WHAT SOME *IT*S ARE: NON-REFERENTIAL *IT*, EXTRAPOSITION, AND COPIES

by

JED SHAHAR

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dissertation requirement for the degree of Doctor of Philosophy.

Marcel den Dikken, Professor of Linguistics
CUNY Graduate Center

Date | Chair of Examining Committee

Gita Martohardjono, Associate Professor and
Department Chair CUNY Graduate Center

Date | Executive Officer

[Marcel den Dikken, Profesor of Linguistics,
CUNY Graduate Center]

[Robert W. Fiengo, Professor of Linguistics,
CUNY Graduate Center]

[William McClure, Associate Professor of Linguistics
CUNY Graduate Center]

Supervisory Committee

THE CITY UNIVERSITY OF NEW YORK

Abstract

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Adviser: Professor Marcel den Dikken

This thesis looks to explain the syntactic and semantic behavior of non-referential uses of *it* that co-occur with embedded clauses. It is argued that a copy theory of movement that allows pronominal instances of displaced elements (in these cases, the embedded clause) explains many of the problems these constructions have presented to the generative grammar approach. I propose embedded clauses may be used to check an EPP feature in functional projections of the syntax. However, as the clauses are not licensed to appear as clauses in these positions, one of two options is exploited by the syntax. Either the clause is right-adjoined (extraposed) to the clause, or it is spelled out in its base position. In both cases an underspecified copy of the clause, *it*, is needed for the functional projection's specifier position. This analysis holds that the *it* is not (generally) an expletive. The need to treat the *it* as an underspecified copy of the embedded clause is motivated by its ability to control PRO in non-finite clauses requiring obligatory control. Chapter 2 presents this argument for *it* as a controller. Chapter 2 also presents empirical data motivating extraposition, arguments against previous accounts of non-referential *it*, and a detailed representation for extraposed clause constructions. All

of the data in chapter 2 is focused on monadic predicates. Chapter 3 expands the focus of the study to include dyadic predicates as well as French extraposition constructions. A distinction is made between the extraposition and base-position options for spell out, and an explanation is provided for why both derivations are needed. Chapter 4 focuses on postverbal instances of non-referential *it*. The claim is that in addition to the syntactic conditions that license postverbal instances of *it*, there are pragmatic implications for postverbal instances of non-referential *it*. The treatment is extended to Hungarian *azt*. Chapter 1 introduces the theoretical foundations for the investigation, and chapter 5 summarizes the results.

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Chapter 1: Non-referential *it* and theoretical assumptions introduced

1.0 Introduction

Sentences with non-referential *it* are the central focus of this study.

1. a) It seems likely that John is drunk again.
   b) It surprises me that you lost your wallet.
   c) I like (it) that you mowed the lawn.

It, in these constructions, is considered non-referential in the sense that it does not independently refer, as pronouns often do otherwise.

2. I read that new Danish thriller. It was very good.

Although the pronoun in (2) may share reference with the NP, *that new Danish thriller*, it refers to the book independently. The pronoun does not share a syntactic relationship with the antecedent NP. The *it*s in (1) do not **independently** refer, but a central claim of this investigation is that they do, in fact, refer when associated with an embedded clause. The reference of these pronouns is dependent on the embedded clause they are in chains with. This treatment of the *it* as being in a chain with the embedded clause suggests another central claim of the study, namely, non-referential *it* is a displaced instance, or

copy, of its associated embedded clause (a chain referring to all of the instances of a displaced element in a derivation).

In this study, the hypotheses that the *it*s in sentences (1a-c) refer (just not independently), and that the *it*s are displaced instances of their associate embedded clauses are used to account for the problems the sentences in (1) have posed to generative grammarians, dating back at least to Rosenbaum (1967).

Perhaps the most significant question related to the constructions in (1) is what is the *it* doing in the sentence at all? In all three sentences, the *it* does not appear to be interpreted as an argument of the predicate; the embedded clauses appear to serve as arguments. As the *it* does not appear to contribute in any way towards the meaning of the sentence, Chomsky (1981) proposes that the *it*, at least for (1a) and (1b), is serving a purely syntactic function. Chomsky claims that the *it* is an expletive, a meaningless place-holder present only to satisfy the Extended Projection Principle (EPP). The EPP holds that every clause must have its subject position filled. More current treatments of the EPP (Chomsky (1995), Chomsky (2001)) hold that it is an unvalued, or uninterpretable feature (see section 1.3), on a clausal head. The uninterpretable feature is eliminated by the raising of an appropriate element into the checking domain of the clausal head. The EPP feature on the clausal head is seen as a way to insure displacement, a critical aspect of the generative grammar approach.

Assuming an EPP feature motivates movement to the subject position of clauses, as this study does, there are still a number of questions to be answered.

A) What about postverbal *it*? As Postal and Pullum (1988) observe, the EPP cannot account for the presence of a number of optional, postverbal *it*s (see (1c)).

B) How does the *it* enter into the derivation for all of the sentences in (1)?

C) Why is *it* used in these constructions?

D) How is *it* related, if at all, to the associate embedded clause?

E) Is the *it* really a meaningless syntactic place-holder?

F) Why is the associate embedded clause almost always in a clause-final position in these constructions?

G) How are the sentences in (1) related to sentences where the *it* appears to be replaced by the associate clause, as in the sentences of (3)?

3. a) That John will be drunk again seems likely.
   b) That you lost your wallet surprises me.
   c) I like that you mowed the lawn.

A number of researchers have made proposals that successfully answer some of these questions, but to my knowledge, no one has been able to resolve all these questions at once.

The two central claims of this study already presented answer three of the questions above. No, generally, the *it* is not a meaningless place-holder (Question E). The *it* does not independently refer, but the *it* does refer because it is in a chain with the associated embedded clause (Questions B and D). Evidence of *it*'s ability to refer to the proposition of the associate embedded clause is found in the *it*'s ability to control.

4. a) [PRO_i Before seeming likely], it_i seemed unlikely that John would get drunk.

   b) [PRO_i To impress me], it_i would have to be in the Guinness Book that it snowed a lot.

   c) I called it_i out [PRO_i to be on the record] that it is raining outside.

In chapters 2 and 4, it is argued how only the *it*s, and not the associate embedded clause, in these sentences have the ability to control the PROs of the adjoined clauses. Chapter 2, which focuses on monadic predicates with non-referential, subject *it*, also details how the thesis's central claims answer questions C, F, and G. It will be argued that *it* is used because *it* is the most feature-neutral 3rd-person pronoun, which is needed when a clause is underpsecified for its tense feature (Question C). In chapter 2, the argument clauses will also be argued to be clause-final for one of three reasons: the clausal argument is realized in complement position, the verb raises above an underlying clausal subject, or extraposition (Question F). Finally, it will be shown that the sentences in (3) are significantly different than the sentences in (1) (Question G).

Chapter 3 examines dyadic predicates with non-referential, subject *it*. The discussion develops the answer to F presented in chapter 2 and expands the discussion to phases and the spell-out of chains (see section 1.2 and 1.3). Focusing on postverbal *it*, chapter 4 looks to answer questions A, arguing that the *it* is checking an uninterpretable feature in vP. Chapter 5 is a summary.

In order to more easily focus on the analysis in chapters 2-4, the major theoretical assumptions underlying this study's treatment are provided here in chapter 1. Section 1.1

presents Stowell's (1981) Case Resistance Principle (CRP), which along with the EPP is central in explaining why *it* occurs at all in these constructions. Section 1.2 presents a detailed discussion of the copy theory of movement followed throughout. Finally, section 1.3 presents the notion of a phase as it will be used in chapter 3 to explain why, in certain circumstances, the embedded clause must be realized where it is.

1.1 The Case-Resistance Principle (CRP)

Stowell (1981), in an attempt to constrain the syntactic structures a generative theory posits to ones actually observed, proposes the Case-Resistance Principle (CRP). Stowell states the CRP carefully, "Case may not be assigned to a category bearing a Case-assigning feature." Case, an abstract property of NPs which insures the proper interpretation by limiting NPs to certain positions, can ultimately be assigned in a number of ways. It can be assigned by verbs or prepositions as in (5a) and (5b), with the bolded NP being assigned Case from the preceding verb or preposition.

5. a) I finished **the cupcakes**.
   b) The finishing *(of) **the cupcakes** made the child cry.

The fact that both prepositions and verbs can assign Case can be reduced to a shared feature between these categories, minus nominal ([-N]). Nouns are obviously assumed to be [+N]. Adjectives are also [+N]. As such, Stowell predicts both categories should be immune to the CRP and indeed they are. A number of languages have overt

instances of adjectives bearing morphological case, below is an example from German that Stowell provides.

6. a) Guter Kaffee
   Good(NOM) coffee

   b) Guten Kaffees
   Good (GEN)

   c) Gutem Kaffee
   Good (DAT)

VPs and PPs, with their [-N] feature, on the other hand, are predicted to not be allowed in Case-assigned positions.

Stowell observes that bare VPs rarely occur as arguments but notes that perception verbs do allow VP arguments.

7. a) I saw the pin pop out of the grenade.
   b) I heard him challenge a squirrel to a duel.

While it is possible for the subject of the VP to be assigned Case (exceptionally, in the technical sense for the VP subjects in (7)), the VP, the argument of the matrix verb, is not

assigned Case. For PPs, Stowell notes that locative PPs should be licensed as arguments in certain contexts (Stowell (1981), 143 unless otherwise noted).

8. a) We talked about the direction of the wind.
   b) *We talked about from the west.

9. a) It would be nice for the counter-top to have a nice paint job.
   b) *It would be nice for on the counter-top to have a nice paint job.

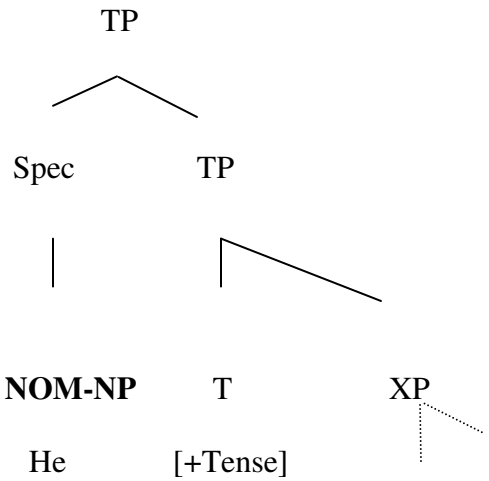
10. a) I like Panama.
    b) I like *(it) in Panama[1].

In all of the pairs above, the locative PPs are not licensed in Case-assigned positions while analogous NPs are (or as in the case (10b), a non-referential *it* is needed). The CRP explains this fact about locative PP distribution.

The reason I said that Stowell is "careful" in his stating of the CRP is because he does not state the CRP in [±N] terms. For the data described above, a version of the CRP that states, "Case may not be assigned to a category bearing the [-N] feature" would suffice. However, [-N] is not the only feature associated with the assignment of Case. The feature [+Tense] is also a Case-assigning feature for Stowell, as it is in Chomsky (1995). It is [+Tense] that is associated with the assignment of nominative Case to subjects.

[1] This is my own pair of sentences. Observe that the locative PP may serve as an argument but still cannot occur directly after the verb. Here post-verbal *it* is not optional. See chapter 4 for a brief discussion of this construction.

11. He passed the green sauce.



Observe that for the perception verbs, which may embed VPs or fully tensed clauses, when it is a fully tensed clause argument, the subject of the embedded clause has to be assigned nominative Case.

12. a) I heard him challenge a squirrel.

b) I heard he challenged a squirrel.

c) *I heard him challenged a squirrel.

Stowell also assumes clauses and NPs partially share a feature set. He assumes both categories have the [+N] and [-V] features[2]. Since NPs and clauses are often possible as arguments for the same predicate, it can be assumed that these predicates are subcategorized for one feature set, [+N] and [-V]. Below are some examples of verbs which easily allow clausal and nominal arguments.

13. a) I like cupcakes.
    b) I like that John washed his hair.

14. a) The governor requested an escort.
    b) The governor requested that security escort him to the hotel.

15. a) The mayor knew his place.
    b) The mayor knows when to leave good enough alone.

I, like Stowell, will also assume that these verbs are subcategorized for either a clause or an NP. However, I assume that nominal complements raise to specvP to check Case, while clausal complements do not (see chapter 4). The (b) examples in sentences (13)-(15) then do not violate the CRP because they are not in a Case-assigned position. When only an NP or clause is allowed in an argument position by a predicate, it is simply assumed that the predicate has a more detailed set of feature specifications: [-T] for nouns, [+T] for clauses.

[2] [+V] makes a category predicational.

16. *Claim*: V, [__, [+N], [-V], [+Tense]]

    a) John claimed he had the biggest shoes.

    b) *John claimed a story.

17. *Kiss*: V, [__, [+N], [-V], [-Tense]]

    a) John kissed the chicken.

    b) *John kissed that the chicken knew French.

So while clauses and nouns share the [+N] feature, Stowell's careful formulation of the CRP predicts they will behave in different ways. The [+Tense] feature of clauses makes them resistant to Case-assignment and prohibits clauses from appearing in Case-assigned positions. Stowell demonstrates the effect [+Tense] has in terms of the CRP by comparing how clauses and gerunds behave in contexts where Case should be assigned. Stowell assumes gerunds are [-Tense] and gives them subjects in order to more closely match the clauses he is comparing them to. In (18), the gerund and clause are objects of a preposition. In (19), the subject of a *to*-infinitive should be assigned Case (via Exceptional Case Marking (ECM)). These examples are taken from Stowell (1981) (148-149).

18. a) He blamed it on Bill's being too short.

    b) *He blamed it on that Bill was too short.

19. a) I consider John's having come home to be fortunate.

b) ??I consider that John came home to be fortunate[3].

This treatment would seem to be contradicted by so-called sentential subject sentences, represented by (20), where clauses appear to be in the subject position.

20. a) That John lost his wallet doesn't surprise me.

b) That you call your Mom back is important.

Both Stowell and I argue that this is only an apparent violation of the CRP. We both follow Koster (1978) in assuming the sentential subject is, in fact, in an A-bar position above subject position. See chapter 2.5 for a detailed discussion of Koster's proposal.

For this study I follow Stowell and assume the CRP. I will also follow Stowell and assume clauses and NPs partially share a feature set. However, I differ from Stowell in terms of my treatment of non-referential *it*. Stowell treats *it* as an expletive, a non-meaningful element. I argue, based on control data presented in chapter 2, that *it* is a copy of the embedded clause. *It* is underspecified in terms of a tense feature but shares the [+N], [-V], and semantic features of the embedded clause. This allows it to be assigned nominative Case and to control. Another way my approach differs from Stowell's is that he assumes the associate embedded clauses are adjoined to VPs in these constructions. In chapters 2 and 3, I argue that the clauses in these sentences may be right-adjoined to the matrix clause or realized in their argument positions. Finally, I

[3] It is noted that the degraded judgment on (19b) may be related to a center-embedding filter. However, the center-embedding effect cannot be the entire problem, as *I consider that John came home fortunate* has a center-embedded clause and is clearly fine.

assume accusative Case is checked in the specvP position and not in the complement position of the verb.

1.2 Copy Theory

In this study, I adopt the notion of Copy Theory discussed in Chomsky's Minimalist Program (1995). Copy Theory maintains that, in instances of movement, a displaced item is a single word or phrase occurring in more than one position. This proposal assumes words or phrases may be in more than one position at a time. The instances of the displaced items are called copies.

Something like Copy Theory is needed for a number of reasons. One motivation is the Projection Principle, which links theta-roles to syntactic positions. Items may enter derivations satisfying theta-roles but end up moved.

21. **John**$_i$ arrived ~~John~~$_i$[4].

Arrive is generally treated as an unaccusative verb with its subject raising from complement position to subject position to satisfy Case requirements (Burzio 1986). The verb's one theta-role is discharged to an NP in complement position. The different copies of *John* then satisfy different modules of the grammar. The copies are said to make up a chain. It is the chain that satisfies both the Case requirements and the Projection Principle. Similarly, chains insure that that the theta-criterion is satisfied. One

[4] Bolding indicates an overt realization of the copy, and the strikethrough indicates a covert realization of the copy.

theta-role is associated with only one argument chain, and every argument chain is only associated with one theta-role.

Another motivation for copies is successive cyclic movement. Successive cyclic movement refers to the assumption that the position a displaced element occurs in and its original position are not necessarily the only positions that element is associated with. There may be intermediate positions to which the displaced element moves before ending up in its final position.

Successive cyclic movement constrains the displacement process by forcing it to proceed in stages. In other words, it is one of the ways to make displacement not overgeneralize to anything can move anywhere. Empirical evidence in support of successive cyclic movement is provided later in this section. For now, here is a representation of how it would be used for a standard argument extraction example.

22. **Who**$_i$ does John think [~~who~~$_i$ that Mary likes ~~who~~$_i$]?

The underlined copy of *who* fills the left-edge of the embedded clause. The wh-operator cannot move from its theta-position in the embedded clause to the edge of the matrix clause. First, it needs to move to the edge of the embedded clause. It is an intermediate step that the wh-operator must take. If the intermediate position is occupied, as in (23), the movement is not licensed and the sentence is degraded.

23. ??**Who**$_i$ does John wonder [whether Mary likes ~~who~~$_i$]?

With the copy theory of movement, a chain is then made up of one lexical item (or phrase) used in a number of different positions. It may be more useful to think of the chain not as a list of copies, but a list of positions associated with the displaced element in the derivation. The representation for (21) is then (24a).

24. a) [$_{IP}$ John [$_{VP}$ John arrived John].

Chain ***John***: [SpecIP, SpecVP_1, VP_1-Complement]

Of course all members of the chain are not spelled out, or stated overtly. So what determines which members of the chain are spelled out? That is, why do English speakers only say (24b) and not (24a), (24c), or (24d).

24. b) John arrived.

c) *Arrived John.

d) *John arrived John.

A consensus answer to this question has not been established yet. One of the goals of this investigation's analysis of non-referential *it* and embedded clauses is to contribute to answering what licenses overt and covert copies more precisely. In order to establish the existing approaches to this question, it helps to detail how the copy theory approach is argued for by investigators.

1.2.1 VP-Deletion and Reconstruction

In the search for more theoretical simplicity, Chomsky (1995) claims the rule that deletes PF-copies of displaced elements is a subcase of a more general rule allowing PF-deletion. The more general rule also applies to VP-deletion, represented by (25).

25. a) Jack kissed Kate, and so did Sawyer.

    b) Jack kissed Kate, and so did Sawyer [~~kiss Kate~~].

The second instance of the VP *kiss Kate* is licensed for deletion by the identical VP in the first conjunct. It is worth noting that Chomsky's treatment seems to imply two significant points. First, the PF-reduction of a phrase does not only apply to copies, but to phrases that are constructed independent of each other[5]. What is more, these phrases do not have to be identical at LF, as sentence (26) demonstrates.

26. John thinks that he is in control of the situation, and so does Ben.

Assuming the pronoun in the embedded clause refers to *John* does not entail that the only way to interpret the elided VP is *Ben think that he (John) is in control of the situation* (this is generally referred to as "strict identity"). It is also possible to interpret it as meaning that *Ben* is in control (i.e. "sloppy identity").

[5] In fact, Chomsky posits that sometime before spell-out a parallelism operation strips away any indication that the VPs are NOT copies of each other.

The second point Chomsky's approach seems to imply is that PF-deletion is (at least partially) contingent on order (or perhaps c-command). While Chomsky assumes that the interpretability of checked or unchecked features motivates which copy of a displaced item is spelled-out for instances of PF-deletion associated with movement, it is not clear how the same motivation could apply for VP-deletion.

27. *So did Sawyer, and Jack kissed Kate.

The ungrammaticality of sentence (27) shows that a PF-deletion rule that applies to VP-deletion and copies of displaced elements appears sensitive to order.

Chomsky also uses the copy theory of movement to explain reconstruction phenomena. He presents the following example (Chomsky (1995), 205).

28. John wondered which pictures of himself Bill saw.

It is possible to interpret the sentence with the anaphor sharing reference with *John* or *Bill*. This second possibility is surprising since Principle A of the Binding Theory holds that anaphors must be c-commanded by their antecedents, and *Bill* does not c-command the overt copy of the anaphor. Copy theory allows there to be a copy of the anaphor, a covert copy, in the complement position of the verb. This copy is c-commanded by *Bill* licensing the interpretation where *Bill* is the antecedent for the anaphor. Chomsky has the following LF representations for (28).

29. a) John wondered [which x, x a picture of himself] [Bill saw x]

b) John wondered [which x] [Bill saw [x a picture of himself]]

The first representation corresponds to the interpretation where *John* is the antecedent, the second when *Bill* is the antecedent. For this study, I will follow Chomsky in assuming that principles of the Binding Theory apply at LF.

Nunes (2001) adopts Chomsky's copy theory approach and explicitly extends it to Kayne's (1994) Linear Correspondence Axiom (LCA).

LCA (Kayne 1994): Let X, Y be nonterminals and x, y terminals such that X dominates x and Y dominates y. Then if X asymmetrically c-commands Y, x precedes y.

The LCA looks to convert syntactic representations into phonological strings. This linearization process relies on an asymmetric c-command relation. Copy theory is problematic for asymmetric c-command because copies of the displaced element end up c-commanding and being c-commanded by other elements in the derivation. So as not to violate the LCA, Nunes resolves this by having PF delete copies of the displaced element before linearization. The copies deleted are the ones that have unchecked formal features on them. This leaves only the copy of the displaced item that has its features checked. Copies that have raised are deleted since presumably they are raising in the first place to satisfy the checking of their formal features.

1.2.2 Multiple Phonological Representations of a Chain (MPRC)

There are a number of languages which provide overt phonological evidence for successive cyclic movement. Some languages, Irish (McCloskey (2000)) and Chamorro (Chung (1994)), exhibit the evidence with an agreeing complementizer for clauses which have operator movement. Other languages appear to overtly realize copies of the wh-operator in intermediate positions. I will call this phenomenon multiple phonological representations of a chain (MPRC). German (Felser (2004)) and Passamaquoddy (Bruening (2006)) are two languages which use MPRC. For both examples below, observe how the wh-operator is overtly realized in the matrix clause and in the embedded clause from which extraction began.

30. **Wen** glaubst du, **wen** sie getroffen hat? -German
    Who think you who she met has
    "Who do you think that she has met?"

31. **Tayuwe** kt-itom-ups **tayuwe** apc k-tol-I malsanikuwan-ok -Passam.
    when 2-say-DUB when again 2-there-go store-LOC
    "When did you say you're going to the store?"

MPRCs are manifested in the speech of some English speaking children. It has been reported that in elicited response experiments children sometimes have MPRC in

their questions (Thornton (1990), McDaniel, Maxfield, and Chiu (1995), and Thornton (1995)[6]). The sentences in (32) are examples.

32. a) Who do you think [who chased the cat]?
    b) What do you think [what Cookie Monster eats]?
    c) How do you think [how Superman fixed the car]?

These examples of MPRC provide problems for Nunes's proposal. Nunes holds that a PF operation deletes copies of displaced items so that there are no problems with asymmetric c-command and linearization. However, in an example like (30) the first copy of *wen* appears to c-command *glaubst* while *glaubst* also appears to c-command the lower copy of *wen*. The sentence should not be grammatical since the linearization process cannot apply to it.

Felser (2004) proposes a solution to this problem. If linearization is strictly a PF process that applies in pieces, perhaps by phase (see section 1.3), then the LCA would have no trouble with the data presented in sentences (30)-(32). Assuming that a clause counts as structure that requires linearization, the second occurrence of *wen* in (30) no longer presents a problem for linearization. The intermediate, overt instance of *wen* asymmetrically c-commands *sie* and thus can be spelled-out when the embedded clause is linearized. In the matrix clause, *wen* asymmetrically c-commands *glaubst* and can thus be spelled-out. Felser further suggests the intermediate *wen* copy is present to satisfy a condition in German that embedded CPs must have an overtly filled specifier or head.

[6] The data presented here is from Thornton (1995)

In this study the copy theory of movement detailed above will be adopted. I assume that items A and B are copies of each other if and only if A and B are in a chain together. Chains are established in instances of displacement. Chains are made up of one element in more than one position. How the elements of a chain are spelled-out is contingent on a number of factors. Adopting and slightly modifying Nunes's (2001) proposal, I assume the PF-realization of a copy is generally contingent on whether or not the chain member has any unchecked formal features. However, as the data in German suggests, I assume the PF-realization of a chain member may be affected by other constraints (in this case the CRP). That is, a chain member may be underspecified to save a derivation. Claiming underspecification is exploited in the realization of chain members is in no way stipulatory. Something like underspecification is needed whenever a displaced constituent is not overtly realized. In these instances, the covert copy is underspecified for phonological features.

Before discussing phases, one final observation should be made. Thornton reports that one child produced the sentences in (33) when referential wh-extraction was elicited.

