case can be assigned. But the context is not identical to that which arises in a typical copular sentence, because the DP in need of Case checking is in a separate clause, and it is the argument of a predicate within that clause. Therefore, the question of how the domain of dependent case is determined is relevant here. If an it-cleft, due to its atypical constituency, does not instantiate the structure within which nominative assignment to the cleft pronoun permits dependent case assignment to the pivot, this may be the reason that it-clefts differ from other copular sentences in not permitting default case assignment to the postcopular constituent.

Note that it is unlikely that the ban on default case assignment applies in English, because default Case on pronominal pivots does seem to be available for many speakers. On the other hand, judgements on pronominal pivots are shaky. It may be relevant as well that many speakers disprefer relative pronouns in it-clefts, more so than in relative clauses (i.e. see Heggie (1993)), and relative pronouns would, in theory, prevent raising of the pivot through SPEC-C, leaving no option but default case assignment to the pivot. There may, then, be a variety of interacting factors which are responsible for speaker uncertainty regarding pronominal pivot case in English.

cannot be assigned Case: the cleft pronoun deactivates T's probe, and default case is not an option. As a consequence, only the raising derivation is available in Norwegian, because it is only within the cleft clause that the pivot can find an available functional head.

In German, the fact that the cleft pronoun is deficient in ϕ -features imposed different constraints, as T must have its features valued through a different AGREE relation. There are two options, then: either the strong AGR discussed above, or the pivot.

This suggests that either the raising or the external merge derivation should be available: T will agree with strong AGR in the former instance, and with the pivot in the latter. In fact, though, T always agrees with the pivot - the raising derivation does not manifest.

An explanation for this may be found in consideration of a different functional head: C. In German, a relative pronoun must always introduce the cleft clause, so that pivot raising is blocked. Therefore, the only option is external merge due to movement constraints. The needy constituent is then the pivot itself, not matrix T in German, as T has the alternate option presented by strong AGR, but the pivot must find an active probe in the matrix clause.

One final question to address is the significance of the overt relative pronoun in German versus the situation in Norwegian. For a raising derivation in a canonical relative clause, the relative complementizer *som* presumably co-occurs with a null operator of category D. This is a transitive D which takes an NP complement; the resulting DP raises to SPEC-C at which point the NP excorporates, becoming the head of the relative clause. So, in relative clauses, it makes no difference whether the relative operator is an overt or null pronoun - SPEC-C is occupied in either case.

This cannot be correct for it-clefts, though, because the category raised to pivot position is DP, not NP - the entire DP pivot moves through SPEC-C and presumably, then on to a higher specifier position in an FP. It is nevertheless the case that the relative complementizer *SOM* may be present, indicating that this is a relative-clause-like construction involving λ -abstraction over a variable.

I will, therefore, assume that something like the following is what we find in Norwegian. The relative complementizer *SOM* is itself the binder of the variable in gap position. That is, *som* occurs with an EPP feature which triggers raising into its specifier, and raising of a constituent into the specifier then triggers λ -abstraction over a variable. The raised constituent may be either a DP with a null operator D head, or it may be a DP with a head which is not a null

operator.

I will make the simple assumption that the distinction is due to the features associated with *som* in a given construction. *Som* bears an EPP feature, and may in addition bear a feature which requires raising of a relative operator into its specifier - I'll indicate this as *som*_{+R}. Alternatively, *som* may appear without the [+R] feature, in which case it is not necessary that a relative operator be present in the structure, and a non-operator DP may be targeted for raising.

The corresponding assumption I will then have to make is that in German, there is no relative C in the lexicon which lacks the [+R] feature. An it-cleft, then, must be derived by raising of the only relative operators that German has available - overt relative pronouns into SPEC-C. This rules out a pivot-raising derivation in German.

We can at this point come to the following conclusion. The derivation of it-clefts in Norwegian and in German are restricted to raising and to external merge, respectively, due to parametric variation between the two languages with regard to the featural specification of lexical items. In Norwegian, the cleft pronoun is fully specified for ϕ -features, and this is directly tied to the nature of the functional head T in Norwegian which lacks strong AGR. This makes it impossible to form it-clefts by externally merging a pivot, because the pivot cannot have its Case feature valued. Fortunately for Norwegian, it can produce it-clefts via pivot raising. It can do so because it is possible to insert a relative complementizer SOM which may trigger raising of a non-operator DP into its specifier, and bind the resulting variable via λ -abstraction.

In German, the raising derivation is ruled out because it lacks the relative complementizer which Norwegian has: the only available complementizer requires raising of a relative DP. Fortunately for German, the functional head T is also different from that in Norwegian: it has strong AGR. Because strong AGR exists in the language, the form of the expletive in German is featurally deficient - it plays no role in deactivating the probe on T. As a consequence, this deficient form may also realize the cleft pronoun in an it-cleft, and it is this which allows an it-cleft to be derived: the pivot can be externally merged into pivot position, and enter into AGREE with an active T.

Icelandic produces both R- and EM-clefts, and this is perhaps not surprising in light of the foregoing discussion. We know that Icelandic is like German in containing a strong AGR and, consequently, a featurally deficient pronominal form. This permits Icelandic to produce it-clefts in the same way that German does. On the other hand, it is not unreasonable to assume that

Icelandic and Norwegian may be similar in their inventory of relative complementizers. I will then make yet an additional assumption - Icelandic, like Norwegian, has both a *sem*_{+R} and a *sem* with a bare EPP feature.

In sum, what we find is that the basis of constraints on the derivation of it-clefts in Germanic is purely a matter of formal syntactic requirements. The variation we find in it-cleft derivation results from precisely the type of parametric variation we expect to find: the featural specification of functional heads, which can be represented as in (365)

(365)

Language	REL- <i>C</i> _{typeB}	PRONOUN _{deficient}
Norwegian	✓	×
German	×	✓
Icelandic	✓	✓

3.8 Conclusion

This chapter has been concerned with the syntax of it-clefts in the Germanic languages. I have examined evidence which is shared across all of the languages under discussion in determining that the basic syntactic configuration in all of these languages is essentially the same. The structure in all cases must account for the coordinate clefts, for the effects of sentential operators, and the licensing of NPIS within the cleft clause by clause-external licensors.

The structure which was proposed based on this evidence is one in which a relative clause is forced into service as the main sentential predicate. This has a number of consequences. The lack of an eventuality argument in this very odd predicate should cause the semantic composition to crash. The composition can be rescued, though, by the insertion of the cleft pronoun, a constituent which mediates the relationship between the defective small clause and T, introducing the eventuality argument over which T will induce existential closure.

There is a syntactic consequence of the relative clause as predicate as well: the argument of the cleft clause may be introduced into the structure by either internal or external merge of the pivot. The Germanic languages provide evidence that both derivations are attested. They also provide evidence that the strategy a language has available may be constrained due to the featural specification of functional heads - an expected form of parametric variation.

Thus far, then, we have seen that derivational options available to the language are tied to purely formal syntactic requirements. However, the syntax does not exist in isolation: it

interacts with the semantic system. The syntax may therefore have consequences for the interpretation, which means that there is the potential that, just as the syntactic derivations of Norwegian and German necessarily differ from one another, this may be reflected in interpretational differences.

Whether or not this is the case, and if so, the types of interpretational differences which may arise, depends on the the nature of the syntax-semantics interface. This is the subject matter of Chapter 4.

Appendix A

3.9 German Coordinate Clefts

The asyndetic coordinate, discussed in §3.4.8, is the structure proposed in Den Dikken (2009) as an account of the obligatory sentence finality of the cleft clause in SOV languages. I noted concern with this proposal due to the difficulty it posed in accounting for coordinate clefts (see also fn. 3.4.8); the need to account for such structures was a core motivating factor in my own analysis.

When German data are added to the picture, it becomes evident that additional attention is required in the analysis of coordinate clefts. I have noted the difficulty of motivating extraposition of the cleft clause even in a no-frills German it-cleft such as (366). The difficulty is compounded in coordinate clefts, and is particularly severe for coordinate clefts when a verb form remains in final position - matrix clauses with finite auxiliaries in C, or embedded coordinate clefts as in (368).

(366) Es war Hans, der den Wodka getrunken hat.
It was Hans who the vodka drunk has.
It was Hans who drank the vodka.

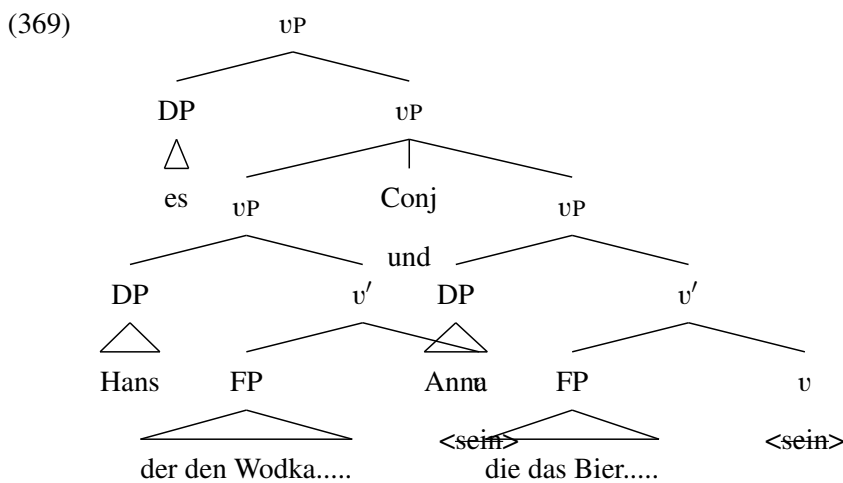
(367) Es war Hans, der den Wodka getrunken hat und Anna, die das Bier getrunken hat.
It was Hans who the vodka drunk has and Anna who the beer drunk has.
It was Hans who drank the vodka and Anna who drank the beer.

(368) Ich glaube, dass es Hans war, der den Wodka getrunken hat und Anna, die das Bier
I believe that it Hans was who the vodka drunk has and Anna who the beer

getrunken hat.
 drunk has.

I believe that it was Hans who drank the vodka and Anna who drank the beer.

For (367), there are in theory two nodes which could potentially serve as the point of coordination: either FP or vP. Choosing the latter option will avoid the difficulties involved in ridding the structure of an additional cleft pronoun in the second conjunct, if the point of coordination is the vP node below the point of merge of the cleft pronoun. The two copulas in v may undergo ATB movement, ultimately to C.



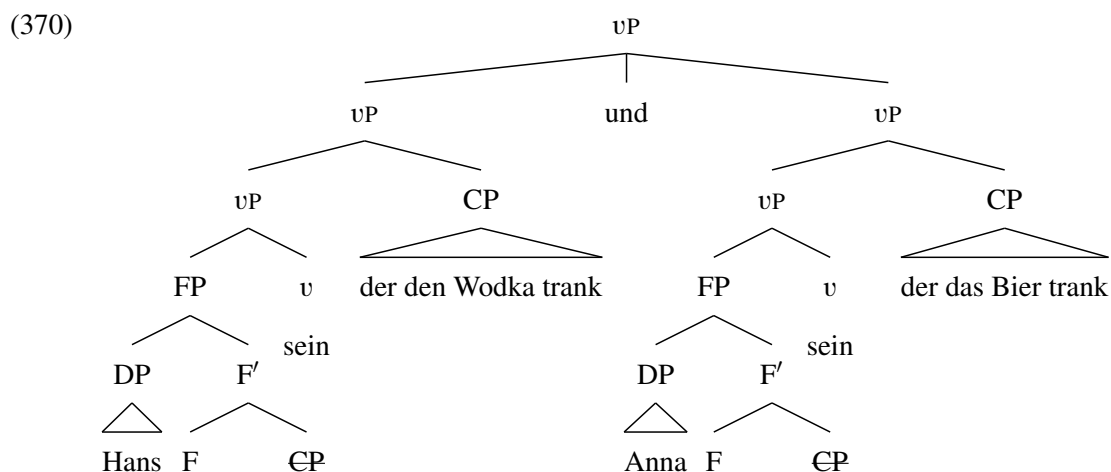
This structure is adequate for a representation of the matrix coordinate cleft. Coordination of embedded clefts, though, is less easily captured, and ultimately more informative. The difficulty for this structure become evident in examining the example in (368). The pivot in the first conjunct (*Hans*) precedes the finite copula, and the cleft clause of this conjunct has been extraposed to a position above copula as well.

This is a problem if the finite copula has moved to a right-headed T, as is often supposed; Büring and Hartmann (1997), for example, argue in favor of a right-headed TP as the position of the verb in this environment. If this is so, the pivot must escape the coordinate structure and land in a position above matrix T, and the first cleft clause must be extracted and extraposed to a position above the copula - minimally to TP, and perhaps CP.

Because (368) is a coordinate structure subject to the CSC, both of these operations will violate the CSC. Only ATB is licit, and there is neither an identical pivot nor an identical clause to be extracted in the second conjunct.

Therefore, if the first clause is adjoined to, say, TP, the coordinate cleft must consist, minimally, of two conjoined TPs, with the coordination point above that of cleft clause adjunction. But this account obviates the gains which were made by establishing a low coordination point in the first place. That is, this series of assumptions will leave no choice but to identify the embedded coordinate cleft as two coordinated TPs - then each movement operation is contained within its own conjunct - but this would lead back to an account in terms of ellipsis of the second cleft pronoun. I have devoted some effort to arguing against this possibility, and am unwilling to withdraw the objections I have presented.⁹⁰

The only option consistent with the argumentation I have laid out thus far requires, minimally, the following two conditions: the finite copula remains in situ in *v*; and the clause extraposes to the *vP* edge. Putting aside for the moment the question of the pronoun and copula, this would permit the coordinate cleft in German to be captured as coordinated *vPs*; the structure required is that in (370).



In this structure, coordination of two *vPs* permits each cleft clause to move to an *vP*-edge within its own conjunct; however, again, the copula must remain below the extraposition point so that the pivot precedes it. I believe that both of these conditions are plausible. There is solid

⁹⁰Given the identification of the pronoun as a constituent which incorporates an event variable into the composition and has anaphoric properties, it may be easier to argue that if there are two cleft pronouns in this structure, they are indeed referentially identical; the entire coordinate cleft identifies a single proposition, after all, not two distinct propositions. I don't find LPD plausible as an ellipsis operation; a structure involving multidomination of the pronoun seems to me a potential option, however.

evidence, such as that from Haider (2010), indicating both that the right edge of vP may host extraposed material, and that the finite verb in an OV clause is located not in a right-headed projection above vP but rather in situ within vP.

Extrapolation to vP

In identifying vP as a licit adjunction point for extraposed material, Haider provides evidence from vP topicalization. The two examples below illustrate extraposition of a relative clause and a PP, respectively. In each instance, the extraposed constituent has been carried along with the vP to SPEC-C under topicalization.⁹¹

- (371) Den Hund angefasst, der dort sass, hat sie nicht.
The dog on-touched who there sat has she not.
She didn't touch the dog that was sitting there.
- a. Sie hat nicht [_{vP} [_{DP} den Hund, [_{CP} der dort sass]] angefasst]
- (372) Gerlernt haben für das Examen / dafür muss er viel .
Learned have for the exam / it-for must he much.
He (must have) had to learn a lot for the exam/for it.
- a. Er muss viel [_{vP} [_{PP} für das Examen] gelernt haben].

The fact that the extraposed categories are fronted along with the vP indicates that the vP edge is an available adjunction site for extraposition.

Embedded v in situ

Haider points out that this provides a means of testing whether or not the finite verb has moved to a rightward head position in TP in embedded OV clauses. As extraposition may place material at the vP edge, this material is lower in the structure than T. Therefore, if a finite modal or auxiliary verb raises to T in embedded clauses, one ought to find that an extraposed constituent may appear sandwiched between the raised finite verb and a non-finite verb remaining in a lower vP. That is, the configurations in the (a) examples should be licit. In fact, though,

⁹¹The examples are from Haider; for reference, I indicate the canonical word order of these sentences in the (a) examples.

they are unacceptable; the extraposed phrases must follow the embedded finite verb.^{92,93}

(375) a. * ...dass er viel gelernt haben für das Examen muss.

b. ...dass er viel gelernt haben muss für das Examen.

(376) a. * ...dass sie den Hund nicht angefasst der dort sass hat.

b. ...dass sie den Hund nicht angefasst hat der dort sass.

⁹²Haider presents identical evidence from separable prefix verbs. Under verb raising, the particle remains stranded in situ. Therefore, should the finite verb raise to T in OV clause, the particle remains within vP, and one expects that a PP extraposed to the vP edge will intervene between the particle and the raised finite verb. This would produce the ungrammatical construction in (373a). The grammaticality of extraposition in (373b) illustrates adjunction to vP with the finite verb in situ (examples (a) and (b) from Haider, p. 67; canonical word order without extraposition supplied in (c)):

(373) a. * ...dass sie den Hund nicht an der dort sass fasste.
...that she the dog not at who there sat grabbed.
that she didn't touch the dog that was sitting there.

b. dass sie den Hund nicht anfasste der dort sass.
that she the dog not at-grabbed who there sat.

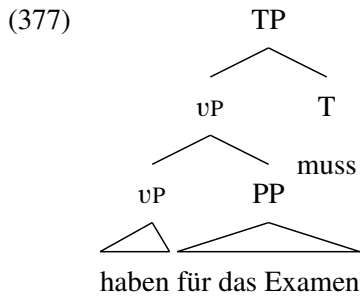
c. ...dass sie den Hund der dort sass nicht anfasste.
...that she the dog who there sat not touched.

⁹³Büring and Hartmann (1997) cite examples such as (376a) in arguing that the embedded finite verb does raise to a right-headed T. As pointed out in fn. 3.7.4.2, they propose a filter on the government of finite CPs. In their view, the finite auxiliary *hat* in this example is positioned in T, and the ungrammaticality of (376a) is evidence that the CP must not be governed by T. The authors are in agreement with Haider that extraposition may target the vP-edge, based on similar vP-topicalization data. However, they argue that vP-adjunction is available only in circumstances such as these, because the topicalization operation itself removes the CP from a position in which it violates this filter. Consequently, extraposition to vP would not, in their view, be permitted under the conditions presented in the it-cleft; minimally, the CP must be located at TP.

It is true that if vP adjunction is licit, then (376a) should be grammatical if the government-filter does not hold - but only if each verb projects a vP as an available adjunction point. This assumption is precisely what Haider rejects. He takes the series of verbs to be a *verbal cluster* - a series of adjoined heads - contained within a single vP projection (see his Chapter 7).

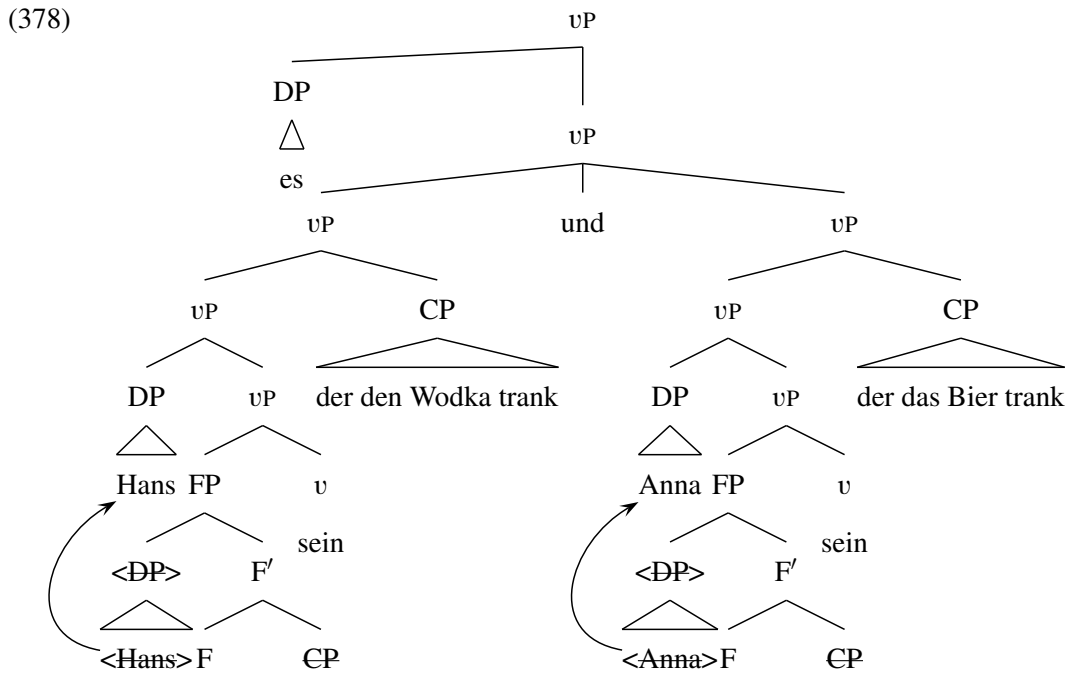
As a result, there is only a single vP edge available as an adjunction point, and the ungrammaticality of (376a) is due to the attempt to insert the relative between a series of verbal heads. This is also the source of ungrammaticality of (374), in which the extraposed PP is located at a presumed right edge of a projection between two non-finite verbs (p. 63).

(374) * ...dass er viel gelernt dafür haben muss.



3.9.1 Coordinate Cleft Structure

With these two points in hand, we can assume that the coordination point is vP, but below the position of the outer specifier. Each cleft clause is extraposed to the edge of the vP in which it is located. Therefore, the pivot precedes the copula which remains in situ, and the cleft clause follows.



3.9.2 Copula Deletion in German Coordinate Clefts

The structure as is seems adequate to handle the data, save one further detail, and that is the second instance of the copula in the second conjunct. This copula is not pronounced. This may

well be an instance of - notice that there are exactly two remnants. There are, though, a couple of points to notice with regard to the deletion of the copula in the coordinate cleft - points which support the structure as proposed.

The following are instances of gapping in German; the (b) sentences are derived from those in (a) *(examples from Eisenberg).

- (379) a. ...weil Hans Bier trinkt und Franz Milch trinkt.
 ...because Hans beer drinks.3SG and Franz.3SG milk drinks.
...because Hans drinks beer and Franz drinks milk.
- b. ...weil Hans Bier trinkt und Franz Milch.
 ...because Hans beer drinks and Franz milk.
because Hans drinks beer and Franz milk.
- (380) a. ...weil ich Bier trinke und du Milch trinkst.
 ...because I beer drink.1SG and you milk drink.2SG.
...because I drink beer and you drink milk.
- b. ...weil ich Bier trinke und du Milch.
 ...because I beer drink and you milk.
because I drink beer and you milk.

In the sentences in (379), the subjects are both third person singular, and the value of the ϕ -features of T, represented on the copula, are identical in each conjunct. The verb forms vary in (380), as the subject of the first conjunct is first person and that of the second is second person. This difference for ϕ -features has no impact on the availability of gapping.

What we find in it-clefts is a bit different. The pivot in each conjunct is third person in (381), and here the second copula may be omitted. However, in the examples in (382), there is a number mismatch between the pivots of the first and second conjunct, and as (382a) illustrates, a coordinate cleft cannot be formed in this case. The only way to form a coordinate structure is to conjoin two full it-clefts, in which the copula in each conjunct agrees with the pivot for person and number.

