

INFINITIVES

by

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in Partial Fulfillment of the Requirements
for the Degree of

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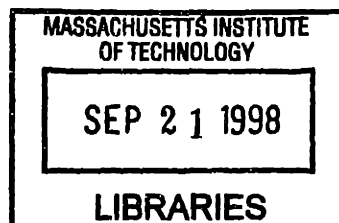
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ABSTRACT

This dissertation is an investigation of the structure of control infinitives, the mechanism of control, and the general architecture of clauses involving auxiliaries and modals.

The dissertation challenges the idea that control infinitives are represented uniformly by a clausal (CP) structure. It is argued that control infinitives of a certain well-defined class are best analyzed as simple VP-complements that do not involve an embedded subject. The structure of VP-infinitives is motivated by five sets of properties that systematically differ from the properties of clausal control infinitives. First, VP-infinitives do not allow complementizer and *wh*-material (chapter two). Second, VP-infinitives do not exhibit tense related properties—VP-infinitives (in contrast to clausal infinitives) do not contribute independent tense information, and overt tense marker and modification of the embedded tense are prohibited in VP-infinitives (chapter two). Third, VP-infinitives do not involve a structural case position. Rather, the embedded object is assigned case by the matrix predicate (chapter three). Fourth, VP-infinitives do not involve an embedded syntactic subject (chapter four). Fifth, VP-infinitives are characterized as properties rather than as propositions semantically (chapter five).

The second major contribution of this dissertation is that it provides a new approach to control. It is argued that there are two forms of control—*syntactic* or variable control vs. *semantic* or obligatory control. In contrast to previous theories, however, it is argued that only syntactic control—which correlates with non-VP-infinitives—is a relation between an antecedent and an embedded syntactic PRO-subject. VP-infinitives, which do not have a syntactic subject, involve semantic control (chapter four) which is to be understood in terms of a semantic entailment relation.

Finally, this dissertation investigates constructions with complex verb phrases. It is argued that modal verbs and raising verbs in German are functional categories that are generated outside the VP in some inflectional head (chapter six).

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ABBREVIATIONS

The following abbreviations are used in this dissertation (in alphabetical order):

ACC	ACCusative
CL	CLitic
DAT	DATive
EXTR	EXTRaposition
HMC	Head Movement Constraint
HSC	Head Stranding Constraint
INF	INFinitive
IPP	Infinitivus Pro Participio ('Infinitive for participle')
NOM	NOMinative
NRI	Non-Restructuring Infinitive
NRV	Non-Restructuring Verb
OBJ	OBJect
PART	PARTiciple
RI	Restructuring Infinitive
ROM	Restructuring Object Movement
RV	Restructuring Verb
R-VR	Restructuring Verb Raising
SCR	SCRambling
SUBJ	SUBJect
TOP	TOPicalization
VR	Verb Raising

For consistency I have used the following conventions:

Section headings:

- numbering starts new in each chapter; cross-references to section headings refer to headings in the chapter they appear in (unless otherwise indicated)

Examples:

- numbering starts new each chapter
- moved or dislocated phrases appear in italics in the English gloss
- symbols used to mark examples:
 - a. *ungrammatical (speakers agree)
 - b. *ungrammatical (speakers agree, though non relevant exceptions)
 - c. %systematic variation (e.g., dialects, personal preferences)
 - d. %non-systematic variation
 - e. #grammatical, but pragmatically ill-formed

Chapter One:

**Introduction— Two
Classes of Infinitives**

1. TWO CLASSES OF INFINITIVES

This dissertation investigates infinitival constructions like the ones in (1). Despite the apparent identical shape of the infinitive in (1)a and (1)b, I will show that the two constructions in (1) systematically display different behavior. I will argue that the infinitival complements of one class of verbs are bare subjectless VPs, while the other class of infinitival complements contain a range of functional categories as well as an embedded PRO-subject.