33. a) Which mouse do you think who has the long tail?
    b) Which boy do you think it fell down?
    c) Which bear do you think it ate a piece of the chocolate?

Thornton observes that this child appears to avoid an ECP violation when there is referential wh-extraction by using reduced versions of the referential wh-phrase.

Interestingly, the child even uses *it*. Sense can easily be made of this choice within my current proposal. *It* agrees in number and person with the raised *which*-phrases in (33b) and (33c). However, the *which*-phrases have a wh-feature and in (33b) a gender feature that *it* does not have. If the wh-feature and gender feature are removed, *it* would be the underspecified realization of the referential expression in (33b) and (33c). I propose that the child has positive evidence suggesting *it* may be used as an underspecified version of a copied element in the numerous sentences the child has heard that use *it* as an underspecified copy of a clause. The *it* like the *who* is used to avoid an ECP violation. This is then another instance of the variable realization of a chain member to save a derivation.

1.3 Phases

Chomsky (1999, 2000, 2001) discusses the notion of a phase, or a (sub)structure that allows for cyclic derivations[7]. Phases are structures interpretable at both the PF and LF level. After phases are formed only their edge and heads are available for use in subsequent steps of the derivation. Chomsky claims that CP and v*P are phases, where v*P is a vP "with full argument structure." This would rule out vPs without external arguments as a phase. For Chomsky CPs and v*Ps both count as a phase because they are both "propositional." I propose that a phase is created when Case is checked. Before presenting arguments in favor of my proposal, I will first motivate phases within the Minimalist framework.

[7] Differences between treatments of phases in the three articles are negligible for this study. Primary focus is placed on the last one, Chomsky (2001).

Within the Minimalist framework, uninterpretable features are features present on phrasal heads. Phi-features, i.e. person, number, and gender, are interpretable features when they are selected with a value. Uninterpretable features are "unvalued" features. Case is also considered a feature. The heads associated with certain Cases, nominative for T, and Accusative for v, are assumed to be valued for Case. They are not, however, assumed to be valued for phi-features. NPs, on the other hand, are assumed to have phi-feature values, but not a Case feature value. After raising, the NPs or their features value the unvalued features of heads and heads value unvalued features on NPs. The checking of uninterpretable features is called Agree. Once there is an Agree relation between the head and the NPs, the uninterpretable features are eliminated allowing both a PF and LF representation, whenever they may be computed.

Chomsky proposes, in order to lighten the load on the parser's memory, that "whenever they may be computed" is when a phase is constructed, and not when the entire sentence is made. Besides making things easier on the parser, the notion of phase is also argued to correspond with successive cyclic movement. The Phase Impenetrability Condition (PIC) disallows the use of a phase's complement later in the derivation. This forces anything in the phase that will be used later in the derivation to a specifier position for the phase's head.

Chomsky argues against treating unaccusatives and passives as phases because of the agreement between the NP and T in sentences like (34).

34. a) There are likely to be awarded several prizes.

b) There is likely to arrive a man.

The embedded clauses in (34a) and (34b) are considered unaccusative, they cannot assign accusative Case. The matrix verb agrees in number with the embedded verb's argument in both examples. Chomsky argues that if VP, or an unaccusative vP, is a phase, the phi-features of the embedded clause's argument should not be able to Agree with the matrix verb as it does (and the nominative Case of the matrix subject position should not be able to check the NPs unvalued Case feature).

Recall the unifying characteristic of CP and v*P for Chomsky is that they are both "propositional." While my formulation of what constitutes a phase differs significantly from Chomsky's, the effect is minimal. What counts as a phase under both formulations is identical, except, my treatment explicitly includes one class of verbs that Chomsky's formulation does not: *preoccupare* verbs. It is argued in chapter 3 that while these verbs have two arguments, both are associated with the VP. In other words, there is no external argument for vP. It is unclear whether Chomsky wants to count the structure associated with *preoccupare* verbs as phases or not, as he only explicitly states that he wants to exclude passives and unaccusatives[8]. I submit that the "propositional" formulation for phase boundaries is then lacking since it does not clearly adjudicate on *preoccupare* structures. On the other hand, my Case formulation does not leave ambiguous whether the structure associated with *preoccupare* verbs counts as a phase or not. At the same time, the Case formulation is consistent with the underlying motivation for phases and it accounts for the data in (34).

[8] The long-distance agreement diagnostic from (34) cannot be extended to the *preoccupare* class.

1.4 Summary

In this chapter I have argued for the following treatment of non-referential *it* and the concurrent theoritical assumptions: the *it* is an underspecified copy of its associate embedded clause satsifying an EPP feature. The clause is underspecified as *it* because of Stowell's CRP which holds that Case-assigning projections cannot check Case. Clauses are Case-assigning projections because of their association with the Tense feature. Non-referential *it* will be shown to be semantically equivilant to its associate embedded clause with control data. I claim that the *it* and the clause are in a chain together, representing multiple occurrences of a single item. The realization of chain members, overt or covert, is determined by a number of factors. One factor is whether the chain member has interpretable features. Phasal linearization, under asymmetric c-command within a phase, is another factor. Because of interpretability concerns, phases are assumed to be related to Case-checking heads. Finally, output conditions (the CRP in English, a filled-COMP filter in German, and the ECP in Child English) may affect which chain members are realized overtly and how.

Chapter 2: Non-referential *it* and monadic predicates

2.0 Introduction

This chapter focuses on sentences that have clause-taking, monadic predicates. The predicates focused on are adjectival (1a) and verbal (1b). Secondary predication with a clausal argument is possible for the verbal predicates (1c) and these are discussed as well.

1. a) It is likely/possible/important/clear that John loves Mary.
   b) It seems/appears that John loves Mary.
   c) It seems/appears likely that John kissed Mary.

The sentences in (1) are often called extraposition structures, as it is assumed by some (starting with Rosenbaum (1967)) that the embedded clause is extraposed, or right-adjoined, to matrix clause[1].

These constructions raise a number of questions and have been the focus of a number of investigations within the generative grammar framework. As the embedded clause is likely interpreted as the predicate's argument, the most obvious syntactic question regarding the sentences in (1) is what is the *it* doing there? Most researchers have followed Chomsky ((1981) and (1995)) in answering this question. Chomsky (1981) proposes the *it* is inserted in the sentence to satisfy a principle universal to natural

[1] I will use the term "extraposed" and "extraposed clauses" to refer to the embedded clauses in these constructions, even though in the end I do not argue that all embedded clauses are overtly right-adjoined.

language: the Extended Projection Principle (EPP). The EPP holds that every sentence must have its subject position filled. Chomsky (1995) formulates this principle by stating an uninterpretable formal feature or set of features is what drives movement in syntactic derivations. The need for a grammatical subject, and thus *it*, is then a reflex of an uninterpretable feature associated with the subject's structural position. In what follows, although my proposal about the *it* in these sentences will differ significantly from Chomsky's, I will assume his motivation for the EPP as a starting point.

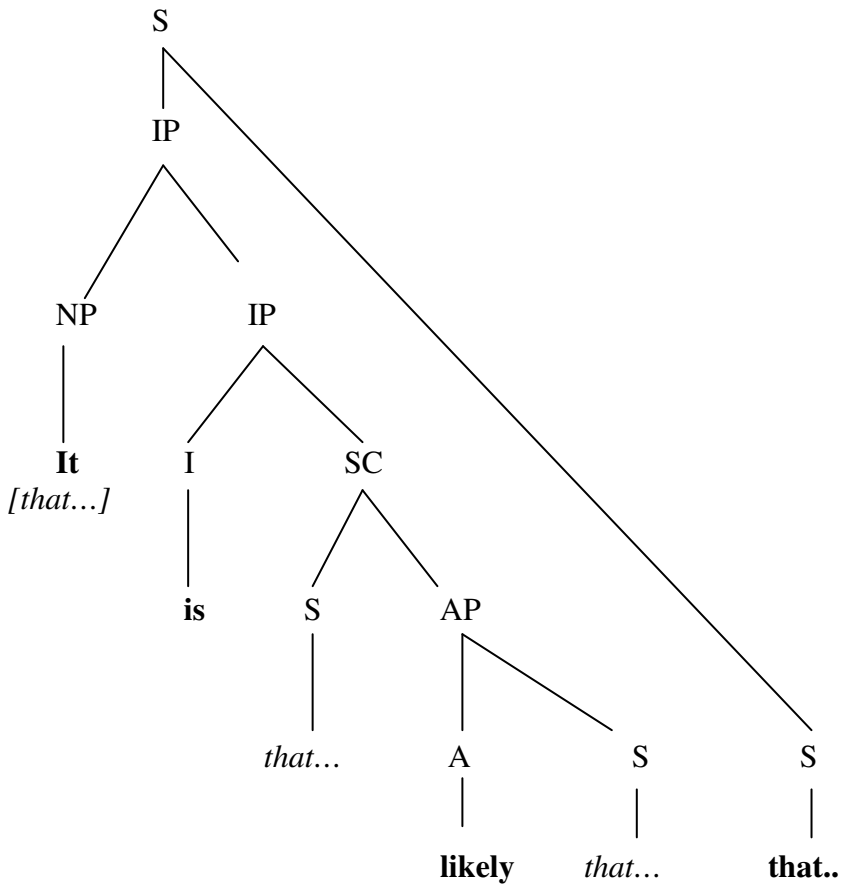
My most significant departure from Chomsky's proposal is in addressing the question of how the *it* enters into the derivation. Chomsky holds that the *it* is inserted late in the derivation as a way of satisfying the EPP. Based on control data in section 2.1, I propose that the source of the *it* is the embedded clause that the predicates take as an argument. In fact, I propose the *it* is an underspecified copy of the embedded clause. The *it* is in a chain with the embedded clause. In sections 2.2 and 2.3, I present seven criteria to determine the position of the embedded clause. What appear to be contradictory data regarding the position of the embedded clause is accounted for with a proposal adopted from Büring and Hartmann (1997) in section 2.4. In section 2.5, I outline Koster's (1978) proposal for the sentences in (2), arguing that the sentences in (1) and (2) are significantly different from each other. I augment Koster's original argument with an observation about extraposition and *if*-clauses.

2. a) That John loves Mary is likely.

   b) That John kissed Mary seems likely.

The origin of the embedded clause for the sentences in (1) is discussed in section 2.6. In section 2.7, I argue against a number of other treatments for extraposition structures. Finally, in section 2.8, it is shown how my proposal successfully handles the facts presented in this chapter. In short, my proposal is that extraposition structures for monadic predicates often involve at least three copies of the argument clause: the copy of the clause originally selected for by the predicate, a pronominal copy of the clause in subject position, and an extraposed copy of the clause[2].

3.



[2] It is also assumed, for this predicate, there is a fourth copy of the embedded clause in the subject position of the small clause. The clause raises through the SC subject position.

2.1 Control

Bennis (1986) argues that because the *it* in weather verb constructions appears to have the ability to control, it should not be treated as an expletive but as a theta-role bearing argument.

4. a) Before snowing, it often rains.
   b) Usually after snowing, it turns very cold.

It is generally assumed that non-finite clauses like the ones in (4a) and (4b) have null subjects, PRO, which cannot be overt. The PRO must be controlled by an argument, which leads to Bennis's conclusion that the *it*s in (4a) and (4b) are not expletives.

Manzini (1983) shows that non-finite clauses adjoined to other clauses must have PRO controlled by the overt subject of the matrix clause.

5. a) Besides liking himself too much, John makes fun of Mary a lot.
   b) *Besides liking himself too much, Mary is made fun of by John a lot.

In sentence (5a) the anaphor is bound by the PRO, which is controlled by *John*. In sentence (5b) there is a problem since the PRO is controlled by *Mary* and there is a masculine anaphor. The disagreement in gender leads to the ungrammatical result. Bennis contrasts the *it* control examples to ungrammatical results with subject *there*, another item that is often thought of as an expletive.

6. a) *Before being five men in the room, there were five men outside.
   b) Before being in the room, five men were outside.
   c) Before shaving himself, a man was brushing his teeth.

Because *there* does not appear to have the ability to control, Bennis concludes *there* is a non-theta-role bearing, meaningless item: an expletive. On the other hand, *it* does have the ability to control PRO and should be considered an argument.

Another context in which it appears non-referential *it* has the ability to control PRO is in extraposition constructions. Bennis does not acknowledge this point for English, nor, to my knowledge, does anyone else in the literature. In fact, I have only seen it falsely reported that non-referential *it* in these constructions cannot control PRO (see Yoon (2001) fn. 1).

7. a) Besides being illegal in NYC, it is unhealthy to smoke in a bar.
   b) Outside of being cruel, it is stupid to treat wild animals that way.
   c) To impress me, it would have to be in the Guinness Book that John set a world record.
   d) Besides being sad, it is important to me that John left Mary.

All four sentence above are grammatical with the subject position *it* controlling the PRO of the non-finite clauses. Observe that in all four sentences it is the associate of *it*, the extraposed clause, that is interpreted as the subject of the non-finite clause. In sentence (7a) it is *to smoke in bar* that is *illegal in NYC*. In sentence (7b) it is *to treat animals that*

way that is *cruel.* Sentence (7c) is a little trickier, since there are two finite clauses the adjoined clause can attach to. The interpretation of significance for this study is the one where what *impress[es] me* is *that John set a world record*. This does not mean that John, himself, impresses me, just that he set the world record impresses me. Finally, in sentence (7d) what is *sad* is *that John left Mary*. Observe that even though there is an explicit Experiencer argument, *me*, that could serve as a reasonable subject for the predicate *sad*, PRO cannot be controlled by the pronoun[3].

Recall the sentences in (5) demonstrated that the PRO in adjoined clauses is controlled only by the overt subject of the matrix clause. It cannot then be that the extraposed clause is somehow controlling the PRO by some non-syntactic associative means in examples like (7). The *it* has to be treated as an argument because it is in subject position, but so must the extraposed clause since the clause is what is interpreted as controlling the PRO. In order to allow PRO to be controlled in these sentences, I argue that it is the chain that *it* and the embedded clause are both members of that serves as the controller. The chain then controls the PRO, with the *it*, a pronominal instance of the embedded clause, in subject position sharing its semantic value with extraposed clause. This treatment of *it* is not surprising since *it* in other circumstances stands in as a pronoun for clausal material.

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[3] Bob Fiengo (p.c.) claims to not get obligatory control for the examples in (7). He provides the following counterexample:
Speaker A: This is a horrible movie.
Speaker B: Besides being a horrible movie, I want to get out of here.
This native speaker finds speaker B's response understandable but not grammatical. A number of native speakers that I've checked with agree. I thus proceed with my analysis assuming obligatory control in the examples from sentence (7), with the caveat that this analysis might not extend to those who find speaker B's response grammatical.

8. a) Did you hear that John loves Mary?

   b) No, but I believe it.

Later, I will use copy theory and a filter on sentential subjects to explain how the *it* shares its semantic value with the extraposed clause.

My claim that a chain made up of the *it* and the embedded clause controls PRO differs from Bennis's. Bennis argues that only the *it* is controlling PRO. These two proposals make different predictions about sentence (9b).

9. a) *Before seeming/appearing, it was unlikely that John would get the job.

   b) *Before seeming that John was thirsty, it was likely that he was hungry.

   c) Before seeming/appearing likely, it was unlikely that John would get the job.

The ungrammaticality of (9a) is discussed in section 2.6, in short it is ungrammatical because predicates like *seem* and *appear* cannot take only an NP argument. The ungrammaticality of (9b) is illustrative in that it demonstrates that Bennis's proposal needs reconsideration. If the *it* is an argument that enters the derivation unrelated to the extraposed clause, then one would expect that it would have the ability to control the PRO of the non-finite clause in (9b) and allow for a grammatical result. My treatment of the *it* as a member of a chain that includes the embedded clause correctly predicts (9b)'s ungrammaticality. The PRO is controlled by the chain *it* is a member of. Because the chain includes the embedded clause of the matrix clause, there are now two different embedded clauses competing for the predicate's one theta-role in the non-finite clause.

In other words, my proposal predicts that the non-finite clause would be interpreted as *that he was hungry seems that John was thirsty*. This, of course, makes no sense. With Bennis's proposal, the non-finite clause would be interpreted as *it seems that John was thirsty.* This would predict a grammatical result for (9b). My treatment then claims the ungrammaticality of (9b) is a theta-criterion violation. It should also be noted that the pronominal subjects of raising verbs without secondary predicates can control PRO. Sentence (9c) demonstrates that it is possible to control the PRO of a raising verb, as long as there is a secondary predicate. It is also be noted that the pronominal subjects of raising verbs without secondary predicates can control PRO, as in (10).

10. Before being a sure thing, it only seemed/appeared that John would get the job.

2.2 Data suggesting that the embedded clause is adjoined above the VP

2.2.1 VP-Topicalization

Focusing on just a subset of sentences with extraposed clauses and non-referential *it* in subject position, determining the position of the clause is a difficult matter. VP-topicalization, which can be used to determine if a constituent is part of the VP, suggests the clause is not a part of the VP for many speakers[4].

11. a) %They wondered whether it was important that you call me back, and important that you call me back, it was.

[4] The percentage symbol (%) is used for the grammaticality judgments on these sentences because some native speakers do not object to these examples. An explanation for this discrepancy will be provided.

b) %They wondered whether it was clear that John likes Mary, and clear that John likes Mary, it was.

c) %They wondered whether it was likely that John likes Mary, and likely that John likes Mary, it was.

d) %They wondered whether it seemed that John likes Mary, and seem that John likes Mary, it was/did.

These sentences are contrasted with the following examples where the embedded clauses are generally considered to be in complement position of the verb.

12. a) They wondered whether I thought that John likes Mary, and think that John likes Mary, I did.

b) They wondered whether I said that John likes Mary, and say that John likes Mary, I did.

2.2.2 *Though*-movement

Another diagnostic that can be used to determine the position of the embedded clause is *though*-movement. Reinhart (1980) contrasts how *though*-movement with sentential extraposition works much better than *though*-movement with relative clause extraposition.

13. a) Unlikely that she will pass though it may be, Sarah is still going to take the test.

b) Though it is unlikely that she will pass…

c) *Arrived who had a lot of bags though the man did, he was very small.

d) Though the man arrived who had a lot of bags…

Reinhart's assumption is that the *though* lowers in the (a) and (c) examples, but one could just as easily assume the predicate is raising. Following this assumption, Reinhart's conclusion is that the *unlikely S* (or *pred S*) is a constituent and *arrive RC* (or *pred S)* is not. Three considerations lead me to disagree with the conclusion that *pred S* is always a constituent.

The grammaticality judgment in (13a) is first. Though it is admittedly better than (13c), (13a) is still a very awkward sentence for me (and other native speakers I have checked with). It seems more natural to say (14).

14. Unlikely though it may be that she will pass, Sarah is still going to take the exam.

Sentence (14) also leads to the second challenge for Reinhart's conclusion. Even if a speaker does not find (14) comparatively better, it is still grammatical as much as (13a) is. How is this possible? In terms of *though* lowering, how does *though* get between the predicate and its complement? In terms of predicate raising, how does the head strand the complement in (14)? I know of no detailed analysis of this construction that could make predictions either way about its derivation.

Finally, observe the sentences in (15). For these sentences, I have chosen adjectival predicates that do not allow raising (as opposed to *unlikely*, which does allow

raising), and a verb that does allow raising.

15. a) *Impossible that John likes Mary though it may be, I think she should ask him out.
    b) *False that John likes Mary though it may be…
    c) *Seem that John likes Mary though it may…

These ungrammatical sentences contradict the conclusion that *pred S* in extraposition constructions always forms a constituent. Without a clearer understanding of *though*-movement, it is hard to draw any further conclusions than this.

2.2.3 Wh-movement of the predicate and pied-piping

The two diagnostics above, *though*-movement and VP-topicalization, indicate that the embedded clause is generally not the complement of the predicate. However, both of the constructions are rarely used by most speakers. A construction that is used more often, wh-movement of the predicate with pied-piping, also suggests *predicate S* is not a constituent (at least for when the predicate is an adjective), even when the predicate is a raising predicate ((16a) and (16b)).

16. a) *If he's kissing her, how likely that John loves Mary would it be?
    b) *If he's kissing her, how clear that John loves Mary would it be?
    c) *If he's kissing her, how important that Mary isn't John's wife would it be?

Here, note that when the *pred* and *S* are separated (as in (17)) you get a grammatical

construction.

17. If he kisses her, how likely would it be that John likes Mary?

This behavior is contrasted with predicates that have referential subjects. It is generally assumed that these predicates have the clauses and nouns that follow them in complement position.

18. a) John is fond of Mary.
    b) I am certain that this record is scratched.

With these sentences, the clauses and nouns may be separated from the predicates, as in the extraposition constructions, but they also may pied-pipe with their predicates.

19. a) How fond is John of Mary?
    b) How certain are you that this record is scratched?
    c) How fond of Mary are you?
    d) How certain that this record is scratched are you?

2.2.4 Summary

To summarize the data so far: two diagnostics that employ constructions marginally used in English suggest the predicate and embedded clause is not always a constituent in extraposition constructions. VP-topicalization suggests the embedded

clause does not form a constituent with any predicate for some speakers. On the other hand, for raising predicates, *though*-movement suggests the embedded clauses may be in the complement position for some predicates and not for others. Finally, a diagnostic that relies on a construction more often used, pied-piping with wh-moved predicates, suggest no constituency for predicates and embedded clauses in extraposition constructions. Already, it is clear that there will need to be an account for these constructions that sometimes allows constituency for the predicate and embedded clause and sometimes does not.

2.3 Data suggesting that the embedded clause is in complement position

2.3.1 Extraction

The picture becomes more confusing when looking at extraction possibilities.

20. a) Who is it important that you call back?
    b) Who is it clear that John likes?
    c) Who is it likely that John likes?
    d) Who does it seem that John likes?

All four constructions in (20) are grammatical. Extraction out of the embedded clause suggests that the clauses are the complements of the predicates above. However, it is known that extraction of an argument out of an adjunct in English can also be grammatical. Extraction of an adjunct from an adjunct, on the other hand, is not allowed.

The data in (21) confirms that, for some of the predicates at least, the embedded clause is the complement of the predicate.

21. a) ??How$_i$ is it possible [that John kissed Mary t_i]? (With passion)

b) ??How$_i$ is it clear [that John kissed Mary t_i]? (With passion)

c) How$_i$ is it likely [that John kissed Mary t_i]? (With passion)

d) How$_i$ does it seem [that John kissed Mary t_i]? (With passion)

Now there are a number of questions. The data in (21) suggest the embedded clauses may be the complements of their predicate, while the data in section 2.2 suggest that the clauses are adjoined outside of the VP for some of the predicates. Which is it? Also note that the difference between (21a) and (21c) suggests that the embedded clauses are in different positions for these two constructions. The question is are the otherwise-seemingly-similar extraposition constructions similar structurally. If not, how do they end up on the surface being the same? If they are derived in a similar manner, why the difference between (21a) and (21c)?

2.3.2 Principle C effects

Adding an Experiencer argument (assumed to be adjoined at VP) and checking for Principle C violations also suggests that the embedded clauses in all of the constructions are attached within the VP.

22. a) *It's important to him$_i$ that John$_i$ is taken seriously.

    b) *It's clear to him$_i$ that John$_i$ is under attack.

    c) *It seems to him$_i$ that John$_i$ is under attack.

That the pronoun is the complement of a preposition in these cases means that it should not be able to c-command the R-expression. But it does. However, if one wanted to test if this Principle C violation had anything to do with linear ordering, another point about extraposed clauses becomes clear: they are almost always final.

23. a) *It's important that John is taken seriously to me.

    b) *It's clear that John is under attack to me.

    c) *It seems that John is under attack to me.

If one allows for the possibility of rightward adjunction, the data in section 2.2 and this fact about the embedded clause being clause final seem to be suggesting the embedded clause is adjoined to the matrix clause, contradicting what has been observed in regards to extraction potential and Principle C effects.

2.3.3 *Only*-scope

However, a third set of sentences conform with the results of the extraction data and Principle C effects. These sentences are from Tancredi's (1990) *only*-scope diagnostic. Tancredi observes that *only* must c-command the phrase it is associated with.

24. John only loves Mary.

This sentence is ambiguous. One interpretation is John only loves Mary, but he doesn't want to marry her. In this case *only* is associated with the verb. The other interpretation has the *only* associated with the verb's complement. The interpretation for this sentence is John only loves Mary, and no one else. *Only* c-commands both the verb and its complement, allowing for the ambiguity.

The same ambiguity is present when *only* precedes the predicate in extraposition constructions.

25. a) It's only likely that the Mets will trade for Santana.

b) It's only important that the Mets sign Santana.

c) It only seems/appears that John kissed Mary.