- (381) Es war Hanna die Physik studierte und Karl, der immer nur herumhängen
 It was Hanna who physics studied.3SG and Karl who always only around-hang
 wollte.
 wanted.3SG.
It was Hanna who studied physics and Karl who always wanted to just loaf around.

- (382) a. * Es war Hanna die Physik studierte und ihre Freunde die immer nur
 It was Hanna who physics studied._{3SG} and her friends who always only
 herumhängen wollten.
 around-hang wanted._{3PL}.

*It was Hanna who studied physics and her friends who always wanted to just loaf
 around.*

- b. Es war Hanna, die Physik studierte und es waren ihre Freunde, die immer
 It was Hanna who physics studied and it were her friends who always
 nur herumhängen wollten.
 only around-hang wanted.

At first glance, this suggests that the operation which produces (381) cannot be gapping, because deletion of the copula in these examples is sensitive to ϕ -features in calculating identity of constituents for deletion. In fact, I am not certain whether or not this is an instance of gapping; deletion of the second copula may have a different source - multiple dominance comes to mind, for example - but I would not rule out gapping either. The failure of copula deletion in (382a) is traceable to the particular context which arises here.

In the coordinate structure, there are two conjoined vPs and two pivots. There is, though, only one T in the structure, and this is, I believe, the crucial distinction between the licit gapping example in (380) and the ungrammaticality which results in (382a). It is either the case that matrix T must obligatorily agree simultaneously with each pivot in each of the two SPEC-*vs*, or that it may do so; notice that in the tree shown in (378), both pivots are in parallel positions at the phase edge.

This works in (381) because the ϕ -features of both pivots are identical. It fails in (382a) because a single T cannot agree with two independent DPs with mismatched ϕ -features. What this tells us, first of all, is that the pivot position is not one which supports default case. Each pivot, *Hanna* and *ihre Freunde*, must enter an AGREE relation, and the structure in this case cannot accomplish this.

The important result of this discussion is that this is another source of evidence that the coordinate cleft cannot be derived by conjoining two full *it*-clefts and then eliminating the second pronoun via Left Peripheral Deletion. If this were possible, then (382a) would be grammatical. That is, the underlying structure of (382a) would in this case be (382b). In this arrangement, each pivot enters AGREE with the T in its own conjunct. If LPD were available, the second cleft pronoun could be eliminated in this structure - with copula deletion as part of the

LPDapplication, or as an independent instance of gapping, which we know is licit despite the ϕ -feature mismatch. The ungrammaticality of (382a) then indicates that coordinate clefts cannot be produced via ellipsis. The conclusion, then, is that although the structure of coordinate clefts in German is difficult to discern, the analysis we are forced into is the one which is predicted given the impossibility of LPD of a cleft pronoun, in concert with independent evidence for the position of extraposed material and of the finite verb in an embedded clause.

Chapter 4

Clefts, connectivity, and the syntax-semantics interface

4.1 Introduction

The subject matter of Chapter 3 was the syntax of it-clefts in the Germanic languages. The single crucial point was the identification of the cleft clause as the predicate within a small clause selected by the copula. It is unusual for a CP to function as a predicate, and in it-clefts this atypical configuration has a number of repercussions. One of these is that a DP pivot may reach the specifier position of the small clause in two ways: it may be first merged within the cleft clause and be raised into specifier position, or it may be externally merged into specifier position.

I introduced data indicating that both derivations are attested within the Germanic languages. The evidence provided by this data was morphological in nature. Specifically, the morphological form of the pivot in German is invariably consistent with its postcopular position, while the morphological form of the pivot in Norwegian is not invariant, and is therefore not consistent with its surface position. Rather, the Norwegian pivot, like its more richly inflected correlate in Icelandic raising clefts (R-clefts), is consistent with a different position: the position of the cleft clause-internal gap.

Another way of stating the relevant distinction is that Norwegian clefts show connectivity effects, and German clefts do not. Connectivity is the term applied to precisely the type of situation just described: a sentential constituent may bear characteristics which are inconsistent

with its surface position, and are rather associated with a distinct position, so that the constituent overtly located in position α is in some way ‘connected’ with a position β .

In addressing the syntax of it-clefts, then, the analysis of derivational variation was based on connectivity for morphosyntactic characteristics. A constituent may, though, bear a number of other types of characteristics which are inconsistent with its overt position. Among these are characteristics affecting interpretation, particularly the interpretation of the ‘connected’ constituent relative to other sentential constituents with regard to scope and binding. Interpretational connectivity effects are often identified as ‘reconstruction effects’, a subclass of connectivity effects (Sportiche, 2006).

One might then ask what it means to say that reconstruction effects are a subclass of connectivity effects. Should the use of the term ‘subclass’ be interpreted to mean that all forms of connectivity share a common source and should be understood as the manifold manifestations of a single, underlying phenomenon? Or does this mean that different subclasses of connectivity may each have independent sources.

In more concrete terms, these are questions about the nature of the syntactic and semantic systems and their interface, and therefore an answer will have significant consequences for our understanding of the organization of the grammar. One possible answer is that the syntax is the controlling system: it creates the structure which the semantics interprets, and therefore, for at least some aspects of interpretation, the semantics is fully dependent on the c-command relationships represented in that structure. Alternatively, one may recognize the syntax as the basis of morphological connectivity effects, but attribute to the semantics the power and flexibility to determine interpretation for scope and binding, therefore taking the semantic system to be in large measure unfettered by the syntactic representation.

The nature of reconstruction effects has been intensively studied through the investigation of a variety of constructions involving WH-movement, but we will see that Germanic it-clefts are of particular value for the investigation of reconstruction, because they offer overt morphological evidence of their syntax - that is, evidence which is independent from interpretation. The Germanic clefts therefore offer a unique opportunity to compare the interpretation of a single construction derived in two ways: with and without movement to pivot position. In other words, the variation in Germanic it-cleft derivation provides us with a naturally-occurring experimental design in which syntactic raising is the independent variable and reconstruction effects the

dependent variables.

The conclusion which the investigation described in this chapter leads to is that reconstruction effects are the product of an interaction between the syntax and semantics which is more nuanced and more flexible than the two strictly delineated approaches normally assume. German and Norwegian it-clefts are significantly dissimilar in their syntax, but the semantic representation which the it-clefts in each language arrive at are identical. The distinctions in syntax do, though, have consequences for interpretation, because, due to the differences in the structure of it-clefts, each language must make use of different syntactic and semantic operations to reach this identical end point.

4.2 Syntactic Connectivity

The analysis of derivational variation in Germanic it-clefts in Chapter 3 relied on information provided by the morphology of it-cleft constituents. I took this to be a reliable diagnostic of syntactic derivation, as the nature of this morphological variation is directly conditioned by the syntactic structure - specifically, by the location of the pivot at the point of AGREE with a functional head. Norwegian pivots agree with a functional head within the cleft clause prior to raising; German pivots consistently agree with matrix T because there is no point in the derivation at which they have access to an alternative functional head.

It is to be expected that any aspect of the morphology which may be affected by the derivational path of the pivot should pattern in the same way as the Case data - that is, the presence or absence of morphological connectivity effects should be consistent within each language.

4.2.1 Reflexive Pivots

The distribution of reflexive pronominal forms is traditionally accounted for by Principle A of the binding theory: a reflexive is locally A-bound by its antecedent. Principle A can be seen as a description of the syntactic conditions under which reflexive morphology is licensed and so we expect to find a distinction between Norwegian and German with regard to the grammaticality of reflexive forms in pivot position; a Norwegian reflexive pivot may satisfy Principle A prior to raising, but a German pivot will be unable to find a local syntactic antecedent in the matrix clause.

The data available in these languages is more reliable than that which is available for English. It appears that English does permit reflexives to be raised from the cleft clause, based on the relative acceptability of a reflexive pivot in (383a) versus (383b)

- (383) a. It was himself that John injured.
b. ?? It was himself who John injured.

In (383b), the relative pronoun *who* occupies SPEC-C; this means that the reflexive pivot cannot have been first merged within the cleft clause, and the degraded status of this example can be interpreted as due to a Principle A violation. However, English does not make a morphological distinction between true reflexives and logophors, and if the pivot in (383b) is not a true reflexive, it is not subject to Principle A.¹

In German and in the Scandinavian languages, though, reflexive morphology is more telling. German reflexive forms are not used as logophors (Kiss, 2005), and in Scandinavian languages, reflexives and logophors can be distinguished.

R-Clefts

The Scandinavian languages have two types of reflexive: a simplex form and the complex form composed of the simplex form plus a morpheme typically glossed as *self*. The distribution of these forms is controlled by a number of factors including, for example, the lexical semantics of the predicate and the co-argument status of the reflexive form and its antecedent (Hellan,

¹Relative pronouns tend to be more acceptable with subject rather than object pivots (see also Heggie (1993)); the few informants I have asked agree on the judgements reported in (386) and (387), indicating that this effect is exacerbated for pronominal pivots. These may be contributing factors to the degraded status of example (383b). (See also the discussion of left peripheral constituents in the cleft clause, §4.7.10.4)

(384)

(385) It was John who/that arrived late.

- (386) a. It was John that I saw.
b. ? It was John who I saw.

- (387) a. It was him that I saw.
b. ?? It was him who I saw.

1986; Reinhart and Reuland, 1993; Reuland, 2001; Sæbø, 2009). For current purposes, it suffices to note that while the simplex form may function as a logophor in a non-local relationship with its antecedent, the complex form is always subject to Principle A.

Both Norwegian and Icelandic R-clefts permit reflexive forms in pivot position. The only form which is acceptable as a pivot is the complex form, and this provides unambiguous evidence that the pivot is a true reflexive.² This holds true even when a simplex anaphor is permitted in the non-clefted counterpart of an it-cleft, as is illustrated in (389b) for Norwegian and in (390a) for Icelandic.

(389) Norwegian:

- a. Det var seg selv John skadet.
It was RFLX self John injured.
- i. John skadet seg selv
John injured RFLX self
- b. *Det var seg John skadet
It was RFLX John injured
- i. John skadet seg
John injured RFLX

(390) Icelandic:

- a. Það var sjálfan sig_i sem hann_i rakaði.
It was SELF.ACC RFLX..ACC that he shaved.
It was himself that he shaved.
- i. Ólafur rakaði sjálfan sig.
Olafur shaved SELF.ACC RFLX.ACC.
Olaf shaved himself.

²It would be more correct to say for the Scandinavian languages that only the complex form is permitted in pivot position when it is interpreted as a local anaphor. There is, though, one circumstance under which the simplex form may function as a pivot: when a long distance anaphor is clefted. In this case the simplex form is the only acceptable option, reflecting the restriction that complex anaphors can never function as long distance anaphors.

(388) Það er (?*sjálfan) sig sem Jón heldur að María elski <sig>.
It is (?*SELF..ACC) RFLX.ACC that Jon thinks that Maria loves.SUBJ <RFLX>.
It is himself that Jon thinks that Mary loves.

To my knowledge, this is the only licit use of a simplex anaphor as pivot.

- b. * Það var sig_i sem hann_i rakaði.
It was RFLX.ACC that he shaved.

It was himself that he shaved.

- i. Ólafur rakaði sig.
Olafur shaved RFLX.ACC.
Olaf shaved himself.

EM-Clefts

Like Norwegian and Icelandic, German has a simplex reflexive pronoun, *sich*, which may occur alone or in combination with the German SELF form *selbst*.³

However, the SELF morpheme does not have the significance for reflexives in German which it has in Scandinavian. In German, *selbst* is never obligatory, and therefore the (partial) complementarity between the distributions of the simplex and complex reflexives which is found in Scandinavian does not play a role in German (Steinbach, 1998, §4.2.2.5).

The ungrammatical German cleft below illustrates that the expected distinction between the EM-clefts and R-clefts for the acceptability of reflexive forms in pivot position does hold. Although nominative pronouns alone or in combination with SELBST make fully grammatical pivots, a reflexive form is impossible here.⁴

³There are a limited set of constructions which permit only the simplex form; these include inherent reflexives and middles, such as those in (391) and (392), which do not permit the reflexive form to bear focus. See Steinbach (1998) for discussion.

(391) Hans schämt sich (*selbst).
Hans schames RFLX (SELF).
Hans is ashamed.

(392) Dieses Buch lässt sich (*selbst) leicht lesen.
This book lets RFLX SELF easily read.
This book reads easily.

⁴The inverted order of the cleft pronoun and pivot in (394b) is obligatory; as noted in Chapter 3, German pronominal pivots always precede the cleft pronoun. Inversion is not obligatory for pronominal pivots modified by *selbst*.

- (393) * Es war sich (selbst), den Hans verletzt hat.
 It was RFLX SELF whom Hans injured has.
It was himself that Hans injured.
- (394) a. Es war er selbst, den Hans verletzt hat.
 It was he SELF whom Hans injured has.
- b. Er war es, den Hans verletzt hat.
 He was it whom Hans injured has.

4.2.2 Constraints on Reflexives: Confounds and Resolutions

The distribution of reflexives in German and Norwegian it-clefts are consistent with the derivational strategies in each language. This, though, does not rule out an alternate interpretation of the data, and one could cite two phenomena independent of Principle A as the basis of the pattern laid out above. The points at issue are associated with the following two sentences. The sentence in (395) is a specificational copular sentence and, as we have seen before, the postcopular reflexive is acceptable despite the lack of a local c-commanding antecedent. In (397), the reflexive satisfies the requirements of Principle A, but the sentence is nevertheless ungrammatical.

Depending on the assumptions one begins with in analyzing connectivity in specificational sentences, the sentences in (395) might be taken as evidence that Principle A may be violated, at least in the specific context of copular sentences, among which it-clefts must be counted.

- (395) a. The person John likes best is himself.
- b. Who John likes best of all is himself.

The acceptability of the examples in (395) is cited as evidence that Principle A is inadequate as an account of the distribution of reflexives. In neither the headed pseudocleft in (395a) nor in the pseudocleft in (395b) does the antecedent *John* c-command the reflexive form. The approach to connectivity effects in specificational sentences adopted in, for example, Jacobson (1999) and Sharvit (1999), treats the appearance of the reflexive as a purely morphological phenomenon which is independent of syntactic requirements. Both authors identify the postcopular constituent in these examples as an identity function having the denotation in (396).

- (396) $\llbracket \textit{himsel}f \rrbracket = \lambda x.x$

The reflexive form is simply the morphological realization of this function, with the consequence that the spellout of this constituent is determined solely by its denotation, and is independent of the syntactic environment. This would mean that there are contexts, including specificational sentences, in which the reflexive need have no antecedent, and consequently the question of the syntactic relationship to an antecedent is moot. Treating the reflexive as an ID function which is not subject to Principle A could capture the Norwegian and Icelandic R-cleft data without appeal to a raising derivation.⁵

If the reflexive is interpreted in this way, this fails to explain why German does not permit the option of an ID function as pivot. There is, though, an additional restriction on the distribution of reflexives which is independent of Principle A. It could be argued that it is this independent constraint which is violated here, thereby accounting for the ungrammaticality of reflexive pivots in German without reference to binding theory.

As originally discussed in Rizzi (1990), and developed in Woolford (1999) and in Tucker (2012), there is a gap in the paradigm of reflexive forms which holds consistently across languages: nominative reflexives do not exist. This has been argued to be a consequence of the deficient featural content of anaphors. Anaphors are dependent on their antecedents for valuation of their ϕ -features, and are therefore incapable of valuing the ϕ -features of T, and consequently incapable of appearing in nominative form.

The constraint at issue is the Anaphor Agreement Effect, the source of variation in acceptability for the following Icelandic sentences. Each example contains a Quirky Subject - a constituent which behaves in all relevant respects as a subject, with the exception of Case.⁶ A Quirky Subject does not enter into AGREE with T, and therefore T may probe for an active goal lower in the structure. Consequently, a sentence containing a Quirky subject may also contain a Nominative object. (Example sentences from Everaert (1991) and Thráinsson (2007).)

⁵The concept of an identity function as the denotation of a reflexive form is not inherently inconsistent with Principle A. One could, for example, make the argument that the distribution captured by Principle A is fundamentally due to semantic constraints on the ID function. The constraints which normally hold of the ID function may then be said to be suspended in specificational copular sentences, due to the distinction between equative and predicative semantics.

⁶The characteristics which identify Quirky Subjects as true subjects rather than fronted objects include their capacity to bind PRO, to function as subjects of raising verbs, and to undergo subject-auxiliary inversion in polar questions (Thráinsson, 2007).

- (397) a. Mér leiðast ekki þessir kjölturakkar.
 Me.DAT bore not these poodles.NOM.PL.
I am not bored by these poodles.
- (398) a. Henni virðist sig vanta peninga.
 Her.DAT seems RFLX.ACC lack money.
She seems to herself to lack money
 (Everaert, 1991, 288)
- (399) a. *Henni finnst REFL veik.
 Her.DAT finds REFL sick.
She considers herself sick.
- b. Maríu leiðist hún sjálf.
 Maria.DAT bores she SELF.
Maria finds herself boring.

In (397), T may agree with the the object DP *kjölturakkar* because *these poodles* is not featurally deficient. (398a) contains a Quirky Subject and a reflexive object, but as in this instance the Quirky Subject does not co-occur with a nominative object, the reflexive pronoun is in accusative case and no Anaphor Agreement effect arises.

The example in (399a) is impossible: this is a nominative object position, and therefore unsuitable for a reflexive pronoun. It is possible to get a co-referent reading between subject and object in a nominative object construction as in (399b). However, although this is an environment which should license a reflexive, only a non-reflexive nominative personal pronoun, in combination with the SELF intensifier, is acceptable. The personal pronoun can meet the requirements of AGREE T, but a reflexive form cannot.

The postcopular position in German is analogous to the nominative object position in Icelandic: matrix T agrees with an it-cleft pivot. We could then rule out reflexive pivots in German without recourse to Principle A: that is, it could be the case that German does not permit the ID function in pivot position solely because the morphological shape of this function is subject to the Anaphor Agreement Effect.

4.2.2.1 Icelandic Reflexive Possessives

Although nominative reflexive personal pronouns are impossible, there are reflexive forms in Icelandic which can appear with nominative case marking. A nominative DP pivot may have a

reflexive possessive in its specifier and, as reflexive possessives match the DP in which they are embedded for Case, a nominative reflexive surfaces.

There are two contexts in Icelandic which permit this form: a reflexive possessive may appear as a locally bound anaphor contained within a nominative object as in (400), or as a long distance anaphor in the specifier of either a nominative subject or nominative object DP ((401) and (402), respectively).

- (400) Honum_i líkar bíllinn sinn_i Everaert (1991, p.281)
 Him.DAT likes car.NOM his.NOM.RFLX
He likes his car

- (401) Ólafur segir að bókin sín sé ennþá til sölu.
 Olaf.NOM says that book.NOM his.NOMRFLX.POSS is.SUBJ still for sale.
 Maling (1984, p.217)

Olaf says that his book is still for sale.

- (402) Hún sagði að mér líkaði vel nýja bókin sín.
 She.NOM said that me.DAT liked.SUBJ well new.NOM book.NOM hers.NOMRFLX.POSS.
 Maling (1984, p.232)

She said that I like her new book a lot.

The availability of nominative reflexive possessive forms, in combination with the two options for the derivation of it-clefts, means that Icelandic exhibits a combination of properties which make it possible to diagnose the licensing requirements on reflexive forms in pivot position.

The two clefts in (403) are a minimal pair; both have non-reflexive possessive pivots, but these vary for case depending on the class of the it-cleft. The pivot is accusative in the R-cleft in (403a), and nominative in the corresponding EM-cleft in (403b).⁷

- (403) a. Það er móðir hans sem Olafur elskar mest.
 It is mother.NOM his.GEN that Olaf loves..3SG most.
It is his_j mother that Olaf_i loves most.
- b. Það er móður hans sem Olafur elskar mest.
 It is mother.ACC his.GEN that Olaf loves.3SG most.

⁷In contrast to reflexive possessive pronouns, third person non-reflexive possessives are invariant for case. The pronoun *hans* appearing in both the R- and EM-cleft pivot is the genitive form of the third person personal pronoun.

It is his_j mother that Olaf_i loves most.

We can now determine whether or not the reflexive pronoun in the specifier of a pivot is simply an ID function which is not subject to Principle A as an argument within a specificational sentence. The Anaphor Agreement Effect does not come into play for reflexive possessive pronouns, and therefore this constraint does not prohibit an externally merged DP pivot with a reflexive possessive specifier to agree with matrix T. If the reflexive is an ID function then, just as we have a minimal pair of it-clefts which vary only for case of the pivot in (403a) and (403b), we would expect to find a corresponding minimal pair of it-clefts with reflexive possessive pivots.

In the grammatical R-cleft (404a), the pivot is a clefted object DP, and as the case of a raised pivot is determined within the cleft clause, the reflexive possessive *sína* appears in Accusative form. However, although nominative reflexive possessive DPs are, in themselves, grammatical, it is not possible to create an EM-cleft with a reflexive possessive. The source of ungrammaticality must be a Principle A violation, as the pivot in this instance has been externally merged above the clause.

- (404) a. Það er móður sína_i sem Olafur_i elskar mest.
It is mother.ACC his_{RFLX}.ACC that Olaf loves most.
It is his (own) mother that Olaf loves most.
- b. *Það er móðir sín sem Olafur elskar mest.
It is mother.NOM his_{RFLX}.NOM that Olaf loves most.

Because Icelandic permits both R- and EM-clefts, it can produce grammatical minimal pairs such as those in (477). However, when the pivot involves a reflexive form, it is impossible to create a corresponding minimal pair: the EM-cleft derivation is not available. Again, because the Anaphor Agreement Effect does not affect embedded reflexive possessives, the ungrammaticality of (404b) cannot be traced to the failure of AGREE, and this leaves us to conclude that reflexive forms cannot be treated as spell-outs of an identity function whose distribution is not syntactically constrained. Reflexive pivots are subject to Principle A.

The data drawn from a comparison of Norwegian, German, and Icelandic it-clefts indicate that connectivity for Principle A is syntactic in nature. We can conclude that the Case and Agreement patterns with the availability of reflexive pivots because they share the same source: these are all instances of morphological reflexes of syntactic structure.

4.3 The Syntax of Reconstruction Effects

That the morphology associated with agreement and reflexive forms is a reliable indicator of syntactic structure is, assuming a transformational syntax, uncontroversial. Connectivity effects which fall within this class involve features which are directly affected by the syntactic environment and have consequences for lexical insertion.

It is, though, a broadly accepted view within the field of syntactic research that the syntactic environment is determinative of a range of interpretive effects as well. This approach implies that the semantic module is dependent on the syntactic representation of c-command relations, particularly with respect to interpretation for scope and binding. This view of the syntax-semantics interface is so well established that it is usually taken as a given, and for this reason the interpretive options a sentence supports play an important role in the diagnosis of syntactic structure. It is, though, worth reviewing the reasons for attributing these effects to the syntax.

The relevance of syntactic structure to scope interpretation can be understood by reference to the following constructions. (405) is ambiguous between wide and narrow scope of the existential, but the sentences in (406) and (407) have only one reading - that produced by surface scope.