- (1) a. John tried to go to Kamchatka
b. John decided to go to Kamchatka

One aspect of the difference between infinitives like the one in (1)a and infinitives like the one in (1)b is the impossibility to modify the tense of the embedded event in (1)a but not in (1)b. This contrast is illustrated in (2).

- (2) a. #John tried to go to Kamchatka tomorrow
b. John decided to go to Kamchatka tomorrow

I will show that this property is part of a more general property of the infinitives in (2)a, namely the incompatibility of verbs like *try* with a [+tense] complement.

A further quite significant difference between the two kinds of infinitives is illustrated in (3): both infinitives appear as complements to a verb that has a singular external argument. While the infinitive in (3)b can involve a collective predicate, the same sentence is ungrammatical when the matrix verb is a verb like *try*.

- (3) a. *John tried to meet at 6
b. John decided to meet at 6

Again, the contrast in (3) will be shown to be part of a bigger generalization that has to do with the nature of the understood embedded subject in the two infinitival constructions.

One of the central points of this dissertation is that the behavior of *try*-infinitives vs. *decide*-infinitives is not accidental. Rather, we will see that control infinitives in general split into two groups—a *try*-type group and a *decide*-type group—which systematically contrast in a number of phenomena. Moreover, I will show that the split among control infinitives correlates with two well-know classes of infinitives: *restructuring infinitives* vs. *non-restructuring infinitives*.

1.1 The notion of restructuring

In an extensive study of infinitives, Gunnar Bech (1955) developed one of the first characterizations of infinitival complements in German. Bech showed that infinitives fall into two classes: infinitives that form an independent clausal domain and infinitives that do not exhibit clausal behavior. He labeled the former class *kohärente Infinitive* ‘coherent infinitives’, the latter *inkohärente Infinitive* ‘incoherent infinitives’. The first study of the two classes of infinitives in a generative framework was provided by Evers (1975a). Evers proposed that the split among infinitival constructions in Dutch and German results from a *structure pruning principle* that applies to the S-node of certain infinitival clauses but not to others.

At the same time, Aissen & Perlmutter (1976) and Rizzi (1976) observed that in Italian and Spanish, certain infinitives lack clausal properties and undergo a process of *clause union* with the

matrix clause.¹ Rizzi proposed that what is special about infinitives lacking clausal properties is that they have undergone a process of *restructuring*. In Rizzi's analysis, restructuring is an optional rule according to which the embedded infinitive and the matrix verb are reanalyzed as one complex verb. Thus, restructuring transforms a bi-clausal structure into a monoclausal one.

Since then, the study of restructuring/coherence has received extensive attention in both the Germanic and the Romance literature. Central to most works on this topic is the lack of *clause boundedness* effects found with certain infinitival constructions: while in most cases infinitives constitute a boundary for processes that are restricted to apply within one clause, certain infinitives are transparent for the same processes. The main properties attesting to the transparency of certain infinitives in Romance are *Clitic Climbing*, *Object Preposing*, and *Auxiliary Switch*; the main 'transparency' properties in Germanic are *Long Distance Scrambling* and *Super Passive* (each of these properties will be discussed in the course of the dissertation). The central issue has often been to account for the processes and properties associated with restructuring/coherence rather than to investigate the nature of the phenomenon of clause union, restructuring or coherence. Since the effects of clause union (i.e., long distance scrambling, clitic climbing etc.) are empirically quite different in the two language groups, a unified account of both Romance 'restructuring' and Germanic 'coherence' has rarely been attempted (for an exception see Sabel 1996).

Although Bech's terms have sometimes been translated into English as *coherent* vs. *incoherent* infinitives (e.g., Fanselow 1989, Hinterhölzl 1997), I will refer in this study to the two types of infinitives in Romance as well as Germanic with the notions *restructuring* vs. *non-*

¹ Both articles—Rizzi (1976) and Aissen & Perlmutter (1976)—were subsequently republished. In most cases, I will refer to the newer versions.

restructuring infinitives (henceforth RIs, NRIs, respectively). One of the main issues in this dissertation is to find a deeper motivation for the existence of restructuring and to present a unified account of restructuring in Romance and Germanic.