In all the sentences above at least two significant interpretations are available, suggesting the embedded clause is in complement position[5]. For sentence (25a) an available interpretation is that it is only *likely* that the Mets will trade for Santana, not *definite*. There's also the interpretation available that it is only likely that the Mets will trade for Santana, but it is not likely that they will sign him to a contract extension. A similar pair of interpretations is available for the non-raising adjectival predicate, *important*, in sentence (25b), where the only important thing is that the Mets sign Santana. Sentence (25c) needs a little more context but an interpretation where the *only* is associated with

[5] In fact, there are more than two, the *only* may be associated with items in the embedded clauses as well. These are not discussed because the associates for *only* that are discussed are enough to demonstrate the point.

the embedded clause is available. If someone were investigating a number of accusations against John (he kissed Mary, he hugged Mary, he shook Mary's hand), and sentence (25c) was uttered as the result of that investigation, it is much easier to get the interpretation that the only accusation that seems to be true is that John kissed Mary.

2.4 Büring and Hartmann (1997)

In dealing with non-place-holder extraposition sentences in German and Dutch, Büring and Hartmann (1997) make a proposal that may handle the contradictions discussed above. They claim that extraposition is a rightward-movement operation, and that the base position of the extraposed clause is syntactically active in terms of binding and extraction. Thus an extraposed clause is moved to the right edge of the clause, presumably attached above the IP level. Using the copy theory of movement, I adopt this proposal for the constructions discussed above.

It could then be said that VP-topicalization, *though*-movement (for non-raising predicates), and pied-piping with wh-raised predicates all fail because the VP and the overt copy of the extraposed clause are not in fact a constituent in these constructions when they need to be. Adopting the Minimalist view that movement leaves behind copies, then the facts regarding the scope of *only,* extraction potential, and Principle C violations can be attributed to the covert copies of the clause. Section 2.8 will develop this proposal explicitly.

The difference in terms of adjunct extraction between raising and non-raising predicates must still be accounted for. For now it is observed that extraction out of the embedded clause for raising verbs appears to contrast with non-raising verbs already in

terms of allowing the raising of the embedded subject to the matrix subject position.

26. a) It is likely that the cat is out of the bag now.
    b) The cat is likely to be out of the bag by now.
    c) It is possible this outcome will upset the class.
    d) *This outcome is possible to upset the class.
    e) This outcome is possible.
    f) It is possible to upset the class.

The use of an idiom in (26a) and (26b) is meant to demonstrate that raising from the embedded clause has occurred (as opposed to a control structure). Sentence (26d) is ungrammatical; while (26e) and (26f) demonstrate that the ungrammaticality is not the fault of an incompatibility between the predicate and the subject or the non-finite clause complement. It appears raising predicates more freely allow extraction out of their embedded clauses than non-raising predicates[6]. This ability to more freely allow extraction could explain why raising predicates also more freely allow adjunct extraction.

2.5 Koster (1978)

So far, the discussion in this chapter has focused on extraposition constructions. However, most of these sentences have cognates that appear to have the place-holder *it* replaced by the associate embedded clause. These examples are presented in (27).

[6] In chapter 4, this notion that the extraction "permeability" of complement clauses is, at least partially, determined by the embedded clause's selecting predicate is revisited.

27. a) It seems likely that John likes Mary.

    b) That John likes Mary seems likely.

    c) That John likes Mary is likely/clear/important/possible.

This section, relying mostly on the work of Koster (1978), looks to explain how (27a) and (27b) are related to each other syntactically. The central claim is there are no sentential subjects. When the embedded clause appears before the predicate, as in (27b) and (27c), Koster (1978) argues that it occupies topic position and not the subject position. For reasons that I will soon make explicit, I follow Koster's assumption that the embedded clause is in an A-bar position above subject position, but I also claim that the clause does not necessarily have to be in topic position.

Another assumption Koster makes is that the subject of the matrix sentence is a null operator that is bound to the clause. The embedded clause is then base generated outside of the matrix clause. It does not move. It does, however, bind a null operator. The same structure is used for nominal topicalization, except the structural link is a co-indexed pronoun, not a null operator. When the embedded clause is not in preverbal position, Koster claims the CP is selected for by the predicate.

28. a) $[_{TOPP}[_{CP}$ That you call me back$]_i$ $[_{CP}$ ~~wh~~$_i$ is important]

    b) $[_{TOPP}[_{DP}$ Your father$]_i$ $[_{CP}$ your Mom wants you to call him$_i$ back]

    c) It $[_{VP}$ seems $[_{SC}$ likely that …]]

Exploiting copy theory, it is also possible that the structural link to the embedded clause

is a pronominal copy for the example in (28a). This copy is licensed to be covert by the raised clause. This approach has the advantage of not relying on indexing.

Regardless of how the topic is related to the subject position of the clause, Koster's treatment explains three significant observations about sentences with apparent sentential subjects. First, these sentences cannot be easily used to form questions. Non-referential *it* is often used.

29. a) *Does that John likes Mary seem likely[7]?
    b) *How is that John likes Mary likely/clear/important/possible?
    c) Does it seem likely that John likes Mary?
    d) How is it likely/clear/important/possible that John likes Mary?
    e) To John Mary gave a book.
    f) *Does to John Mary give a book?

Subject-aux inversion is necessary for root question formation. Subject-aux inversion is a process that targets the clause's subject position and auxiliary verb. Koster's proposal has the overt subject above the subject position. This makes traditional subject-auxiliary inversion difficult, leading to the ungrammaticality of (29a), (29b), and (29f). The examples in (29e) and (29f) demonstrate an independent construction that involves the realization of an argument above subject position that also do not allow the auxiliary to raise past an A-bar position above subject position.

Koster's proposal also accounts for why non-referential *it* is at the very least,

[7] It has been observed that sentences like (i) are an improvement over (29a). I have no account for this difference in grammaticality between what appear to be sentences that are structurally similar.
(i) ?Was that John cried odd?

strongly preferred in embedded clauses.

30. a) *While that John finally kissed Mary is sweet, it doesn't impress me.

    b) While it's sweet that John finally kissed Mary, it doesn't impress me.

    c) *Because that my goldfish died upset me so much, I decided to never get another pet.

    d) Because it upset me so much that my goldfish died, I decided to never get another pet.

    e) *It is likely that that John loves Mary is important.

    f) It is likely that it's important that John loves Mary.

These examples show non-referential *it* is needed for an embedded clause that has a sentential subject. Because a TopP is needed when the clause looks as if it is in subject position, and because Koster holds that TopP is not possible in embedded clauses, embedded clauses cannot have sentential subjects (or more precisely apparent sentential subjects). This explains the ungrammaticality of sentences (30a), (30c), and (30e).

A third piece of data, not mentioned by Koster, further supports his proposal. The sentences in (31a) and (31b) show that *if*-clauses can never be in "apparent" subject position.

31. a) It is unclear if I won the race.

    b) *If I won the race is unclear.

    c) *If I won the race, it is unclear.

d) That I won the race, it is important.

Note that in (31c) the interrogative *if*-clause does not appear to be licensed in a position above the subject position in English while in (31d) the declarative clause, which may serve as an "apparent" sentential subject, is licensed in a position above the subject position. Thus the impossibility of *if*-clause subjects is related to the inability to occur as constituents above the subject position in general.

To summarize, adopting Koster's proposal for sentential subject explains the data in sentences (29) through (31). It also avoids the conflict of having clauses in subject position where they would be checking Case, which is mostly thought of as a nominal marker (Stowell (1981)). For these reasons, I will use Koster's analysis for sentential subjects. However, a few questions remain.

One issue is related to a copy theory treatment relating the clausal topic to subject position, that is the variable realization of copies related to topics. For instance, some sentential subjects strongly prefer the pronominal copy of the clause to be null, while nominal topics much more freely allow the overt presence of its copy.

32. a) That you call me back ($^{??}$it) is important.

b) My father, he called.

c) My father, my Mom kissed $^{??}$(him).

I will leave this question to the side for now, noting that it is a complicated one since it

deals with variation not only in the category of the topic, but the position in the clause that category is associated with (subject in (32a) and (32b) and object in (32c)).

Another question related to Koster's proposal is his treatment of all sentential subject as topics.

33. What was believed to be true of John? That he was drunk was believed to be true of John.

The data in (33) suggests that since the embedded clause may appear as a sentential subject in response to a question, the clause may also be treated as a focus-marked phrase. This position is generally assumed to be an A-bar position above the subject position (Rizzi (1997) and Cinque (1999)). This treatment is then compatible with Koster's claim that sentential subject do not exist. It is thus assumed that sentential subjects are never actually in subject position, but they are not, as Koster assumes, necessarily always topics either.

The final question raised by Koster's analysis is regarding his assumption that in extraposition constructions the embedded clause is always the complement of the predicate. Section 2.2 demonstrates this might not be the case. Often these clauses appear to be, in fact, right adjoined to the matrix clause. Section 2.3 on the other hand suggests that a covert copy of the embedded clause is in the complement position of its predicate in certain cases. The next section considers the underlying position of the embedded clause more closely.

2.6 Where does the clause start?

Both Bresnan (1972) and Cinque (1990) treat sentential arguments of raising predicates as complements.

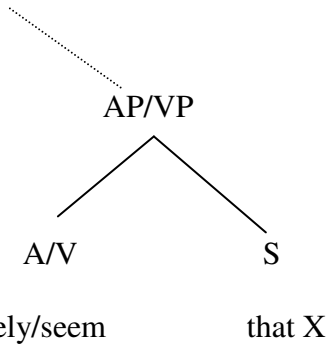
34. a) John seems to be happy.
    b) It seems that John is happy.
    c) John is likely to kiss Mary.
    d) It is likely that John will kiss Mary.
    e) That John will kiss Mary is likely.

According to minimalist assumptions, when raising occurs, the embedded clause subject raises to check an EPP feature of the matrix clause. I hold that another option is to raise the entire clause and then extrapose it, leaving behind only the pronominal copy of the clause, *it*, in subject position. For adjectives like *likely*, there is also the possibility of raising the clause to an A-bar position in the manner just discussed in section 2.5. The reason this is not possible for verbs like *seem* is discussed later in this section.

35. *That John likes Mary seems.

All of the sentences in (34) then have the same underlying representation. The predicate takes its only argument in complement position.

36.



This underlying representation is shared by unaccusative verbs like *arrive*, which take nominal arguments (as discussed by Burzio (1986)) instead of clausal arguments. Besides explaining how arguments of unaccusative (or ergative) predicates can be realized in variable positions, this treatment maintains a cross-categorial homogeny in argument structure. The ergative/unergative distinction also makes sense of the difference between the behavior of verbs like *arrive* and verbs like *laugh*. The assumption is unaccusative verbs take their arguments in complement position, while unergative verbs take their arguments in the specifier position of the VP. For unaccusatives, an expletive may satisfy the clause's EPP feature allowing the NP to stay in a postverbal position.

37. a) There arrived a man in a blue suit.

b) *There laughed a man in a blue suit.

With these motivations and eyes toward language specific differences, Cinque

(1990) discusses diagnostics for adjectival ergativity in Italian, Bennis (2004) does so for German, and Stowell (1991) for English. Stowell's discussion is in the context of a class of adjectives he describes as Mental Property (MP) adjectives. He argues that MP adjectives have an external clausal argument using, among other diagnostics, the *as*-clause diagnostic. The observation that goes back to Stowell (1987) is that gaps in *as*-clauses are only licensed when the clause corresponding to the gap is associated, underlyingly, with the complement position of the predicate.

38. a) Roger Clemens is a cheater, as __ was predicted __.

    b) *Roger Clemens is a cheater, as __ demonstrates that the Yankees are a horrible organization.

In (38a), even though the clause *Roger Clemens is a cheater* is taken as the subject of the *as*-clause, it is generally assumed that the clause begins underlyingly as the complement of *predict*. On the other hand, the same clause is generally considered to be underlyingly a subject for *demonstrate*, and sentence (38b) is ungrammatical.

Using the *as*-clause diagnostic on the adjectives discussed so far, it is clear that clauses in these constructions start out underlyingly as complements, whether the predicate is a raising one or not.

39. I finished the race, as was important/likely/possible/clear.

Stowell (1991) claims that the non-finite clause used in MP adjective constructions is not

a complement based on this diagnostic.

40. a) John is smart to go home.

b) It is smart of John to go home.

c) To go home is stupid of John.

d) *John went home, as (it) was smart of him.

e) *John went home, as he was stupid.

The alternations in (40a) through (40c) suggest that perhaps the non-finite clause could be considered to be a complement clause underlyingly. Stowell (1991, 124) presents sentences (40d) and (40e) to argue that they are not underlying complements. Of course, a problem with Stowell's examples is the fronted clauses are finite. Keeping them non-finite, the result is not as clear.

f) ??To go home early, as was smart, was also no fun of John.

Regardless of the treatment of MP adjectives, the relevance of the origin of the embedded clause is primarily related to the fact that for raising predicates adjunct extraction is licensed. It also appears that for some non-raising predicates, even though adjunct extraction partially fails, the embedded clause starts as a complement of the predicate (see the predicates used in sentence (39)). The *as*-clause diagnostic demonstrates that the extraction failure for adjuncts of embedded clauses selected by predicates like *possible* or *important* is not because the embedded clause does not start as

a complement to these predicates. It cannot be related to factivity either, as *possible* is a non-factive predicate. I will leave to the side the condition that licenses adjunct extraction and raising in raising predicates, noting only that it has been demonstrated before that semantic considerations are often related to adjunct extraction in English (see chapter 4, Cattell (1978)).

Before proceeding it also worth quickly discussing a subset of intransitive verbs. Like *seem*, verbs like *stink* and *rule* can take a sentential argument.

41. a) It seems that you broke your pinky.
    b) It rules that you broke your pinky.
    c) It stinks that you broke your pinky.

Stink-verbs differ from *seem*-verbs in two significant ways. First, they do not allow raising. Second, they do allow the clausal argument to be in subject position.

42. a) *You stink to break your pinky.
    b) That you broke your pinky stinks.

So the question is then are *stink*-verbs ergative or not? The *as*-clause diagnostic suggests they are not.

43. *You broke your pinky, as (it) stinks.

As is consistent with treating the *stink*-class as unergative, adjunct extraction fails for these verbs.

44. *How$_i$ does it stink [that you broke your pinky t_i]?

On the other hand, *only*-scope suggests the embedded clause is low in the structure.

45. It only stinks that you broke your pinky.

In chapter 4, it is argued that in English the verb overtly raises into a functional category. This treatment of verb raising in English disallows us to use the *only*-scope diagnostic to determine whether an embedded clause starts as the subject or complement of the verb. This is because if the verb has raised out of the VP, the verb and *only* will have scope over both the specifier and complement position of the VP. For sentence (45), the verb and the *only* have scope over the base position of the embedded clause, a base position that is the specifier of the verb[8].

The other major difference between these two classes of verbs is the ability to allow (apparent) sentential subjects.

46. a) That John kissed Mary stinks/rules/rocks.

b) *That John kissed Mary seems/appears.

[8] While verb-raising disallows us to use *only*-scope as a diagnostic to determine the embedded clause's original position, this is not problematic since the *as*-diagnostic exists.

Alrenga (2005) offers an explanation for this difference. Alrenga, following Koster (1978) and Williams (1980), claims there is no such thing as a sentential subject, only apparent sentential subjects, with CPs in topic position indexed with a null operator. Alrenga notes that raising verbs like *seem* do not take DPs without a secondary predicate, while the *stink*-class of verbs do.

47. a) *John seems.
    b) John stinks/rules/rocks.

Since verbs like *seem* and *appear* only take clausal complements, the structure necessary for an apparent sentential subject sentence is not available.

48. a) *DP_i seem t_i
    b) *$[_{CP}$ that …$]_i$ DP_i seem

This also explains why, as mentioned in section 2.1, raising verbs like *seem* and *appear* can only occur with a PRO subject if a secondary predicate is part of the sentence. PRO is an NP, and since these verbs do not take NP arguments, they cannot have a PRO subject without an NP-selecting secondary predicate.

9. a) *Before seeming, it was unlikely that John would get the job.

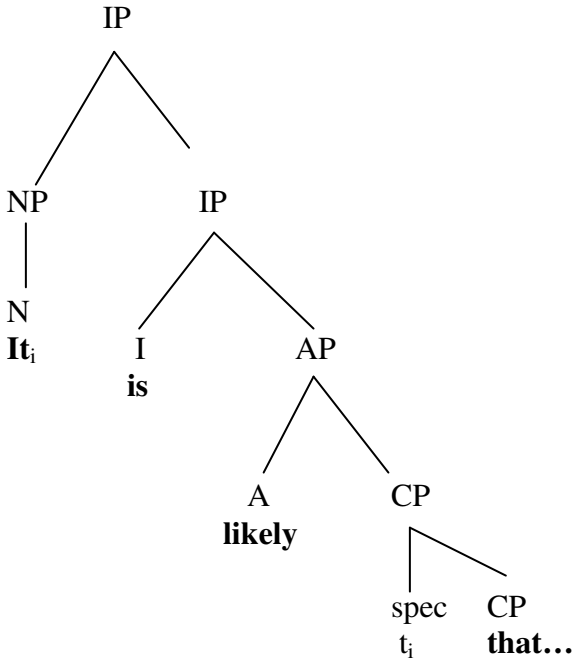
2.7 Previous accounts for non-referential *it*

Before detailing how a copy movement proposal could explain the facts presented above, I would like to detail how a number of other proposals for non-referential *it* have trouble explaining certain data.

2.7.1 *It* in specCP

First let's consider the possibility that the place holder and the clause are related to each other via movement of the place holder out of the clause (Lipták (2001)[9], Yoon (2001)). The place holder would start in the specCP position of the embedded clause and raise to check the matrix clause EPP feature.

49.



[9] Lipták (2001) proposes this for postverbal place holders in Hungarian (see chapter 4).

This proposal does not seem to fit in with the data presented above. One issue is if the *it* moves out of the embedded clause, one assumes it leaves a trace (or a copy) in the specCP position. Without a trace or a copy, there is no way to relate the *it* to the embedded clause it has to be associated with. An association is necessary since the data in section 2.1 showed that both the *it* and the embedded clause are acting as a controller. However, argument extraction is often licensed out of the embedded clause (the sentences in (20)) and for certain predicates, adjunct extraction is also licensed (sentence (21a)). Most theories of movement (Chomsky 1986, Chomsky 2001) assume extraction out of a clause is only licensed if the specifier position of the clause is empty. However, the proposal illustrated in (49) does not provide arguments and adjuncts this empty specCP position, as it is filled with a trace (or copy) of the *it*.

Even if one assumed the raised *it* does not leave a trace (or copy) behind, there are two other problems the specCP proposal faces. One, it does not explain how the embedded clause behaves as if it is in adjoined position for all of the examples discussed. Recall a number of these examples involve ergative predicates and a number involve unergative predicates. Saying that the *it* raises from the embedded clause does not explain how or why embedded clauses of either predicate type have to be clause final.

The other problem is the control data presented in section 2.1, repeated here.

7. c) PRO To impress me, it would have to be in the Guinness Book that John set a world record.

Why the embedded clause would be share the ability with the raised *it* to control PRO is not straightforwardly obvious following *it*-as-specCP analysis.

2.7.2 Expletive *it*

Another approach is the classic EPP proposal (Chomsky (1981)), which holds that place-holder *it* is only that, a place holder. This proposal holds that *it* is only inserted in the derivation so the sentence will have a subject. *It* has no meaning. The EPP proposal does not account for the fact that *it* appears to be able to control a PRO argument (section 2.1). For a similar construction, Chomsky (1995) relies on covert raising of features to explain some control data.

50. There arrived four men without identifying themselves.

Recall from section 2.1 that *there* should not have the ability to control PRO because it is not an argument. Chomsky claims features from the NP *four men* covertly raise to the IP and adjoin to *there* giving the NP the ability to control and bind. The motivation for this covert raising of features is uninterpretable features on the inflectional head. The same motivation cannot be used for extraposition structures, since it is not clear why the pronoun *it* would not be able to check all of the inflectional head's uninterpretable features, as it presumably does in other contexts.

51. It is a good idea.

Another possible solution would be to co-index *it* with the embedded clause. This approximates what Culicover and Rochemont (1990) propose for a different set of extraposition constructions (relative clause, and prepositional phrase extraposition). However, there are two problems here. Because indices, if not reinterpreted as features, are not considered part of the lexical item as they enter the derivation, they must be added during the derivation. This violates Minimalism's Inclusiveness Condition, which holds derivations should only make use of properties of the lexical elements present as they enter into a derivation. Perhaps more importantly, even if one accepted the use of indices, the indices would be being used here to express syntactic identity. This is a shaky proposition since one is co-indexing two items that are of different categories, an NP and a CP.

Two further problems remain with a co-indexing approach. There is the issue of theta-role assignment, and there is the contradictory nature of the embedded clause's location. Bennis' (1986) proposal solves the first problem by holding that *it*, as the argument, receives the theta-role from the predicate. His claim is partially supported by data in section 2.1 and data from Dutch. These two proposals, Bennis' and Culicover & Rochemont's, taken together, represent the third alternative treatment of extraposition: the *it* is the argument, and the embedded clause is somehow attached to the matrix clause, and construed with the argument (Koster (2001) proposes a variation of this, that differs most significantly in the attachment of the embedded clause). If one assumes the embedded clause is adjoined outside of the maximal projection of the clause, the data suggesting the embedded clause is adjoined is explained. However, the extraction data in section 2.3.1 and Principle C violations in section 2.3.2 are still unaccounted for. If the

embedded clause is only adjoined to the matrix clause, how is adjunct extraction out of the embedded clause licensed? The same problem is present for the Principle C violations (see the sentences in (22)) and the facts about *only* (see the sentences in (25)).

2.7.3 Rosenbaum

Rosenbaum (1967) proposes that for extraposition and most sentential complements, the underlying structure is an NP which itself selects the CP.

52. $[_{NP}$ it $[_{CP}$ that …]]]

For ergative predicates the complex-NP could raise to subject position, for unergative predicates the complex-NP could start in subject position. For instances of extraposition, a transformation cleaves the CP and the pronoun. The pronoun stays in subject position while the CP is right adjoined. For instances of sentential subjects, there is a transformation that deletes the pronoun.

This proposal is an improvement over the previous one considered. Because the complex-NP could raise from a complement position to the subject position and then be extraposed to a right-adjoined position, it can explain how the embedded clause can appear to be in two positions at the same time. Also, because the *it* can be considered a pronominal form of a noun like *the fact* or *the report*, the observation that *it* can control PRO in the examples from section 2.1 can be attributed to the NP the *it* is standing in for. So in sentence (52), it is *the fact* that *impresses me*.

53. To impress me, it would have to be in the Guinness Book that John set a world record.

There are two problems however. First is the extraction data for raising predicates. For an argument or an adjunct to raise out of a complex-NP it must cross two bounding nodes: CP and NP. This should lead to a subjacency violation as it does in (54).

54. *Who did you believe the report that John kissed?

It has been demonstrated however (section 2.3.1), that raising predicates do allow adjunct extraction, and non-raising predicates allow argument extraction. If extraposition structures all underlyingly have a complex-NP structure an explanation for why subjacency and ECP violations are not observed in section 2.3.1 is needed.

The other problem with Rosenbaum's proposal is the fact that the pronoun can never actually be realized as anything but the pronoun *it*.

55. a) *The fact/the report seems that John likes Mary.

b) *The fact/the report is possible that John likes Mary.

In order for the Rosenbaum proposal to explain the control data, the *it* has to be a pronominal form of a noun. It is not clear why this noun could never actually be realized as anything but the pronoun.