- (405) A student read every book.
- a. For each book x , there is at least one student y who read x .
 - b. There is a specific student y who read all of the books.
- (406) A student who read every book (has a headache).
- a. There is a specific student y who read each book and who has a headache.
 - b. * For each book x , there is some student y who read x and who also has a headache.
- (407) Some student asked who wrote every book.
- a. There is a specific student who requested information about the author of each book.
 - b. * For each book x , there is some student y who requested information about the author of x .

The two structures in (406) and (407) share a characteristic beyond their lack of ambiguity.

This characteristic is a syntactic one: in each sentence, the universal quantifier is embedded within a domain from which the syntax does not permit extraction. In (406), *every book* is embedded within a relative clause and thus subject to the Complex Noun Phrase Constraint (CNPC) and in (407), *every book* is situated within a *wh*-island.

By contrast, the universal in (405) - the one sentence which is ambiguous - is not embedded in a syntactic island; this is the only one of the three sentences which permits *A'*-extraction, as illustrated in the topicalization and *wh*-movement variants in (408). The attempt to extract a *wh*-phrase out of either of the two unambiguous examples (406) or (407) results in ungrammaticality, as in (409). The data indicate that only an environment which permits syntactic extraction will also support scopal ambiguity - that is, the availability of the wide scope reading of a universal quantifier appears to be correlated with the availability of *A'*-movement.

- (408) a. Now this book, surely some student read *t*.
b. What did some student read *t*?
- (409) a. * What does a student who read *t* have a headache?
b. ?* What did some student ask who wrote *t*?

The data indicate that there are constraints on syntactic movement and constraints on interpretation which make reference to the same domains. This correlation can be understood to mean that the interpretive system reads scopal relations directly from the c-command configuration provided to it. Because the quantifiers in (406) and (407) are embedded within syntactic islands, the syntax cannot create the c-command relations required for an inverse scope reading.

This reasoning makes clear why the morphological variation we find in Germanic *it*-clefts leads to predictions regarding the interpretive options for or restrictions on these structures.

4.3.1 Covert Movement

The structure in (405) does permit extraction of the universal quantifier, thus the syntax can in principle produce the required c-command relations, but in fact the syntax has not done so, at least not overtly: the universal remains within the c-command domain of the existential. Therefore, under the view that c-command determines scope, the ambiguity of (405) must mean that the semantic component has access not only to the structure which is overtly represented, but to

a second structure in which the c-command relations have been reversed. This structure is produced via Quantifier Raising (QR): covert movement and adjunction of the universal quantifier to a position c-commanding the existential. This syntactic operation is effected at an additional, covert level of derivation: logical form or LF.

Heim and Kratzer (1998) argue in favor of the existence of QR for independent reasons: the compositionality problem presented by in situ quantificational internal arguments. A transitive verb such as *read* takes two entity-denoting or type $\langle e \rangle$ arguments and produces a truth value. The internal argument of *read* in (405), though, is the generalized quantifier *every book*. The composition will reach an impasse, as the $\langle e \langle et \rangle \rangle$ verb and the $\langle \langle e, t \rangle t \rangle$ quantifier are incompatible for function application.

(410) Somebody $_{\langle \langle e, t \rangle t \rangle}$ $\underbrace{\text{read}_{\langle e \langle et \rangle \rangle} \text{ every book}_{\langle \langle e, t \rangle t \rangle}}_{\text{incompatible}}$.

It is possible to resolve the compositionality problem through various applications of type shifting. The internal argument may, for example, be type shifted to $\langle \langle eet \rangle, \langle et \rangle \rangle$, so that the quantifier will take the predicate *read* as argument, producing a property-denoting constituent as argument to the existential subject.

(411) Somebody $_{\langle \langle e, t \rangle t \rangle}$ $\underbrace{\text{read}_{\langle \langle et \rangle \rangle} \text{ every book}_{\langle \langle eet \rangle, \langle e, t \rangle \rangle}}_{\langle e, t \rangle}$.

This produces only the surface scope reading, though, so that a different type of shifting option will be required in order to produce the inverse scope reading. The range of type shifting operations which will have to be assumed is, of course, much broader, as the compositionality problem will arise for a number of other constructions. It will be necessary, for example, to account for the ambiguity of the ditransitive construction in (412).

- (412) Everyone introduced someone to Fred.
- a. For every person *x*, there is a person *y* such that *x* introduced *y* to Fred.
 - b. There is a person *y* such that everyone introduced *y* to Fred.

The application of QR offers a different solution, given certain assumptions about the consequences of this operation. Heim and Kratzer (1998) propose that QR of a quantifier leaves

behind a variable of type $\langle e \rangle$, the type required by the predicate, and this resolves the type mismatch when applied to an internal argument. Movement triggers λ -abstraction over this variable; the resulting type $\langle e, t \rangle$ λ -abstract serves as the argument of the raised quantifier.

(413) [every book] $_{\langle \langle et \rangle t \rangle}$ $\lambda x_{\langle e \rangle}$. [some student] $_{\langle \langle et \rangle t \rangle}$ $\lambda y_{\langle e \rangle}$ read'(x)(y)

The conceptual advantage offered by the assumption of covert movement is that a single syntactic process, QR, provides an understanding of two different semantic processes: scope interpretation and the semantic composition of predicates with quantified internal arguments. This eliminates the need for a broad inventory of type shifting operations.

The adoption of QR then leads to a reduction in complexity, but only for the semantic module, and this has two consequences. It necessarily adds to the complexity of the syntax in the form of an additional, covert level of derivation. This then makes a strong claim about the organization of the grammar: the capacities of the semantic system are constricted and inflexible, and the syntax - specifically, the covert syntactic representation at LF - is established as central in mediating semantic composition and scope interpretation.

4.3.2 Copies and Reconstruction

Syntactic movement, by definition, places a single constituent in two or more positions. The Minimalist account of the simultaneous occupation of multiple positions is the copy theory - that is, movement involves the creation of a copy of a constituent, with the result that one copy remains in situ while the second is raised to a derived position. As a result, although it is typically the case that only a single copy is pronounced - that which occupies the highest position at the completion of operations in the narrow syntax - a constituent may be interpreted in any of the positions it has occupied.

The consequence of QR is that a quantifier is interpreted in a position higher than that which it overtly occupies, as LF movement has no PF realization. A constituent may also be interpreted in a position lower than that in which it is pronounced; this, though, requires that a lower copy is available, and this can be the case only if that constituent has undergone overt raising in the narrow syntax, leaving a copy or copies behind lower in the structure. This is, in the current framework, the definition of syntactic reconstruction: interpretation of a lower copy is the mechanism responsible for interpretive reconstruction effects, and in this framework, it is the only mechanism through which reconstruction effects can arise.

The important point for the material which follows is precisely that reconstruction effects are dependent on a syntactic position into which the relevant constituent may be ‘reconstructed’ - that is, reconstruction is possible only for constituents which have been raised. This is the reason that the comparison between German and Norwegian it-clefts is informative, as German does not offer the environment for syntactic reconstruction, but Norwegian does.

One will find in looking through the available literature that there has certainly been some investigation into connectivity in it-clefts - we have seen an example of this in the discussion of the Percus (1997) analysis in Chapter 3 - but this tends to focus on morphosyntactic effects.⁸ A great deal more research has been conducted on a closely related structure: relative clauses. I therefore continue below with a brief presentation of current analyses of relative clause structure. This discussion will be the point of departure for the examination of reconstruction effects in Germanic R- and EM-clefts.

4.4 Reconstruction Effects in Relative Clauses

This approach towards the syntax-semantics interface has formed the basis a resurgence of research into the syntax of relative clauses. A canonical relative functions as a predicate modifier to an NP, and in this differs from the semantic role of a cleft clause. Both constructions, though, are λ -abstracts containing a gap, and therefore for relatives clauses there exist, in theory, the same two possible characterizations of the relationship between the NP relative head and the clause-internal gap which we have found to hold for the relationship between a DP-pivot and the gap within the cleft clause. The same approach towards a diagnosis of structure - examination of some class of connectivity effects - is therefore a useful strategy for both constructions.

These are the ways in which it-clefts and relatives are similar; I will argue, though, that the characteristics for which relative clauses and it-clefts differ are of much greater significance. Although reconstruction effects have been the foundation of research into relative clauses, the properties of this construction are such that distinctions between types of effects are obscured, and as a result, relatives have not supplied the evidence necessary for an adequate evaluation of the sources of reconstruction effects. It-clefts differ from relatives in both their syntax and

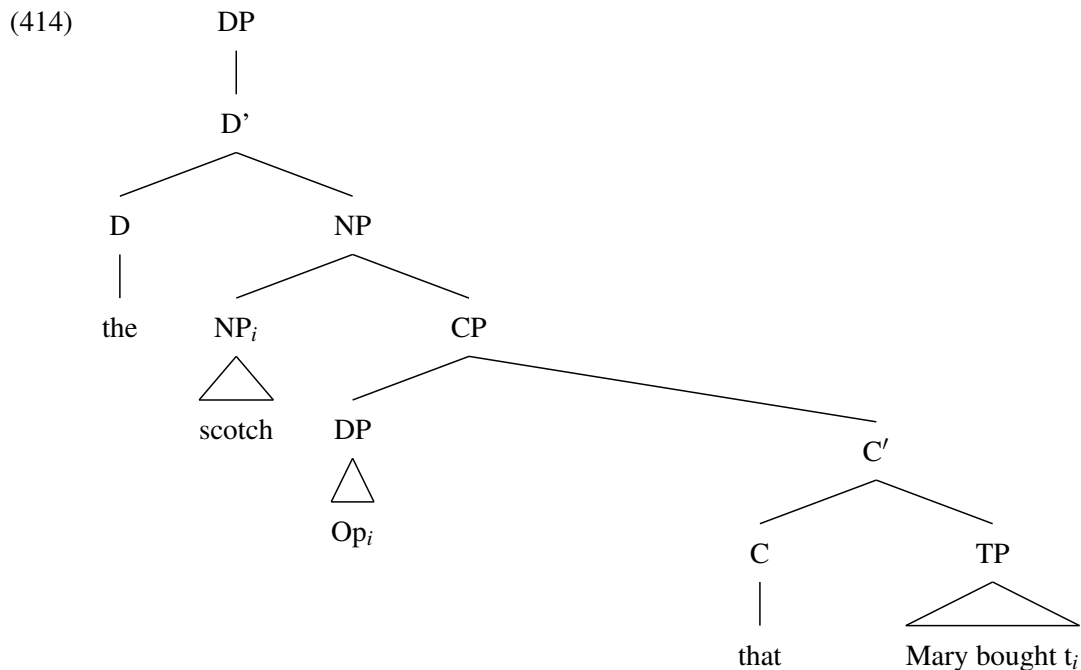
⁸Exceptions include the thorough analysis in Halvosen (1978) of reconstruction effects in English. A comparative examination of morphosyntax of Scandinavian it-clefts is addressed in Svenonius (1998), of Icelandic it-clefts in Thráinsson (1979), and of Swedish and German it-clefts in Huber (2002).

semantics, and the properties of it-clefts on both of these parameters have as a consequence that subtle variation between reconstruction effects is revealed in a way which does not manifest in relatives.

In this section, I present an overview of reconstruction and anti-reconstruction effects in relative clauses, and the two derivations which have been posited as an account of the data. The details of these effects will then form the basis for a comparison between relatives and the two forms of Germanic it-clefts.

4.4.1 Binding Theory: Principles A and B

The traditional analysis of relative clauses takes the clause to be a CP adjunct to NP, as illustrated in (414).



The NP *scotch* in (414) is the complement of the definite determiner, and it is also the head of the relative clause which is right adjoined to it. The relative is derived by A'-movement of, in this case, a null operator *Op*, to SPEC-C, and correspondingly λ -abstraction over the variable in the gap site. The relative is of the same type as its NP head - both are property-denoting - and these compose by predicate modification to form a complex property.

In section 4.2.2, I argued that, despite alternate approaches to the licensing of reflexive forms, Icelandic provides evidence that reflexives must be licensed within the necessary syntactic environment: binding by a local c-commanding antecedent. One of the problems for the HEA, then, is that it cannot account for the data in (415) and (420).

(415)

(416) The picture of himself that John has on his wall is beautifully framed.

(417) The article about himself that John read in the paper was inaccurate.

(418) * The picture of him_i that John_i has on his wall is beautifully framed.

(419) * The article about him_i that John_i read in the newspaper was inaccurate.

(420) a. The pictures of each other_{i,j} that John_i and Mary_j have in their offices are beautifully framed.

b. The articles about each other_{i,j} that John_i and Mary_j read in the newspaper were inaccurate.

These examples show that reflexives and reciprocals are licit within the NP head, despite the fact that their antecedents are embedded within the relative clause.⁹ NP is, again, selected by the external determiner. It is never located within the relative, and it cannot be, because given the adjoined position of the relative clause, the NP does not c-command the relative, and therefore there is no movement path from within the clause to head position.

Therefore, Principle A predicts (416) and (417) to be ungrammatical. Conversely, as there is no c-command relation between the relative head and any clause-internal constituent, neither (418) nor (419) should incur a Principle B violation. In fact, though, the judgments on the data are precisely the inverse of these predictions.¹⁰

⁹Examples in the literature are typically of this sort and illustrate the pattern using English reflexive forms. I include examples having reciprocals within the head of the relative due, again, to the uncertainty introduced by the morphological identity of English reflexives and logophors.

¹⁰My discussion here reflects the arguments which are put forward in support of an alternative derivation of relatives. In fact, the reflexive and reciprocal data is not as compelling as it may at first appear, as is noted by a number of researchers (i.e. Bhatt (2002); De Vries (2002), among others). This is because the reflexive forms are embedded within picture-NPs. The internal structure of this class of DPs is not well understood, but it has been argued that they may contain a PRO which acts as the antecedent of a DP-internal reflexive. De Vries argues that for examples like (417), a DP-internal PRO is unlikely to be coreferent with the antecedent of the reflexive. This assumes

4.4.2 Idiom Chunks

The behavior of idiom chunks in relatives has been an important contributor to the reanalysis of relative clause structure. Idiom chunks such as *headway* and *track* are restricted in their distribution; of the examples here, only the two in (421) are acceptable.

- (421) a. We made satisfactory headway.
b. She keeps careful track of her expenses.
- (422) a. * John is impressed by headway.
b. * John made headway today, and (the) headway/it was impressive.
c. * John is impressed by careful track.
d. * John keeps careful track of his finances, and (the careful) track is impressive.

The standard account of this limited distribution is that the interpretation of idiomatic meaning is dependent on the local relationship established between an idiom's component parts, represented syntactically for the idioms above as a head-complement relationship. The lack of this configuration leads to ungrammaticality .

Idiom chunks may, though, appear as relative clause heads, as in the following two examples from Schachter (1973).

- (423) a. The headway that we made was satisfactory.
b. The careful track that she's keeping of her expenses pleases me.

Under the HEA, the appearance of the idioms chunks as heads of the relatives in (423) is odd - it is, in fact odd on two counts. One of these is the locality requirement just noted. The second is the adjacency of the idiom chunk and the definite determiner. Example (425a) illustrates that these idiom chunks cannot appear adjacent to a definite determiner when they remain in situ, but also that they must do so when they are the heads of relative clauses - omission of the determiner in (425b) leads to unacceptability.¹¹

that a PRO generated within a picture-NP will necessarily represent the subject, or highest argument, of NP - a point which, I would say, remains unresolved.

¹¹There are, though, relatives having idiom chunk heads which are licensed *only* in the matrix clause, as in the following example from Sauerland (2003):

- (424) John made the amount of headway that Mary demanded.

- (425) a. * John keeps the careful track of his finances.
b. I am impressed by *(the) careful track that John keeps of his finances.

4.4.3 The Raising Analysis

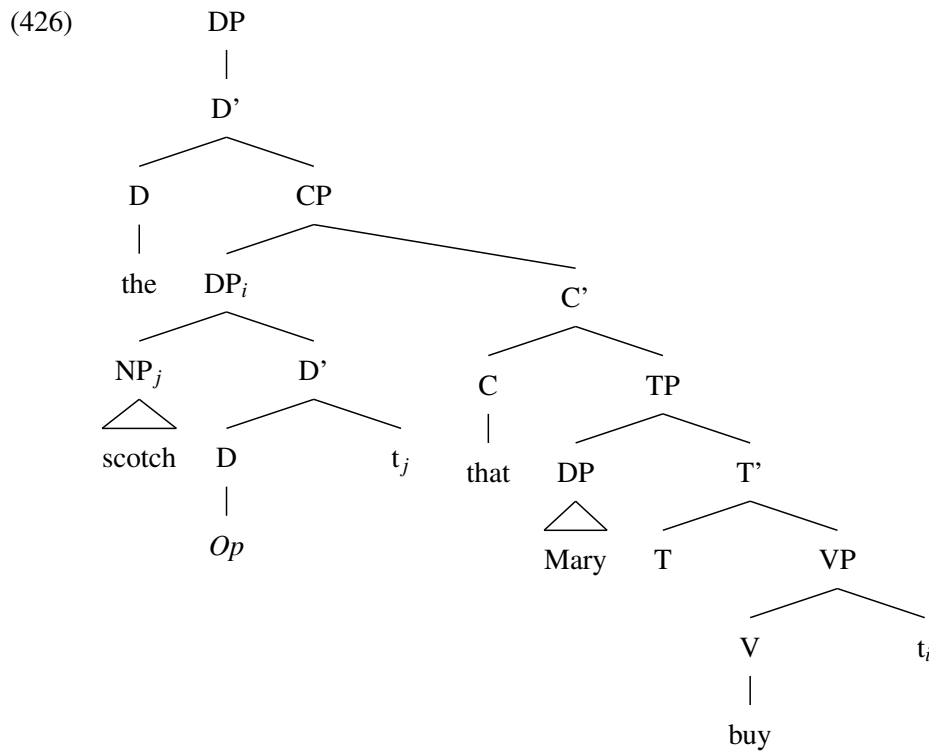
If it is correct to conclude from the reflexive data in §(4.4.1) and the idiom data in §(4.4.2) that the head of the relative clause must be c-commanded by clause-internal material, then the HEA is unworkable. An adequate analysis will have to capture not only the grammaticality of idiom chunks and reflexives in a clause external position, it will also have to permit the acceptability of the data in (423), in which a determiner immediately precedes the idiom chunk, as well as rule out the generation of the ungrammatical idiom data in (425).

This contrast in grammaticality is one of the factors supporting the Head Raising Analysis (HRA). As the name itself indicates, this approach argues that the NP relative clause head is first merged within the clause and raised to its surface position, but the determiner preceding the head at surface structure is not included in this operation. Rather, the relative clause is the complement of the clause-external determiner.

The constituent which is first merged within the relative is a DP headed by a null operator or an overt relative pronoun. In contrast to the identification of relative pronouns as intransitive Ds in the Head External analysis, they are in the HRA taken to be transitive Ds which take the relative head, an NP, as argument. The first movement operation is the raising of the *operator*-NP constituent to SPEC-CP. Once in this position, the NP is excorporated and raised to a position above the D which selected it.¹² As a result, surface adjacency is established between the CP-external determiner and the raised NP, but this does not represent a head-complement DP structure.

This will be addressed in §4.4.4.1.

¹²Identification of the landing site of the relative head varies by analysis; Bianchi (1999) raises the relative head to SPEC-C; the tree in (426) is based on her analysis. Bhatt (2002) proposes that it is the raised NP itself which projects, resulting in a structure identical to CP adjunction to NP.



The raising derivation leaves a copy of the relative head within CP. In contrast to the traditional HEA, raising produces a configuration which captures the grammaticality of reflexives and idiom chunks within the head of a relative clause; Principle A and selectional requirements on idiom chunks are met prior to raising.¹³

4.4.3.1 Scopal Ambiguity

The example in (427) contains two scope-taking constituents - the numeral *25* and the modal *likely* (example from Bhatt (2002), attributed to Irene Heim). The relative clause is ambiguous; either *twenty five* or *likely* may take wide scope, producing the interpretations in (427a) and (427b), respectively.

- (427) I am worried about the twenty five people likely to come to dinner tomorrow.
- a. There exists a group of 25 people; these people are likely to come to dinner.

¹³I assume that the constraints noted here either must or can be met prior to raising; this does not rule out the possibility that reconstruction may be necessary as well.

- b. It is likely that the number of people who come to dinner will be 25.

The c-command relationships at surface structure support only the interpretation presented in (427a), so that under the HEA, the inverse scope reading is predicted to be impossible.

If the relatives are derived by head raising, though, a lower copy of the raised NP is situated within the c-command domain of the clause-internal quantifier. It is this copy which survives at *lf* and feeds the semantic interpretation, resulting in the reading in (427b).

- (428) I am worried about the <~~twenty five guests~~> *Op* likely < Θ_P > twenty five people> to come to dinner tomorrow.

4.4.3.2 Variable Binding

In the three examples below, the head NP contains a possessive pronoun which is most naturally interpreted as bound by the universal quantifier embedded within the relative clause. (Examples (430), and (431) from Bianchi (1999).)

- (429) The registrar will keep on file the transcript of his grades that every boy must submit in person.
- (430) The part of his salary that I paid in advance to every clerk will be deducted from the pay sheet.
- (431) The period of his life which nobody is willing to speak about is adolescence.

Just as in (427), the bound reading requires that the universal quantifier c-command the relative head, and therefore this reading is, by hypothesis, also dependent on the availability of a lower copy of NP.

- (432) The registrar will keep on file the <~~transcript of his grades~~> that *Op* every boy must submit < Θ_P > transcript of his grades> in person.

The crucial aspect of the head raising analysis is precisely the identification of the raised constituent as the NP *head* alone; the determiner is not raised from a clause-internal position, and therefore does not participate in connectivity effects. This accurately captures the idiom

data just above: reconstruction of the external determiner would create ungrammaticality, while reconstruction of the NP alone supports the idiomatic interpretation.¹⁴

These data are significant in that they identify the domain of reconstruction. Only NP is raised to the position of the relative head, therefore only the NP can reconstruct, and consequently only NP-internal material may interact with constituents within the relative clause for scope and binding.

The restriction of reconstruction effects to NP accounts for the potential ambiguity of (435) and the contrasting lack of ambiguity in (436). In (435), the head of the relative, *transcript of his grades*, contains the possessive pronoun and therefore reconstruction results in the bound reading. Should the head not reconstruct, the result is the anomalous reading given in (435b).

(435) The registrar will keep on file the transcript of his grades that every boy must submit in person.

- a. For every boy x , there is a transcript of x 's grades which x must submit to the registrar in person.
- b. For some person y , there is a transcript of y 's grades z and every boy must submit z to the registrar in person.

Only the anomalous referential reading of the pronoun *his* is available for (436) because of the syntactic position of the bound variable; it is introduced by the possessive pronoun in the specifier of the external determiner. It is therefore not contained in the domain of reconstruction, and binding by the clause-internal universal is impossible.¹⁵

(436) The registrar will keep on file his _{$j/*i$} transcript that every _{i} boy must submit in person.

¹⁴The same effect is found in data presented in Kayne (1994, p. 103) (attributed to Vergnaud (1974, p. 265)) for relatives having proper names as heads. If the determiner and head NP of the relative in (433) were underlyingly a constituent raised from within CP, then the clause-internal DP is of the form *the Paris*, which, as shown in (434), cannot be grammatical in situ.

(433) The Paris _{i} that I know t _{i} .

(434) * I know the Paris.

¹⁵Relativization of NPs under possessive Ds is claimed to be ungrammatical in Smith (1964). It is certainly true that (436) is quite awkward, but I don't believe it is ungrammatical. It is easier to interpret relatives of this kind in contrastive contexts:

The head raising analysis appears, then, to make the correct predictions in identifying NP as the category within which reconstruction effects may arise.

4.4.4 The Matching Analysis

The HRA is, then, an analytical response to a variety of reconstruction effects which manifest in relatives, and makes sense of the data introduced in §4.4. It is, though, problematic for the HRA that there are data which do not pattern as expected under reconstruction.

4.4.4.1 Idioms Redux

The idiom data below differs from that given in (423a) and (423b). In the following two sentences, the idiom chunk head of the relative clause is selected by the matrix predicate, and therefore cannot have been first merged within the clause.¹⁶

(438) Bill made the amount of headway that Mary demanded. ((Sauerland, 2003))

(439) John pulled the strings that got Bill his job. ((Alexiadou et al., 2000, p. 12), citing McCawley (1981))

Sauerland (2003) cites the sentence in (438) as one piece of evidence in support of a second derivational option for relatives, which, he argues, coexists with the HRA. The analysis he proposes, the Matching Analysis (MA), bears a similarity to the traditional head external analysis in assuming that the head NP is first merged as the complement of the clause-external D, and that the relative clause is an NP adjunct.¹⁷ The difference concerns the nature of the operator which is raised into SPEC-C. In the HEA, the operator is an intransitive D, whereas in the MA, as in the HRA, the relative operator is taken to be a transitive D with an NP complement. The HRA and MA differ in the way each accounts for the NP gap within the clause. Under the HRA, the gap is formed by movement - specifically, excorporation of NP from within the relative DP and

That dog of John's wearing the red collar is extremely aggressive. But his dog that wears the blue collar is quite well behaved.

¹⁶As Alexiadou et al. (2000, p. 44, fn. 5) point out, the relative in (439) behaves semantically as though it modifies the entire matrix VP, rather than solely the idiom chunk *strings*, as indicated by the paraphrase in (437).

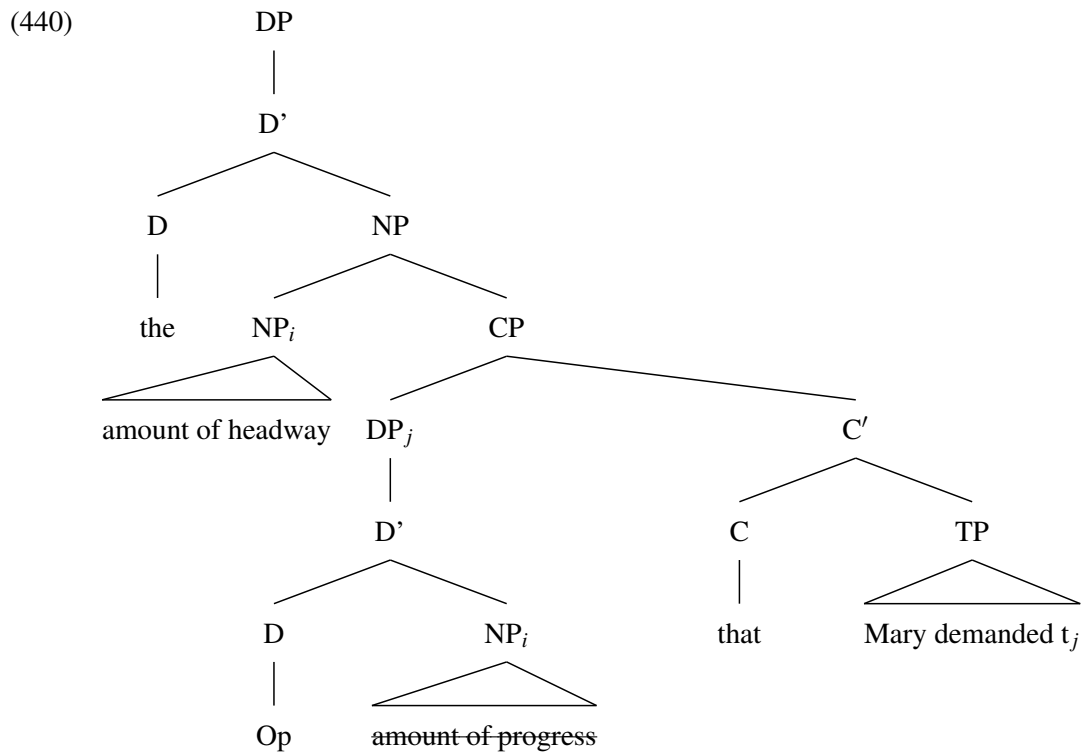
(437) Pulling (those) strings got Bill his job.

¹⁷I assume that the CP is taken to be an adjunct to NP; the position of the CP is not precisely identified.

then further movement to a position adjacent to the external determiner. Under the MA, the gap results from ellipsis: the clause-external determiner and the clause-internal operator each select an NP complement. These NPs are identical, and the clause-internal NP is elided under identity.

The analysis then predicts, as does the HRA, that the lexical content of the relative head is present both clause-internally and clause-externally; the two analyses differ in identifying the relationship between the relative head and the gap position: under the raising analysis, the head and the gap position are the head and foot of a movement chain, and under the matching analysis, the head is the antecedent of an independent token of a semantically identical NP.

The definition of *identity* for these NPs is crucial: identity between the clause-external and (deleted) clause-internal NP is necessarily defined for the MA as semantic rather than lexical. It is this which permits Sauerland to argue that the NP deleted within the relative in (438) is something like *amount of progress* - an NP which is interpretationally equivalent to, but free of the selectional restrictions on, *headway*.



4.4.4.2 Principle C

In discussing reconstruction for binding theoretic principles in §4.4.1, I failed to address Principle C, and this is because it does not pattern in relatives in the same way as do Principles A and B.¹⁸ In (441) the R-expression *John* is embedded within the complement of the head NP, and is coreferent with the pronominal subject of the relative clause. If head raising were the only means of deriving relative clauses, a copy of the R-expression is c-commanded by the pronominal subject within the clause, and we expect a Principle C violation. The fact that the sentence is grammatical indicates that the R-expression must not be located in the gap position. However, if the clause-internal NP need be only an interpretationally equivalent NP, then the structure of (441) may be that produced by the MA as represented as in (441a), rather than the offending representation created by the HRA in (441b). The derivation produced by the MA predicts that no Principle C violation arises in (441).

- (441) The edition of John_i's book that he_i dislikes is the most recent one.
- a. The edition of John_i's book that he_i dislikes [*Op* edition of his_i book] is the most recent one.
 - b. * The edition of John_i's book that he_i dislikes [*Op* edition of John_i's book] is the most recent one.

The grammaticality of (441) can be contrasted with the ill-formedness of (445) below. Like (441), the R-expression embedded within the relative head is coreferential with a pronominal subject, but in this instance, the matching derivation is not an available option. The head NP is forced to reconstruct because, in addition to the R-expression, it contains a variable - *her* - which must be bound by the universal *every senator*. Because only the head raising derivation is available in this case, reconstruction creates a configuration leading to a Principle C violation. Replacing the R-expression with a pronoun as in (446) permits grammatical reconstruction.¹⁹

¹⁸The data concerning Principle C is significantly more complex than indicated here; the material discussed is intended solely to explicate the Matching Analysis.

¹⁹Notice that the traditional Head External analysis would have no difficulty in accounting for (441), as it assumes the clause-internal trace to be simply a null variable. In fact, the raising analysis could also capture this example if it were assumed, as is usually the case, that only one copy of a raised constituent survives at LF: that is, the offending lower copy need not be interpreted and, assuming Principle C to be evaluated at LF, all is well in the LF syntax.

- (445) * A review of John_i's debate with her_j that he_i wanted every_j senator to read landed in the garbage instead. Fox (1999)
- (446) A review of his_i debate with her_j that John_i wanted every_j senator to read landed in the garbage instead.

4.4.5 Case Morphology

In §4.2, I noted that Case morphology is a solid diagnostic for syntactic movement, given that AGREE is a purely syntactic process with no interpretive significance. This evidence is available in it-clefts, and provides overt evidence of a distinction between R- and EM-clefts, but it is not available for relatives. This difference between clefts and relatives is due to the fact that the category targeted for movement in clefts is a DP, but in relatives an NP, a distinction which has a cluster of important consequences.

The key component of the HRA which distinguishes it from the traditional and matching analyses is the fact that the relative operator and the NP head form a constituent within the clause, but are disassociated from one another because the nature of the raising operation is to extract the NP from the relative DP. Consequently, it is somewhat unclear what prediction the HRA makes for the case morphology of the relative head. As the head is first merged as the complement of the relative determiner within the subordinate clause, one expects that it

However, Sauerland (2003) argues that the gap position within a relative necessarily contains lexical material. His analysis is based on double-headed Antecedent Contained Deletion (ACD) constructions such as (442)

- (442) * Polly visited every town that is near the lake Eric did *t*.

Sauerland assumes two movement operations: QR of the quantificational DP [*every town...*] and relative operator movement.

- (443) every town that is near the [_ilake Eric [**visited t_j**]]_j Polly [**visited t_j**]

If movement operations left contentless traces behind, the two VPs - *visit t* - should be identical, licensing VPE in (443). (Note that Sauerland argues against claiming a distinction between the two VPs due to non-identical indexation of traces.) He argues that the ungrammaticality of VPE indicates that each movement operation leaves a copy, and as the content of the copies are not identical, VPE cannot apply (444).

- (444) every town that is near the [_ilake Eric [**visited the_i (lake)**]]_j Polly [**visited the_j (town)**]

will bear the morphology consistent with that of the D which selects it. This, though, is not necessarily what one finds.

The lack of nominal case morphology makes the situation undiagnosable in English, so that one must look elsewhere for evidence. In German, the case morphology of DPs is, for the most part, limited to the form of the determiner and attributive adjectives. There are, though, instances of Case marking on NP. Among these is the form of dative plural NPs: these appear with a final /n/.

An example of this type is (447a), below. The plural form of *Gerücht* (*rumor*) is *Gerüchten* in the dative only; for all other cases, the plural of the NP is *Gerüchte*. As the verb in (447a) is the dative verb *widersprechen*, the dative plural form of the DP appears. (447b) is ungrammatical because, although the determiner *den* is correctly in Dative form, the NP *Gerüchte* is not.

- (447) a. Der Kandidat hat den Gerüchten über sich stark widersprochen.
 The candidate has the.DAT rumors about RFLX strong against-spoken.
The candidate strongly denied the rumors about himself.
- b. * Der Kandidat hat den Gerüchte über sich stark widersprochen.
 The candidate has the.DAT rumors about RFLX strong against-spoken.
The candidate strongly denied the rumors about himself.

Widersprechen is also the verb within the relative in (448a) and as expected, the form of the relative pronoun is dative. The relative head contains a reflexive, *sich*, which is coreferent with the the clause-internal subject *der Kandidat*. According to the diagnostics discussed above, this relative must have been derived via head raising; the MA is ruled out due to the licensing requirements on the reflexive form. However, here we find the nominative plural form of the head noun, *Gerüchte*; the dative form is ungrammatical.

- (448) a. Die Gerüchte über sich, denen der Kandidat stark widersprochen
 The.NOM rumors.NOM about himself which the candidate strongly against-spoken
 hat, waren schon in der Zeitung veröffentlicht worden.
 has had already in the newspaper published been.
*The rumors about himself which the candidate has strongly denied had already
 been published in the newspaper.*
- b. * Die Gerüchten über sich, denen der Kandidat stark
 The.NOM rumors.DAT about himself which.DAT the candidate strongly
 widersprochen hat, waren schon in der Zeitung veröffentlicht worden.
 against-spoken has were already in the newspaper published been.

Proposals aimed at explaining the unexpected case morphology, such as those in in Bianchi (1999) and De Vries (2002), differ in details of implementation, but bear a similarity to one another in arguing that it is the excorporation of NP which itself forces the Case realization of the relative D and of the relative head NP to be determined independently of one another. Bianchi, for example, appeals to the assumption that it is only D, and not N, which bears ϕ -features. Therefore, although the Case of the relative pronoun is checked within the subordinate clause, its complement NP bears no case feature to be checked in the syntax. The case morphology of the head NP is determined post-syntactically, and therefore independently of its selector, the relative D. De Vries assumes the presence of ϕ - and Case features on both D and N; but this analysis also argues that Case checking in relatives is atypical, the Case of each constituent being determined independently following excorporation of NP.²⁰

In either analysis, determination of the morphology of the head is based on its structural position relative to the external determiner, and this unusual case-checking configuration is made possible by the atypical behavior of relative DQs.

My purpose is not to evaluate the feasibility of any specific account of case assignment for raised NP heads. The point to be emphasized is rather that an account of some sort is needed, because the head does not display the morphology we would expect under raising. Assuming that an existing (or future) account of the morphology of NP is feasible, it is nevertheless a fact that Case connectivity is unavailable as a diagnostic support for the HRA.

There are, then, proposed to be two derivations for relative clause, but due to the unusual nature of the relative DP, both produce overtly identical structures. As there is no morphological evidence by which to tell them apart, relatives derived by raising and those derived by matching can be distinguished solely on the basis of interpretation; that is, reconstruction effects are themselves the evidence in favor of the raising derivation, and anti-reconstruction effects are the evidence in favor of the matching derivation. This means that the diagnostics which are applied in determining the derivation of a relative clause presuppose the dominance of syntactic structure in determining interpretation for scope and binding.

²⁰De Vries proposes that the relative DP is unusual due to the fact that the head D and its complement NP are destined to be detached from one another. Consequently, the two components of the relative DP may be first merged with Case features which do not match. This would, for a typical DP structure, lead to crash, but this is not the outcome for relative DQs. Each constituent will check its Case feature against the functional head with which it establishes a relationship, thus the requisite feature checking is performed following NP excorporation.

It follows that relative clauses cannot be a reliable source of information on the roles of the syntax and semantics in interpretation, as one cannot use a diagnostic which presupposes a theoretical principle as a means of examining the validity of that principle.

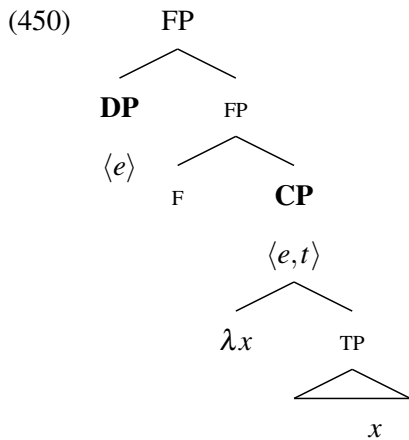
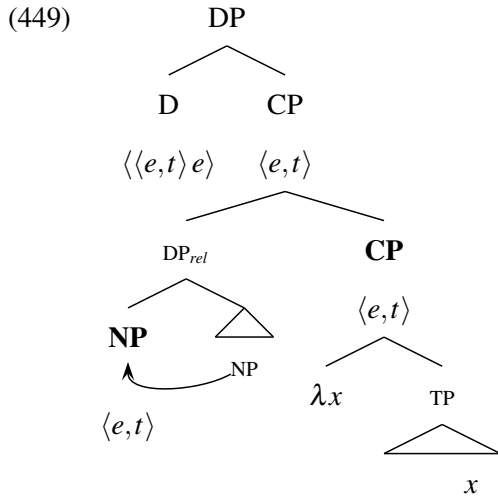
It is, again, due to the categorial status of the raised constituent that the morphology of relative heads is uninformative. Therefore, it is significant that one of the differences between relatives and it-clefts is precisely the category of the constituent with which the clause establishes both a syntactic and semantic relationship. In an it-cleft, this relationship involves the relative and a full DP pivot. This is one of the crucial distinction between the two constructions which make it-clefts a more transparent testing ground for the connection between syntax and reconstruction effects.

4.5 Cleft Pivots versus Relative Heads

We have seen that it-clefts provide overt evidence of pivot raising while relative heads do not, and that this is due to the lexical category of the constituent in question in each construction. This difference in category is only one of a number of phenomena which reflect the deep structural distinctions between relatives and cleft clauses, several of which I make explicit in this section. In doing so, however, I am simply enumerating several points of variance which all derive from the same source. They are all consequences of the difference in semantic function of the clause: relative clauses are modifiers, and cleft clauses are predicates.

4.5.1 Constituency and C-Command

The semantic function of the clause relative to its antecedent is reflected in the structural relationships within each construction. The nature of the c-command relationships places restrictions on the categories which may be raised, and the positions in which they may land.



In the HRA derivation, an NP is raised to a position which is c-commanded by the external determiner and which c-commands the relative clause.²¹ This produces a structure in which the relative and the constituent with which it undergoes semantic composition - the NP head - are of the same logical type. The mode of composition is predicate modification, and it is the nature of this operation that the predicative NP and predicative CP remain unsaturated, resulting in a complex property which serves as argument of the determiner.

²¹More specifically, by the HRA, there are two raising operations which result in the surface position of NP: first the relative DP, labeled in (449) as DP_{rel} , is raised to SPEC-C, then NP, the head of the relative, is extracted from DP. The identification of the landing site varies by analysis. I treat it here as adjoined to DP, or, within a bare phrase structure framework, in SPEC-D. The crucial point is that NP is not dominated by DP_{rel} , and can therefore c-command the CP. This c-command relationship will be relevant for the licensing of clause-internal NPIs by DP-internal licensors.

The cleft clause has a very different semantic function: it is the main sentential predicate of an it-cleft. It therefore does not compose with a constituent of a matching logical type, but requires a saturating argument - in the canonical case, the cleft clause is property-denoting and its argument is an entity-denoting DP pivot. Consequently, raising in an R-cleft targets not NP, but DP. The pivot is raised into a position from which it c-commands cleft clause.

In the structure of an it-cleft, the cleft clause cannot be c-commanded by an external determiner. The clause and the pivot combine by function application to produce a type $\langle t \rangle$, rather than the property-denoting argument that a determiner requires. This simply follows from the fact that cleft clauses are not restrictors and therefore, unlike relatives, cannot be located in a DP-internal position. Relatives and it-clefts differ in their structural relationship to DP, and this means that the raising operations which produce each construction cannot be identical to one another. There is no c-command relationship between any DP-internal material and the cleft clause, and there is therefore no movement path for a constituent extracted from the cleft clause into a DP-internal position.

The configuration of relative clauses and of it-clefts and the c-command relationships between constituents are directly controlled by the semantic function of the clause. The fact that the configurations are distinct from one another has a number of observable repercussions.

4.5.1.1 Idioms and External Determiners

In section 4.4, several diagnostics for the formulation of the HRA as an NP-raising operation were reviewed. As discussed in connection with (425a) and (425b), an idiom chunk which cannot be selected by a definite determiner must appear adjacent to a determiner when functioning as the head of a relative clause. This falls into place for the HRA, because the external determiner selects the relative clause and is not in a selectional relationship with the relative head.

In contrast, clefted idiom chunks cannot appear with an 'external' determiner.^{22 23}

²²Example (453b) taken from: James, Mark. 2006. *Football banning orders: analyzing their use in court*. *Journal of Criminal Law*. 70:6, 509-530, p.14. Accessed on May 15, 2012 from http://salford.academia.edu/MarkJames/Papers/127375/Football_Banning_Orders_Analysing_their_Use_in_Court

²³Note that the idiom chunk seems to require a modifier; (451) and (452) are badly degraded, if not ungrammatical:

(451) * It was headway that we made today.

(452) * It was lip service that they paid to the Gough laws.

- (453) a. It was (*the) very significant headway that we made today.
 b. It was (*the) mere lip service that was being paid to the Gough tests.

Following the standard assumption that idiom chunks such as these must be first merged as complements to the predicative component of the idiom, the availability of clefted idiom chunks indicates that the pivot may originate within the subordinate clause and be raised to its surface position. The fact that no determiner appears adjacent to an idiom chunk pivot is due to the difference in the raising operation is unlike that of relative clauses. If a cleft pivot reaches its surface position via raising, then, the entirety of the pivot has been raised; no subpart of the pivot is excorporated and raised independently. Again, in contrast to relatives, in which the NP head and adjacent D only superficially appear to be a constituent, a DP pivot is, indeed, a DP.

4.5.1.2 NPis and Licensors

We have already seen evidence of a dissimilarity between it-clefts and relatives in Chapter 3, §3.4.7.2 in the form of the effect of clause-external licensors on clause-internal NPis. As I noted there, licensors which are external to a definite DP cannot access an NPI embedded within DP and therefore, as relative clauses are DP-internal, an NPI within a relative is not licensed by sentential negation or other external licensors such as a DP-adjoined ‘only’.

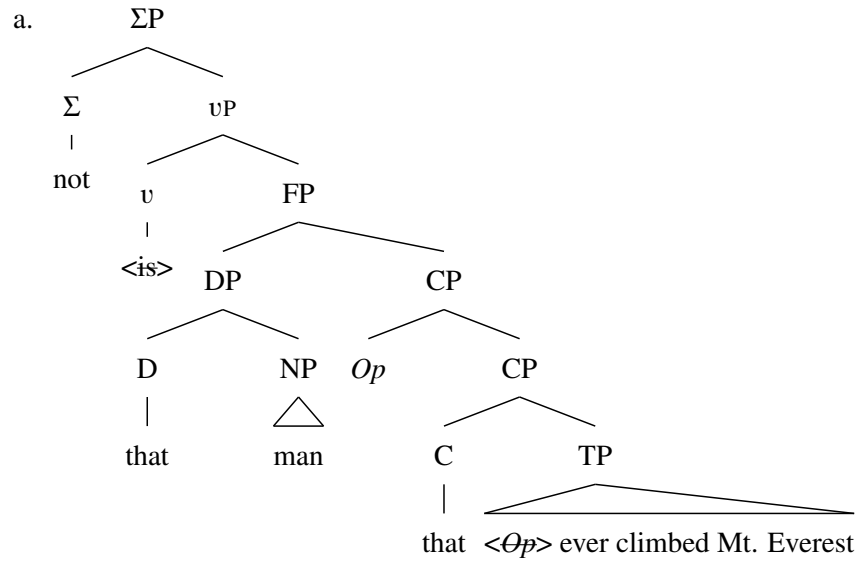
The opposite is true of a cleft clause-internal NPI. An NPI in this configuration is not embedded within a definite DP, and therefore may be licensed by clause-external NPI licensors, including sentential negation and ‘only’ adjoined to the pivot. In Chapter 3, it was noted that in English, NPI items within the cleft clause may be licensed by sentential negation. The transparency of the cleft clause to sentential negation can be distinguished from DP-internal relatives. The relevant data is repeated here:

- (454) It’s not John who ever complains.
 (455) * John isn’t the man who ever complains.