2.8 The copy theory proposal for non-referential *it*

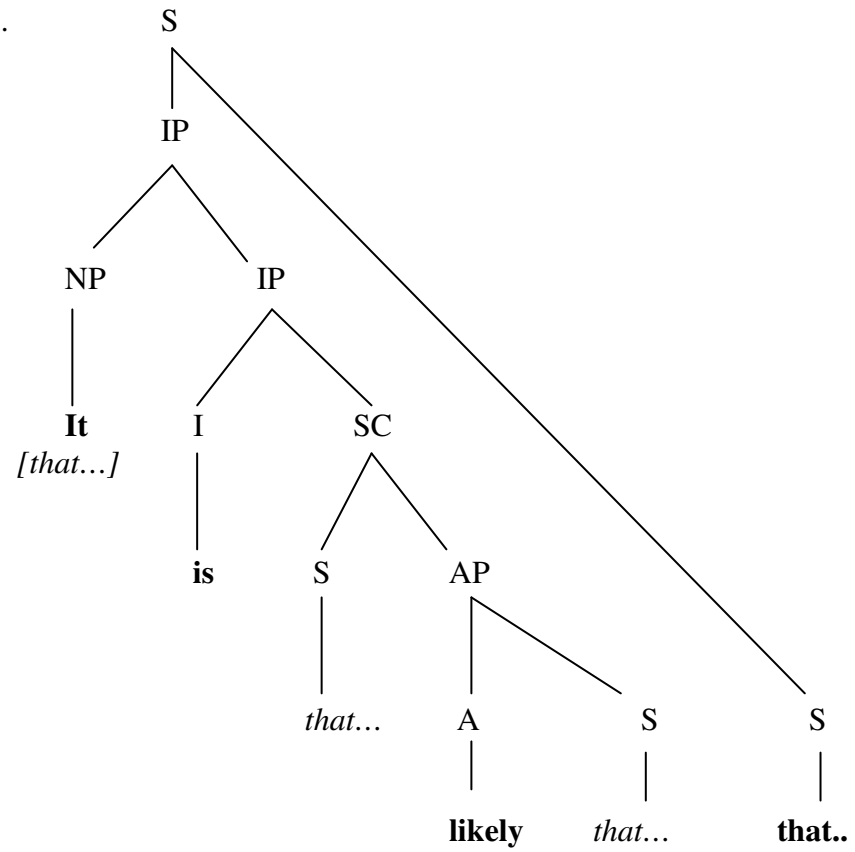
In the following section, I propose a derivation for extraposition structures that accounts for the data presented in sections 2.1-2.6. This proposal is for the speakers whose judgments implied the verb and embedded clause do not form a constituent. In this treatment, these speakers rely on extraposition, or the right-adjoined realization of the argument, to avoid violating the CRP. For those speakers whose judgments for some or all of the predicates considered suggest the verb and embedded clause are a constituent, I propose that the extraposition option is not used. In chapter 3, the reason for the option of realizing copies in these two different positions will be discussed in greater detail. The representation for the structures used by those **not** using extraposition simply involve the overt realization of the argument copy of the clause (again see chapter 3).

2.8.1 Non-verbal, ergative predicates

I propose the following structure for extraposed sentences with non-verbal ergative predicates (e.g. *likely, possible, important*). The embedded clause is right-adjoined to the matrix clause. The clause starts as the complement of the predicate and raises to subject position to satisfy the strong EPP feature on I (or T in Chomsky (1995)).

Because of a filter disallowing clauses in Case positions (Stowell's Case-Resistance Principle), the clause is not allowed to be fully realized in subject position. Instead, there is a pronominal (or underspecified) copy of the clause. There are thus three relevant copies of the embedded clause in this chain: the overt right-adjoined one; the underspecified version, *it*, in subject position; and the covert copy in complement position.

56.



Note: Bolding here and in other diagrams represents overt copy of a constituent

These three copies of the embedded clause explain the apparently contradictory nature of these constructions. The overt, right-adjoined embedded clause accounts for the

VP-topicalization, *though*-movement, and predicate pied-piping facts. As the targets for these examples of movement are all above the inflectional domain, the movement operations required for these constructions will all occur after extraposition. Extraposition forces the overt realization of the adjoined, embedded clause. VP-topicalization, *though*-movement, and the wh-movement of the predicate with pied-piping all require the predicate and the embedded clause to be overt constituents. Extraposition does not allow them to be, and these constructions fail. Right-adjunction of the embedded clause also makes sense of the clause final nature of the extraposed clause since the CRP forces extraposition.

The underspecified copy of the embedded clause in subject position makes sense of the control data presented in section 2.1. As was demonstrated in section 2.1, obligatory subject control of PRO is possible for non-finite clauses adjoined to extraposition structures. Treating the *it* as an underspecified copy of the embedded clause, as opposed to a meaningless place holder, explains this fact. This treatment allows the *it* to be in a chain with the embedded clause that is interpreted as the subject of the non-finite clause in these constructions. It does this without any reference to indices, violations of the projection principle, or covert raising (which would be unmotivated).

Finally, the covert copy of the embedded clause allows for consistency on a number of issues. However, before demonstrating this, I first must make explicit why the covert copy can have any effect. Recall, in the derivation for (56), there is a fully-realized overt copy of the clause in a right-adjoined A-bar position, a subject position copy, and an argument position copy. I propose that the adjoined copy of the clause is not moved from the subject position, where the CRP conflict is, but from the argument

position. In a sense, there are then two chains that have the argument position as its foot: one an A-chain with the *it* as the head and the argument position as the foot, the other chain is an A-bar chain with the overt, adjoined copy as the head and again the argument position as the foot[10]. Earlier, I argued that the *it* and the embedded clause are in a single chain that controls PRO in non-finite clauses. Nothing here contradicts this. The *it* and the covert copy of the embedded clause are still in a chain, able to control PRO.

Proposing the overt copy of the embedded clause takes the argument copy as its foot is important because it is known that reconstruction effects are only possible for instances of A-bar movement, not A-movement. It is also known A-movement that feeds A-bar movement does not lead to reconstruction effects.

57. a) John$_i$ seems to himself$_i$ t$_i$ to be great.

    b) *Who$_i$ are [pictures of t$_i$]$_j$ sold t$_j$ on every street corner?

    c) [Which claim about John's$_i$ sleeping]$_j$ t$_j$ seems to him$_i$ t$_j$ to be correct?

Sentence (57a) is grammatical and not a Principle C violation because the chain headed by the subject *John*, which is in subject position, is an A-chain. Because it is an A-chain, *John* does not reconstruct (i.e. the overt copy is used). Sentence (57b) is **un**grammatical because even though the base position for the subject NP is the complement position, where extraction is licensed, the chain is headed by the *pictures* phrase in an A-position making it an A-chain. Again as a member of an A-chain, the NP does not reconstruct. In sentence (57c), the NP first raises from the small clause subject position to the matrix

[10] I say "in a sense" because the two chains here take as their foot the same constiuent. In this way, the two chains are unique from other instance of two chains in a derivation where the two chains have different constiuents as feet.

clause subject position (A-movement) and then raises to A-bar opeartor position (A-bar movement). That this sentence is grammatical demonstrates that A-movement preceding A-bar movement does not lead to reconstruction effects, otherwise one would expect a Principle C violation.

The examples in (57) are presented in contrast to the reconstruction effects on display in chapter 1 (section 2), which involve instances of plain A-bar movement.

58. *[Which pictures of $John_i]_j$ does he_i like t_j?

In an example like (58), Chomsky assumes the covert copy of *pictures of John* is interpreted at LF, and the overt copy is not, leading to the Principle C violation. This phenomenon is accounted for by Chomsky's Preference Principle, use the argument copy of the A-bar chain when you can at LF.

Returning to the derivation in (56), the Principle C violations from section 2.3.2 are explained because the R-expression in the covert copy of the embedded clause (which is in a chain with adjoined copy of the embedded clause) is c-commanded by the Experiencer argument adjoined to the small clause. The covert copy is used because it is the argument copy of an A-bar chain, satisfying the Preference Principle[11].

21. a) *It's important to him_i that $John_i$ is taken seriously.

It is assumed that the preposition *to* is only present to assign Case to the Experiencer. This allows the pronoun to c-command the small clause. Similarly, the covert copy of

[11] The underspecified *it* in an A-position is not used because it is not the fully specified copy of the clause.

the embedded clause is also c-commanded by *only*, explaining the data in section 2.3.3. Finally, it was shown for raising, ergative predicates adjunct extraction is licensed (section 2.3.1). The covert copy of the embedded clause is L-marked in its complement position, syntactically licensing adjunct extraction out of the embedded clause.

All of the reconstruction effects above are possible because of the A-bar chain that has as its foot the argument copy of the embedded clause and has the overt, adjoined copy of the embedded clause as its head. Outside of the shared foot, this chain is independent of the A-chain made up of the argument clause and the *it* head, avoiding the problem of A-movement feeding A-bar movement demonstrated in (57c). It remains to be determined exactly how these chains are created independent of each other. The answer likely lies in the nature of the extraposition landing site. Observe that extraposition is different from the A-bar movement of examples like (57c), as examples like (57c) have overt operators (*which*). Presumably, it is this difference in what motivates the movement which does not allow a derivation of (57c) where there are two chains and reconstruction in an option (and thus an ungrammatical result).

57. c) Which [claim about John's$_i$ sleeping]$_j$ t$_j$ seems to him$_i$ t$_j$ to be correct?

It should be noted that I am following Bayer (1999) in treating *only* as scope marker that has to c-command whatever it has scope over at LF. Bayer's stance goes against Tancredi's (1990) conclusion that *only* must overtly c-command its associate. Bayer's proposal is that *only* must c-command an associate that has an alternative set of potential items to be contrasted with. Wh-operators do not have this property since they

are operators and not items from a set. This explains why sentence (59) does not have a reading available that has *only* associated with the operator[12].

59. Who did John only like?

Also I am following Lasnik and Saito (1984) who argue that adjunct extraction is only sensitive to LF structure. This assumption along with *that*-deletion at LF explains why adjuncts do not have the same *that*-trace effect as extracted subjects in examples like (60).

60. a) *Who did John think that likes Mary?

b) How$_i$ did John think [that Steve kissed Mary t_i]?

Following Lasnik and Saito's proposal, licensing the variable in (60b) is not a problem since the conditions licensing it are not applied at PF when the *that* is there. In chapter 3, for similar structures to the ones discussed in this chapter, it is claimed that only the argument copy of the clause is present at LF. However, because chapter 3's discussion does not involve extraposition structures, the discussion focuses only on why the *it* is not present at LF. In short, this is because both of the functions of *it*, EPP satisfier and controller, are not relevant at LF. For the extraposed constructions of this chapter, since the extraposed clause is in an A-bar position, reconstruction, or the LF-realization of the

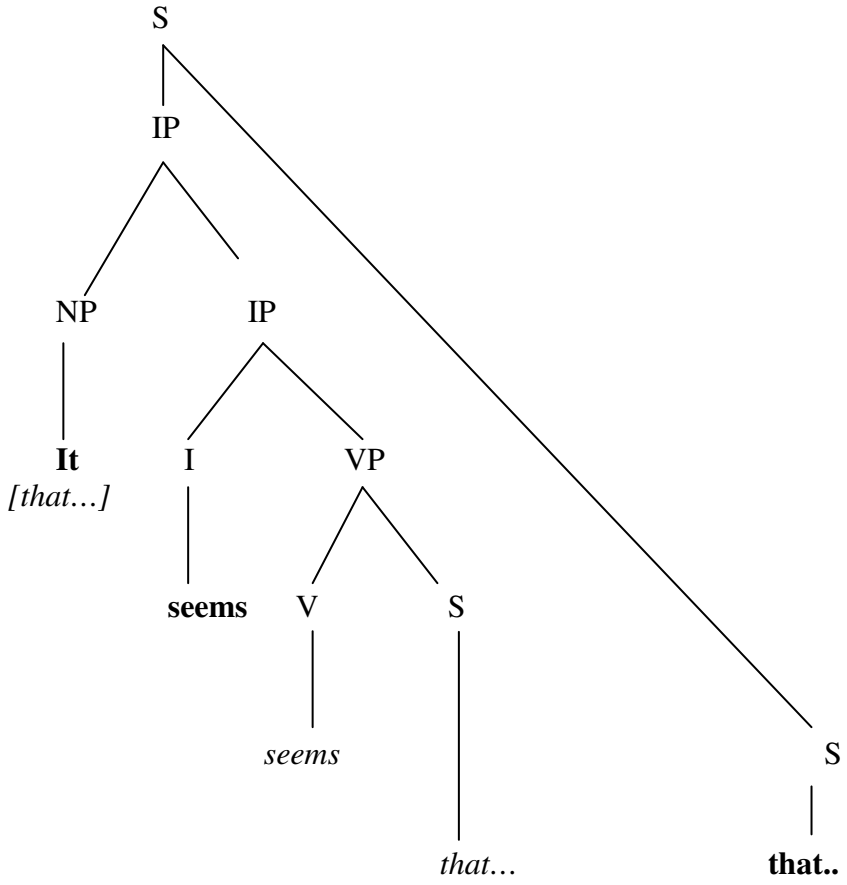
[12] See Bayer (1999) for a more detailed explanation of what motivates his proposal. In short it relates *only* scope data to *even* scope data. It also explains how earlier versions of English could have readings where the focus marker is interpreted with the subject sentences like *The eldest son shall only inherit his father.*

argument copy, is assumed. The extraposed copy is deleted at LF (Chomsky's Preference Principle). This is a desirable result since only one copy of the embedded clause, the argument copy, is supposed to be interpreted. The covert copy is then used for the licensing of an operator-variable dependency at LF, which explains the extraction facts of section 2.3.1.

2.8.2 Raising verbs

I propose the structure in (61) for sentences with raising verbs (e.g. *seem*, *appear*). Again, the embedded clause is right-adjoined to the matrix clause. Again, the embedded clause starts as the complement of the raising verb. And again, *It* in subject position is an underspecified copy of the embedded clause. As with ergative, non-verbal predicates, there are three relevant copies of the embedded clause: the argument position clause; the pronominal copy in subject position; and the right-adjoined, overt copy. Though it will not make a difference for this sentence type, it should also be noted that the representation below has the verb overtly raising to the inflectional domain. Verb-raising will make a difference in the representation of unergative, verbal predicates. Chapter 4 addresses the issue of overt verb raising in detail.

61.



Because verbal predicates do not take degree operators as non-verbal predicates may, predicate pied-piping facts cannot be considered for these constructions. However, VP-topicalization and *though*-raising can be considered, and as was the case for ergative, non-verbal predicates, these constructions are not possible for ergative, verbal predicates for some speakers.

62. a) *They wondered whether it seemed that John likes Mary, and seem that John likes Mary, it was/did.

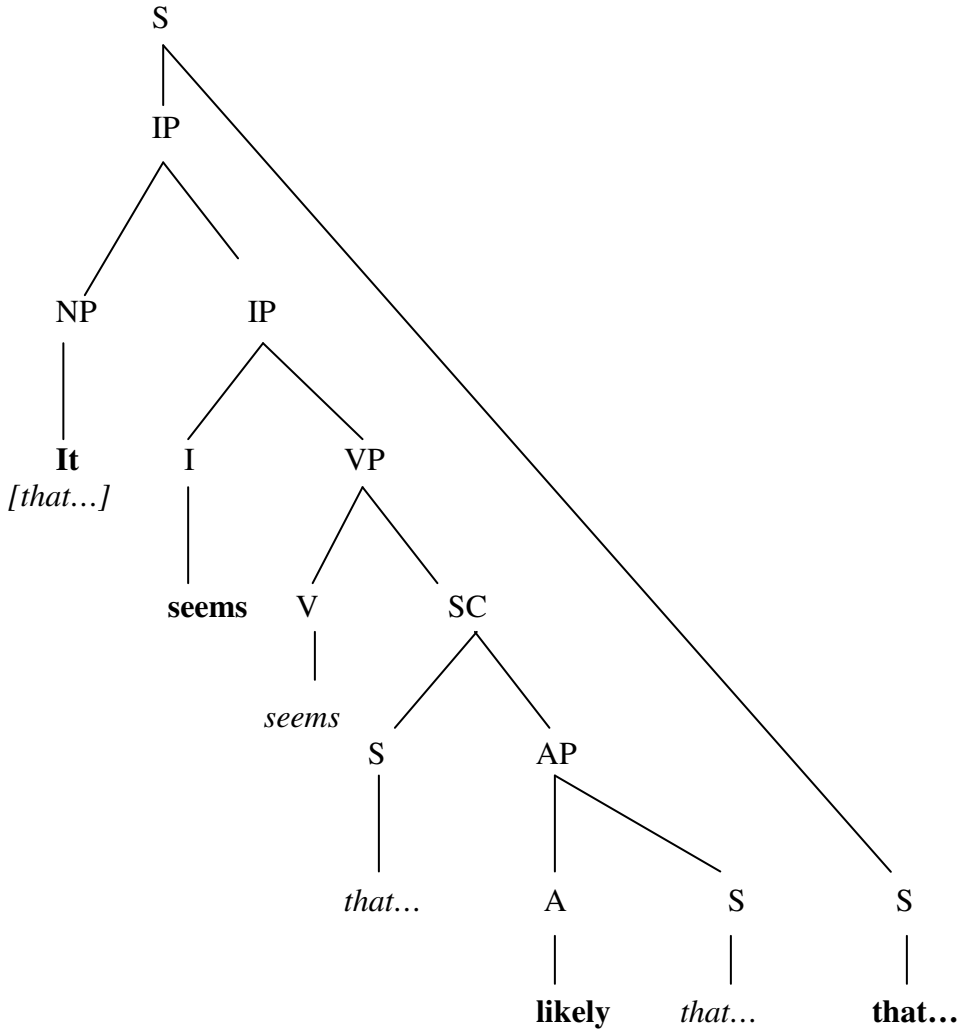
b) *Seem that John likes Mary, though it does/may..

Again this is because the targets for these operations enter the derivation after extraposition forces the overt realization of the embedded clause in a right-adjoined position. The verb and clause are thus unable to be an overt constituent, as they need to be in order for these constructions to work. Just as with ergative, non-verbal predicates the pronominal copy in subject position explains the control facts, while the covert copy explains how the embedded clause can behave like it is in the complement position of the verb.

2.8.3 Raising verbs with small clause complements

With these two structures now set, I propose the following for sentences with ergative verbs which take small clause complements. The derivation and its motivations are the same as they were previously. The extraposed clause starts as the complement of the secondary predicate, which is itself in a small clause selected by the verb. The extraposed clause raises to subject position. It also extraposes. The representation in (63) explains the control behavior as well as the apparently contradictory data about clause location as the previous representations did.

63.


S
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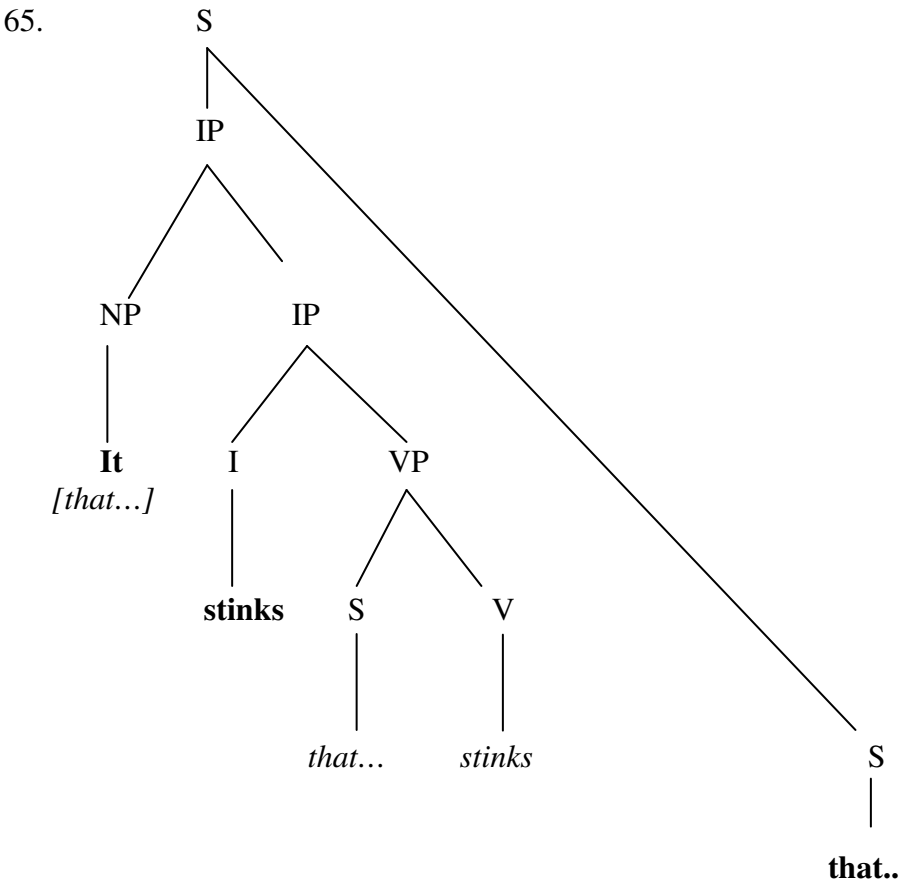
2.8.4 Unergative verbs

Finally, (65) is a representation of a sentence with an unergative verb[13]. This time, instead of the embedded clause starting as the complement of the predicate, it starts from subject position (recall this was because of Stowell's *as*-diagnostic). The rest of the derivation parallels the previous constructions looked at. An EPP feature raises the embedded clause to subject position and the clause is realized in its underpsecified form, *it*. The clause also extraposes. Again, the assumption is that the verb overtly raises to the inflectional domain. This higher overt position for the verb allows *only* to c-command the covert trace of the embedded clause in specVP, licensing the interpretation that exists, where *only* is related to the embedded clause.

64. It only rocks that you guys won the game. (But not that you won by a lot)

[13] A representation for non-verbal, unergative predicates is not presented because the only predicates discussed so far this would be relevant for are Stowell's Mental Property (MP) adjectives. Because Stowell proposes these predicates have two underlying external arguments, a representation for these sentences would take this study too far afield. A single external argument for non-verbal, unergative predicates can be treated in a very similar way to the unergative verbs in this section. The differences in structure are relatable to the differences in structure between ergative, verbal predicates and raising verbs.

65.



2.9 Summary

The structures just presented in section 2.8 explain a number of facts related to monadic predicates that take clausal arguments. For one, the contradictory nature of the data regarding the constituency of the predicate and the clause (section 2.2 and 2.3) is partially explained. The VP-topicalization, *though*-movement, and pied-piping data suggested the embedded clauses were often not constituents with their predicates. On the other hand, the extraction facts, Principle C effects, and *only*-scope data suggested that argument copies of the embedded clauses were syntactically active. The overt realization of an extraposed clause explains why the predicate and clause may not appear to be constituents, while a covert LF copy of the clause in argument position and the

Preference Principle explains how the predicate and clause may at the same time appear to be constituents. The need for a new treatment for these constructions was presented in section 2.7. Section 2.1 demonstrated how the *it* needs to be treated as part of a chain that includes the embedded clause. It also showed that *it* may stand in as underspecified copy of the embedded clause in other contexts. Section 2.5 argued for Koster's treatment of sentential subjects as A-bar subjects, presenting a new piece of evidence in favor of Koster's treatment, *if*-clauses extraposition facts.

Chapter 3: Dyadic predicates, control, and phases

3.0 Introduction

Chapter 2 focused on monadic predicates that take clausal arguments. These clausal arguments are often used to check the monadic predicate's clausal EPP feature. When this occurs an underspecified copy of the clause needs to be used in order to not violate the Case Resistance Principle. Data from some speakers suggested that a full copy of the embedded clause was overtly realized in an extraposed position. This result suggested that other speakers did not have to exploit extraposition to overtly realize the embedded, argument clause.

In this chapter, three types of dyadic predicates (*preoccupare* verbs, pseudo-psych verbs, and impersonal passive constructions) are examined. The treatment in chapter 2 for non-referential *it* is extended to the dyadic predicates in this chapter. It is also shown that dyadic predicates that check accusative Case **must** have their argument clauses realized in argument position. There is thus a difference in where argument clauses may and must be realized. Monadic predicates force extraposition for some speakers and not for others. While dyadic predicates that check accusative Case force the embedded clause to be realized in argument position. In section 3.4, I develop an explanation for why there is this variation.

In the process of explaining what affects an argument clause's overt realization, two other issues are addressed. In section 3.2, I consider Landau's (2001) treatment of Super-Equi raising and argue for a treatment of control that only makes reference to overt

representations. The claim that control is only a reflex of the overt representation allows me to follow the standard assumption, which holds that *it* is in fact deleted at LF. This conclusion is developed during a discussion of the difference between the use of *il* and *cela* for some French speakers in "extraposition" constructions in section 3.3.

3.1 Psych-verbs and *preoccupare* verbs

Generally it is said that psych-verbs are a class of verbs that express an individual's psychological relationship with a Theme. The individual is referred to as the Experiencer argument. The Theme may either be a proposition or an NP.

1. a) His surrender surprised/angered/bothered/excited me.
   b) It surprised me that he surrendered.
   c) That he surrendered surprised me.
   d) His knuckles scare me.
   e) I fear his knuckles.
   f) I enjoy that John tripped over his own shoelaces.

Observe that in the sentences (1a)-(1d) the Experiencer is an accusative-marked object, and in sentences (1e) and (1f) the Experiencer is a nominative-marked subject. Alternately, the Themes in these sentences appear as both subjects and objects. This alternation appears to be a violation of the Universal Theta Assignment Hypothesis

(UTAH) (Baker (1988)), which holds certain theta-roles are associated with certain grammatical positions.

Pesetsky (1995) resolves this problem by dividing the Theme theta-role into two distinct theta-roles, the Causer (the subject in (1a), (1c), and (1d)) and the Target or Subject Matter of Emotion (T/SM) (the object in (1e) and (1f)[1]). The Causer initiates the Experiencer's "emotion". The T/SM is "evaluated" by the Experiencer. The difference between (1d) and (1e) illustrate this difference best.

1. d) His knuckles scare me.
   e) I fear his knuckles.