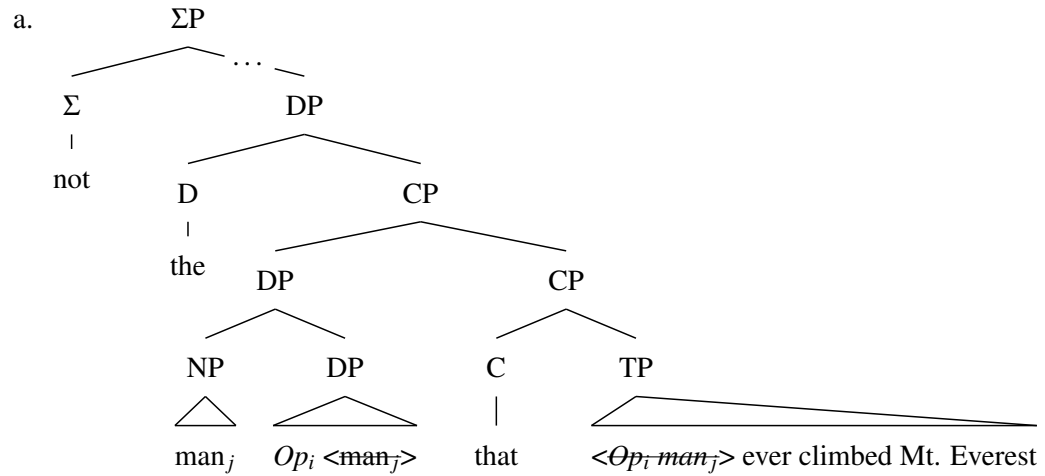
NPis within relative clause are not licensed by those constituents which license NPis in cleft clauses.

The reason for this is semantic rather than syntactic. The pivot must refer to an element in a set of focus alternatives, and idioms chunks are precisely the type of element which does not permit alternatives. In (453a) and (453b), the modifiers *very significant* and *mere* permit formation of a focus set of *degrees*.

(456) It wasn't that man that ever climbed Mt. Everest



(457) * He isn't the man that ever climbed Mt. Everest.



4.5.1.3 NPI Licensing

The inverse is true as well: NPIS within relatives can be licensed by DP-internal licensors, but the cleft clause is opaque to such licensors.²⁴

²⁴Non-restrictive relatives are presumably not in the same structural position within DP as restrictive relatives, and for these relatives NPIS cannot be licensed by NP adjuncts.

(458) a. * The only man on the committee, who, by the way, ever climbed Mt. Everest, appeared to have a

(459) DP-internal NPI licensors and relative clauses:

- a. She is the only Philadelphian who ever climbed Mt. Everest.
- b. He is the oldest man who ever climbed Mt. Everest.

(460) DP-internal NPI licensors and cleft clauses:

- a. * It's the only Philadelphian who ever climbed Mt. Everest.
- b. * It's the oldest man who ever climbed mt. Everest.

The NPI-licensors in (459) — *only* and *oldest* — are DP-internal and are therefore interpreted relative to the material within the restrictor. The restrictor expresses a complex property: the set of men who have climbed Mt. Everest. The superlative makes reference to an ordering of the members of this set along a scale determined by age, and selects the single entity at the extreme high end of that scale. In other words, the superlative c-commands the NPI, and makes direct reference to the property denoted by the relative and its head.

The NPI-licensing superlative *oldest* is not interpreted relative to the property *climb-Mt.-Everest* expressed by the cleft clause, and therefore cannot license an NPI which is interpreted relative to that property. Instead, the superlative must make reference to a set of men provided by either the linguistic or physical context.

The NPI data presented in Chapter 3 provided evidence supporting the idea that the relationship between a DP-pivot and the cleft clause is unlike that between a relative and its NP head. The NPI data discussed here is the inverse of that discussed in Chapter 3, but supports the same conclusion: DP-internal constituents do not c-command the cleft clause, and do not have access to clause-internal NPIs for the purpose of licensing. T

As we have seen for other distinctions between relatives and cleft clauses, the NPI data follows from the difference in the category of a pivot and that of a relative head. The conclusion is that it-clefts cannot be derived by raising of an NP out of the clause to a position within the clause-external DP; there is no accessible landing site within DP. A raising derivation of it-clefts must, then, target a DP not an NP.

broken leg.

- b. * The oldest woman on the committee, who, by the way, ever served as chair, was clearly skeptical about the witnesses' testimony.

4.5.2 Consequences of the NP/DP Distinction

The question of the relationship between relatives and cleft clauses has often been posed, often with respect to identification of the cleft clause as either a restrictive or non-restrictive relative. This question, I believe, is not the relevant one. Cleft clauses and relatives are the same class of object: they are open propositions created by movement and λ -abstraction over a variable. This is not to say that they are semantically identical - in fact, we will see that there are at least some cleft clauses which are clearly not identical to relatives. But this is simply a by-product of the more essential difference between relatives and cleft clauses, and that is that their semantic functions are not the same. This is the crucial differentiating property between the two structures, and all remaining distinctions are derivative.

A crucial distinction between relatives and clefts, then, is the category of the constituent which is expected to participate in connectivity effects. In pursuing this question, one can, then, take advantage of the fact that the constituent in question in DP-pivot clefts is a full DP rather than an NP. Recall that the proposals which address the morphological mismatch between a relative NP head and its selecting relative D appeal to the fact that the two constituents become detached from one another prior to case checking. A DP-pivot is not subject to disassembly. Therefore, any proposal aimed at accounting for the morphology of relative clause constituents will be inapplicable. Rather, the expectation is that the case of the pivot should be correlated with the position of first merge, whether that position is clause-internal or clause-external. The morphology of a pivot is therefore a reliable diagnostic of its derivational history.

We have seen that the morphology of it-clefts in the Germanic languages provides overt evidence of two distinct derivations. The morphology of German it-clefts, like Icelandic EM-clefts, indicates external merge of the DP-pivot; Norwegian it-clefts, like Icelandic R-clefts, involve raising of the pivot.

4.5.3 The Domain of Reconstruction Effects

Because raising targets a different category in clefts than in relatives, connectivity effects should manifest somewhat differently. For example, the availability of a bound variable reading in (429) was cited as evidence for NP raising in relatives, and indeed this reading is available in the corresponding cleft sentence.

(461) It's the original copy of his_i transcript that every_i boy must submit.

The cleft in (461) parallels the relative clause in (429). We saw, though, that binding fails in relatives such as (436) if the variable is not embedded within the NP head. In contrast, a bound variable reading remains available in clefts when the relevant variable is located in Spec-D of the pivot.

(462) It's his original transcript that every boy must submit.

(463) It's his boss that no employee wants to offend.

The same distinction in domain of reconstruction emerges for scope inversion. The relative in (464) permits only wide scope of the existential, as is expected if only the NP head may reconstruction. The corresponding it-cleft is ambiguous between a wide and narrow scope reading.

(464) The professor led the discussion on a paper by Chomsky that every student read.

- a. $\exists > \forall$: There is a specific paper which was read by each student.
- b. * $\forall > \exists$: For each student x , there is a paper by Chomsky y such that x read y

(465) It was a paper by Chomsky that every student read.

- a. $\exists > \forall$
- b. $\forall > \exists$

4.6 Reconstruction Effects in Germanic It-Clefts

4.6.1 R-Clefts

In the following, I introduce the data which bear on this question. I begin with an examination of reconstruction effects in Norwegian and Icelandic R-clefts.

4.6.1.1 Scopal Ambiguity

The two Norwegian examples below are both ambiguous between a wide and narrow scope reading of the existential pivot: this may be interpreted as specific, or as co-varying with *hver student* ('every student'). The corresponding Icelandic it-cleft provides the same two interpretations.

Norwegian

- (466) Det var en artikkel ar Chomsky hver student leste
It was an article by Chomsky every student read
- There is a specific article by Chomsky; every student read this article.
 - For every student x there is an article by Chomsky y such that x read y .
- (467) Det er en professor hver student må snakke med
It is a professor every student must speak with
- There is a specific professor with whom each student must speak.
 - For every student x there a professor y such that x must speak with y .

ICELANDIC

- (468) Það er tvo prófessora sem sérhver nemandi verður að tala við
It is..SG two..ACC professors..ACC that each student must to speak with

4.6.1.2 *De Re and De Dicto Readings*

Norwegian it-clefts display ambiguity between the DE RE and DE DICTO readings of indefinite pivots under modals; both the (a) and (b) readings are supported. The same ambiguity is found in the Icelandic examples which follow.

NORWEGIAN

- (469) Det er en kanadier Paul ønsker å gifte seg med
It is a Canadian Paul wants to marry
There is a specific Canadian whom Paul wants to marry. – OR –
Paul hopes to one day marry a Canadian person, but he has no specific person in mind.
- (470) Det er en tysk bil Paul ønsker å kjøpe
It is a German car Paul wants to buy
There is a particular car that Paul wants to buy; it is German-made. – OR –
Paul doesn't know exactly which car he wants to buy, but he is only interested in German-made models.

ICELANDIC

(471) Það er Englendingur sem Jón vill giftast.
It is Englishwoman..NOM that John wants marry.

(472) Það er Englendingi sem Jón vill giftast.
It is Englishwoman..DAT that John wants marry.

4.6.1.3 Variable Binding

NORWEGIAN

Scandinavian languages, in contrast to German and English, distinguish between reflexive and non-reflexive possessive pronouns. Interpretation of a possessive pronoun in a DP pivot as a bound variable in Scandinavian requires the use of the reflexive possessive pronoun. It is grammatical to cleft a DP containing a non-reflexive pronoun, but in this case only a specific reading of the pivot is available.

(473) Det er sin_i mor enhver_i gutt elsker. AT 1.5in
It is his_i.REFLX mother every_i boy loves
It is his (own) mother that every boy loves.

(474) Det er hans_j mor enhver_i gutt elsker.
It is his mother every boy loves.
It is a specific woman, the mother of some boy, who all the boys love.

ICELANDIC

We have seen that the reflexive possessive in Icelandic bears overt case morphology which matches that of the DP within whose specifier it is positioned. As expected under pivot raising, the possessive reflexives in both of the following sentences appear in accusative case, and these provide only the bound variable reading. The specific reading of the pivot may be produced by raising of a pivot containing a non-reflexive possessive as in (477).

(475) Það er móður sína sem sérhver strákur elskar mest.
It is mother.ACC hisREFLX.ACC that each boy loves most.
'It is his (own) mother that each boy loves most.'

(476) Það er heimavinnuna sína sem enginn nemandi vill gera.
It is homework.ACC hisREFLX.ACC that no student wants to-do.

- (477) Það er móður hans sem sérhver strákur elskar mest.
It is mother.ACC his.GEN that each boy loves.3SG most.
It is a specific woman, who is the mother of some boy, that all the boys love.

4.6.1.4 Summary

Cleft sentences in Norwegian and Icelandic which are derived by raising of the pivot from a clause-internal position display a range of connectivity effects beyond the Case Connectivity discussed in the preceding chapter. Reflexive forms are licit within a DP pivot, and a reflexive possessive may give rise to a bound variable interpretation relative to a clause-internal binder. Clefts may be scopally ambiguous; an indefinite DP pivot may be interpreted as specific, or may take narrow scope with respect to a universal quantifier within the cleft clause.

This is precisely the pattern one would expect under a syntactic account of connectivity. Either the higher or lower copy of the pivot may be interpreted, and interpretation of the lower copy may produce the reconstructed reading.²⁵ There is, though, reason to believe that the data cannot be addressed this straightforwardly, a point I return to in §4.7.8.

4.6.2 EM-Clefts

I turn now to an examination of cleft sentences in which the pivot is first merged in a position external to the cleft clause; this is the only means of deriving clefts in German, and is available in Icelandic alongside the pivot-raising option. The crucial distinction between cleft types is, once again, that R-clefts provide the environment for syntactic reconstruction, but EM-clefts have no lower copy of the pivot and therefore do not provide the correct environment. The syntactic approach then predicts that EM-clefts will not pattern like R-clefts for reconstruction effects. The following data indicate that this prediction is not correct; the interpretive distinctions between the two types are less significant than expected.

²⁵Reconstruction may also produce the surface scope reading. Reconstruction makes it possible to determine scopal relations within the clause, so that either the wide or narrow scope reading of the pivot is available. Interpretation of the pivot in its highest position, though, should produce only wide scope.

4.6.2.1 Scopal Ambiguity

Here, I examine precisely the same effects presented above for R-clefts. The data patterns in very much the same way. The sentences below are ambiguous for wide and narrow scope of the existential pivot.

- (478) Es ist ein Artikel von Chomsky, den jeder Student lesen muss.
It is an article by Chomsky which every student read must.
a. There is a specific article by Chomsky; every student read this article.
b. Every student read some Chomsky article, although articles and students may vary.
- (479) Es ist ein Professor, mit dem jeder Student am Anfang des Semesters
It is a professor, with whom every student at-the beginning the.GEN semester.GEN
spricht/sprechen soll/muss.
speak must.
a. There is a specific professor that every student speaks to at the beginning of the semester.
b. Every student is required to speak with some/any professor at the beginning of the semester (rather than some/any staff member).

4.6.2.2 De Re and De Dicto

The indefinite pivots in (480) and (481) may produce either a *de re* or a *de dicto* reading, providing the same two interpretations as the corresponding Norwegian examples in (469) and (470).

- (480) Es ist eine Kanadierin, die Hans heiraten will.
It is a Canadian whom Hans marry wants.
It's a Canadian that Hans wants to marry.
- (481) Es ist ein deutsches Auto, das Peter kaufen will.
It is a German car that Peter buy wants.
It's a German car that Peter wants to buy.

4.6.2.3 Reflexive Readings

In §4.2.1, the fact that German does not permit reflexive pivots was noted. That discussion was concerned with reflexive morphology.

Despite the ungrammaticality of reflexive forms, illustrated again in (482), it is possible to obtain a reflexive reading using a nominative personal pronoun in combination with the intensifier *selbst* as in (483). The example in (484) is grammatical if the pronominal pivot and the clause-internal subject are not co-referential; however, the intensifier is obligatory in order to the reflexive reading.²⁶

(482) * Es war sich (selbst), den Hans verletzt hat.
 It was_{REFLX} SELF whom Hans injured has.
It was himself that Hans injured.

(483) Es war er selbst, den Hans verletzt hat.
 It was he_{NOM} SELF whom_{ACC} Hans injured has.
It was himself that Hans injured.

(484) * Er_i war es, den Hans_i verletzt hat.
 He was it, whom Hans injured.

4.6.2.4 Variable Binding

German does not have a dedicated form for reflexive possessive pronouns. For the following examples, the pivot may therefore be interpreted as referential. However, these it-clefts may also produce a bound variable reading.

(485) Es ist seine_{i,j} Mutter, die jeder_i Junge besonders liebt.
 It is his_{NOM} mother, whom_{ACC} every boy especially loves.

(486) Es ist seine_{i,j} Beziehungen zur Waffenlobby, die kein_i Politiker besprechen will.
 It is his relationship with-the gun lobby which no politician discuss will.
 wants.
 a. *No politician wants to discuss his own relationship with the gun lobby.*
 b. *Some individual (say, hypothetically, the Senate Minority Leader) has a relationship with the gun lobby, and no politician wants to discuss it.*

(487) Es ist seine Hausaufgabe, die kein Schüler machen will.
 It is his homework which no schoolboy make wants.
It's his homework that no schoolboy wants to do.

²⁶Thráinsson (1979) reports that Icelandic EM-clefts having a nominative personal pronoun in combination with the nominative form of the intensifier *sjálfur* may receive a reflexive reading; that is, in addition to Icelandic R-clefts with a true reflexive pivot, Icelandic has an exact counterpart to the German form in (483).

4.6.3 Summary

Reconstruction effects in DP-pivot clefts in Norwegian and Icelandic pattern as expected, as the lower copy of the pivot is available for interpretation. The dissimilarity in derivation between R- and EM-clefts, though, is not reflected in dissimilarity for interpretive effects, and the fact that the German data pattern so closely with those of Norwegian is unaccounted for on a syntactic understanding of reconstruction. This will make it necessary to appeal to an alternate explanation of reconstruction effects — one which is traced to the semantics of the construction.

A question raised by this situation is whether what we find cross-linguistically in Germanic it-clefts are two distinct sources of reconstruction effects, one tied to the syntactic derivation, the other to the semantic representation. I will suggest that the answer to this question is not straightforward. A closer examination of the Norwegian data reveals indications that the semantic representations which support interpretive reconstruction effects are identical to those operative in German. It is nevertheless the case that the structural distinctions between EM- and R-clefts are highly relevant to the interpretive process, although their relevance is not instantiated as a clearly delineated divide between the syntax versus the semantics as the source of reconstruction. Rather, the syntax and the semantics interact in a way which is responsive to the constraints each system places on the other.

Before undertaking this discussion, I present in the following section an overview of approaches to reconstruction which rely on a more powerful semantics. I return to the details of German and Norwegian it-clefts beginning in §4.7.5.

4.7 Semantic Reconstruction

4.7.1 Semantic Approaches to Connectivity

In section 4.3, several arguments in favor of the syntactic approach to connectivity effects were reviewed. It was noted that in viewing the data provided there as evidence of the primacy of syntactic structure for semantic interpretation, a particular view of the syntax-semantics interface necessarily emerges according to which the capacity of the semantic system is rather limited and inflexible. As a consequence, a range of connectivity effects - inverse scope, variable binding, and *de re/de dicto* variation, among others - may be attributed to the response of the semantic system to c-command relations within the structure the syntax feeds it.

A contrasting view - or, more accurately, a variety of contrasting views - begins with different sets of assumptions and a very different understanding of the interface, one which takes the semantics module to be a much richer and more flexible system than is assumed in syntax-dominant approaches, and therefore less constrained by and dependent on the workings of syntax. Reconstruction effects then are not, or at least need not be, reflexes of the syntactic position of quantifiers at LF, and in some cases these effects are viewed as entirely unrelated to scopal interactions.²⁷ It is often the case that careful probing of the evidence is geared not towards identifying similarities between these effects, but rather towards uncovering the unique properties which distinguish them from one another. As a result, distinct connectivity effects may be viewed as independent of one another.

For the syntactic view, each bit of data which falls into place on the basis of a single syntactic relationship - c-command - strengthens the argumentation in its favor. Given, though, that connectivity effects may differ from one another in crucial characteristics, the goal of unifying them as the output of a single mechanism is, within a semantic framework, less compelling. Rather, connectivity effects are viewed as interpretations triggered by compositional processes and types of semantic constituents which have been unidentified or unaccepted in traditional treatments. Semantic approaches therefore do not offer a unified account of connectivity effects in the same way that the syntactic approach does. What the various semantic accounts do have in common is a reliance on widespread lexical polysemy, and on the availability of a range of higher type constituents in the compositional process.

In the material which follows, I begin by introducing existing motivation for semantic approaches to reconstruction effects, and work towards an application and modification of this approach to the data from Germanic *it*-clefts.

4.7.2 Scope Freezing

As was discussed in section 4.3, the argumentation in favor of a syntactic approach to scope draws on data in which the wide scope reading of a quantifier is blocked in precisely those environments where the syntax prevents movement of the quantifier to a position c-commanding a second scopal constituent. Where the syntax does license such movement, though, it is pre-

²⁷Specifically, the treatment of the *de dicto* reading as the consequence of a (non-scope-taking) property-denoting indefinite internal argument does not rely on scopal interaction in deriving the non-specific reading.

dicted that ambiguity should always result, barring independent factors (i.e. binding theory or semantic properties of individual lexical items) which rule out one or the other interpretation. Under the copy theory of movement, there are, minimally, a lower and a higher copy of the raised quantifier, either of which is available for the purposes of establishing scopal relations.

Semantic accounts of reconstruction draw upon data in which this prediction fails - that is, instances in which an overtly raised scope taking constituent fails to reconstruct. One such case is illustrated in the following data from Lechner (1998) concerning scrambled quantifiers in German.

4.7.3 Scope Restrictions in German Scrambling

In German, overt movement of quantifiers is required for inverse scope interpretation. The argument DPs in (488) occupy their canonical positions, and the sentence is unambiguous. Scrambling of the existential over *fast jeder* as in (489) produces scopal ambiguity. This is expected under syntactic reconstruction, given the two possible LF structures in (489a-i) - (489b-i) .

- (488) weil fast jeder [irgendein Buch] gelesen hat.
 because almost everyone [some book] read has.
because almost everyone has read some book or other.
- a. $\forall > \exists$: because for each person, there is a book which that person has read.
 b. $*\exists > \forall$: because there is some specific book which is such that it has been read by everyone.
- (489) weil [irgendein Buch] fast jeder gelesen hat.
 because [some book] almost everyone read has.
- a. i. weil ~~irgendein Buch~~ fast jeder irgendein Buch gelesen hat.
 ii. $\forall > \exists$
- b. i. weil irgendein Buch fast jeder ~~irgendein Buch~~ gelesen hat.
 ii. $\exists > \forall$

However, the following instance of quantifier scrambling does not result in ambiguity; only the surface scope produced by movement in (490) is an available interpretation.²⁸ This is

²⁸Lechner states that the scrambling of a strong over a weak quantifier results in restriction to surface scope, although elsewhere his wording suggests that the surface scope is strongly preferred rather than impossible. He

problematic for a copy theory account, as we expect two possible LF representations - the low scope reading of the universal in (491a) reflecting the configuration in (489a-i) above, and the wide scope reading of (492a) which mirrors the c-command relations in (489b-i).

- (490) dass fast jedes Buch irgendwer t_i mit Freude gelesen hat.
 that almost every book someone t_i with pleasure read has.
because someone has read almost every book.
- (491) a. weil fast jedes Buch irgendwer fast jedes Buch gelesen hat.
 b. $\forall > \exists$
- (492) a. * dass fast jedes Buch irgendwer fast jedes Buch gelesen hat.
 b. * $\exists > \forall$

An array of data are discussed in Ruys (2012) in which, as for German quantifier scrambling, syntactic reconstruction predicts an ambiguity which does not arise. Among the constructions addressed are those involving long-distance *wh*-movement. The example in (493) supports either wide or narrow scope of *many* relative to an existential; if the lower copies are available for interpretation, this is expected. However, a corresponding example involving movement out of a *wh*-island does not support a reading in which the lower copy is interpreted.

- (493) How <many people> do you think <n-many people> I should talk to <n-many people>?
 a. i. For what number n is it the case that there exist n -many people x such that you think I should talk to x
 ii. $\exists > n$
 b. i. For what n : you think there should be n -many people x such that I talk to x
 ii. $n > \exists$
- (494) How many people do you wonder whether I should talk to <n-many people>?
 a. i. For what n , there exist n -many people x such that you wonder whether I should talk to x .

writes, for example, that a universal scrambled over an existential “resist[s] the narrow construal” (p. 286) or “display[s] a strong tendency towards surface scope” (p. 285). See Cook and Payne (2006) for disagreement with the judgements provided by Lechner; see Sternefeld (2001) for agreement with the judgements under an alternative interpretation of scrambling, and Fanselow (2001) for a more detailed account of free word order in German.

- ii. $\exists > n$
- b. i. * For what n do you wonder whether there should be n -many people that I talk to?
- ii. * $n > \exists$

The data reported above are not predicted by a syntactic approach to reconstruction effects; because there is, in all cases, both a higher and a lower copy of the quantifier, either copy should be equally available for interpretation. In other words, syntactic reconstruction overgenerates: it fails to provide an account of the missing readings for (490) and (494).

The nature of the two sets of data are distinct, but both Lechner and Ruys argue that the facts can be captured by a semantic approach, one which assumes that, in principle, quantifier movement may leave behind a variable over quantifiers in the gap position, but that this option is unavailable under certain well-defined conditions.²⁹

If we incorporate higher-type variables over quantifiers into semantic representations, there are two possible function-argument configurations for structures with raised quantifiers. If the quantifier leaves a type $\langle\langle e, t \rangle t\rangle$ as in (495), syntactic reconstruction is unnecessary for the narrow scope reading, as the quantifier may be interpreted within the scope of a second quantifier by post-syntactic λ -conversion as in (495). If quantifier movement results instead in an individual-type variable in the gap site as it does in (496), the λ -abstract will be property denoting. In this case, the quantifier cannot be semantically reconstructed, but instead takes the λ -abstract as argument. This provides a wide scope interpretation.

(495) For almost every person x , there is a book y such that x read y .

a. $\text{irgendein Buch}^y_{\langle\langle et \rangle t\rangle} \lambda Q_{\langle\langle et \rangle t\rangle} \cdot \text{fast jeder}^x_{\langle\langle et \rangle t\rangle} Q_{\langle\langle et \rangle t\rangle} \text{ lesen}'(x)(y)$

(496) There exists some book y such that every person x read y .

a. $\text{irgendein Buch}^y_{\langle\langle et \rangle t\rangle} (\lambda y_{\langle e \rangle} \cdot \text{fast jeder}^x_{\langle\langle et \rangle t\rangle} y \text{ lesen}(y)(x))$

²⁹Lechner argues that the distinction is related to the class of the quantifier which undergoes movement, and more particularly to the type of the variable it leaves behind. Strong quantifiers such as universals can leave only individual-type variables in gap position, but weak quantifiers may leave behind a variable either of the type of individuals or of quantifiers. Ruys analyses the weak island extraction data, as well as data from vP -topicalization, and late merge, by reference to a locality requirement between a higher-type variable and its binder, with locality defined in terms of phases. See also Cresti (1995) for discussion of these constructions.

Two interpretations are therefore available for constructions which provide the environments under which higher-type variables may remain in the gap site. However, due to the identification of environments which do not support higher-type variables, there will also be constructions, such as that in (496), for which the only interpretation is that of surface scope.

4.7.4 A Counterargument: Scope Reconstruction and Principle C

An argument against this analysis is based on data of the following type, given the judgements indicated.

- (497) a. How many stories about Diana's₁ brother is she₁ likely to reinvent *t*?
b. How many stories about Diana's₁ brother is she₁ likely to invent *t*?

The claim is that only (497a) is grammatical because the lexical semantics of the verb *reinvent* permits a reading in which *n-many stories* takes wide scope over *likely*; if the stories are to be *reinvented*, then they already exist, and need not be in the scope of the modal. This means that reconstruction is not obligatory, and therefore no Principle C violation is triggered at LF due to interpretation of *Diana* within the c-command domain of a co-referential pronoun.

A Principle C violation is triggered in (497b) because the lexical semantics of *invent* will not permit wide scope of *n-many stories* over the modal *likely*: if the stories have not yet been invented, then it is impossible to refer to an existing set of stories of some particular cardinality. Therefore, reconstruction of the *wh*-phrase is obligatory, and this causes the violation which was avoided in (497a).

Binding Theory principles are defined in terms of c-command; these are evaluated in the syntax. Therefore, if there is no syntactic reconstruction, there should be no Principle C violation. If it were possible to bind a higher-type variable produce the narrow scope reading post-syntactically via λ -conversion, then we should find that a narrow scope reading of *n-many stories* in (497b) is grammatical; semantic reconstruction should have no relevance to evaluation for Principle C.

If the judgments are solid, and if the unacceptability of the bound reading of (497b) is due to a Principle C violation, this leads to the conclusion that variables over quantifiers cannot exist. That is, the conception of the semantic component as having a restricted inventory of variable types is supported, and c-command must then be identified as the source of reconstruction

effects for scope.³⁰

4.7.5 Semantic Reconstruction for Scope in German It-Clefts

The preceding introduced constructions in which the syntactic reconstruction approach to scopal ambiguity fails. For scrambling in German, as discussed in §4.7.3, a quantifier is raised from a syntactic position associated with narrow scope. The construction is then restricted to an interpretation correlated with the overt syntactic position of the scrambled constituent, despite the presence of a lower copy fails to result in ambiguity. This is an instance in which a predicted reading does not manifest: that is, the syntactic account of reconstruction overgenerates.

Syntactic reconstruction fails as well as an account of the scopal ambiguity we have seen in German it-clefts in §4.6.2, but it fails differently. The difficulty in this case is undergeneration. The German cleft in (500) is ambiguous; the indefinite pivot *ein Artikel von Chomsky* may take either wide or narrow scope relative to the universal *jeder Student*. The indefinite has not been raised from within the clause; it has been externally merged above the clause, and as there is no lower copy of this constituent to be retained, it cannot be deleted at LF. The existential quantifier can, then, only be interpreted in a position which c-commands the cleft clause.

- (500) Es war ein Artikel von Chomsky, den_i jeder Student gelesen hat x_i.
It was an article by Chomsky which_i every student read has x_i.

³⁰With regard to the Principle C data, I make brief note of the examples illustrated below. The very few native speakers who provided me with judgments on these found that (498) is grammatical under an inverse scope reading and a bound interpretation of the pronoun *sie* ('she') - the a reworking of the Fox (1999) *wh*-question data addressing the interaction of Principle C and scope. The following example (499) is likewise grammatical on a *de dicto* reading and incurs no Principle C violation due to coindexation of *Peter* and *his*. I include this data only to suggest that the interpretation and significance of data of this type remains uncertain.

- (498) Es war eine Hausaufgabe, die er für Frau Braun machte, die sie jedem Studenten wieder
It was a homework that he_j for Frau Braun_i did that she_i every.DAT_j student.DAT_j again
einzureichen erlaubt.
in-reach allows.
It was a homework that he_j did for Ms. Brown_i that she_i said every student_j could resubmit (...not a quiz....)
- (499) Es ist ein Muttersprachler von Peters Dialekt, den er uns anstellen lässt.
It is a mother-speaker of Peter_i's dialect that he_j us hire lets.
It's a native speaker of Peter_i's dialect that he_j is having us hire (...not a speaker of Ernst's dialect...

If it is correct that higher-type variables over quantifiers are non-existent, then the λ -abstract must be the argument of the c-commanding quantifier, and the reading will be that of surface scope. This means that the semantics of the cleft in (500) is as illustrated below; schematically, it is identical to that illustrated in (496).

(501) ein Artikel von Chomsky^z _{$\langle\langle et \rangle t \rangle$} ($\lambda y_{\langle e \rangle}$. jeder student^x _{$\langle\langle et \rangle t \rangle$} y lesen(y)(x))

The empirical data tell us that this is not the only interpretive option, and this will force us to adopt a semantic approach to scope reconstruction. It must be assumed that the representation is not restricted to that in (501), and that variables over quantifiers are available. The it-cleft of course differs from the scrambling data in that the gap results from movement of a relative pronoun; I will assume that operator movement leads to binding of a type $\langle\langle et \rangle t \rangle$ variable. The existential pivot may then be λ -converted into the scope of the universal.

There are two ways of thinking about what this means. If we place a variable over quantifiers into the cleft clause, we can still retain QR of the $\langle\langle et \rangle t \rangle$ variable as a resolution to the type mismatch within vP.

(502) ein Artickel von Chomsky λQ . jeder student^x _{$\langle\langle et \rangle t \rangle$} Q^y _{$\langle\langle et \rangle t \rangle$} lesen(y)(x)

On the other hand, we do need to assume the existence of $\langle\langle et \rangle t \rangle$ variables, and this suggests that the argument against the existence of such variables based on Principle C cannot be entirely correct: that is, we will need to find another explanation for the degraded status of the example (497b) in §4.7.4 .

If, then, this approach is correct, this moves us closer to a reliance on a more comprehensive array of semantic objects in obtaining scopal variation, rather than on the syntax, and prompts a reconsideration of whether the concept of type shifting as a relevant aspect of the semantics of scope is to be rejected. That is, if we are taking a step towards a more flexible semantics, then we may ultimately move towards a type-shifting account of vP-internal quantifiers such as the following, in which type-shifting of the quantifier permits it to remain in vP, compose with the predicate, and be interpreted as taking narrow scope.

(503) ein Artikel von Chomsky λQ . jeder student^x _{$\langle\langle et \rangle t \rangle$} Q^y _{$\langle e \langle et \rangle \rangle, \langle\langle et \rangle t \rangle$} lesen(y)(x)

I am not aware of any reason to believe that it-clefts provide particular insight into the mechanisms - syntactic or semantic - which are responsible for the semantic composition of

verbs with quantified internal arguments, and I therefore simply point out the direction in which the evidence from German it-clefts trends.

4.7.6 A Note on *De Dicto* readings

Under the syntactic analysis, the *de re/de dicto* variation is a manifestation of scopal ambiguity. Given a mechanism for scope reconstruction via λ -conversion, we can treat the *de dicto* readings as an additional effect of variation in variable type.

There are a number of reasons to doubt that the quantifier scope approach to *de dicto* interpretation is correct. The work of a number of researchers, among them Carlson (1980), Zimmermann (1993), Van Geenhoven (1998) and Geenhoven and McNally (2005), illustrates that the indefinite in this construction does not behave like a scope-taking constituent, and identify this instead as property-denoting.³¹ The details of the semantic underpinnings of the *de dicto* interpretation is, of course, not crucial here. I note only that, whether one handles the German *de re/de dicto* variation as a matter of scopal interaction, or as arising from a property-denoting argument, semantic reconstruction is dependent on a broader inventory of variable types - here, a variable over either quantifiers or properties.

4.7.7 Complementizer Variation in Norwegian Clefts

I indicated in §4.6.3 that there was more information to be gleaned from the Norwegian reconstruction data, and it is in this section that I begin a re-examination of this data. Whereas the syntax of German clefts necessitates a semantic account of connectivity, Norwegian clefts are derived by pivot raising, and therefore syntactic reconstruction is in theory an option. I will argue that, despite the significant differences in syntactic structure, the source of connectivity effects in Norwegian is more similar to that of German than one might expect. It is also in discussion of Norwegian clefts that the division of labor between the syntax and semantics is examined more closely.

³¹Carlson (1980) identifies the indefinite as a *kind*, although this is integrated into the property-analysis in Geenhoven and McNally (2005)

4.7.8 Complementizer Variation

The departure point for a discussion of Norwegian clefts is a re-examination of the data introduced in §4.6.1. We have seen that Norwegian it-clefts such as those in (504) and (505) are ambiguous, and that reflexive forms may appear in pivot position, permitting a bound variable interpretation for examples such as that in (507).

- (504) Det var en artikkel ar Chomsky hver student leste.
It was an article by Chomsky every student read.
(a) *There is an article by Chomsky which was read by every student.* - OR -
(b) *Every student read some article by Chomsky, not necessarily the same article.*
- (505) Det er en tysk bil Paul ønsker å kjøpe
It is a German car Paul wants to buy
(a) *There is a particular car that Paul wants; it happens to be German-made.* - OR -
(b) *Paul would like to find a car to buy. He would like that car to be German-made*
- (506) Det var seg selv John skaded.
It was RFLX self John injured.
- (507) Det er sin_i mor enhver_i gutt elsker.
It is his_iRFLX mother every_i boy loves

This data is correct, but the presentation of this data is as yet incomplete. The important point to notice is that in none of these examples does the relative complementizer *som* appear. This complementizer is used in both relative clauses and in it-clefts. The following it-cleft is grammatical either with or without the overt complementizer.

- (508) Det er hans_j mor (som) enhver_i gutt elsker.
It is his mother (that) every boy loves.
It is a specific woman, the mother of some boy, who all the boys love.

The insertion of SOM into the it-clefts in (504)-(507), though, has two possible interpretive consequences. When the pivot is an indefinite as in (504) and (505), insertion of the complementizer disambiguates in favor of the surface scope reading; the readings given as (b) in the above examples is no longer available.

- (509) Det var en artikkel ar Chomsky som hver student leste
It was an article by Chomsky SOM every student read
Only $\exists > \forall$

- (510) Det er en Kanadier som Paul ønsker å gifte seg med
 It is a Canadian SOM Paul want to marry self with
Only de re

The effect of SOM insertion when a reflexive form is located in pivot position is different. In this case, the it-cleft is simply ungrammatical.

- (511) * Det var seg selv som John skaded.
 It was RFLX SELF that John injured.
- (512) * Det er sin_i mor som enhver_i gutt elsker.
 It is his_iRFLX mother every_i boy loves

4.7.9 *Som* and Variable Type

The conclusion to be drawn from the re-examination of the data above is that SOM blocks reconstruction effects in it-clefts. This is initially surprising, because it does not have this effect in canonical relatives. The following sentences from Åfarli (1994, 86,87) illustrate the compatibility of *som* in Norwegian relative clauses with reconstruction for variable binding and reflexive possessive pronouns.

- (513) Det brevet til han_i som [kvar arbeidstakar]_i trur at sjefen sender
 The letter-the to him SOM each employee believes that boss-the sends
 oppseiinga i, er uønska.
 dismissal-the in is unwanted.
That letter to him that every employee believes that the boss send the dismissal in is unwanted.
- (514) Det skjoldet fra sine forfedre som greven hadde skjenket ble
 The shield-the from his_{RFLX} forefathers SOM count-the had donated became
 utstillingens klenodium.
 exhibition-the's jewel.
The shield from his forefathers that the count had donated became the jewel of the exhibition.

4.7.10 Two Options

These observations support the proposed restriction on *som* as stated in (520): *som* may appear in C if and only if it binds a type⟨*e*⟩ variable. We can then conclude that, as *som* is incompatible

with reconstruction effects in Norwegian clefts, reconstruction is itself incompatible with an individual variable.

There are two ways of interpreting the significance of this conclusion. One possibility is that in it-clefts, reconstruction is total. That is, pivot raising is a form of A' -movement which does not result in an operator-variable chain; rather, syntactic movement is fully reversed at LF and has no interpretive consequences. The other possibility is that an operator-variable chain is always formed in the derivation of it-clefts, but that where reconstruction effects arise, the variable is not of the type with which *som* is compatible; that is, the variable is not of type $\langle e \rangle$. The latter option is the one I will argue for, but I begin by laying out the reasoning behind the former.

4.7.10.1 Reconstruction and λ -Abstraction

In German it-clefts, the clause-internal gap is always the result of movement of a relative operator; this is the syntactic operation associated with the formation of a λ -abstract. This is also the basis of relative clause derivation; as elaborated in Heim and Kratzer (1998), operator movement leaves a type $\langle e \rangle$ variable and triggers insertion of a λ -operator which binds that variable. The result is that the NP relative head and the relative clause are of the same logical type. This is the case for relatives whether they are derived by raising or matching, as the relative always has the function of a predicate modifier.

The presence of a variable for binding is then crucial to the function of a relative; however, getting a variable into the clause is a somewhat complex matter, particularly for the raising analysis. That is, the HRA is motivated by the need to account for interpretive reconstruction effects by providing a means of syntactic reconstruction. However, syntactic reconstruction would seem to be incompatible with the formation of an operator-variable chain; if it is the lower copy of the raised constituent which survives at LF, then there is no variable to bind in the gap site.³² For relative clauses which require both syntactic reconstruction for the purpose of capturing connectivity effects, and λ -abstraction for the purpose of predicate modification, it is necessary to posit some means of making a copy theory of raising and λ -abstraction compatible.

The most fully articulated proposal along these lines is Trace Conversion (Fox, 1999).

³²It is, of course, never assumed that the relative operator itself reconstructs. See the following paragraph for discussion.

Trace Conversion involves two operations. The first of these is Determiner Replacement: this converts the trace of the relative operator into a definite determiner.³³ The second operation is the insertion of a variable. Roughly, the operation transforms the initial state of the relative clause shown in (516a) to the representation in (516b).^{34 35}

- (516) a. every boy [_{DP} *Op* <boy>] (that) a_y girl met [_{DP} <*Op* boy>]
 b. every boy λx . a_y girl met THE boy = x

Whether or not one adopts the particular solution proposed by Fox, the crucial requirement is that the relative clause involves λ -abstraction over an entity-denoting variable; this permits predicate modification with the relative clause head to ensue. As *som* is found in Norwegian relative clauses, it is compatible with some process along these lines. Regardless of the derivation of a relative clause - raising or matching - the result is a λ -abstract which functions as a predicate modifier.

4.7.10.2 *Som* and Variable Binding

We have seen, then, that *som* is licit in relatives where connectivity manifests, but that it behaves differently in clefts. There are other it-cleft environments in which *som* is ungrammatical, as pointed out by Taraldsen (1986, p. 165) in reference to the PP-pivot cleft in (517); this is grammatical only with a null complementizer or with *at*.

(517)

³³Fox notes that, for independent reasons, the lower copy of raising in relatives must be a definite DP. Presumably one reason for this is tied to the account of amount relatives in Heim (1987) and the definiteness of variables left behind by relative operators.

³⁴More precisely, Fox argues that what is actually inserted as part of Trace Conversion is a predicate modifier, as shown here. This combines with the lower copy of the NP *boy*, which is itself the complement of the newly-formed definite determiner. The interpretation Fox assumes for this is similar to apposition. [*the boy* $\lambda y.y=x$] reduces to [*the boy* x] or *the boy who is equivalent to x*. Under a universal, the identity of x can be repeatedly updated, so that ambiguity is preserved in (515):

(515) every boy λx . a girl met the boy x

³⁵In Sauerland's (2004) work on the MA, he argues that Trace Conversion must apply in this derivation as well, under the assumption that copies left by movement always remain in the gap site at LF.

- (518) Det var om politikk (at) han skulle snakke.
 It was about politics (that) he should talk.
- (519) * Det var om politikk som han skulle snakke.

Taraldsen states that the restriction on *som* is categorial: *som* must bind the trace of DP movement. This may be correct, but it cannot be a complete statement of the restriction, as it does not capture the variation seen in (509)-(512). Here, it is clear that the compatibility of *som* with the variable left by DP movement is dependent on interpretation. In considering the commonality between the interpretation of those DP pivots which exclude *som*, and the PP pivot which is likewise unacceptable with *som*, the possibility arises that the relative complementizer is compatible only with pivots which are referential.

Referentiality is notoriously difficult to define.³⁶ I will assume here, with Cresti (1995), that the definition must make reference to logical type: referential constituents are of type $\langle e \rangle$. We can then say that *som* is compatible only with variables of type $\langle e \rangle$, and this statement can be strengthened to that in (520) so as to rule out the presence of vacuous operator, a step which is necessary in light of the data which follows.

- (520) The Norwegian relative complementizer *som* is licit only in the environment that it binds a variable of type $\langle e \rangle$ resulting from A'-movement of DP.

With this formulation in hand, we can look once again at the lack of an inverse scope reading in the presence of *som*. I will identify the indefinite *en artikkel av Chomsky* as a generalized quantifier for the inverse scope reading (b) in (504). For this example, the structure required for syntactic reconstruction is that in (521).

- (521) ~~<an article by Chomsky>~~ SOM= λy [every_x boy] [an_y article by Chomsky] read'(y)(x)

Syntactic reconstruction results in interpretation of the indefinite as taking narrow scope relative to the universal *every boy* within the cleft clause; the copy in pivot position is deleted. Now there is no variable at all which is bound by λ -abstraction at the CP level.³⁷

³⁶It has been defined in terms of Discourse Linking (D-Linking) and argument/adjunct distinctions; see discussion in Kroch (1989)

³⁷It is of course true that if we assume QR takes place within the clause, this will leave a variable of type $\langle e \rangle$ within VP, but this is bound by the the quantifier itself so that λ -abstraction is vacuous, and *som* is illicit.

The problem of the missing variable under syntactic reconstruction arises as well in relative clauses; as discussed above, this is the difficulty which Trace Conversion is intended to resolve. But Trace Conversion cannot be applied in it-clefts.

In the formulation of Trace Conversion illustrated in (516), a definite determiner replaces the relative operator in situ. Fox argues that the variable within the relative clause must be interpreted as definite, but for raised pivots, there is no relative operator in situ. The lower copy of the pivot is the existential quantifier *an article by Chomsky*, and it cannot be assumed that a definite determiner replaces the indefinite.

We can though imagine, for the sake of argument, that there is nevertheless a mechanism permitting insertion a variable of the type compatible with the complementizer. I will not attempt to devise an elegant way of doing this, but will simply assume that we end up with a representation along the lines of that in (522)

$$(522) \quad \langle \text{an article by Chomsky} \rangle \text{ SOM} = \lambda z [\text{every}_x \text{ boy}] [\text{an}_y \text{ article by Chomsky}] y=z \wedge \text{read}'(z)(x)$$

Now *som* binds a variable of the correct type, and we have a λ -abstract of type $\langle e, t \rangle$. This procedure, or something like it, can work for a relative, because the destiny of a relative clause is to be property denoting. It cannot work for an it-cleft, though, because unlike a relative, a cleft clause is not (a predicate modifier of) the argument of an external determiner. The cleft clause and pivot form the main sentential propositional content, and therefore in the structure above, the cleft clause requires a type $\langle e \rangle$ argument. There is no way to supply one here, though, precisely because reconstruction is equivalent to the deletion of the higher copy of the pivot, and thus there is no argument for the cleft clause to compose with.³⁸

³⁸Fox suggests that both the higher and lower copies of a relative head are interpreted (see also Sauerland (2004)), but again, relative heads and pivots differ in lexical category. If we assumed that both the lower and higher copies of the pivot could be interpreted, as represented in (523), we would still only be able to produce the wide scope reading.

$$(523) \quad \text{an}_y \text{ article by Chomsky SOM} = \lambda z [\text{every}_x \text{ boy}] [\text{an}_y \text{ article by Chomsky}] y=z \wedge \text{read}'(z)(x)$$

$$(524) \quad \exists y[\text{article-by-Chomsky}'y] \lambda z. \forall x[\text{boy}'x] \exists y[\text{article-by-Chomsky}'y] y=z \wedge \text{read}'(z)(x)$$

The difficulty here is again that the domain of reconstruction effects is the full DP pivot, not solely NP. In order to avoid the wide scope reading of the pivot by syntactic reconstruction, the entire pivot, including the indefinite determiner, must be deleted. If the pivot is interpreted in its surface position, the survival at LF of a lower copy within the scope of the universal cannot ameliorate the problem, but rather produces an interpretation which is at

It seems, then, impossible to syntactically reconstruct a quantificational pivot if it is correct that *som* is subject to the condition in (520). And in contrast to relatives, connectivity in a cleft clause cannot be rescued by variable insertion. Reconstruction and variable insertion allows the creation of an operator-variable chain, but then results in an unsaturated predicate.

4.7.10.3 Option One: Syntactic Reconstruction

One could use the discussion above to build an argument in favor of syntactic reconstruction as the source of interpretive reconstruction effects in it-clefts, tying the obligatory absence of the complementizer to the DP domain of these effects and to the repercussions of the syntactic reconstruction of DP for semantic composition.