The fear his knuckles instill in me in (d) is directly related to the knuckles. Perhaps they look large and pointy. However in (e), his knuckles, which generate pretty much the same emotion as in (d), do not necessarily have to be the Causer of my fear themselves. The knuckles can be covered in blood making me concerned for the person who may have been punched by those knuckles.

Along with this distinction between Causer and T/SM, Pesetsky assumes that theta-roles are assigned to grammatical positions relative to a theta-role hierarchy. Causer precedes Experiencer which precedes T/SM. This is why the Experiencer is realized as an object with verbs that take Causer arguments, and why the Experiencer is realized as subject with verbs that take T/SM arguments.

[1] The difference between Target of Emotion and Subject Matter of Emotion is irrelevant for this discussion.

The sentences in (1a)-(1d) represent a subset of psych-verbs known as the *preoccupare* class. This label comes from Belletti and Rizzi's (1988) work, which will be discussed in more detail as the chapter proceeds. These are psych-verbs with Causer arguments in subject position. When the Causer argument is a clause, it is possible to use non-referential *it* (sentence 1b). They will thus be investigated in detail here. Psych-verbs with T/SM arguments may also be used in sentences with non-referential *it*; however, the non-referential is either used postverbally (to be discussed in chapter 4) or when the verb is passivized (to be discussed in section 3.2, under the heading of impersonal passives).

3.1.1 Psych-verb control

As sentences (1b) and (1c) clearly show, psych-verbs of the *preoccupare* class are like a number of the predicates detailed in chapter 2, they allow non-referential *it* in subject position, as well as its clausal associate in "apparent" subject position[2]. Unlike the predicates in chapter 2, however, these predicates are able to take a second argument, the Experiencer, without the use of a Case assigning preposition.

2. It seems *(to) me that John is drunk again.

Checking to see how this Experiencer argument affects the control behavior of the non-referential *it*, we see non-referential *it* retains its ability to control in these constructions.

[2] *Apparent* is modifying *subject position* because of the discussion from chapter 2 regarding Koster's (1978) research.

3. a) Besides impressing me, it surprised my parents that my brother did that.
   b) After bothering my brother, it now pleases me that it snowed last night.
   c) After bothering me for a few days, it now infuriates me that he lost that check.

This is expected, as it was shown in chapter 2 that a non-finite clause's ability to end up in a control environment (adjoined in these cases) is determined by whether its predicate has the potential to take a nominal subject argument. Sentences (3a)-(3c) show the *preoccupare* class has that potential. Chapter 2's treatment that has the *it* as a pronominal copy of the embedded clause then seems to be needed for these verbs.

3.1.2 Embedded clause position for psych-verbs

To see if the chapter's 2 extraposition proposal fully extends to this class of verb, the same battery of tests from chapter 2 should be used to determine the location of the embedded clause. One needs to be careful, however, since the tests are known to be sensitive to more than position concerns. For example, adjunct extraction may diagnose whether a clause is in complement position or adjoined, but the diagnostic also is sensitive to factivity.

4. *How do you like that John kissed Mary?

As the *preoccupare* class of psych-verbs all take clausal themes that are factive, it is unclear what to infer from sentence (5)'s ungrammaticality[3].

5. *How does it impress you that John won the race?

In terms of argument extraction, these verbs pattern like both factive and non-factive predicates in allowing it. Recall, this was the result for factive and non-factive predicates, and may be true of constituents in adjoined or complement position.

6. Who does it impress you that John kissed?

It should be noted that argument extraction for unergative verbs, the *stink*-class, yields only a marginally grammatical result.

7. ??Who does it stink that John kissed?

For unergative verbs the conclusion was the embedded clause started in specvP and ended up adjoined to the matrix clause. Since argument extraction is not marginal for the *preoccupare* class of verbs, sentence (6) could be taken as evidence that the embedded clause does not start out in a specifier position of vP in these constructions.

As it is argued in chapter 4 that the verb is overtly in the inflectional domain for English, the *only*-scope diagnostic is not going to provide much information on the

[3] It should be noted that some native speakers don't have a difficult time extracting from embedded clauses for factive verbs. Those that do not, generally accept (4) as much as they accept (5).

location of the embedded clause. The ambiguity in (8) only confirms that the embedded clause has a syntactically active copy below the inflectional domain. Recall, it was argued in chapter 2 that this copy does not have to be overt.

8. It only surprises me that John kissed Mary. (Not that he hugged her, not that John is shorter than Mary, etc.)

Principle C effects provide a more accurate indication of where one of the copies of the embedded clause is.

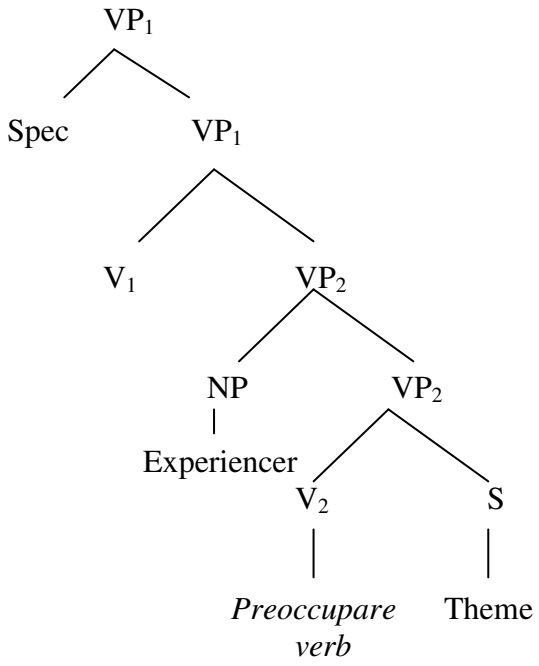
9. *It surprises him_i that $John_i$ is a vegetarian.

The sentence in (9) suggests that the embedded clause has a syntactically active copy that is c-commanded by the Experiencer argument. Belletti and Rizzi argue that the underlying representation of the *preoccupare* class of verbs has the Theme as the complement of the verb, and the Experiencer as a non-subject argument. This proposal allows the UTAH to be maintained. It also allows Copy Theory to explain how the anaphor in (10) can be bound to the Experiencer.

10. Pictures of himself embarrassed John.

Using a verbal-shell representation for these verbs, the following underlying representation satisfies Belletti and Rizzi's proposal[4]. It also allows for the Principle C violation present in sentence (10)[5].

11.



The data above only suggests that a copy of the embedded clause is in complement position. However, since these diagnostics have all been argued to be LF contingent, these sentences do not indicate whether the embedded clause is overtly in complement position, or if it is extraposed. The two relevant diagnostics sensitive to the overt constituenthood of the embedded clause and the predicate from chapter 2, VP-topicalization and *though*-movement, both suggest that the embedded clause does not extrapose and is overtly realized in its complement position.

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[4] This structure may provide a problem for Burzio's generalization, see Bennis (2004).

[5] Pesetsky (1995) presents a slightly different structure for the *preoccupare* verbs; however, his treatment also has the Theme (or his Causer) c-commanded by the Experiencer argument. Recall the Causer is higher in the theta-role hierarchy for Pesetsky. He resolves this issue by having the Causer as the subject of a phrase selected for by the Experiencer's projection.

12. a) They said that it bothered John that I am getting a raise and bother John that I am getting a raise, it did.
    b) Bother John that I am getting a raise though it does, they're still going to give it to me.

The data in (12) suggest finite clause arguments for the *preoccupare* class of verbs are overtly in complement position.

For non-finite clauses the result is the same.

13. a) They said it upsets John to lose races, and upset John to lose races, it does.
    b) Upset John to lose the race though it may, he'll become a better runner from the experience.

Comparing the data from (12) and (13) to the data in chapter 2, it appears that in some way the extraposition of an embedded clause that raises to subject position is dependent on the predicate type of the matrix clause. For the monadic predicates of chapter 2, extraposition was forced for some speakers. However, for the *preoccupare* verbs discussed here, extraposition does not seem to be mandatory.

There are now two significant questions to be addressed. One, how does the matrix predicate license or not license the overt realization of a copy in these constructions? Specifically, why do monadic predicates not allow the overt realization of

the argument copy of the embedded clause? And, how do dyadic predicates license overt realizations of argument copies? The fact that VP-topicalization and *though*-movement are possible with these predicates only indicates that the overt realization of the argument copy of the embedded clause is a possibility; it is not a requirement. This leads to the second significant question: is extraposition a possibility for dyadic predicates? To answer these questions, a closer look will be taken at other dyadic predicates.

3.2 Pseudo-Psych verbs

In chapter 4, it will be argued that occurrences of postverbal, non-referential *it* are accusative Case checking copies of embedded clauses. It will also be argued that the overt copies of the embedded clause are the argument position copies of the embedded clauses. This would seem to suggest that the licensing of an overt copy of the embedded clause is linked to the number of arguments a predicate needs. A class of verbs that are very similar to the *preoccupare* seem to confirm this generalization. Verbs like *help*, *save*, *benefit* and *discredit* seem very similar to the *preoccupare* class of verbs. They are called pseudo-psych verbs by Zaring (1994), because they seem to have the same overt representation of arguments as psych-verbs. Both sets of verbs have Themes that co-occur with non-referential *it* and both have the ability to take an accusative-marked object. However, the accusative-marked argument of the pseudo-psych verb does not psychologically experience the Theme.

14. It helps/saves/benefits/discredits them that John quit.

These verbs, however, pattern like the *preoccupare* verbs in terms of VP-topicalization and *though*-movement.

15. a) They claimed it helped me that there was snow today, and help me that there was snow today, it did.
    b) Help me that there was snow today though it did, I didn't finish all my work.

3.2.1 Pseudo-psych verbs vs. *preoccupare* verbs

Besides the semantic difference, there are two significant ways in which pseudo-psych verbs differentiate themselves from the *preoccupare* class. First, there is the ability for the embedded clause to be used with the passive form of the predicate. The *preoccupare* class allows embedded clauses in this context, the others do not.

16. a) I was surprised that it's still snowing out.
    b) *I was helped that it's still snowing out.
    c) There's no shame in being surprised that it's still snowing out.
    d) There's no shame in being helped.
    e) *There's no shame in being helped that it's still snowing out.

The other major difference between pseudo-psych verbs and the *preoccupare* class is the *preoccupare* verbs do not allow Super-Equi raising, while the pseudo-psych verbs do. Landau (2001) details this difference.

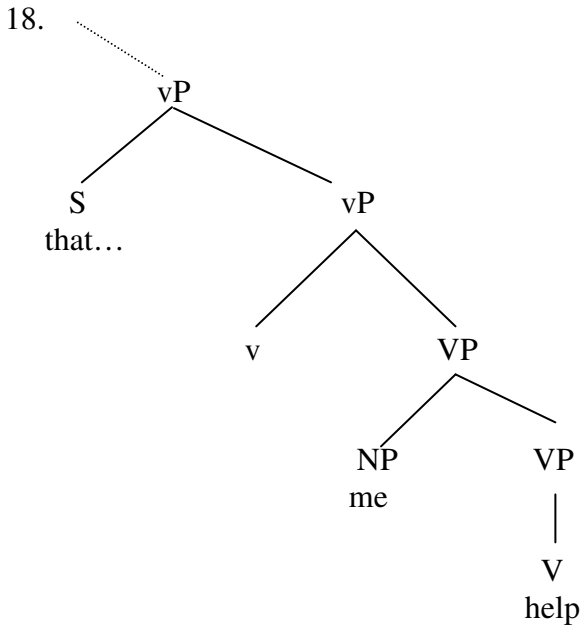
17. a) Mary knew that it helped John to perjure herself.
    b) *Mary knew that it surprised John to perjure herself.

Observe that in sentence (17a), the use of the feminine, reflexive pronoun *herself*, demonstrates that *Mary* is able to control the PRO of the non-finite clause. The same option is not possible for the *preoccupare* verb, *surprise*. Landau also observes that when the non-finite embedded clause appears to be in subject position, the non finite clause's PRO may be controlled by the matrix clause subject for both the *preoccupare* and pseudo-psych verbs.

17. c) I think perjuring myself helps John.
    d) I think perjuring myself would surprise John.

The data in (17) suggests that the underlying position of the embedded clause for the pseudo-psych verbs is not the same as it is for *preoccupare* class. Landau argues that the underlying representation for pseudo-psych verbs is (18).

18.



That the embedded clause is in the specvP position makes sense of the embedded clause's inability to appear in passive sentences with these verbs. In passives, the external theta role that is associated with subject position (specvP), and accusative Case assignment potential are absorbed. The absorption of the external thematic role explains the absence of the embedded clause for pseudo-psych verbs in the cases of (16b) and (16e). How the representation in (18) explains the facts in (17) is discussed in the next section.

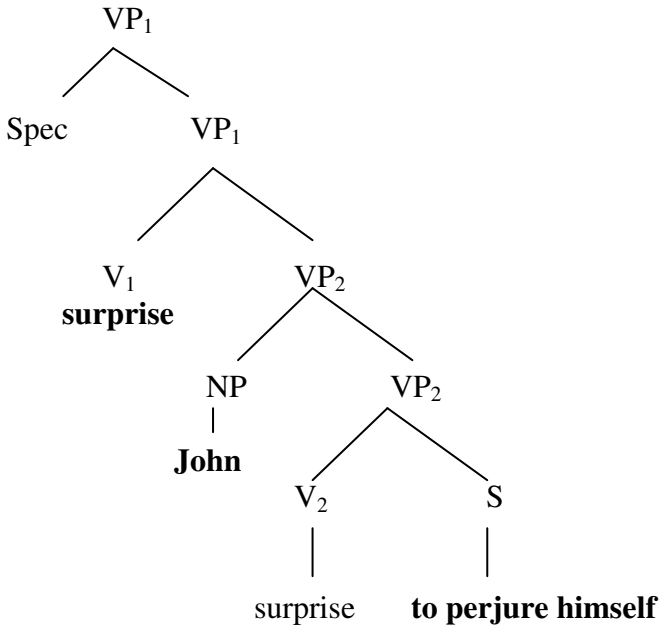
3.2.2 Landau's account for Super-Equi raising

Landau's proposal explaining the data in (17) relies on a three major assumptions. The first is that pseudo-psych verbs have the underlying representation shown in (18). The second assumption is Landau's generalization about obligatory control, "if [PRO in a non-finite embedded clause] occupies a complement/specifier position in the VP-shell of Pred, then [the DP that controls PRO] (or its trace) also occupies a complement/specifier

position in that VP-shell." Note that this generalization makes no reference to whether the clause is overt or covert. Landau's final assumption is that "VP-internal" clauses must always be on the edge of the clause they occur in. They are thus licensed in either the specifier position of the matrix clause or the complement position of the verb.

With these assumptions set, Landau holds that the reason the *preoccupare* class does not allow anything but the Experiencer to control PRO is because the clausal argument has no cause to extrapose, and must be in complement position. Landau's representation for psych-verbs is similar to the one presented in (11), adjusted here for the relevant sentence.

19.



Note: Bolding indicates overt realization

Before proceeding, it should be noted that Landau's own generalization about obligatory control does not force the Experiencer to control PRO. It only allows it.

When the non-finite clause with PRO appears to be in subject position for either verb, PRO can be controlled by the accusative-marked argument of its own clause, or an argument from another clause. This freedom of PRO interpretation can be considered arbitrary control. Landau explains arbitrary control by claiming the "higher" copy of the clause in (20) is the one that is interpreted.

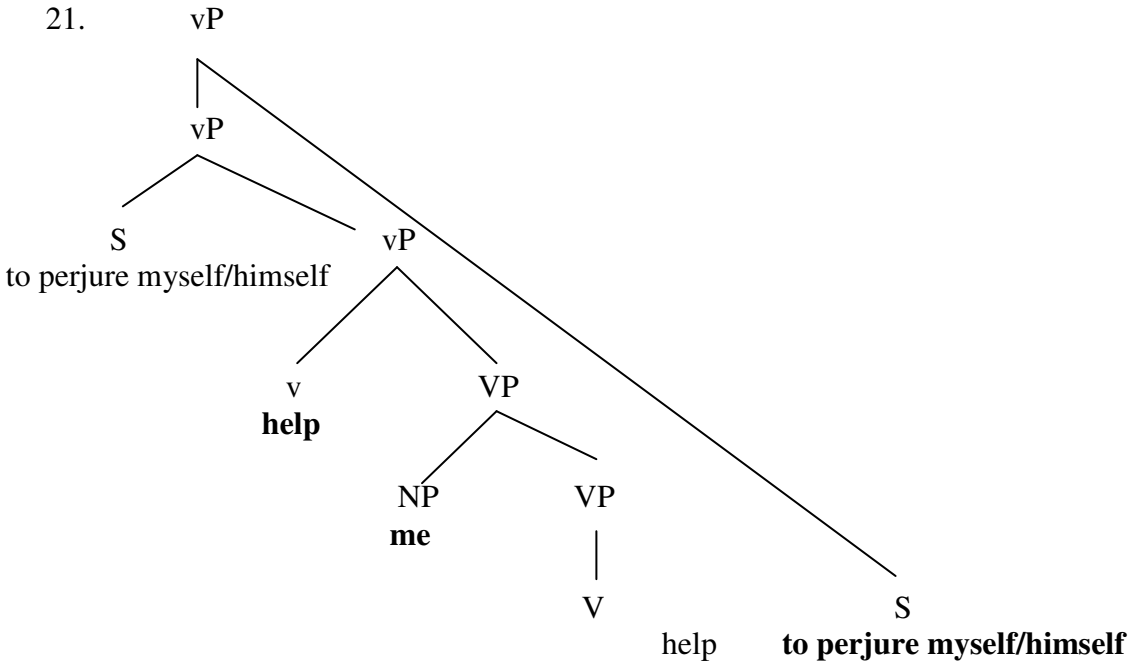
20. I think $[_{IP}$[perjuring myself]$_i$ $[_{VP}$ surprised/helped John $t_i]]$[6].

Because this copy is not in the VP-shell, it is not obligatorily controlled. This treatment cannot coexist with the copy proposal argued for throughout this study. Since, I have shown that *it* is a copy of the non-finite clause, even for the *preoccupare* class of verbs, the *it* in subject position should be the one used for interpretation and control for all verbs, as it is "higher." This would predict that there is no difference between the pseudo-psych verbs and the *preoccupare* class of verbs in terms of arbitrary control when the non-finite clause is in complement position. This is of course is not the case. This is another reason Landau's proposal needs to be altered (recall, the first one was it did not force obligatory control for non-finite complement clauses, just allowed it).

Finally, Landau holds that for the pseudo-psych verbs, because the embedded clause starts in the specifier position of the verb phrase, it is not on the edge of its selecting clause. Extraposition is called upon, putting the embedded clause in a right-adjoined position.

[6] As in previous chapters a trace is used in the representation. However it should be looked at as a phonologically reduced copy of the non-finite clause.

21.



Interestingly, both copies of the embedded clause are available now for interpretation[7]. Landau says the argument copy (the covert one) is the one interpreted for the reading where PRO is controlled by the accusative-marked argument of the pseudo-psych verb. The overt, extraposed copy is the one used for arbitrary control (as in (22)).

22. I think it helped John to perjure myself.

3.2.3 Adjusting Landau's proposal

One way in which Landau's proposal could be simplified would be to make control sensitive only to the overt copy of the argument clause. Nothing would change

[7] Landau adjoins the clause to the VP-shell, in contrast to my treatment of the extraposed clause as right-adjoined to the matrix clause. Landau reaches this conclusion by relying on Reinhart's *though*-movement diagnostic discussed in chapter 2.

for the subject clause cases or the *preoccupare* cases. It is the overt subject clause copy that licenses the arbitrary interpretation for the subject clause cases, and it is the complement clause being realized as a complement that forces the obligatory Experiencer control for the *preoccupare* verbs. For the pseudo-psych verbs, the overtly-realized extraposed clause does not force obligatory control, but it does not need to preclude the possibility of the accusative-marked argument to control the PRO either.

Making exclusive use of the overt copy when determining which PRO is used for control makes for a simpler theory. Perhaps more importantly, it is consistent with what was observed about controllers in obligatory control instances, making reference to the surface position (or overt) subjects. Recall when PRO is obligatorily controlled, it is controlled by the surface subject.

23. Before giving himself/*herself a high five, John was kissed by Mary.

It appears then that the both the controller and the controlee are determined by the overt syntax.

Now, assuming that the control module is sensitive to overt syntax, the following generalization can be made about control.

24. A PRO in an argument clause or clause linked to an argument position follows (A) or (B):

(A): PRO in a clause that is overtly realized in complement position is controlled by an argument of the predicate selecting the non-finite clause.

(B): PRO in a clause that is overtly realized in position other than complement does not have to be controlled by an argument of its predicate.

PRO in a non-argument clause follows (C):

(C): PRO is controlled by the overt subject of whatever proposition the non-finite clause adjoins to.

Because condition (C) in (24) does not relate to the Super-Equi data above it will not be discussed at length, but it is worth noting that it is required to explain the obligatory control data in chapter 2 and at the beginning of chapter 3.

25. a) Despite surprising me, it didn't impress me that it was raining out.

b) Before feeling sick, John was punched in the head.

Focusing on condition (B), recall that in chapter 2, it is argued that there are no such things as clausal subjects, only apparent clausal subjects. These apparent clausal

subjects are in an A-bar position above the subject position, but they are linked to the subject position. These non-finite clauses are obviously not overtly realized in complement position and thus condition B is followed allowing for arbitrary control. This explains how the subject of the matrix clause can control the PROs of the non-finite clause's subjects in the embedded clauses of (17c) and (17d).

17. c) I_i think [$_{CP}$ PRO_i perjuring $myself_i$ helps John]

d) I_i think [$_{CP}$ PRO_i perjuring $myself_i$ would surprise John]

Observe how sentence (26) also demonstrates arbitrary control for the PRO, licensing an anaphor that agrees with the 1st- and 2nd-person potential controllers. The PRO is able to pick up as a controller either of the subjects from the previous clauses.

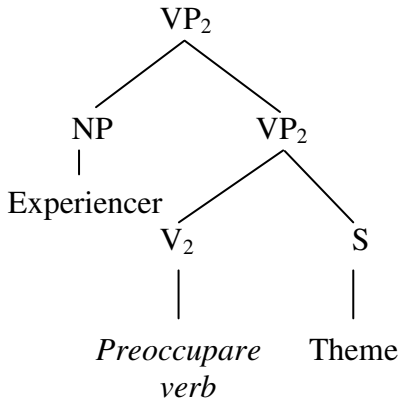
26. You claim that I predicted that cleaning myself/yourself would be difficult.

Returning to sentence (17b), condition (A) needs to be invoked to explain its ungrammaticality.

17. b) *Mary knew that it surprised John to perjure herself.

Landau's representation for the *preoccupare* class is the same as Belletti and Rizzi's, the relevant part of which is repeated here as (27).

27.



If I follow Landau in assuming the non-finite clause is overtly realized in complement position, obligatory control is forced. The Experiencer argument, *John*, then has to be the controller for PRO and (17b)'s ungrammaticality is a function of the gender disagreement between PRO and the anaphor.

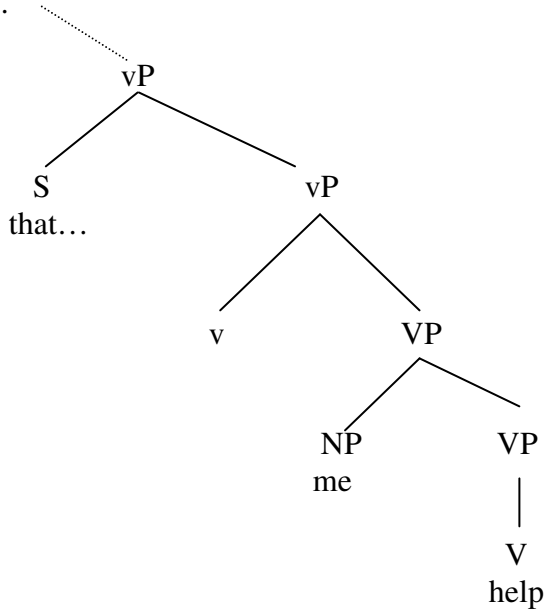
The Super-Equi paradigm represented by the sentences in (17) is now all explained, except for (17a).

17. a) Mary knew that it helped John to perjure herself.
    b) *Mary knew that it surprised John to perjure herself.
    c) I think perjuring myself helps John.
    d) I think perjuring myself would surprise John.

Because pseudo-psych verbs do not force obligatory control, one might be tempted to argue that extraposition is responsible for the non-obligatory control found in (17a). However, recall that in the initial discussion of pseudo-psych verbs it was demonstrated that the verb, the accusative-marked object, and the embedded clause form a constituent.

Also, recall from earlier on that the embedded clause is assumed by Landau to start in the specvP position. This explains the data about pseudo-psych passives.

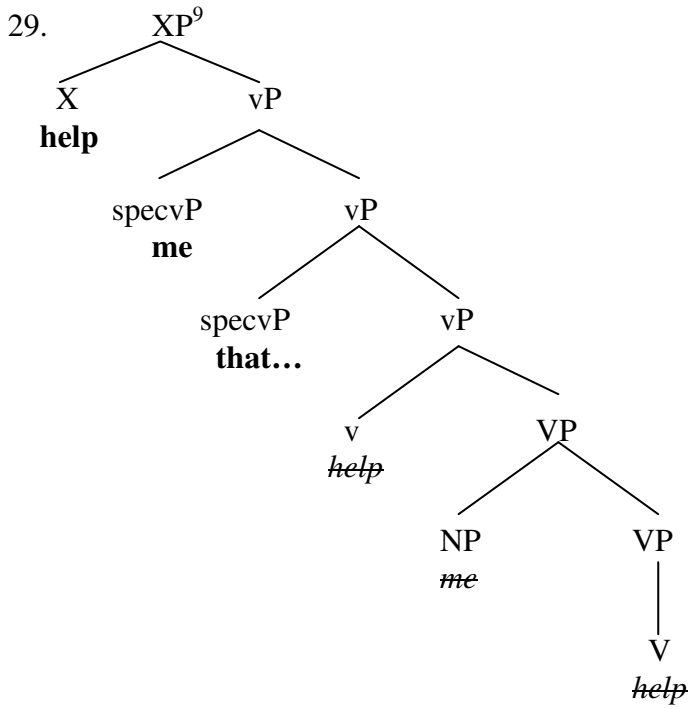
28.



In order to get both the control data and constituency data explained two simple instances of movement have to take place. First, it is assumed, as it is throughout this study, that in English there is overt verb raising[8]. Second, I assume the accusative-marked object raises to a second specvP position to check Case. So for pseudo-psych verbs, the overt representation is (29).

[8] Chapter 4 provides arguments for verb raising.

29.



The representation in (29) leads to a number of results. First, non-obligatory control for PRO in non-finite clauses is explained. The embedded clause is not in complement position and thus not subject to obligatory control, by condition (B) from (24)[10]. It must be stated that it is not extraposition that licenses arbitrary PRO. This is confirmed by the constituency diagnostics from (15).

15. a) They claimed it helped me that there was snow today, and help me that there was snow today, it did.

b) Help me that there was snow today though it did, I didn't finish all my work.

[9] XP is a neutral label used to indicate a projection between vP and TP.

[10] Interestingly, this is the only way in my treatment to get something like a sentential subject clause with arbitrary PRO.

The grammaticality of (15a) and (15b) suggests the verb, accusative-marked object, and embedded clause behave as a constituent. Assuming the subject is in the specifier position of a projection higher than the intermediate projection between vP and TP, the representation in (29) allows this. The intermediate projection is then the target for VP-topicalization and *though*-movement. Finally, and perhaps most importantly, it is shown that dyadic predicates license the overt realization of an argument copy in argument position.

Another implication for the structure in (29) is that it predicts an ungrammatical argument-extraction result for pseudo-psych verbs that is worse than the factive island ungrammaticality for the *preoccupare* class. This is because the *preoccupare* class has its argument clause in compliment position, while the pseudo-psych verbs have their arguments in a specifier position. The prediction is borne out.

30. a) ?Who does it surprise John that Mary kissed?

    b) *Who does it help John that Mary kissed?

Returning to the central premise of (24), that the overt copy of a non-finite clause is the one sensitive to control, it is not so easy confirm this claim independent of the paradigm from (17). Passives with non-finite clauses are notoriously difficult to construct (see Bresnan (1982)). However, there are examples available.

31. a) To be placed in my/your own hall of fame should never be promised.

b) I was promised to be placed in my/*your own hall of fame.

c) John promised to wash *myself/himself.

Compare the arbitrary interpretation available for PRO in (31a), to the obligatory control demonstrated in (31b) and (31c). In (31b) and (31c) the non-finite clause is in complement position, and thus the PRO is obligatorily controlled by an argument of its selecting verb. In (31a), it is not, but raises from complement position. Because the overt copy is not in complement position its PRO is subject to (B) from (24), allowing it to have arbitrary control.

Following the assumptions of chapter 2, another way to confirm this rule is to see how extraposed clauses behave in terms of control. Recall embedded clauses for monadic predicates are extraposed to a right-adjoined position that is decidedly not the complement position. Also recall, that predicates like *possible* and *important* are treated as ergative adjectives[11]. The non-finite clause is then starting in complement position and ending up right-adjoined. Again, it is observed that PRO is licensed for arbitrary control.

32. I know John thinks it is important/possible to be wash himself/myself.

The observation is that sentential subjects and extraposition cases both involve clauses in non-complement position. They both fall under condition (B) from (24) and allow arbitrary control of PRO in non-finite clauses.

[11] More incontrovertibly ergative predicates like *seem* and *likely* cannot be used in this discussion because as raising verbs they never extrapose with a non-finite clause.

One implication of the treatment outlined above is that the clause-final nature of argument clauses in so-called extraposition constructions is arrived at by a number of different ways. For monadic predicates, extraposition may in fact be responsible for the clause-final nature of the argument clause. Dyadic predicates, do not participate in extraposition. The clause-final nature of these constructions is arrived at in one of two ways: raising of lower material above the argument clause (for pseudo-psych verbs) or simply because the argument copy is in complement position and is licensed to be overtly realized (*preoccupare* class).

Another implication for this treatment is it answers the question raised in section 3.1.2, is extraposition possible for dyadic predicates? The answer appears to no for English. If it were, one would expect an arbitrary interpretation available for PRO in non-finite clauses with *preoccupare* verbs. However, this claim would appear to be contradicted by the data in (33).

33. a) They said it would surprise me that John likes Mary, and surprise me it did that John likes Mary.
    b) Surprise me though it may that John likes Mary.

Both (33a) and (33b) suggest that the extraposition option **is** available for *preoccupare* verbs (the clauses extraposing before VP-topicalization and *though*-movement). Following Takano (2003), however, I claim that syntactic movement to the right (extraposition) is not responsible for the data in (33), but instead a rightward base-generation approach is employed.

Takano's distinction between syntactic movement and rightward base-generation is expressed in terms of Kayne's antisymmetry theory. Takano uses negative polarity data to demonstrate rightward realizations of phrases are possible. He argues that because negative polarity items (NPIs) are only sensitive to the overt syntax, the rightward realizations of phrases must be possible to explain how the NPIs in (34) are licensed.

34. a) John paints pictures at all well only rarely.
    b) Jay tells jokes with any gusto only occasionally.

In both sentences the NPI licensor, *only*, occurs after the NPI, *any*. In order for the licensor to c-command the NPI, it must be syntactically merged higher than the NPI. Because the licensor occurs to the right of what it c-commands, it is assumed that the licensor is structurally higher than the NPI but rightwardly realized. This is in contrast to other instances of rightward movement that are syntactic, like heavy NP-shift.

35. a) John paints none of these pictures at all well.
    b) *John paints at all well none of the pictures which he sends to the gallery.

In (35a) the NPI licensor, *none*, is able to c-command the NPI. However, in (35b), it does not have the ability. Takano explains this by arguing that the heavy-NP shift movement in (35b) is actually syntactic, putting the NPI out of the c-command domain of the licensor. This is done by raising the heavy-NP to a position above the subject and

then raising the remaining structure to a functional projection above the heavy-NP. The heavy-NP does not c-command anything overt in the representation. This differs from the rightward realized instances of (34) where the licensor is realized on the right but still c-commands the NPI.

The data in (36) suggests that the realization of the embedded clause on the right edge for monadic predicates is the result of syntactic movement. However, the same NPI diagnostic cannot be used for *preoccupare* verbs since NPIs in the embedded clause are licensed independent of negation with these verbs. Sentences (36a) and (36b) demonstrate this.

36. a) It surprises me that anyone kissed Mary.
    b) It does not surprise me that anyone kissed Mary.
    c) …and possible it may not be that anyone can lift the trunk.
    d) *…and possible it may be that anyone can lift the trunk.

On the other hand, in sentence (36c), when extraposition is used, the embedded clause has an NPI licensed in it, while in (36d) without negation the NPI is not licensed. Following Takano, I take the data in (36c) and (36d) as evidence that extraposition is a syntactic movement operation. The embedded clause is extraposed above the predicate, *possible*. Within Kayne's framework, the extraposed clause can be c-commanded by negation with remnant movement that mirrors the kind described above for heavy-NP shifts. The extraposed clause raises to a position above the subject, and the remaining structure then raises above the extraposed clause. Negation now c-commands the NPI.

The predicate raises from the structure that is already above the extraposed clause. The embedded clause is then stranded within c-command domain of negation and separated from the predicate[12].

Returning to the claim that the splitting in the examples of (33) are in fact instances of rightward realizations of the clauses, I note that the data in (36a) and (36b) demonstrate the NPI diagnostic cannot be used. To demonstrate that the examples in (33) are not instances of extraposition, I instead rely on the observation that non-finite clauses that are realized on the right-edge in the *though*-movement construction still have their PRO obligatorily controlled by the Experiencer for dyadic predicates like *surprise*, but not for monadic predicates like *important*. Recall from earlier in this section that obligatory control for arguments was linked to the complement position. The fact that PRO in complement clauses separated from their predicates is obligatorily controlled ((37b)) suggests that while the embedded clause may appear to the right in examples like (33), it is still in its complement position. It also confirms the extraposition analysis for monadic predicates, since arbitrary control is possible for the embedded clause arguments of monadic predicates when the argument clause is split from its predicate.

37. a) Surprise me though it did to perjure myself/*himself, John could not get over how calm I was.

    b) Important though it was to clean himself/myself, John told me that for now it didn't matter.

[12] It is noted here that extraposition with monadic predicates, while not mandatory for all speakers, appears to be an option available to all speakers. Otherwise the NPI licensing in (36c) is surprising. Why extraposition may be used in these situations is left for future discussion.

One final point about pseudo-psych verbs is that like the monadic predicates from chapter 2 and the *preoccupare* verbs, the non-referential *it* has the ability to control.

38. a) Besides surprising me, it helps me a lot that it's raining out.

    b) Besides embarrassing your family, it discredits you to lie like that.

3.3: French *il* and *cela*, and English impersonal passives

Before considering an explanation as to why there is this variation in terms of argument realization when argument clauses are used to check EPP features, two other sets of data are going to be considered. The first, extraposition constructions in French, looks to confirm the legitimacy of this type of generalization by seeing if it is expressed in a different language. The second, impersonal passives, looks to see if it is the number of arguments realized, the number of underlying arguments associated with the verb, or some other structural consideration related to the number of arguments that the generalization is contingent on.

3.3.1 French *il* and *cela*

Zaring (1994) details French extraposition constructions[13]. Zaring reports on data for speakers who may use either pronoun *il* or *cela* in extraposition constructions. It

[13] Except where indicated, all French data in this section taken from Zaring (1994).

should be noted that Zaring's study is focused on speakers that use *cela* without an accompanying comma intonation before the extraposed clause[14].

39. a) Il/Cela plaît à nos parents que nous travaillons beaucoup.
It pleases to our parents that we work a lot
It pleases our parents that we work hard.

Although a number of constructions allow either pronoun, there are some that only allow one. *Cela* and *il* further differentiate themselves from each other in that *cela* is licensed to serve as a clausal pronoun in other contexts. In (40a) only *cela* is allowed to refer to the free relative. In (40c), only *cela* is available when a clausal pronoun is used as an answer to the question in (40b).

40. a) Cela$_i$ /*Il$_i$ me plaît, [ce qu'il fait]$_i$.
It me pleases what he does
It pleases me, what he does.

b) A-t-il été suggéré qu' on parte à midi?
Has it been suggested that one leave at noon
Has it been suggested that we should leave at noon?

[14] Zaring indicates that some speakers only allow *cela* with a comma intonation that precedes the embedded clause. These cases are likely examples of right-dislocation.

c) Oui, cela/*il a été suggéré hier.
Yes, it has been suggested yesterday
Yes, it was suggested yesterday.

In exploring the difference between uses of *il* and *cela*, Zaring ends up with a very interesting result. Whenever *cela* is used in extraposition constructions, adjunct extraction from the embedded clause fails. However, when *il* is used, adjunct extraction is licensed.

41. a) Comment plaît il aux instituteurs que ces élèves se comportent?
How please it to-the teachers that these students self behave
How does it please the teachers that these students behave?

b) *Comment est-ce que cela plaît aux instituteurs que ces élèves se comportent?
How Q it please to-the teachers that these students self behave
How does it please the teachers that these students behave?

Zaring takes this to mean that *cela* is used when a clause extraposes, and *il* is used when the embedded clause is overtly realized in complement position. This would indeed be

an interesting result, especially in relation to this chapter's focus on determining what licenses overt copies of argument clauses. However, as was shown in chapter 2, extraposition should not preclude adjunct extraction from an argument clause because the covert copy of the clause is available to license proper movement. Something else must be going on. Both *cela* and *il* behave in ways similar and different to English *it*. I claim it is the difference between *cela* and *it* that explains the difference.

Recall *cela* may be used be used as a clausal pronoun, while *il* may not. In this sense, *cela* patterns like English *it*. Zaring reports that the facts of (40) lead Kayne (1983), Pollock (1981), and Jaeggli (1981) to all conclude that *cela* is always a theta-role bearing pronoun. In other contexts, like (42), *cela* is used as demonstrative pronoun, which obviously is also a theta-role bearing pronoun[15].

42. Qui a fait cela?
    Who did this
    Who did this?

In this way *cela* differentiates itself from English *it*, which is not always used as a theta-role bearing item[16]. *Cela* then appears to be closer to English *that*, which may also serve as a clausal pronoun or a demonstrative pronoun.

43. a) Did you hear that John kissed Mary? Yeah, I heard that.
    b) Did I just eat that?

[15] Not taken from Zaring (1994).
[16] For a clear example see (i).
    (i) I like it in Panama.

Of course, English *that* cannot be used in extraposition constructions, although it can be used with comma intonation.

44. a) *That surprises me that John likes Mary.

b) That surprises me, that John likes Mary.

Il has another use as a third-person masculine pronoun, but following Zaring, I will treat the *il* in extraposition constructions as something like an expletive. Whether it is a true expletive or not is not central here. What is important is that at LF the *il* will not be interpreted and will thus be deleted at LF. In this way *il* is like English *it* which I also assume is not interpreted at LF. This does not contradict prior claims about English *it*, as I have previously provided evidence suggesting that *it* is not a true expletive because the overt *it* has the ability to control at PF. At LF, however, I assume *it* deletes in English and the argument copy of the clause is interpreted. In French the *il* is deleted and the argument copy is interpreted.

It is now possible to explain why adjunct extraction in French fails when the subject is *cela* in extraposition constructions. *Cela* is a pronominal copy of the embedded clause, like English *it*; however, unlike English *it*, *cela* cannot be deleted at LF. It is the *cela* in subject position that is interpreted at LF. The argument clause is not present at LF. This is in no way an anomalous treatment, as the use of *cela*, an underspecified copy of the embedded clause checking an EPP feature, is an instance of A-movement, which Chomsky (1995) assumes does not reconstruct. Without the argument copy at LF, there

is no variable to be bound by *comment* in the embedded clause complement position. Adjunct extraction is then not licensed when *cela* is used.

The difference then between extraction potential for *cela* and *il* in French is unrelated to whether the argument clause is right-adjoined or not; Zaring's data does not settle this matter. Instead, the adjunct extraction data is related to the whether the subject copy of the embedded clause chain is interpreted at LF. If it is, then adjunct extraction will fail. If it is not, adjunct extraction will succeed. While this result does not determine what forces the overt realization of chain members in argument position, it does highlight that in English the underspecified copy of the embedded clause, *it*, will not be interpreted at LF.

3.3.2 Impersonal passives

Impersonal passives are represented by the sentences in (45). They have passive morphology, and may have apparent sentential subjects, or non-referential *it* subjects.

45. a) That John won the race is believed.
    b) It was demonstrated that John won the race.
    c) It is believed that John won the race.
    d) It was said that John won the race.

For predicates that license adjunct extraction in active uses, like *say* and *believe*, the same behavior is observed for passives.

46. a) How$_i$ did you believe/say [that John kissed Mary t_i]?

    b) How$_i$ is it believed/said [that John kissed Mary t_i]?

The data in (46) suggests that there is at least a covert copy of the embedded clause in the complement position of the verb.

The *it*s in impersonal passives control like monadic predicates, and the other dyadic predicates considered in this chapter.

47. a) Before being accepted as fact, it was only believed that John was funny.

    b) After being accepted by the public, it was announced that the President would serve another term.

In order to determine if the complement clause is the overt copy or not, VP-topicalization needs to be checked.

48. a) %They claimed it would be believed that John won the race, and believed that John won the race, it was.

    b) %They claimed it would be said that John won the race, and said that John won the race, it was.

Just as was the case for monadic predicates, VP-topicalization with impersonal passives only works for some speakers. Impersonal passives also pattern like monadic predicates

in terms of *though*-movement, with some predicates working better than others but many not working very well.

49. a) ??Believed that John won the race though it may be, he really came in second.
    b) *Said that John won the race though it may be, he really came in second.
    c) *Demonstrated that John won the race though it may be, I still believe he came in second.

This suggests that impersonal passives pattern like monadic predicates in making use of extraposition.

With this result, it seems clear that the number of underlying arguments a predicate takes is not what forces extraposition. The motivation (or lack of motivation) for extraposition then either falls to the number of arguments expressed, or some structural motivation. Testing the number-of-arguments-expressed possibility is simple; all that needs to be done is to include the implicit external argument with a by-phrase.

50. a) Loved by Mary though John was, she did not always treat him well.
    b) *Said that John won the race by Mary though it may be, I still think he came in second.

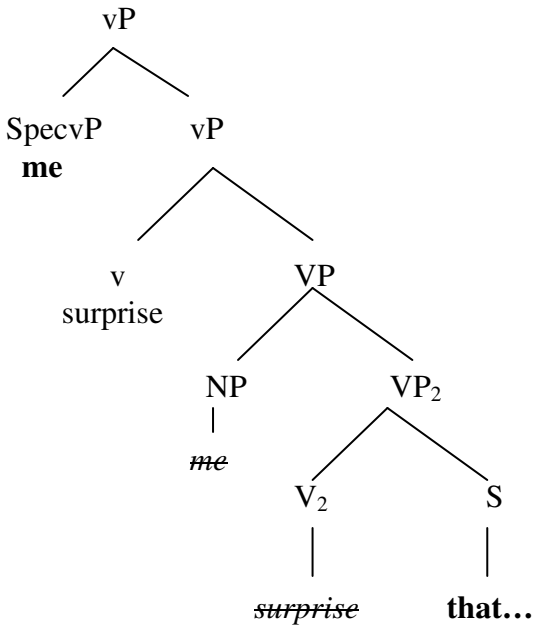
Sentence (50a) demonstrates that a by-phrase is possible with *though*-movement. Sentence (50b)'s ungrammaticality confirms that number-of-arguments expressed cannot be the motivation for extraposition.

3.4 Phasal explanation for overt copy of the embedded clause

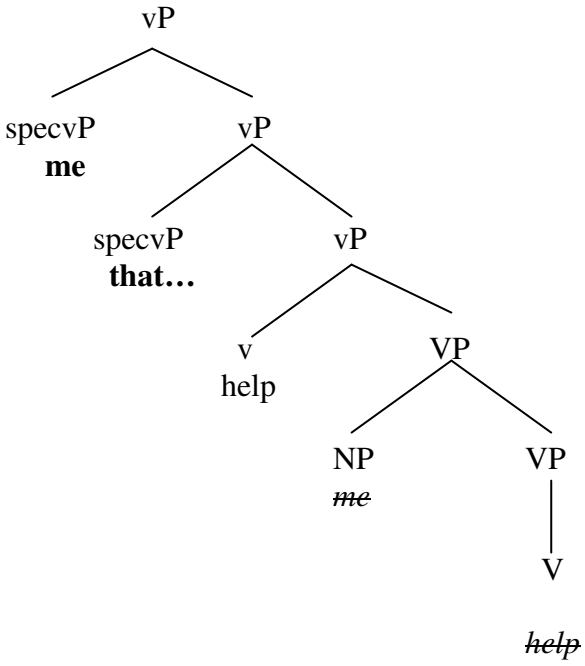
It appears then that a structural consideration is responsible for the difference in extraposition observed between dyadic and monadic predicates. An obvious difference between the dyadic predicates and monadic predicates is their accusative-Case-checking potential. The *preoccupare* class verbs and pseudo-psych verbs have accusative marked arguments, while monadic predicates and impersonal passives do not.

Recall from chapter 1.3 that the definition of a phase that was argued for linked a head's ability to assign Case to its counting as a phase boundary. As a phase boundary, when its structure is fully realized it is sent off to the PF and LF components for interpretation. In other words, once a vP checks accusative Case everything in the vP is sent off to PF and LF. The embedded clause arguments of *preoccupare* and pseudo-psych verbs have no uninterpretable features associated with them so when the vP is completed the clauses are realized in their argument positions. The representations in (51) and (52) are processed at PF and LF, forcing the overt realization of the embedded clauses in their argument positions. The verbs are assumed to raise later in the derivation and are licensed to do so since they are their phase's heads and the Phase Impenetrability Condition (PIC) holds that a phase's edge and head are both available for displacement later in the derivation.

51.



52.



With this notion of how phasal linearization affects the realization of clausal argument set, it is now possible to address an unresolved issue from chapter 2. Recall, it was proposed that extraposing the embedded clause was the reason certain constituency

diagnostics for monadic predicates failed. However, it was also shown that these diagnostics did not fail for all speakers or all predicates. Phasal linearization makes partial sense of this variety in judgments. Monadic predicates (and impersonal passives) do not assign accusative Case. Since they do not assign accusative Case, phasal linearization will only occur when the clause's subject position is filled. The realization of the embedded clause in complement position is thus not guaranteed at the point in the derivation when the clause has to raise to subject position to satisfy its EPP feature. The subject position copy of the clause has to be underspecified, but a fully specified copy of the embedded clause has to be realized as well. Assuming extraposition is available in the grammar, speakers may follow one of two options: extrapose, or realize the argument copy of the clause. Speakers that extrapose by default will have structures presented in chapter 2.8. Others may have the argument copies of the embedded clause overtly realized.

It still remains to be understood what determines whether a speaker exploits extraposition as a default operation for clausal subjects[17]. Why the predicate may affect whether extraposition is utilized also remains an open question.

3.5 Summary

The non-referential *it* used in subject position with dyadic predicates were shown to behave, in terms of control, exactly like the monadic predicates of chapter 2. It is then

[17] This does suggest a psycholinguistic line of research that would check to see if a there is a processing difference between those who extrapose by default and those who do not.

concluded that like, the non-referential *it*s of chapter 2, these *it*s are underspecified copies of their associate embedded clause.

A difference between dyadic predicates that assign accusative Case and monadic predicates and impersonal passives was observed in terms of how the full copy of the clause is realized. It was shown that clausal arguments for predicates that assign accusative Case are forced to be overtly realized in argument position. This is a function of phasal linearization. Monadic predicates and impersonal passives allow a choice for some speakers in terms of where to overtly realize a full copy of the clausal argument. This results from the fact that the relevant phase is not generated until the clause is in the nominative Case-checking position. Extraposition is available at that point for some and perhaps used by default by others.

Chapter 3 also proposed a treatment of Super-Equi data. The treatment relied upon a theory of control that only makes reference to overt representations. Finally, it was argued that the extraction data about embedded clauses associated with *cela* does not necessarily entail an extraposition treatment. *Cela* unlike *il* and English *it* cannot be deleted at LF. This does not allow the proper operator-variable relationship for adjunct extraction in *cela* constructions.

Chapter 4: Postverbal *it*

4.0 Introduction

This chapter looks to explore questions related to postverbal, non-referential *it*. The sentences in (1) involve postverbal, non-referential *it*.

1. a) I like (it) that you washed the dishes.
   b) I consider it sad that you lied about your haircut.

Within the generative literature, subject position *it* has been treated as a purely syntactic object with no semantic value. The *it* in subject position is used to satisfy a condition that all clauses must have a subject: the Extended Projection Principle (EPP). This motivation for subject *it* does not seem available for all postverbal *it*s, especially in examples like sentence (1a). This leads to a number of problems for the theory, many of which are highlighted in Postal and Pullum's (1988) work.

The most significant problem is the potential violation to the Projection Principle (Chomsky 1981) that the postverbal *it* represents. The Projection Principle links theta-roles to syntactic positions. The problem with postverbal *it* is if *it* is meaningless and in complement position of the verb (as it seems to be for (1a)), the verb has not assigned its internal theta-role. There are three main approaches to this problem. One, the problem suggests there is something wrong with the Projection Principle. This is the approach

Postal and Pullum argue for. The second approach looks to uphold the Projection Principle, arguing that the *it* is not, in fact, in the complement position of the verb. This is the approach followed by Runner (2000). Finally, Rothstein (1995) argues the *it* is not semantically meaningless, and the matrix verb's theta-role is assigned to *it*, a pronominal form of the embedded clause it is associated with.