We have seen that the domain of reconstruction in it-clefts differs from that in relative clauses. If the inverse scope reading of an existential pivot is due to interpretation of a lower copy, then it is crucial that not only the pivot-internal NP, but also the lower copy of the indefinite determiner is interpreted in situ; the higher copy of the DP pivot is deleted in its entirety at LF

We know as well that total reconstruction is incompatible with an operator-variable chain in it-clefts. Examining again the structure given in (522), repeated below as (525), total reconstruction plus variable insertion produces an unsaturated property.

$$(525) \quad \text{SOM} = \lambda z [\text{every}_x \text{ boy}] [\text{an}_y \text{ article by Chomsky}] y=z \wedge \text{read}'(z)(x)$$

If it is the case that total syntactic reconstruction is required to obtain inverse scope, it must be possible to raise the pivot without forming an A' -chain. It-clefts cannot be interpreted if both λ -abstraction and reconstruction occur in the same structure. One might then conclude that if pivot raising does not result in an A' -chain, there is no variable to be bound within the cleft clause and, as *som* ruled out because it has no variable to bind. In the absence of a bound variable, total reconstruction is obligatory as this would be the only way of interpreting the construction.

If, on the other hand, pivot raising does trigger formation of an A' -chain, then *som* is obligatory for the purpose of binding the variable in the gap site. In this case, though, total odds with the interpretation produced by the higher copy.

The result of inserting the variable in (523) is to create a predicate of type $\langle e, t \rangle$; if the pivot is type $\langle \langle e, t \rangle t \rangle$, then it will take the λ -abstract as argument, resulting, again, in wide scope. As the assumption of variable insertion was simply intended to demonstrate a point, I see no reason to further consider this option.

reconstruction is impossible because the resulting λ -abstract must take an argument, and, in order to avoid the representation given in (525), the pivot must remain in its derived position so as to ensure semantic convergence. This would then be the basis of the effect of *som* in blocking reconstruction effects.

4.7.10.4 Option Two: A Broader Inventory of Variables

The account offered in §4.7.10.3 seems at first glance to be a reasonable and workable explanation of the incompatibility of SOM and it-cleft syntactic reconstruction. I will nevertheless argue that, on the basis of both cross-linguistic data and theoretical expectations, this is not the correct understanding of the data.

In §4.6.1, the R-clefts data which was introduced included both Norwegian and Icelandic, and as that material illustrates, the Icelandic relative complementizer *sem* is obligatory in DP-pivot it-clefts. In contrast to Norwegian, the Icelandic complementizer does not block reconstruction effects, and this is true as well of Swedish *som*. The Icelandic example in (526) and the Swedish sentence in (527) both support variable binding reconstruction in the presence of the complementizer.

(526) Það er móður sína **sem** sérhver strákur elskar mest,
 It is mother.ACC his_{RFLX}.ACC that each boy loves most,
 'It is his (own) mother that each boy loves most.'

(527) Det är sin mamma **som** varje kille älskar mest.
 It is his/her mother that every boy/girl loves most of all.

I take the presence of the relative complementizer in (526) and (527) as an indication that the derivation of the cleft clause does involve λ -abstraction in these languages; that is, just as *som* cannot be inserted as a vacuous morpheme in Norwegian, the relative complementizer is not vacuous in Icelandic or in Swedish. If this is correct, and if the preceding discussion regarding the incompatibility of variable insertion and total reconstruction is on the right track, then it must be the case that Icelandic and Swedish obtain reconstruction effects without total reconstruction.

If, then, we take the absence of *som* in Norwegian to indicate total reconstruction, this will mean that in Germanic it-clefts, a constituent is always interpreted in pivot position and composes with a λ -abstract - but for the exception of a small subset of it-clefts in Norwegian.

For this subset, the it-cleft is a distinct construction with a distinct process of interpretation, requiring the reversal of the clefting operation.

The semantic characteristics of it-clefts remain consistent across and within these languages regardless of whether a particular cleft exemplar displays reconstruction effects.³⁹ Therefore, adopting Option One requires the conclusion that, despite the superficial cross- and intra-linguistic consistency of the structure and semantics of it-clefts, a subset of Norwegian it-clefts are actually the product of a distinct semantics.

This conclusion would paint an odd cross-linguistic and intra-linguistic picture, for both theoretical and empirical reasons. It is in the semantics of a construction that we expect cross- and intra-linguistic consistency. Note, for example, that although two different derivational processes are assumed for relative clauses - raising and matching - either derivation produces the same type of semantic object: a λ -abstract functioning as a predicate modifier. The distinction between the two derivations concerns only the mechanisms by which the relative reaches its final representation.

There is, on the other hand, a type of cross-linguistic variation which we do expect to arise: variation in the features of functional heads. We have seen that differences in the inventory of relative complementizers and relative operators play a role in the derivational strategy employed for it-clefts in Norwegian, Icelandic, and German. It is this parametric variation in the nature of relative C and left peripheral constituents which, I suspect, is the basis of the complementizer variation we see in Norwegian. I will suggest that it is correct that Norwegian *SOM* is restricted to binding type $\langle e \rangle$ variables, but that the obligatory absence of *som* does not indicate that total reconstruction is necessary to obtain reconstruction effects. Rather, it is an indication that there is a variable present in the gap site, but it is not of type $\langle e \rangle$ — it is of a higher type.

The difference, then, between Norwegian on the one hand and Icelandic and Swedish on the other is that in the latter two languages, the relative complementizer does not evidence sensitivity to the type of the clause-internal variable in the way that Norwegian *som* does. That is, while Norwegian *som* is restricted to binding only the most basic type of variable, Icelandic *sem* and Swedish *om* have greater flexibility with regard to the types of variables they can bind. In Norwegian, then, we can posit the existence of a null relative complementizer which coexists with *som*; together these perform the functions which a single complementizer can perform

³⁹By semantic characteristics, I am referring to those discussed in the preceding chapters - exhaustivity and presupposition.

in Icelandic and Swedish.

Support for this interpretation of Norwegian complementizer variation is provided by English it-clefts, in which we find a similar, subtle variation in interpretation correlated with material in the left periphery of the cleft clause. English has in common with Norwegian the phenomenon that the choice of left peripheral constituent may either block or support reconstruction effects, but it is unlike Norwegian in that not all reconstruction effects interact with left peripheral constituents in the same way.

I begin by recalling the observation first noted in Den Dikken (2009) regarding restrictions on the use of the relative pronoun *which* in English it-clefts; this relative pronoun is compatible only with D-linked pivots. If, following Cresti (1995), we take D-linked constituents to be of the logical type $\langle e \rangle$, then we can view the restrictions on English *which* as similar to those on Norwegian *som*: both operators are limited to the binding of an $\langle e \rangle$ -type variable.⁴⁰

There is an additional restriction on English relative pronouns related to reconstruction effects, in this case affecting the *de re/de dicto* variation. Example (528) has no overt relative operator, and is ambiguous between the two interpretations. However, use of the pronoun *who* in (529) permits only the *de re* reading. This is again reminiscent of the effect of Norwegian *som* in forcing a referential interpretation of the pivot, corresponding to $\langle e \rangle$.

(528) It's a Canadian that John wants to marry.

- a. *De Re*: There is a specific Canadian whom John wants to marry.
- b. *De Dicto*: John hopes to marry a Canadian citizen, but has no specific person in mind.

(529) It's a Canadian who John wants to marry.

- a. Only *de re*

In contrast to Norwegian, though, English relative pronouns are compatible with some reconstruction effects. In (531), the variable introduced by the possessive pronoun may be interpreted as either referential or as bound by the embedded universal.⁴¹

⁴⁰This coincides with the analysis in Heim (1987) of the restriction on the use of *which* in amount relatives as related to variable type.

⁴¹Based on the very few judgments I have of the following, the use of the relative pronoun permits scopal ambiguity in it-clefts such as that in (530); it is, though, a more marked usage of *who* than that in the bound variable

(531) It's his_{i,j} mother who every_i boy loves.

Because the sensitivity to variable type in English is found with relative pronouns for only a subset of reconstruction effects, it is difficult to argue that the obligatory omission of a relative pronoun for this subset indicates that total reconstruction is required in these instances. The compatibility of a bound variable reading with a filled SPEC-C suggests that the story cannot be this straightforward.

This approach to Norwegian complementizer variation in it-clefts falls into place with what is known about complementizer systems in Germanic, and that is that this is the locus of a significant range of cross-linguistic variation. Svenonius (1998) provides evidence that other forms of complementizer variation in it-clefts do manifest across the Scandinavian languages. I repeat here his data on *som/at* variation for PP pivot clefts; this is, though, just one of several such instances of complementizer variation associated with the type of the pivot.⁴²

This leads to the following unexpected conclusion. Although the syntactic derivation of Norwegian clefts provides the necessary prerequisites for syntactic reconstruction, total syntactic reconstruction is blocked and scope inversion requires, instead, λ conversion of a variable over generalized quantifiers. The semantic representation is equivalent to that proposed for scope inversion in German it-clefts in §4.7.5, example (503). As Norwegian it-clefts are not derived via raising of a relative operator but of the pivot itself, the analysis will require that the in situ copy of the raised pivot be interpreted as a variable over quantifiers.⁴³

(532) en artikkel ar Chomsky $\langle\langle et \rangle_t\rangle \lambda Q$. hver student^x $\langle\langle et \rangle_t\rangle Q^y \langle\langle et \rangle_t\rangle$ leste (y)(x)

This analysis does not suggest that syntactic reconstruction for scope is non-existent. It may be the case that the particular nature of clefts and the function of the clause, as discussed above, prohibit reconstruction. If this is so, then the cleft is a construction whose semantic compositional requirements inhibit the options available to the syntax, yet in which the semantics context in (531):

(530) It's a professor who every student meets with at the beginning of the semester (not a staff member...)

⁴²Svenonius suggests, as a first approximation, that variation in complementizer by language is sensitive to the lexical category of the pivot. He does note, however, that a more adequate account will need to take the semantics of the construction into account.

⁴³Interpretation of unpronounced lower copies as variables is proposed in Ruys (2012).

makes available an alternative route to the same scopal interpretation.

4.8 Approaches to Variable Binding

In §4.6.2, data was introduced which illustrated the problems faced by a syntactic reconstruction account of scope connectivity in it-clefts; in order to capture the empirical data, an analysis in terms of variables over generalized quantifiers was adopted. I noted as well the potential broader significance of this move for our understanding of LF operations.

Variable binding, as is well known and will be made evident here, presents a more formidable challenge for semantic reconstruction. There are actually two points at issue. One is whether or not it is technically possible to capture variable binding via semantic reconstruction. The other is whether it is necessary or desirable to do so.

A variety of semantic approaches to variable binding are available on the market; these vary considerably in the degree to which they depart from the principles of syntactic reconstruction, and the degree of departure is influenced by the researcher's evaluation of the range of empirical data which should be subsumed under a single analysis - for example, whether variable binding and e-pronouns should be understood to be the same phenomenon (i.e. Sternefeld (2001)) - as well as his or her conception of what constitutes a coherent view of the syntax-semantics interface and of the linguistic system.

The syntactic approach to both scopal ambiguity and reconstruction for variable binding relies on a covert level of syntactic operations. The adoption of higher-type variables as a means of capturing scopal ambiguity weakens the motivation for syntactic movement at LF, and this in turn opens the door to fully eliminating the concept of covert syntax.

Binding theory is defined in terms of *c-command*, and therefore if the overt structure does not represent the relations assumed by these definitions, elimination of covert structure will require a reconception of the nature of binding principles. Proposals in this domain are available, particularly within the framework of categorial grammar as in the work of Jacobson (1994, 1999) and Barker (2007).⁴⁴ As is inevitably the case, it is necessary to add additional operations

⁴⁴Jacobson (1999) redefines binding in terms of relationships between argument slots as accommodated via a particular type of type-shifting (her *z-rule*); Barker (2007) in terms of semantic scope, with limitations on linearity for variable binding. In either case, as in syntactic approaches, an additional mechanism for capturing weak crossover is required.

to the semantic component in order to eliminate operations from the syntax, a reasonable and necessary consequence of this particular perspective on the structure of the grammar.

The notion of semantic reconstruction for variable binding which I will examine here is, if working within a generative framework, a much more conservative one. The concern in this area of research is focused in particular on the elimination of *lf* operations. This is, again, in part driven by the acceptance of higher-type variables in reducing the role of syntax for quantifier scope. It is, then, not a question of redefining binding theory without a role for c-command, but rather specifically directed at eliminating syntactic reconstruction as a type of grammatical operation.

I will, though, view the operations assigned to covert syntax as significantly distinct enough to warrant evaluating them independently. I suggested that the adoption of variables over quantifiers does shift the responsibility for scope towards the domain of the semantics, and that this in turn trends in the direction of the elimination of QR, or covert syntactic movement.

Syntactic reconstruction is not the same sort of covert syntactic operation, because there is overt evidence to support the notion of an available lower copy of a raised constituent - namely, the morphological evidence discussed at the end of the preceding chapter and the beginning of the current one. If one takes the copy theory of movement as a reasonable understanding of syntactic movement, then one cannot avoid the consequence that a single constituent is located in a lower and higher position. That a constituent should be available for interpretation in a position which it is known to occupy then does not seem to be as great a conceptual leap as the adoption of covert movement - provided, of course, that interpretation of a lower copy is consistent with the interpretation of the construction as a whole.

The conclusion this will lead to, in light of the examination which follows, is that variable binding data in Germanic *it*-clefts is more straightforwardly captured under a system which assumes that the syntax and the semantics each place requirements and restrictions on one another, yet each system has a degree of flexibility which permits it to accommodate those restrictions in a way which permits syntactic and semantic convergence.

A consequence of this view is that, despite the significant differences in the syntax of German and Norwegian *it*-clefts, their semantic representations are, ultimately, identical. However, due to the variation in their structures, each language must make use of a different interaction of syntactic and semantic mechanisms in order to arrive at this identity.

4.8.1 Functional Variables

Many of the approaches to a semantic source of variable binding take as a starting point the work of Engdahl (1986) on functional constituents in questions which support relational answers.

- (533) a. **Q:** Which book did John believe that every author would read from?
b. **A:** His latest book.

The question corresponding to the answer in (533b) can be understood to be asking for information not about individuals, but about a relationship between individuals, with that relationship realized as a function from individuals to individuals. This reading of the question may be informally rephrased as in (534).

- (534) For which function f is it the case that John believes that every author x will read from $f(x)$.

The question, then, requests identification of a function of type $\langle e, e \rangle$. In this case, the wh-operator does not bind a variable of type $\langle e \rangle$, but a variable corresponding to this function — a variable over functions of type $\langle e, e \rangle$. The answer asserts that the function at issue is the *latest-book* function which takes an argument x and pairs it with its latest book:

- (535) $\exists f_{\langle e, e \rangle} [\textit{latest-book}'(f)] \forall x [\textit{author}'(x)] \textit{read}'(f(x)) (x)$.

An important point to note here is that the functional account of relational questions does not imply that variable binding can be handled via semantic reconstruction; in fact, quite the opposite. The analysis severs the relationship between existential quantification and a variable associated with the internal argument of the verb *read*.⁴⁵ As the internal argument is a complex constituent $f(x)$, it is possible to target one of the internal constituents for A'-movement, and leave the other one in situ. The scope of quantification over the function f can therefore be calculated independently of the scope of quantification over individuals. Importantly, the variable x , identified as a null constituent, can remain in situ within the c-command domain of its binder, *every author*.

⁴⁵Functional constituents are proposed as a means of resolving a scope paradox. The relationship between authors and books remains constant across John's belief worlds; however, the individual book/author pairs may vary from one world to the next.

In detaching scope from binding, existential quantification over the functional variable may take widest scope, while the universal *every author* and the variable it binds may remain within the scope of quantification over worlds.

4.8.2 Functional Constituents with Overt Arguments

The question now is whether this functional constituent will do anything for us in terms of capturing the variable binding effects in German clefts. In fact, the system just outlined is not directly transferable to variable binding in German clefts, for at least two reasons. One of these is that, as just pointed out, the account still relies on syntactic c-command for variable binding, and the German cleft does not provide that option for the pronoun located within the pivot DP.

- (536) Es ist seine_i Mutter, die_j jeder Junge_i t_j liebt.
It is his_i mother whom every boy_i loves.

The second reason is that, in order to parallel Engdahl's functional questions in which the raised *wh*-phrase is a type $\langle e, e \rangle$ function, the pivot *his mother* must also be a type $\langle e, e \rangle$ function. However, possessive DPs are not equivalent to the *wh*-phrases in functional questions, and therefore claiming a functional denotation for the pivot in (536) will require some effort.

In example (536) *his mother* is the internal argument of *love*; under standard assumptions, this means it must be of type $\langle e \rangle$. This is precisely the denotation which Engdahl's approach produces for the internal argument in relational questions, a denotation which is produced via function application of the functional constituent and the null variable.⁴⁶

- (537) $\text{Who}_{\langle e, e \rangle}(x_{\langle e \rangle}) = y_{\langle e \rangle}$

For a possessive DP, it makes sense to consider the functional component of the complex constituent to be the NP *mother* alone; the bound variable, introduced by the overt pronoun *his*, is the argument of this function. Function application produces the type $\langle e \rangle$ argument needed.

- (538) $\lambda x. \text{mother}(x)(\text{he}_i) \longrightarrow \text{'his}_i \text{ mother'}$

A possessive DP differs from the *wh*-phrase in relational questions because the bound variable is introduced by an overt constituent, and as that constituent is overtly, it cannot be claimed to remain within the c-command domain of its binder throughout the derivation. In other words, in order to correspond to a relational question with an in situ variable, the *it*-cleft would have to have the form in (539):

⁴⁶One may take an alternate approach which bypasses standard assumptions. In Jacobson's (1994) work, she assumes an operation on predicates which enables them to take functional internal arguments of this type (*her z-rule*). Binding is then encoded as a semantic relationship between arguments of the predicate.

(539) * It is mother that every boy loves his.

There have been efforts to assimilate reconstruction of variable binding for possessive DPs to Engdahl's treatment of functional questions, with the goal, again, of avoiding recourse to syntactic reconstruction. Some analysis along these lines will be necessary for both German and Norwegian; but, as discussed below, the effort to assimilate overtly raised possessive pronouns to in situ null variables presents formidable challenges.

4.8.2.1 Semantic Reconstruction in German Topicalization

The first step in the discussion is an examination of the von Stechow (1990) analysis of semantic reconstruction in German topicalization constructions; he gives the following example. This structure bears a similarity to the Norwegian cleft data because, like the cleft pivot in R-clefts, the DP *sein Hund* in (540) is first merged as the internal argument of *streicheln*, as in (541) and is then raised to Spec-C. Under raising, the sentence may retain the bound variable interpretation.

(540) [Seinen Hund]₁ hat jeder₁ t₁ gestreichelt.
 His dog has everyone petted.
Everyone₁ petted his₁ dog.

(541) [_{CP} [_C [_{TP} [[_{VP} jeder [seinen Hund] gestreichelt] hat]
 everyone his dog petted has

Following Engdahl, and as illustrated in (538), von Stechow takes the possessive pronoun to represent the argument of a functional constituent. That constituent in this case is *Hund* - the *dog-of* function from individuals to dogs. Precisely as discussed in §4.8.2, the internal argument of *streicheln* consists of a complex constituent- the function *Hund* and its argument, represented by the pronoun *sein*. The constituent itself is entity denoting. This is the type required in situ, but not the type we want in SPEC-C.

When the DP *sein Hund* is raised it leaves behind a *layered trace* - $f(x)$ - a trace that encodes its internal constituency.

(542) [Seinen Hund]¹_(e) hat jeder [f(x)]¹_(e) gestreichelt <hat>.
 His dog has everyone petted .

In line with Engdahl's relational analysis of *wh*-questions, the configuration needed is a functional constituent in SPEC-C, and λ -abstraction over a functional variable. We have neither

in this instance: both the raised constituent and the resulting variable $f(x)$ are type $\langle e \rangle$; the λ -operator should then bind a variable of this type.

(543) [Seinen Hund]¹ _{$\langle e \rangle$} $\lambda x_{\langle e \rangle}$. hat jeder [f(x)]¹ _{$\langle e \rangle$} gestreichelt <hat>].
 His dog has everyone petted .

Von Stechow notes that, as raising of the DP removes it from the binding domain of the universal quantifier *jeder*, the variable introduced by the pronoun *sein* is free in its derived position, and therefore a λ -operator must be inserted so as to bind the variable. This shifts the entity-denoting raised constituent into a function. In this case, then, we get the following type-shifting operation.

(544) $\lambda x.Hund(x)(sein_y) \longrightarrow \lambda y.\lambda x.Hund(x)(sein_y)$

For the sake of clarity, I will indicate the output of the type shifting operation as the function $\lambda y.Hund(sein_y)$.

There is now a problem with the variable in the gap site, and consequently for λ -abstraction over this variable, which is not easily resolved. Notice that the *sein Hund* which was fronted was of the type of entities; this was shifted into the type of an $\langle e, e \rangle$ function only by the insertion of a λ -operator following the movement operation. This means that although *sein Hund* in SPEC-C is now the function we need, the variable in the gap site has not been type shifted. This complex variable $f(x)$ is itself of type $\langle e \rangle$, and so one expects that the λ -operator binds a variable of this type.

The structure which has resulted from the operations thus far is illustrated in (543). The λ -abstract is property-denoting: it contains a variable over individuals. The type-shifted topic DP is function denoting.

(545) [$\lambda z.Hund(sein_z)$]³ _{$\langle e, e \rangle$} $\lambda y_{\langle e \rangle}$. hat jeder¹ gestreichelt [f(x)]³ _{$\langle e \rangle$} .

As things stand, the composition will not converge.

The analysis which von Stechow actually wants to end up with is one in which the function *sein Hund* is λ -converted not into the gap site itself, but into only the functional layer of the complex variable - λ -conversion, in other words, should produce the structure in (546). Here, the variable x^1 is bound by the quantifier *jeder*¹, and the function takes this bound variable as argument.

(546) $\text{hat jeder}^1 [[\lambda z. \text{Hund}(\text{sein}_z)]^3_{\langle e, e \rangle} (x^1)]_{\langle e \rangle}$ gestreichelt .

In order to do this, though, the λ -operator must bind a functional variable, not an $\langle e \rangle$ -type variable. That is, although a complex entity-denoting constituent is extracted, the λ -abstract which results from movement must bind a variable over functions.

In order to enable this derivation, von Stechow assumes that the derivation produces the following. Here, λ -abstraction binds just the sub-constituent f , while the $\langle e \rangle$ -type variable within this constituent is bound by the universal.

(547) $[\lambda z. \text{sein-Hund}(z)]^3_{\langle e, e \rangle} \lambda f_{\langle e, e \rangle}. \text{hat jeder}^1 [f^3_{\langle e, e \rangle} (x^1_{\langle e \rangle})]$ gestreichelt

Von Stechow does not address the operator-variable mismatch except to state that, as the structure requires λ -conversion of a function, it must be the case that we have a λ -abstract over a functional variable. There is no mechanism proposed which would permit the derivation to ignore the type of the extracted DP and recognize that the λ -operator should bind a variable embedded within $f(x)$.