In this chapter, I will adopt a combination of Runner's and Rothstein's proposals. As I have done in previous chapters, I will use control facts to argue that *it* is a pronominal copy of the embedded clause[1]. *It* is an underspecified copy of the embedded clause, checking features in the specifier position of a functional projection that the clause, as a clause, is not allowed to occupy. First, I will outline arguments in favor of Runner's proposal. Then I will consider the conditions that license postverbal *it*. Next I consider the syntactic position of the embedded clause. There will then be a discussion of Hungarian data, and how my proposal may explain some of the questions raised by this data. Finally, I present a proposal regarding the optional nature of postverbal *it* that and the behavior of embedded small clauses (sentence (1b)).

4.1 Non-referential object *it* and specvP

Runner (2000) argues that non-referential object *it* occurs, when it does, in the specifier position of a Case checking inflectional phrase. He uses two sets of data to support his claim. The first is that, in general, verbal material minus the verb is sensitive to syntactic operations (conjunction in (2), and right-node raising in (3)). These examples suggests the verb has raised out of the VP, leaving what is left of the VP

[1] In this way, my approach differs from Rothstein's who argues the *it* is in fact a pronoun and not an overt pronominal copy of the embedded clause.

sensitive to syntactic operations (in (2) the conjunction is assumed to involve the functional projection that contains the direct object).

2. a) I gave the ball to Mary and the whistle to the ref.
   b) John kissed Mary slowly and Nancy with passion.

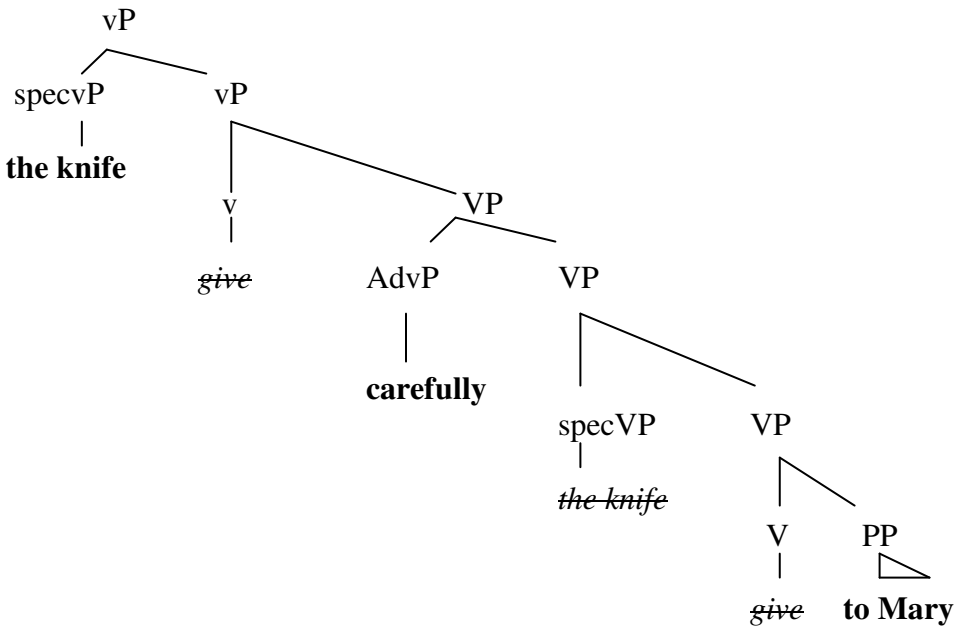
3. a) Maria told the story, and Alice explained the problem, to Sam after dinner. (Runner (2000) 17a)
   b) I showed the office, and Mary showed the computer lab, to the prospective students. (Runner (2000) 17b)

The second set of data involves the fact that the adverbial material may only precede internal arguments introduced by PPs.

4. a) I handed the knife carefully to Mary.
   b) *I handed carefully the knife to Mary.

Runner accounts for this by claiming that the direct object is in the specifier position of a functional projection (AgrOP or vP) that does not allow adverbial modification. The verb is in a higher functional projection. The diagram in (5) illustrates the proposal.

5.



Note: As in previous chapters, bolding indicates an overt copy, and italics and strikethrough indicate a covert copy.

Pronouns are generally assumed to raise overtly to check Case. This explains why the pronoun must be between the verb and its particle when pronouns are the internal arguments of complex verbs. The verb raises above specvP and the particle does not. The pronoun then raises to the specvP position, checking accusative Case.

6. a) She gave up *him/the suspect.

   b) She gave him up.

In terms of non-referential object *it*, the theoretical benefit of proposing that objects are in the specifier of functional projections is the proposal avoids the violation of the Projection Principle by placing non-argument *it* in a non-theta position. Runner,

however, does not directly address two central questions related to this proposal. One, do only NPs surface in specvP to check Case? That is, in a sentence like (7), is the clause in the specifier of a functional projection, or in its base position?

7. I think that Mary likes John.

If the embedded clause were in specvP, this would be a violation of Stowell's (1981) Case-Resistance Principle (CRP) which holds that clauses cannot be assigned (or in Minimalist terms check) Case. Though Runner does not overtly state a conflict regarding Stowell's CRP, his treatment would suggest that he does think clauses can check Case, as the alternation in (8) shows.

8. a) They never mentioned it to the candidate that the job was poorly paid.
   b) They never mentioned that the job was poorly paid to the candidate.

As the *it* in (8a) can be replaced by the clause, as in (8b), it appears that the clause can occupy the specifier position of the Case checking functional projection. Later, I will argue that this is not the case.

Another variation on (8a), (8c), leads to the second question, does the specvP position have a strong feature associated with it?

8. c) They never mentioned to the candidate that the job was poorly paid.

Here it appears that nothing is being overtly checked in specvP. Since it appears specvP does not have to be filled, how can we tell what is going on with the embedded clause in (7)?

So while Runner's proposal provides a position for object *it*, the proposal does not attempt to account for its absence, nor does the proposal explain where the *it* comes from. That is, is the *it* simply merged late to check a feature? Or, if it moves into specvP, what is it? A copy of the embedded clause (as proposed in earlier chapters)? A raised, theta-role bearing complement construed with the embedded clause (Rothstein (1995))? Or a raised, theta-role bearing complement that itself selects the embedded clause (Rosenbaum's (1967) complex-NP proposal)?

Before proceeding, it is worth noting that the absence of postverbal *it* is actually a two-part problem. There is the absence of *it* as a postverbal possibility (9a), and then there is the absence of postverbal *it* when it may otherwise occur (9b).

9. a) *I thought it that John likes Mary.
   b) I like (it) that you washed the dishes.

Factivity will not explain the data related to constructions like (9a), since a non-factive verb like *deny* allows postverbal *it*.

10. He denied it that he was involved in the robbery.

Also, trying to explain (9a) by referring to the verb's ability to take a non-sentential object does not work since a verb like *report* allows nominal objects but generally not postverbal *it*.

11. a) He reported the crime/the news/the allegation.
    b) *He reported it that a bear attacked a farmer.

Another solution is needed.

4.2 Syntactic licensing and pragmatic effect of postverbal *it*

Cattell (1978) is also interested in embedded clauses. However, his concern is explaining why adjunct extraction succeeds and fails when it does from embedding verbs.

12. a) Why does John think that Mary is crying?
    b) Why_i does John think [that Mary is crying t_i]?
    c) Why_i does John [think [that Mary is crying] t_i]?

Both factivity and the verb's ability to take a nominal object are rejected as possible explanations for the ambiguity in (12). Instead, the ability to have adjunct extraction from an embedded clause is linked to whether the embedded clause's proposition is a "given" or familiar proposition among the interlocutors. The verbs that allow adjunct extraction are called "volunteered stance verbs." The clausal argument's proposition for

these verbs is not present for all the interlocutors. When the embedded clause is a complement of a "volunteered stance verb," Cattell claims the volunteered stance (what is not given) can either be the core content of the embedded clause or the adjoined content of the embedded clause. This ambiguity in what is being volunteered allows for the ambiguity in interpretation of the adverbial question word. Other embedding verbs are either factive (the truth of the embedded clause is assumed) or responsive (replying to an already present proposition, the truth of which need not be accepted: e.g. *deny*). These verbs do not allow an ambiguous interpretation for adverbial interrogatives.

Interestingly, all the verbs Cattell lists as "volunteered stance verbs" generally do not allow postverbal *it*. So it would seem that postverbal *it* is somehow related to the notion of "volunteered stance." However, one embedding verb that would seem to belong to the "volunteered stance" class, "predict", does allow postverbal *it*.

13. I predicted it that the Rockies would make the playoffs.

Obviously, because it would not be a prediction if it implied the truth of the prediction, and because a prediction does not have to be a response to an already discussed proposition, *predict* should qualify as a "volunteered stance" verb. A diagnostic Cattell presents for his "volunteered stance" verbs also confirms that *predict* should be a "volunteered stance" verb.

14. a) *Bill denied that John likes Mary, and Harry claimed it.

b) *Bill denied that John likes Mary, and Harry predicted it.

The interpretation that is considered ungrammatical here is Bill denied something then Harry claimed/predicted it. These do not make sense because claims and predictions are propositions presented for responses like denials, not the other way around. Also note, *predict* does, as Cattell predicts, allow adjunct extraction.

15. How did you predict that Mary would kill Eric? (With an axe)

So why does the verb *predict* allow postverbal *it*? I propose that the presence of postverbal *it* is not determined by a single factor. Firstly, a new proposition will not coincide with postverbal *it* because postverbal *it* has some semantic value related to the proposition it coincides with, in this way it behaves like a traditional pronoun. I claim the reason "volunteered stance" verbs generally do not allow postverbal *it* is because they are generally used to introduce propositions. This proposal does not preclude the possibility that a proposition embedded under a "volunteered stance" verb may already be clear to the participants (whether stated overtly or not), as in (16).

16. Who could have predicted it that Rockies would have made the playoffs?

Sentences (13) and (16) are only felicitous if the Rockies did make the playoffs and the speaker and listener know this. Note that I am claiming the proposition does not need to be an overt part of the discourse. It just needs to be clearly shared knowledge. In the

conversation below, the proposition accompanying postverbal *it* turned out to be a failed prediction, but a failed prediction both speakers can understand.

17. Speaker A: Can you believe it that the Mets didn't make the playoffs?

    Speaker B: Tell me about it. Just last week, I predicted it that they would make the playoffs.

If volunteered stance verbs may allow postverbal *it* in certain situations, why do embedding verbs like *report* and *claim* not allow postverbal *it* in the same situations? For *report*, I claim that in the right situation it does allow postverbal *it*. Note that when speaker A introduces the proposition, postverbal *it* is not felicitous.

18. Speaker A: The Daily News today reports (*it) that Isiah Thomas will be found guilty.

    Speaker B: On what page do they report (it) that he will be found guilty?

For *claim*, however, postverbal *it* still is not possible in these contexts.

19. Speaker A: The Daily News today claims that Isiah Thomas will be found guilty.

    Speaker B: On what page do they claim (*it) that he will be found guilty?

This suggests the other factor that licenses postverbal *it* is the embedding verbs ability to take a nominal object. Embedding verbs like *claim* and *think* both generally introduce

propositions into conversations, and they do not take nominal objects. Thus these verbs and other verbs like them will not license postverbal *it*.

20. *I think/claim the story/the report/the fact.

The verb *agree* is an interesting verb to check this hypothesis on. *Agree* is a responsive verb; that is, the proposition it takes as a complement must already be under consideration by the interlocutors. It does not, however, allow nominal objects without the preposition *to*. The same pattern that is described above is observed when considering postverbal *it*. *It* is only possible when the Case assigning preposition *to* is present.

21. a) I agreed *(to) the plan.

b) I agreed *(to) it that your plan was a good idea.

c) I agreed that your plan was a good idea.

So, the absence of postverbal *it* has both a syntactic explanation and pragmatic effect[2].

4.3 Where is the embedded clause?

The claim is that postverbal *it* is syntactically licensed, the *it* has a pragmatic effect. The pragmatic effect is that the *it* must have a propositional antecedent (overtly

[2] The claim that postverbal *it* is related to pragmatic issues is certainly not new. Rothstein notes that the observation that postverbal *it* needs a discourse antecedent goes back at least to Bolinger (1977).

stated or not). The syntactic condition is that the embedding verb must have the ability to take a nominal object. Thus, so far, I have only claimed a non-theta position for postverbal *it*. I have not made any claims about it being a copy or not, nor have I made any claims as to what position the embedded clause occupies in sentences with or without postverbal *it*. In this section, I will consider the position of the clause in both of these situations.

4.3.1 Non-Case-checking verbs

For sentences with embedding verbs that do not assign accusative Case and do allow extraction out of the embedded clause (verbs like *think*), there is no evidence to suggests the clause is in any position other than the complement position of the verb. Without the ability to assign accusative Case, embedding verbs like *think* should not have an accusative Case checking position, thus keeping the embedded clause in the verb phrase and out of the specifier position of functional projections. The only other possibility would be to have the embedded clause extraposed, or right-adjoined, to the matrix clause. However, what filter or feature drives this movement? Instead, following Chomsky's (1986) Barriers approach, I hold the embedded clause is in fact L-marked by the verb keeping the CP from being a Barrier and licensing extraction.

22. Why$_i$ do you [$_V$ think [$_{CP}$ that John likes Mary t_i]]?

4.3.2 Case-checking verbs without *it*

For sentences with embedding verbs that do assign accusative Case, the situation is more complicated. The position of the embedded clause has to be considered under two circumstances: one, when the embedded clause occurs without postverbal *it* and two, when the embedded clause co-occurs with postverbal *it*. Sentence (15), repeated below as (23), demonstrates that adjunct extraction out of the embedded clause is licensed.

23. How did you predict that Mary would kill Eric? (With an axe)

Unlike *think*, *predict* can assign accusative Case, and thus there is a specifier position in a matrix clause functional projection available for the embedded clause. There are thus three positions available for the embedded clause: specvP, complement of VP, or extraposed and right-adjoined to the matrix clause.

The sentences in (24) rule out matrix clause specvP.

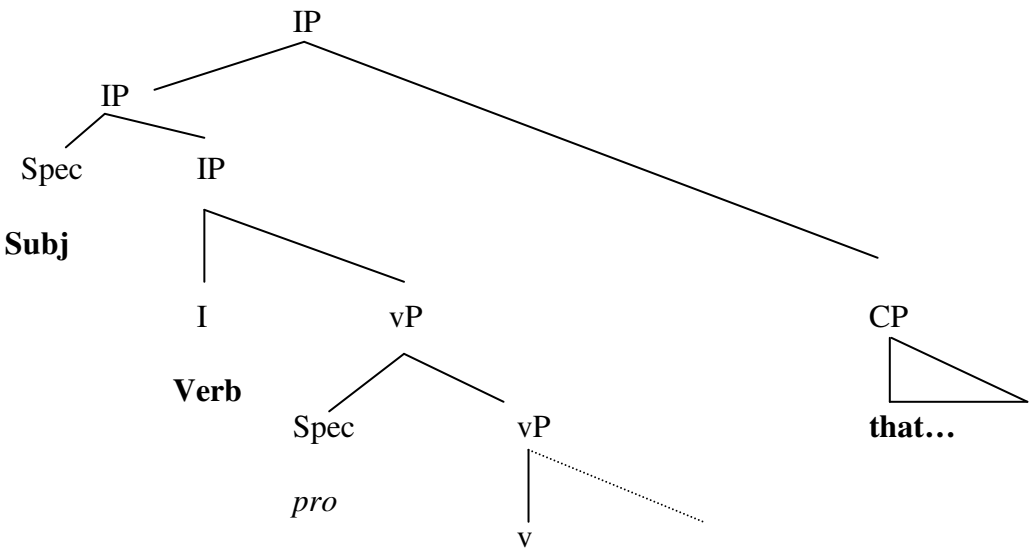
24. a) John finally yelled out that he was sad.
    b) *John finally yelled that he was sad out.
    c) John finally yelled out that dirty limerick.
    d) John finally yelled that dirty limerick out.

Although sentence (24d) may not be considered ideal, it is certainly grammatical in comparison to sentence (24b). Also note that it is not a phonological consideration related to syllable count that allows for (24d) but not (24b), as the raised NP in (24d) has more syllables than the raised clause in (24b). Since the raised NP appears between the verb and the particle in (24d), it is assumed that the NP is in the matrix clause, specifically in the specifier position of a Case-checking functional projection. Thus, it appears the ungrammaticality of (24b) is related to the presence of the embedded clause in the Case-checking position. Of course, if the embedded clause does co-occur with a verb-particle pair and non-referential *it*, then non-referential *it* must be between the verb and particle, further confirming that postverbal *it* is in a functional projection of the matrix clause.

24. e) John finally yelled (it) out (*it) that he was sad.

This leaves the complement of VP and the right-adjoined position as possible positions for the embedded clause when it does not co-occur with postverbal *it*. The right-adjoined position is being considered because of a possible derivation that would parallel the one proposed in chapter 2 for monadic predicates. Instead of the clause raising to subject position, it would raise to specvP, and then extrapose because of a filter against clauses in Case-checking positions.

25.



[*Verb*]

The specvP position must then have a null pronoun in specvP for this derivation (a covert copy of the clause is not better than an overt copy of the clause).

There are two problems with this proposal. One is the null pronoun. What licenses it to be null? Generally, English does not license null pronouns. Also why would English license a null pronoun for a functional projection with strong features in the domain of objects, but not subjects[3]? Another problem is empirical. Observe the alternation in (26).

26. a) How$_i$ did you predict [that Mary would kill Eric t_i]?

b) *How$_i$ did you predict it [that Mary would kill Eric t_i]?

[3] This derivation when considered against its alternative implies that all verbs that can embed clauses and have postverbal *it* check Case in a matrix specvP do. The alternation between the presence and absence of postverbal *it* is simply related to whether *it* is null or not.

When non-referential *it* is present, adjunct extraction fails; while when *it* is not present, adjunct extraction succeeds. A derivation that assumes the embedded clause extraposes and leaves behind a null pronoun likely assumes that extraposition occurs if the pronoun is overt (the motivation likely being Stowell's CRP). This implies no difference in structure between (26a) and (26b), but clearly if one wants a syntactic explanation for this distinction in terms of adjunct extraction, there has to be a difference[4]. Note that this does not imply that when postverbal *it* is present that the embedded clause does not extrapose. For embedded clauses that do not co-occur with postverbal *it* when they can, the conclusion that we are left with is the classic Barriers treatment of an embedded clause that can adjunct extract: the embedded clause is in the complement position of the matrix clause verb that allows adjunct extraction.

4.3.3 Case-checking verbs and *it*

Next, I consider the embedded clause position when *it* is present. The failure of adjunct extraction in (26b) could be a function of the embedded clause extraposing, or because the filled specifier position of specvP is getting in the way, or because the specifier position of the embedded clause is filled (perhaps non-referential *it* originates there). A simple way to test this is to use the VP-topicalization and *though*-movement diagnostics from chapters 2 and 3.

[4] Later I will suggest that adjunct extraction out of embedded clauses is at least partially licensed by semantic considerations. However, I will assume that syntactic conditions are relevant and that the adjunct is extracting out of an overt embedded clause in complement position.

27. a) They said that I would like it that John washed my car, and like it that John washed my car, I did.

    b) They claimed I predicted it that he would trip, and predict it that he would trip, I did.

28. a) Like it that John washed my car though I may, it make me a little uncomfortable.

    b) Predict it that he would trip though I did, I was still surprised at how funny it was.

The data in (27) and (28) show both constituency tests suggest the embedded clause is realized within the vP[5].

So the conclusion drawn from the data above is that the embedded clauses in all the constructions looked at so far, those that do not allow postverbal *it*, those that do allow *it* but do not have it, and those that use *it*, have their embedded clause in complement position. It was also shown that adjunct extraction from embedded clauses that co-occur with postverbal *it* is disallowed ((26b)). A syntactic reason for this could be the filled specifier position of matrix clause functional projection occupied by *it*. The ungrammaticality of (26b) could also be because the *it* originates in the embedded clause. If a copy of the raised *it* is left behind in the specifier position of the embedded clause's

[5] As was the case for psych-verbs in chapter 3 (section 3.2.3), splitting is possible for these constructions, as in (i). However, as in chapter 3, NPI facts demonstrate the splitting is a phonological issue and not a syntactic one (see (ii)).

(i) Like it though I may that John washed my car,…

(ii) *Like it though I do not all that John washed my car,…

CP, then a position the adjunct needs to properly move out of the embedded clause is not available. The next section considers these possibilities by addressing in detail the value of non-referential *it* when it occurs after a verb. However, the conclusion that will be settled upon is that the licensing of adjunct extraction is in fact a semantic matter.

4.4 What is postverbal *it*?

Adjunct extraction does NOT fail because postverbal *it* is a copy of the embedded clause and in a left branch. We know this to be true because another left branching copy of an embedded clause does not block extraction.

29. How$_i$ does [$_{specIP}$ it [$_{IP}$ seem likely [that John kissed Mary t_i]]]?

In chapter 2 it was argued that the *it* in (29) is a pronominal copy of the embedded clause. In (29) this copy of the embedded clause in a Case-checking position does not prohibit adjunct extraction.

It is also important to note that the absence of an open matrix specifier position for accusative Case checking cannot be the reason adjunct extraction fails when postverbal *it* is present. Sentence (22), repeated as (30a), confirms this, as does (30b).

30. a) Why$_i$ do you think [that John likes Mary t_i]?

b) How$_i$ did Eric tell her [that John kissed Mary t_i]?

Recall verbs like *think* do not take nominal objects. If the verb does not ever take nominal objects, it is safe to assume it does not have a functional projection to check the Case of objects. In (30b), the pronoun *her* is presumably checking its accusative Case in a matrix clause functional projection, and adjunct extraction from the embedded clause is still licensed. So the absence of an open matrix clause functional projection, as in (26b) (repeated as (31)) when the absence is caused by the presence of postverbal *it*, cannot explain why adjunct extraction from embedded clauses fail.

31. *How$_i$ did you predict it [that Mary would kill Eric t_i]?

This would seem to suggest that adjunct extraction is failing because of some difference in the embedded clauses co-occurring with postverbal *it* (as proposed by Lipták (2001) for Hungarian), or because of a non-syntactic reason (i.e. a semantic one; perhaps something like Cattell's proposal).

It as a postverbal expletive does not seem to be a tenable analysis now. Firstly, if *it* is meaningless and just in the specifier of a functional projection, there is no account for why adjunct extraction from the embedded clause fails. If the referential pronoun in (30b) does not block adjunct extraction, why should a meaningless pronoun block adjunct extraction? Also, if the *it* is semantically meaningless why must there be a discourse antecedent for the proposition *it* is associated with?

Positive evidence that the *it* in a matrix clause functional projection has semantic value is found in sentences of (32).

32. a) I called/shouted it out to be in the record that I oppose the war.

b) I'm gonna pencil it in to be on the schedule that you're working for me.

Den Dikken (1995) argues that complex particle constructions involve secondary predication. Predicate inversion is presented as support for this claim.

32. b') On the schedule was penciled in that you're working for me.

Thus (32b) seems to be a complex particle construction. For (32a) this does not seem to be the case.

32. a') *In the record was called/shouted out that I oppose the war.

I assume a representation then that the non-finite clause in (32a) is adjoined to the matrix clause below vP. The *it* in specvP can then control the non-finite clause's PRO[6].

33. I called [vP it out [VP [PRO to be in the record][VP [V *call*] [CP that I oppose the war]]]

The PRO of the non-finite clause appears to be controlled by the embedded clause. *That I oppose the war* is interpreted as the subject of the predicate *to be in the record*.

[6] Condition (24C) from chapter 3 then needs to be adjusted to "PRO is controlled by the overt subject of whatever proposition the non-finite clause adjoins to." Following Chomsky (2001), vP is a proposition and thus its specifier can control in these cases. Sentence (i) shows that arbitrary control is not what is going on in (33), because if it was then *John* should be able to be interpreted as controlling the PRO, and he cannot.
i) John thinks that I called it out to be in the records that I oppose the war.

However, as has been demonstrated in the section above, the embedded clause does not move from its initial position. It is hard to imagine how this position could have scope over an adjoined clause. The *it*, on the other hand, is in the specifier position of an inflectional head[7]. From this position the *it* can have scope over the adjunct clause's PRO.

34. I called it_i out [PRO_i to be in the record] that I oppose the war.

As (32b) is a complex particle construction, it will be treated differently (see the last section of this chapter). However, it is noted here that the account for (32b) will be very similar to the copy treatment just presented. Thus, the ability for *it* to control in (32a) confirms that postverbal *it* is an underspecified copy of the embedded clause.

By using control, another possibility for the semantic value of the postverbal *it* is eliminated. The data in (35) suggests that Rosenbaum's proposal will not suffice.

35. a) I would like to keep my own counsel.
    b) I would like the right to keep my own counsel.
    c) *I would like it to keep my own counsel.

Rosenbaum proposes the *it*s in the constructions under discussion are pronominal realizations of embedding nouns like *claim*, *report*, or *right*. Sentence (35a) suggests *like*

[7] Den Dikken (1995) generally refers to this position as a small clause subject position, but also claims it is a Case-checking position and further suggests this small clause is an AgrOP, in line with this paper's proposal.

is a subject control verb. In sentence (35b) there is a postverbal NP, *the right* that does not get in the way of the embedded PRO from being controlled by the subject. In (35c), on the other hand, *it* is used and the sentence becomes ungrammatical. If *it* were a pronominal realization of an NP, like Rosenbaum proposes, there is no explanation for the ungrammaticality of (35c) and the grammaticality of (35b). Also note that if one treated the *it* as an expletive no explanation for the ungrammaticality of (35c) is available.

It was stated above that the control data in (32) suggested the *it* is an underspecified copy of the embedded clause. There may be another way to have the *it* and the embedded clause have the same semantic value: the *it* could be some sort of presupposed clausal marker (Lipták (2001)). This proposal, however, runs into the problem of explaining how a proposition marker can control PRO. Recall the Inclusion Principle from chapters 2 and 3 prohibits co-indexation. So a claim that the marker is co-indexed with the clause after movement is not possible. Without an explanation of how a clausal marker could control a PRO, I will assume the copy treatment presented explains the facts of (32) best.

4.5 Hungarian

So far the primary language looked at has been English. One language that differs significantly from English in regards to the use of a non-referential place-holder is Hungarian. In Hungarian the object position place-holder is generally required when there is a verb that takes a CP complement; as opposed to English which we have seen has variation in object position place holders.

36. Kati *(az-t) képzeli [CP hogy a gép elromlott]
    Cathy it-ACC imagines that the engine broke-down
    Cathy imagines that the engine's broken down[8].

On the other hand, the subject position place-holder is optional.

37. Félő volt (az) [CP hogy a gép elromlik]
    Fearful was it-NOM that the engine breaks-down
    It was to be feared that the engine would break down.

In other contexts both pronouns would be allowed to drop[9].

38. Ha bejönnek, megver-em (őt)
    if in.come.3PL beat-DEF.1SG him
    If they come in, I will beat him up.

In trying to explain this variation Kenesei (1994) claims that Chomsky's (1986b) Visibility Condition, which holds that DPs cannot be theta-marked without being Case-marked or linked to a Case-marked position, is parameterized to include clauses in Hungarian. Stowell's (1981) Case Resistance Principle holds that Case-assigning categories cannot themselves receive Case. Since clauses are considered a projection of

[8] Unless indicated, all Hungarian examples are from Kenesei (1994).
[9] Taken from Komlósy (1994).

V they cannot be Case-marked. Thus an expletive is needed. The meaningless place-holder can be part of a chain with the clause. The place-holder can receive Case, and the clause can receive the theta-role.

Kenesei then claims that the Visibility Condition does not apply to clauses in English. This, however, does not explain why pro-drop for the object position place-holder is not allowed in Hungarian. It certainly cannot be that the Visibility Condition disallows the pro-drop since the Visibility Condition applies equally to sentences with subject position place-holders that in fact do allow pro-drop. Kenesei's account also does not fully explain the English data. It does not explain why the optional *it* appears when it does after verbs such as *like*.

Kenesei also discusses two contexts that force the object place-holder to drop in Hungarian. The first context is called focus-raising. In these sentences, the subject of the embedded clause is raised to the focus position of the matrix clause and marked accusative. The place-holder is in fact forbidden in these constructions[10].

39. a) Anna az-t akarja hogy Péter meg-nyer-j-e
Anna it-ACC wants that Peter-NOM PV-win-SUB-3SG
a versenyt
the race-ACC
"What Ann wants is for Peter to win the race."

b) Anna Péter-t akarja (*az-t) hogy meg-nyer-j-e a versenyt
"It is Peter than Ann wants to win the race."

[10] These examples are taken from Kenesei (107a) and (107b).

The generalization would then seem to be that embedding verbs need to assign one and only one accusative Case.

However, there are other contexts in which an embedding verb allows an object-position place-holder to drop with no overt accusative marking. When the embedded clause raises to what Kenesei and others (Kiss 1987) argue to be topic position, the place-holder can appear directly after the embedded clause, in focus position, or not at all. It cannot, however, follow the verb[11].

40. [Hogy Emma megérkezett] (azt) Ervin (csak azt) tudta (*azt).
That Emma arrived (it) Ervin (only it) knew (it)
"That Emma had arrived, Ervin knew it."
"That Emma had arrived, Ervin knew only that."

Note that *az* does bear accusative Case when it appears, and if it does appear *az* is either in its object position (between subject and verb) with a focus marker, or further to the right of the embedded clause[12].

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[11] Taken from Kenesei (126a-e).

[12] It has also been reported that there is a difference between factive verbs and non-factive verbs in terms of *az* for Hungarian (de Cuba (2007)).

(iii) (a) Peter azt hiszi (hogy) Mary beteg
believes that Mary sick
(b) Peter (*azt) sajnalja hogy Mary beteg
sorry

Kenesei (through p.c.) disagrees with this and other judgments discussed in de Cuba (2007) about Hungarian. In my paper the primary discussion of Hungarian is about Kenesei's Hungarian. However, the distinction in (iii), which is attributed to judgments by Barbara Urogdi in a paper de Cuba and Urogdi co-authored in 2001, is interesting nonetheless in regards to the behavior of English postverbal *it*. In Urogdi's Hungarian, note that the factive verb is the one that doesn't allow the *azt*.

What should be taken from Kenesei's paper is the generalization that in Hungarian, a language that otherwise allows pro-drop, a pronoun associated with an internal argument is generally not allowed to drop without a significant interpretive effect. My underspecified copy proposal for English may partially explain this phenomenon. If the *azt* represents an underpsecified copy of the embedded clause, it is not a traditional pronoun. It is not a lexical item selected from the numeration, but more like a phonologically overt copy. It is this difference that I claim is responsible for the presence of *azt* in Hungarian.

I claim that *azt* is present because of a need to satisfy a strong feature associated with vP in Hungarian. The embedded clause is thus forced to raise to the verb's accusative Case checking domain. However, for the same reasons that subject sentences are disallowed in English, namely the CRP, the copy of the clause cannot be realized as a clause and is thus expressed as *azt*. Assuming embedding verbs are not the only verbs that have a strong accusative Case feature associated with them, the reason pronouns are licensed to drop in other contexts is because they are "real" pronouns (that is part of the numeration) that independently refer, and they are not underspecified copies. In other words, Hungarian, like many other languages, allows *pro* to check the strong accusative Case feature of verbs. It also does not allow pronouns that do not independently refer to drop.

The challenge in explaining the behavior of *az(t)* in relation to embedded clauses is then shifted from explaining the requirement of *azt* with embedded clauses as internal arguments to the optional nature of *az* for subject clauses. That is, if an underspecified copy of a clause is not allowed to be dropped, why would the subject clause copy be

licensed when it should be checking the subject position's EPP feature? I leave this matter as it stands for future research, only noting that I think this may be an easier question to answer than the ones about *azt* because of the possibilities raised by Alexiadou and Anagnostopoulou (1998), who suggest the EPP does not have to be checked by a subject in specTP.

4.6 Postverbal *it* and secondary predicates

Two related question remain:

I. Why is postverbal *it* mostly optional in English?
II. How is postverbal *it* used in sentences with secondary predication?

In English, unlike in Hungarian, postverbal, non-referential *it* is mostly optional. It seems then that in English, covert feature checking is licensed, but only for v's features, not for the matrix clause's subject position. That is, the embedded clause's features may raise covertly to check the vP's uninterpretable features. Presumably, this is what happens in examples like (41) where a postverbal *it* is licensed but not used.

41. I like that he admits his mistakes.

Recall that it was argued in section 4.3.2 that the embedded clause is in the verb's complement position in these constructions. The vP projection still has an

uninterpretable feature that needs checking so the embedded clause's features may raise, leaving behind the clause in VP.

Chomsky (1995) exploits covert raising of features (phi-features specifically) to account for the subject-verb agreement displayed in examples like (42).

42. a) There are five men in the room.
    b) There is a liar amongst us.

The [+plural] feature of the subject in (42a) raises covertly, resulting in the verb's plural agreement. In (42b), the subject's [-plural] feature raises covertly, resulting in the singular agreement. Chomsky assumes all of the NP's formal features raise with the subject's phi-features. Den Dikken (1995) demonstrates this is not the case since the NPs associated with *there* cannot bind an anaphor.

43. a) Some prisoners seem to each other to have been treated poorly.
    b) *There seemed to each other to have been some prisoners treated poorly.
    c) There seemed to have been some prisoners treated poorly.

In an instance of covert feature raising to check a vP's uninterpretable features, I then assume all of the embedded clause's formal features do not raise. This avoids the covert CRP violation that would occur if [+Tense] raises to specvP. This assumption is also necessary to insure that the embedded clause is able to simultaneously check a small clause's feature(s). Before explaining how one phrase can check uninterpretable features

in more than one projection, I first have to make explicit my treatment of non-referential *it* used with embedded small clauses.

There are two possibilities for sentences with clausal arguments within embedded small clauses. The clause can occur before the secondary predicate or afterwards. If it occurs afterwards, there is almost always a postverbal *it*.

44. a) I consider that John kissed Mary possible.

    b) I consider *(it) possible that John kissed Mary.

    c) The minister made (it) clear that he was resigning.

Since it was argued in section 4.3.2 that the embedded clause cannot be in specvP, there would appear to be a problem with sentences like (44a). However, assuming that the matrix verb is selecting a small clause and assuming that the small clause has an EPP feature associated with it (as Rothstein (1995) does), a simple solution is available. When the clause precedes the secondary predicate it is overtly checking the small clause's uninterpretable feature(s). The small clause's subject position is not a Case-checking position, so the clause can be realized as a clause in the subject position.

The claim is then with small clause structures like (44a) that the clause is raising to the small clause's subject position and not into the matrix clause's specvP position. In (44a), only the clause's nominal feature is covertly raising to specvP. For sentences like (44b), a copy of the clause is in specvP but in its underspecified form, *it*.

45. a') I consider $[_{vP}\ [_{SC}\ [_{CP}$ that John kissed Mary$]_i$ [+N] $[_{AP}$ possible $t_i]]]$.

b') I consider [$_{specvP}$ it [$_{SC}$ [$_{AP}$ possible [$_{CP}$ that John kissed Mary]]]].

Because of verb raising, there is nothing overt between the specvP and small clause subject position in (44a). Confirming that the embedded clause is actually in the small clause's subject position would then not appear to be a straightforward endeavor. Recall, however, from section 4.4 the complex predicates *shout out* and *pencil in* were given different structural representations. It was shown that while *pencil in* consists of a verb, *pencil*, selecting a small clause, *shout out* did not have a small clause treatment available. The assumption, then, is that *shout out* involves the raising of the verb out of the vP and the stranding of *out* in the VP. Without a small clause subject position available for *shout out*, overt raising of the embedded clause should be ungrammatical because the only position to raise to is specvP. This result is confirmed by the data in (46). Note that overt raising of the embedded clause with *pencil in* is grammatical[13].

46. a) *I shouted that he was late out.

b) ?I penciled that he was late in.

With this treatment of embedded small clauses set, it is now possible to discuss how an argument can check uninterpretable features on more than one head. It was established that covert feature checking does not entail the movement of a phrase's entire formal feature set. If this is the case, and if I can argue that the uninterpretable features on the small clause's head and the vP's head are different features (see the next

[13] Presumably (46b) is not ideal because of the heaviness of the argument clause.

paragraph), then there will then be no case of one feature checking uninterpretable features on more than one head.

The assumption so far is that v's (weak) uninterpretable feature is in some way nominal. There is no reason to abandon this assumption. It is a Case-checking position, and as such it is "looking" for something nominal. The subject position of the small clause on the other hand is not a Case-checking position, so I assume that its uninterpretable feature is not nominal. What is the small clause's uninterpretable feature then? Small clauses are tenseless clauses. This status of tenselessness can be achieved in one of two ways. Small clauses can be specified as [-Tense] or they can have no specification for the Tense feature at all. If we assume that small clauses have no specification for Tense then Tense is (at least one of) the small clause's uninterpretable feature(s). In chapter 1, it was argued that clauses and nouns differentiate themselves from each other through the feature of Tense: clauses being [+Tense] and nouns being [-Tense]. Since both nouns and clause are specified for Tense, either could check a small clause's uninterpretable Tense feature, while still allowing them to check the vP's nominal feature[14]. This would license both clauses and nouns to occur as small clause subjects, which is exactly what is observed.

The representation in (47a) shows how vP and the small clause's uninterpretable features are checked when the clause raises to the small clause subject position. The clause's [+Tense] feature values the small clause's uninterpretable feature, while the clause's nominal feature raises covertly to check v's uninterpretable feature. The

[14] A concern might be that the small clause's unspecified Tense feature would become valued as positive when an argument clause checks it because of the argument clause's [+Tense] feature. However, the unspecified feature is only looking to get checked by a value, not acquire the checking item's value. When a noun raises to the subject position to check its nominal feature, it does not make Tense all of the sudden nominal. The same goes for the small clause unspecified Tense feature.

representation in (47b) shows how the features are checked when the clause raises to specvP and is realized as an underspecified *it*. The [+Tense] feature can raise covertly from the complement copy of the clause to check the small clause's uninterpretable feature, while the underspecified copy, *it*, takes care of the v's uninterpretable feature overtly. Note the complement copy of the clause is realized in argument position as a result of phasal linearization (see chapter 3).

47. a') I consider [$_{vP}$ [~~N~~] [$_{SC}$ [$_{CP}$ that John kissed Mary [+N] [+T]]$_i$ [~~T~~] [$_{AP}$ possible t $_i$]]].

b') I consider [$_{specvP}$ it [+N] [$_{vP}$ [~~N~~] [$_{SC}$ [~~T~~] [$_{AP}$ possible [$_{CP}$ that John kissed Mary] [+T]]]].

4.7 Summary

It has been demonstrated in this chapter that postverbal, non-referential *it* that co-occurs with a clausal argument is licensed when the embedding verb assigns accusative Case. It is also been shown that the use of postverbal *it* has the effect of implying that the proposition associated with the clause (and the *it*) must already be clear to the conversation's participants. It was also shown that postverbal, non-referential *it* was an underspecified copy of the argument clause; a treatment consistent with what has been presented in chapters 2 and 3.

I also argued that accusative Case checking occurred in a functional projection (vP), above which the verb overtly raises. It was shown that none of specvP's

uninterpretable features are strong in English. However, it was argued that in Hungarian at least one of them appears to be strong. It was also shown that unless it is checking a small clause's unspecified Tense feature, an argument clause associated with complement position is realized in complement position. This is consistent with the argument presented in chapter 3 which argued for phasal linearization.

Chapter 5: Summary

5.1 Central questions answered

Assuming that displacement in syntactic derivations is a central component of the human language faculty, this study follows Chomsky (1995, 2001) in assuming that displacement is insured by uninterpretable features. These uninterpretable features are unvalued or unspecified features associated with phrasal heads. Obligatory overt movement of constituents is insured by an EPP, or strong feature, associated with a head. This EPP feature was assumed to motivate the presence of non-referential *it* in sentences (1a) and (1b). Checking of the features could be accomplished covertly as well. This is the case in examples like (1c) when the *it* is not present. The overt checking of v's features by an *it* associated with an embedded clause, as in (1c), has the effect of implying the embedded clause's proposition is already part of the discourse.

1. a) It seems likely that John is drunk again.
   b) It surprises me that you lost your wallet.
   c) I like (it) that you mowed the lawn.

The central claim argued throughout this study was that the non-referential *it* associated with an embedded clause is an underspecified copy of the embedded clause. The *it* does not independently refer, but it has the same semantic value as the embedded

clause by virtue of being in a chain with it. The embedded clause as a clause cannot appear as a clause where the *it*s occur because of Stowell's CRP, which holds that Case-assigning categories cannot occur in Case-checking positions. Control was used to demonstrate that the non-referential *it* had the same semantic value as the embedded clause. The relevant examples for this argument are repeated below. Sentences (2a) and (2b) demonstrate that it is the overt representation that is relevant for control. Sentence (2c) demonstrates that the *it* controls for monadic predicates, and (2d) and (2e) show *it* controls for dyadic predicates ((2d) from subject position, (2e) from object position).

2. a) Besides liking himself too much, John makes fun of Mary a lot.
   b) *Besides liking himself too much, Mary is made fun of by John a lot.
   c) Besides being illegal in NYC, it is unhealthy to smoke in a bar.
   d) Besides impressing me, it surprised my parents that my brother did that.
   e) I called/shouted it out to be in the record that I oppose the war.

It was claimed in chapter 1 that this approach would be able to provide a coherent set of answers to the following set of questions.

A) What motivates postverbal *it*? As Postal and Pullum (1988) observe, the EPP cannot account for the presence of a number of optional, postverbal *it*s (see (1c)).

B) How does the *it* enter into the derivation for all of the sentences in (1)?

C) Why is *it* used in these constructions?

D) How is *it* related, if at all, to the associate embedded clause?

E) Is the *it* really a meaningless syntactic place-holder?

F) Why is the associate embedded clause almost always in a clause-final position in these constructions?

G) How are the sentences in (1) related to sentences where the *it* appears to be replaced by the associate clause, as in the sentences of (3)?

3. a) That John will be drunk again seems likely.
   b) That you lost your wallet surprises me.
   c) I like that you mowed the lawn.

An answer for question (A) has already been provided in this chapter, the motivation for postverbal *it* is the same for motivation for subject *it*, a set of uninterpretable features associated with v. The only difference is v's features are not strong. They may be checked covertly by feature raising or overtly with an underspecified copy of the embedded clause, *it*. This appears to violate Chomsky's (1995) Principle of Procrastinate, which holds that features that can be checked covertly must be checked covertly. However, it was shown that the overt checking of v's features induced an interpretive effect; the associate embedded clause's proposition is implied to be part of the discourse when the feature is checked overtly.

The answer to question B (how the *it* enters into the derivation) is when the clause raises to check uninterpretable features but cannot be realized as a clause in a Case position *it*, an underspecified copy of the clause, is used. The *it* then enters the derivation through the Copy operation and underspecification. The *it* is thus not in the numeration.

It is used as a copy of the embedded clause because it is an underspecified realization of a clause (Question C). In chapter 1, it was argued that clauses and NPs shared a feature set. They differ in terms of the tense feature. The tense feature may not be present when the clause is in a Case-checking position because of the CRP. The clause is underspecified for the Tense feature, leaving features, [-plural], [+N], [3rd-person]. These features most closely match the pronoun *it*.

Questions D and E, which look to explain how the *it* is related to the associated embedded clause and whether the *it* is meaningless, are taken care of by the central claims of this study. The *it* is an underspecified copy of the embedded clause, and as such it is not meaningless. The *it* is in a chain with the associate embedded clause. Again the data in (2) support this claim. Treating the *it* as a copy of the embedded clause avoids relating the *it* to the clause through indexation. This is considered a desirable result since indexation would lead to a violation of Inclusiveness Condition.

The clause-final nature of the associate embedded clause in these constructions (Question F) is accomplished in a number of ways. A non-unified explanation for this explanation is not considered troublesome since argument clauses do not necessarily have to be realized last all the time.

4. I consider that the guard is sleeping fortunate.

In the case of sentence (4), it was argued that the embedded clause is realized not in the matrix clause's specvP position but in the embedded small clause's subject position, checking the small clause's unspecified Tense feature.

When the embedded clause IS realized in a clause-final position, it is realized there for one of two reasons. With monadic predicates, one possibility is extraposition. Speakers (sometimes by default) exploit right-adjunction of the embedded clause to overtly realize a fully specified copy of the argument clause (section 2.8). The other choice for monadic predicates is to realize the argument clause in its argument position. For verbal predicates, verb raising ensures that both ergative and unergative verbs have the argument clause realized in clause final position. It was shown that monadic adjectival predicates that take clausal arguments almost always have the clause in complement position underlyingly (chapter 2.6[1]). For all dyadic predicates, besides pseudo-psych verbs, the argument copy begins in clause final position. With pseudo-psych verbs, the verb and Experiencer raise above the argument clause to make it clause-final. Regardless of the starting position of the argument clause, for all dyadic predicates, the argument clause ends up in a clause-final position. In section 3.4, I argued that it has to be this argument copy of the clause that is realized because of phasal linearization; while in section 3.2.3, I demonstated that even when it appears a dyadic predicate is syntactically extraposed, the clause is in fact syntactically in complement position.

Finally, what remains is the question of how sentences with non-referential *it* and associate embedded clauses are related to sentences with embedded clause that apparently are in subject position (Question G). Koster's (1978) treatment of these embedded clauses as being in A-bar positions above the subject position was argued for (chapter 2.5). Added to Koster's arguments was the observation that *if*-clause are

[1] The only exception to this may have been Stowell's Mental Property (MP) predicates. However, the external argument status of the clausal arguments for these predicates was not fully established.

disallowed in general in A-bar position, suggesting *if*-clause apparent subjects should be impossible. This is exactly what is observed.

5. a) It is funny if someone falls and doesn't get hurt.
   b) *If someone falls and doesn't get hurt is funny.

5.2 Auxiliary conclusions

Non-referential pronouns associated with embedded clauses were examined for Hungarian and French as well as for English. For Hungarian, it was argued that the near mandatory nature of *azt*, a non-referential postverbal pronoun, was related to a strong feature on v. It was also argued that the optional nature of the subject position place-holder, *az*, was related to Hungarian's ability to check the subject position EPP feature with verb raising. For French, the treatment in chapter 3 claimed the ungrammaticality of adjunct extraction from *cela* associated embedded clauses was not necessarily a result of extraposition. It was argued instead that *cela*'s inability to delete at LF was responsible for the impossibility of adjunct extraction with associated embedded clauses.

The treatment of French *cela* as a non-deletable LF object made explicit how my treatment must delete non-referential *it* at LF. This deletion is required to insure only the argument copy of the clause is used for LF operations. What licenses the deletion of the *it* is the fact that it does not independently refer. Its semantic value is a result of being in a chain with the embedded clause.

The LF deletion of *it* is not problematic for either the feature-checking assumptions of this study or this study's assumptions about control. Feature checking of strong features has to occur in overt syntax in order for the derivations to be interpreted at LF. In other words, the *it* does not have to be present at LF, it just has to get the derivation to LF.

In chapter 3, I propose the following generalization to account for the facts about control.

6. A PRO in an argument clause or clause linked to an argument position follows (A) or (B):

   (A): PRO in a clause that is overtly in complement position is controlled by an argument of the verb selecting the non-finite clause.

   (B): PRO in any other position does not have to be controlled by an argument of the verb.

   PRO in a non-argument clause follows (C):

   (C): PRO is controlled by the overt subject of whatever proposition the non-finite clause adjoins to.

Only overt representations are referenced in this generalization. The *it* is obviously present in the overt representation, so it can take care of its control obligations there

before it is deleted at LF. There is, thus, no problem in assuming non-referential *it* deletes at LF in English. This treatment of control was also shown to explain the Super-Equi data in chapter 3.

In chapter 1, it was argued that a head's ability to check Case was what determined if it counted as a phase. The diagnostic for what is a phase was both consistent with the original motivation for phases (i.e. handing off structure to LF and PF as soon as possible to lighten the load on the parser's memory), and it insured the structures that were needed for sentences with non-referential *it* and associate embedded clauses. For dyadic predicates that assign accusative Case, my definition of phase insured that the argument clause is realized in argument position, regardless of whether the clause was associated with subject or object position. When the argument clause was associated with the subject position for monadic predicates and impersonal passives, the definition of phase allowed for the extraposition option that was needed to explain the contradictory constituency diagnostics in chapter 2.

Finally, it is highlighted that underspecification, a process central to my treatment of non-referential *it*, is in no way stipulatory. Something like underspecification is required in almost any sentence that involves displacement. Chain members that are not overtly realized in these sentences are at least underspecified for phonological features. Underspecification also insures that only one copy of a displaced item is interpreted at LF. The underspecification of a chain member is then not unique to sentences with non-referential *it*. It is a process that is used during almost any instance of movement. For my proposal I am argued the CRP-violating feature, [+Tense], is underspecified for when

then clause is in a Case checking position. Without this [+Tense] feature the clause cannot be fully realized, and thus there is the *it*s of these constructions.

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