This analysis as it stands does avoid syntactic reconstruction. However, even if it could be made to work as intended, it is not an analysis of semantic reconstruction for variable binding. Rather, the analysis depends on syntactic variable binding. The variable x which ends up bound by the universal quantifier has never been extracted from its position within the c-command domain of its intended binder. The effect of semantic reconstruction, then, is solely to apply a function to the variable which is syntactically bound in situ.⁴⁷

The reason that the analysis runs into the difficulty explicated above is precisely because the variable introduced by *sein* has to do two different things at once: it must both be extracted and converted into a function, but it also has to remain in situ as a type $\langle e \rangle$ for syntactic binding.

Clearly, what is needed here is that the function represented by *Hund* alone is extracted. This works in Engdahl's analysis because the *wh*-phrase which undergoes movement is a function f , not a function plus its argument $f(e)$. We cannot claim this for the topicalization data, because the argument of the function is the variable introduced by the possessive pronoun, and the overt evidence indicates that this has been raised; that is, the topicalized constituent is *sein Hund*, not *Hund*.

⁴⁷The variable which is ultimately bound by the universal is actually that left behind by the raising of *sein*. Still, x has neither moved nor been reconstructed.

4.8.2.2 Layered Traces and Layered Indices

The analysis in Chierchia (1993) comes closer to the goal of a partial extraction from a complex constituent. The work is not directly geared towards an account of variable binding; it is, instead, an application of Engdahl's functional *wh*-phrase to the problem posed by a comparison of the two questions below. (548) permits a functional or a pair-list answer, while (549) is ungrammatical on a functional reading.

(548) **Q:** Who does everyone like?

a. **A:** Everyone_{*i*} likes his_{*i*} best friend.

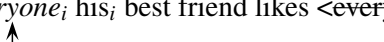
(549) * **Q:** Who likes everyone?

a. * **A:** His_{*i*} best friend likes everyone_{*i*}.

The focus of Chierchia's analysis is to account for the distinction between (548) and (549) by taking the ungrammaticality of a functional reading for the latter as an instance of weak crossover. However, weak crossover violations are identified as an illicit movement operation in which a quantifier 'crosses over' its intended pronominal bindee, as in (550)

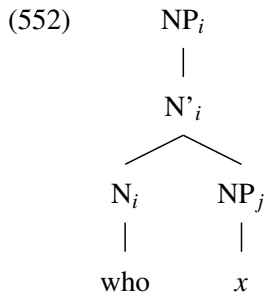
(550) * His_{*i*} best friend likes everyone_{*i*}

(551) * *everyone*_{*i*} his_{*i*} best friend likes <everyone>



The weak crossover violation in (550) arises due to the movement of the universal quantifier over the co-indexed possessive pronoun his_{*i*}. For the constituent question at issue in (549), though, there does not appear to be a pronoun which would trigger such a violation.

However, if the movement gap in a functional question contains a complex trace, very much along the lines discussed by von Stechow, then the components of the trace must be represented in the syntax of the *wh*-DP. The syntactic structure Chierchia proposes for the *wh*-phrase takes the *wh*-term to be function-denoting; its argument is incorporated into the *wh*-DP as a null variable, as shown in (552).



Having assigned a null pronoun to a position within the *wh*-DP, Chierchia can cite its presence as the reason that there is no functional reading for (549): QR of the universal over the *wh*-phrase will now trigger a weak crossover violation.

The *wh*-DP is first merged in SPEC-v (under current assumptions), and it contains a variable which is to be bound by the universal *everyone*. Raising of the *wh*-DP leaves behind a complex variable. The functional reading of the question requires that *everyone* undergo QR to a position that c-commands the trace of *wh*-movement, but in doing so it crosses over the trace of its binder, and the result is ungrammatical.

(553) [[ec_j] Who_i]_{i,j} [everyone_j] [f_i(x_j)]_{i,j} loves t_j t_j

The problem which now arises will seem familiar; the pronominal constituent at issue is null in this case, but otherwise this is a near exact replication of the type mismatch which von Stechow ran into.

In order for the question (548) to support a functional answer such as *his mother*, the question must be asking for identification of a function, not of an individual. In order to pose this question, the *wh*-operator, *who*, should be function denoting, and should bind a functional trace. But, although the complex variable in the gap site contains a functional constituent, the variable itself is not function-denoting - it denotes a saturated function, an entity. Therefore, the raised *wh*-operator must bind only subpart of the trace: the functional component itself.

Chierchia's solution to this difficulty is instantiated via indexation. As the function and its argument are two independent constituents, both semantically and syntactically, it follows that each bears its own index. Both of these indices are carried by the label of the complex constituent when it is in situ: that is, the constituent represented in (552) has the indexation shown in (554) for the null category *e*. When raised, though, the phrase carries only the index

of the functional element, and leaves the index of the null argument behind. Consequently, the null pronoun is bound in situ by the universal quantifier, and the *wh*-operator binds only the functional trace. The presence of the null pronoun within the *wh*-phrase nevertheless triggers a weak crossover violation.

(554) In situ: $[_{DP} \text{Who}_i [_{NP} e_j]]_{i,j}$

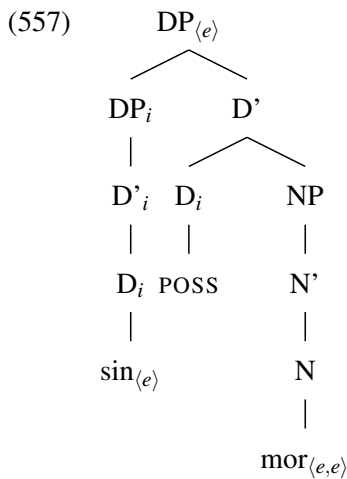
(555) Raised: $[_{DP} \text{Who}_i [_{NP} e_j]]_i$

(556) $[[ec^j] \text{Who}^i] \lambda^i f_{\langle e,e \rangle}. [\text{everyone}^j] \text{like} [f^i (x^j)]^{i,j} t^j$

The status and relevance of indices, and the mechanism which permits an index to be ‘left behind’, is not made entirely clear in Chierchia’s analysis. What is clear, though, is that the analysis is aimed at avoiding the conundrum discussed earlier. The $\langle e \rangle$ variable must be syntactically represented within the *wh*-phrase in order to trigger a weak crossover effect. But, the variable must also be absent from the *wh*-phrase when it is raised to SPEC-C in order to ensure that the operator-variable chain involves a functional variable only.

4.8.3 Norwegian Variable Binding

We can now return to the Norwegian data. The pivot in this instance has the following structure; the logical types of the components are indicated.



The pivot *sin mor* is merged as the argument to *elskar* and then raised to pivot position; a copy remains in situ. This cleft does not permit *som*, and this tells us that the λ -abstract binds a

higher type variable in the structure. As it stands, there is no variable at all, and the type of the raised DP is $\langle e \rangle$.

(558) Det er [_{dp} sin _{$\langle e \rangle$} mor _{$\langle e, e \rangle$}]_{i, $\langle e \rangle$} enhver gutt elsker < [_{dp} sin _{$\langle e \rangle$} mor _{$\langle e, e \rangle$}]_{i, $\langle e \rangle$} >

I argued against total reconstruction in Norwegian clefts for reasons delineated in section §4.7.10.4 which were, again, associated with the status of the cleft clause as a predicate in need of an argument in pivot position. The concerns raised there, though, do not extend to partial reconstruction, and there is no reason to rule this option out. In fact, partial reconstruction will resolve the problems addressed in both the von Stechow and Cherchia analyses. Assuming interpretation of the lower copy of the reflexive possessor resolves both the type of the constituent remaining in pivot position and the variable within the clause, correctly resulting in a functional denotation for the pivot, and a functional variable in the gap site.

Partial reconstruction involves interpretation of the lower copy of the pronoun *sin*; the higher copy is deleted. The reverse holds of the NP *mor*: in this case the lower copy is deleted, and I assume that deletion of a lower copy is equivalent to interpretation as a variable (as per Ruys (2012)). This places a functional variable in the gap site. As the lower copy of the pronoun is interpreted, this is bound by the universal quantifier; it is not bound by the λ -operator, because it has not been extracted as far as the semantic interpretation is concerned. This results in solely a functional variable in the gap, precisely as needed.

(559) Det er [_{dp} ~~sin~~ mor _{$\langle e, e \rangle$}]_{i, $\langle e, e \rangle$} $\lambda f_{\langle e, e \rangle}$. enhver gutt elsker < [_{dp} sin _{$\langle e \rangle$} f _{$\langle e, e \rangle$}] _{$\langle e \rangle$}

As the upper copy of the pronoun is deleted, only *mor* - the functional constituent - is interpreted here, and as this is of type $\langle e, e \rangle$, we achieve the correct correspondence between a functional pivot, functional variable, and λ -abstraction over a functional variable. *Som* is of course incompatible with a variable of type $\langle e, e \rangle$, and the null complementizer must be selected in this structure.

This captures straightforwardly the configuration needed, without the type-mismatch hurdles which arose for von Stechow and Cherchia. And it does so by virtue of the copy of the reflexive pronoun within the clause - a copy which we know must be there at some point in the derivation, because we know that the reflexive morphology is licensed in that position.

It is, in fact, not difficult to understand the Cherchia analysis as analogous to syntactic reconstruction under the copy theory of movement. If one interprets the notion that the *wh*-

phrase carries only the index of its functional component to mean that only the constituent corresponding to that index is interpreted in derived position, this will mean that the higher copy of only the functional NP retained, and not the higher copy of the type- $\langle e \rangle$ constituent - the equivalent to deletion of the upper copy of the null pronominal. The index of the pronoun appears only in the gap site, consistent with the copy theory interpretation of a lower copy.

4.8.4 Variable Binding in German It-clefts

The advantage which I suggested arises from the assumption of partial reconstruction was that, rather than the attempt to manipulate the structure resulting from raising so as to mimic the effects of copy theory, it allows copy theory to do the work which it inherently can do. Like the analyses proposed in Von Stechow and in Chierchia, it also takes advantage of a c-command relationship between the universal and a variable which remains in-situ within the cleft clause; the only real difference is that this variable is the lower copy of a movement chain.

This cannot be applied to the German data, because the EM-cleft construction is the one in which the syntax does not provide the option of reconstruction for any part of the pivot.

I noted that the semantic representation of German and Norwegian it-clefts was identical, but that the distinction in their derivations required that each language take an independent path to that representation. This is what I will argue occurs for variable binding: German will also make use of a functional constituent in pivot position and a functional variable in the cleft clause, and the universal quantifier within the clause will bind the relevant type- $\langle e \rangle$ variable in situ, but it will not accomplish this via reconstruction.

The it-cleft corresponding to the Norwegian variable binding examples is the following:

- (560) Es ist seine Mutter die jeder Junge t liebt.
 It is his mother whom every boy loves.

The cleft clause is derived by WH-movement of a relative pronoun. The structure of this clause is of course very much like that of an interrogative derived by raising of a *wh*-phrase, and this suggests that we have here a cleft clause version of the functional questions with which our analysis of variable binding began. So that, in just the same way that *which book* in Engdahl's example, repeated below, represents a functional constituent whose argument is a null variable remaining in situ, the relative pronoun can be treated as relative operator binding a functional variable.

(561) die $\lambda f_{\langle e,e \rangle} \cdot \text{jeder}^1 \text{ Junge } [f_{\langle e,e \rangle}(x^1) \text{ liebt.}$

The pivot in this case is externally merged, and the difficulty is that because the pronominal possessor is not within the c-command domain of the universal, it will be interpreted as a referential, free pronoun - precisely what we do not want. However, we can also take the route suggested in von Stechow's analysis: because this pronoun is not bound by the universal within the cleft clause, and it is not referential, it will have to be bound via insertion of a λ -operator.

In doing this, we simply recreate the type-shifting function which von Stechow proposed, and which was illustrated in (544), repeated here as (562).

(562) $\lambda x. \text{Hund}(x)(\text{sein}_y) \longrightarrow \lambda y. \lambda x. \text{Hund}(x)(\text{sein}_y)$

If *seine Mutter* is a type $\langle e \rangle$ arising from function application as in (563), λ -abstraction over the variable introduced by the possessive will shift this constituent into a functional denotation, as in (564).

(563) $\lambda x. \text{Mutter}(x)(\text{seine}_y) \longrightarrow [\text{seine}_y \text{ Mutter}]_{\langle e,e \rangle}$

(564) $\lambda x. \text{Mutter}(x)(\text{seine}_y) \longrightarrow \lambda y. \lambda x. \text{Mutter}(x)(\text{sein}_y) \longrightarrow \lambda y. \text{Mutter}(\text{sein}_y)$

The representation is precisely what we have in Norwegian: a λ -abstract over a functional variable, which takes a function-denoting pivot. Norwegian derives the functional denotation of the pivot by partial reconstruction, which in turn leaves a functional variable in situ. German does this with λ -abstraction over the unbound pronoun in specifier position of the pivot, and a relative operator which takes a type $\langle e \rangle$ variable as internal argument, and induces λ -abstraction over a functional variable.

(565) $\lambda f_{\langle e,e \rangle} \cdot \text{jeder } \text{Junge} x^i f_{\langle e,e \rangle}(x^i) \text{ liebt.} ([_{dp} \lambda y. \text{Mutter}(\text{sein}_y)])$

4.8.5 Reflexives and Reflexive Readings

For the cases of bound variables in possessive DPs, an analysis which treats the pivot as a non-referential constituent denoting a function is intuitively accessible. Whether or not one agrees with the details of the formulation as discussed in section 4.8, that the DP *his mother* expresses a relation between two entities is certainly correct, and the analysis argued for permits an understanding of the restriction to the null complementizer in Norwegian.

The complementizer restriction applies in one additional case: when the pivot is a reflexive pronominal form. It is less obvious in what sense this pivot is non-referential, particularly in comparison to non-reflexive pronominal pivots, which do not exclude *som*. In what follows, I will suggest that, following Eckardt (2001), the SELF form is of the same type as the relational NPs examined above - SELF is a function of type $\langle e, e \rangle$ - and that therefore ungrammaticality of *som* in combination with reflexive pivots in Norwegian has the same source as the ungrammaticality of *som* for bound variable pivots: the bound variable within the cleft clause is of a higher type.

4.8.5.1 Intensifying SELF

The distribution of simplex and complex reflexives was briefly noted earlier in terms of Principle A: the complex anaphor is always subject to Principle A, while the simplex anaphor may, in certain environments, be exempt from binding theoretical principles and function as a non-local anaphor (§4.2.1, 181).

It was noted as well that the lexical semantics of a predicate influences which reflexive form may appear as an internal argument, and several proposals aimed at capturing the association between the semantics of the predicate and the formal restrictions on reflexive forms have been put forward. The influential analysis of Reinhart and Reuland (1993) identifies the controlling factor in terms of “reflexive marking”: some predicates are lexically reflexive marked, but those which are not require an alternate form of reflexive marking in order to occur with reflexive arguments.

The concept of lexical reflexive marking is directly tied to the semantics of the verb. Verbs describing relations in which two (or more) of its θ -roles are by default expected to be co-referential are those which are lexically reflexive marked. Verbs describing relations in which the default expectation is that participants are not co-referential are those which are not lexically reflexive marked. In these cases, a reflexive pronominal form must be licensed by reflexive marking of the predicate: for Reinhart and Reuland, this marking function is performed by the *self* morpheme.

The SELF morpheme is not limited to co-occurrence with simplex reflexive pronouns; it appears in combination with non-reflexive pronouns and full DPs as an *adnominal intensifier*.⁴⁸

⁴⁸The only form under discussion here is the adnominal intensifier *self*, which is to be distinguished from several

The following example from Sæbø (2009, p. 119) illustrates this usage of Norwegian SELF.

- (567) Glahn elsker drømmen om Edvarda mer enn han elsker henne selv.
Glahn loves dream-the of Edvarda more than he loves her SELF.
Glahn loves the dream of Edvarda more than he loves (Edvarda) herself.

There is a line of research into the properties of SELF intensification which claims that the intensifying and reflexive SELF are the same item - that is, the denotation of this form is invariant - but that its interpretive role may vary depending on context, and in particular depending on whether or not it is in focus.

Eckardt (2001), focusing on the German form *selbst*, presents an analysis which formalizes the semantic contribution of intensifying SELF as the identity function (ID) on individuals as shown in (570).⁴⁹ The meaning of the constituent *Hans selbst* in (571) is given in (572) (Eckardt,

other, distinct usages of this form. German, for example, distinguishes the *stressed* adnominal intensifier *selbst* from non-stressed *selbst*, which has a very different meaning similar to English *even*. (Example (566) is taken from Eckardt (2001, p.1).)

- (566) Peter wußte selbst die LETZTE Antwort.
Peter knew *self* the last answer.
Peter knew even the LAST answer.

⁴⁹Eckhart's identification of SELF as an ID function is based on a particular characteristic associated with the focus associated with this morpheme. The focus value of the intensified DP is to be not simply a set of alternatives, but a structured set, such that the referent of the DP is understood to be the *core* or *central member* of that set (?). This is referred to as the *centrality effect* of SELF: members of the set of alternatives gain their membership by virtue of some relationship to the central member. The structure of the set of focus alternatives is then one with a core member and his *entourage*, or a central member and members who occupy the *periphery*.

This characteristic of intensifying SELF is illustrated in the two examples below from Eckardt (2001, p. 4-5). head of state in (568) and the core member of the crew in (569).

- (568) a. Context: *The archbishop was easy to spot thanks to his mitre. The Lords wore shining helmets...*
b. Der König selbst trug eine Krone.
The king SELF wore a crown.
The king himself wore a crown.
- (569) a. Context: *We discussed the vices of the crew.*
b. Der Pilot selbst raucht Galoises.
The pilot SELF smokes Galoises.

2001, p. 377).

(570) $\llbracket \text{selbst} \rrbracket = \lambda x.\text{ID}(x)$

(571) Hans selbst wurde verwundet.
Hans SELF was injured.

(572) $\llbracket \text{Hans selbst} \rrbracket = \lambda x.\text{ID}(x)(\llbracket \text{Hans} \rrbracket) = \llbracket \text{Hans} \rrbracket$

When intensifying SELF modifies a DP, it is always the SELF form, rather than the DP, which bears prosodic focus. Eckhardt argues that this is an indication that the effect of focus is to introduce a focus value not for the referent of DP, but a focus value for the functional constituent SELF.

If the ID function maps an individual x to himself, then alternative functions may map that individual to his brother (i.e. $\lambda x.\text{brother}'(x)$), to his best friend ($\lambda x.\text{best-friend}'(x)$), to his neighbor ($\lambda x.\text{neighbor}'(x)$), and so on.

The SELF form which obligatorily appears with the simplex reflexive is not necessarily focused, and if it is not, then one might suppose, following Eckhart's reasoning, that it is simply the ID function. As she notes, unstressed SELF does seem to add a great deal to the interpretation of the modified DP.

However, the unstressed ID function may have relevance in the context of a non-reflexive predicate. In Sæbø (2009), verbs which are in Reinhart and Reuland (1993) identified as not lexically reflexive marked are treated as verbs whose lexical semantics carry a presupposition of non-identity of its arguments. Sæbo then suggests that the role of SELF is to satisfy this presupposition while at the same time permitting the reflexive interpretation to emerge. In other words, the introduction of a type $\langle e, e \rangle$ function (on the subject of the predicate) indicates that the internal argument is an entity which bears some relationship to the subject. Therefore, the two arguments in a sentence such as that in (573), a Dutch example from Sæbø (2009), are not the identical referent (x) and (x); they are x and $f(x)$. This representation is, in fact, in (573b) is identical to that in Reuland (2001), whose proposal is quite similar to that of Sæbo.).

(573) a. Bart bewondert zich *(zelf).
 Bart admires _{RFLX SELF}.
 b. *admire'*($f(x)$)(x)

If one takes this route, then the interpretational process which applies to variable binding in Norwegian can be extended to that of reflexive pivots.

(574) Det er $[_{dp} \langle \text{seg} \rangle_{\langle e \rangle} \text{selv}_{\langle e,e \rangle}]_{i,\langle e \rangle}$ Jon skaded $\langle [_{dp} \text{seg}_{\langle e \rangle} \langle \text{selv} \rangle_{\langle e,e \rangle}]_{i,\langle e \rangle}$

In German, although reflexive forms are not permitted in pivot position, it is nevertheless possible to get a reflexive reading with a pivot consisting of a nominative personal pronoun plus the adnominal intensifier (see §4.6.2.3). It is then reasonable to extend the analysis of the bound variable reading in German it-clefts to that of the reflexive reading. This takes the form *er selbst* in (575) to containing the function SELF plus variable bound by a λ -operator; clause-internally, relative pronoun raising triggers abstraction over a functional variable.

(575) Es war $[_{dp} \lambda x.\text{ID}(x)] \lambda f.$ den Hans_i $[_{dp} f_{\langle e,e \rangle}(x_{i,\langle e \rangle})]$ verletzt hat.
 It was $\lambda x.\text{ID}(x)$ that $\lambda f.$ Hans injured $f(x)$

4.9 Conclusion

Chapter 3 examined the structure of it-clefts, noting that the unusual nature of the construction lends itself to (at least) two distinct derivational options. Importantly, the construction also provides overt morphosyntactic evidence which distinguishes between these two derivations. In this chapter, I have taken advantage of the morphosyntactic indicators of the derivational path of the pivot as a means of considering the relationship between morphosyntactic connectivity effects and interpretive reconstruction effects. The results of a comparison between it-clefts derived via pivot raising - the R-clefts of Norwegian - and those derived by external merge of the pivot above the cleft clause - German EM-clefts - lead to the conclusion that an adequate understanding of reconstruction effects must take into account the contributions of both the syntactic and semantic systems. There are operations available in both modules which support reconstruction effects, and the application of these operations is responsive to the demands placed on each system by the specific syntactic and semantic characteristics of the it-cleft construction. As a consequence, distinct syntactic structures may result in identical semantic representations.

Chapter 5

Conclusion

The goal of research into it-clefts over the past century has been to tie together their syntactic, semantic, and information-structural properties. This has to a large extent been the goal of the preceding material as well. The approach taken here has been to view the it-cleft as a unique construction, identifying the source of its uniqueness as the nature and role of the cleft clause. Much of the work has in effect explored the repercussions of the role of the clause for several characteristics of the construction and, beyond this, the implications of these characteristics for examination of fundamental questions concerning the structure of the grammar.

I have suggested that it-clefts are built on an odd predicate - a CP λ -abstract. This has repercussions for its structure, as the means by which the derivation provides an argument for that predicate - the pivot - will place particular demands on the syntactic system. The method of derivation will therefore be determined by the way in which a language responds to these demands.

I have as well worked towards an understanding of the relationship between the semantic repercussions of the predicate and the discourse function of it-clefts, sketching an initial approach towards the cleft pronoun as a constituent which is required for purposes of semantic convergence, but which by its nature also introduces anaphoric properties.

The cross-linguistic syntactic variation within Germanic it-clefts - once again, a consequence of the role and position of the cleft clause - has permitted an application of the it-cleft data to issues which reach beyond the specific puzzles of the construction itself. In the final chapter, I argued that the information gleaned from the misalignment of cross-linguistic variation in morphosyntactic connectivity and cross-linguistic uniformity in reconstruction effects

contributes towards a deeper and more nuanced understanding of the the syntax-semantics interface.

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