1.2 Restructuring—syntax or semantics?

Among the numerous approaches to restructuring, two basic directions can be distinguished: semantic approaches vs. syntactic approaches (see the Appendix §2 for a summary of the literature on restructuring). Central to the first set of approaches is the attempt to motivate restructuring through a semantic property found among the class of restructuring verbs. Syntactic approaches to restructuring, on the other hand, aim to derive clause-boundedness effects by some syntactic mechanism (e.g., verb raising). In many syntactic approaches, the clause union phenomenon is characterized as a language-specific rather than a universal property of languages. Moreover, many (syntactic) studies refer to restructuring as a lexical property that is assigned arbitrarily to a subclass of infinitive-taking verbs, and parametrically restricted to certain languages.

Conceptually, a semantic approach to restructuring seems to be superior since it provides an independent motivation for restructuring, whereas syntactic approaches suffer from the ‘accidental’ nature of restructuring as well as of the processes or operations needed to derive clause-boundedness effects. However, there are three main claims in the literature that have been raised as arguments against semantic approaches. The following three claims have been taken to motivate a lexicalist/syntactic approach to restructuring:

- ❶ lack of a common property to restructuring constructions
- ❷ speaker variation
- ❸ restructuring and the class of RVs is not universal

The first claim is that the verbs taking transparent infinitival complements lack a common semantic property. Second, it has been noted that there is a fair amount of speaker variation concerning the classification of verbs taking transparent infinitival complements. To give an example, infinitival constructions in Italian involving the verb *try* display transparency effects for some speakers but not for others (see Rizzi 1982). According to proponents of a lexical approach to restructuring, this kind of variation would be unexpected if restructuring were determined by some semantic property of the infinitival-taking verb. Finally, it is claimed that restructuring is only found in some languages but not in others and that the class of RVs is different from language to language.

The main objective of this thesis is to show that these claims are not correct. I will argue that restructuring is not simply an arbitrary phenomenon found in certain languages but that it constitutes a basic property of grammar. I will show here that although at first sight the class of verbs taking transparent infinitival complements shows differences across languages, a careful investigation of the properties of restructuring configurations and the properties of the verbs involved will reveal striking similarities that do not seem to be accidental. However, I will also conclude that an isolated semantic approach is insufficient and that both syntactic and semantic properties as well as language specific factors have to be taken into account to give an appropriate characterization of infinitival constructions.

Let us begin with a summary of the class of RVs. In most studies on restructuring, it is emphasized that there is no real consensus among speakers as to whether particular verbs belong to the class of verbs taking transparent infinitival complements (i.e., restructuring verbs, henceforth RVs) or to the class of verbs taking non-transparent infinitival complements (i.e., non-restructuring verbs, henceforth NRVs). However, it is also commonly accepted that there is a class of RVs that does not show variation among speakers. I will refer to this class of RVs as the *core* of

RVs. Moreover, there is a *universal core* of RVs that seems to be constant across the languages displaying restructuring effects. Table 1 illustrates the universal core of RVs with typical RVs in Italian, Spanish, German, and Dutch. As far as I know, there is absolute consensus among speakers w.r.t. the verbs in Table 1—i.e., they are uniformly considered as RVs (see the Appendix §1 for a literature survey on RVs).

Table 1: The core restructuring predicates²

VERB	GERMAN	DUTCH	SPANISH	ITALIAN
<i>want, can, must</i>	+	+	+	+
<i>come, go, return</i>	+	+	+	+
<i>begin, continue, finish</i>	+	+	+	+
<i>used to</i>	+	+	+	+
<i>know-how</i>	+	+	+	+
<i>easy-adjectives</i>	+	+	+	+
SUBJECT-less causatives	+	+	+	+

As the table shows, infinitives selected by modal verbs like *can, want, must*, motion verbs like *come, go*, and *return*, and aspectual verbs like *begin, continue* and *finish* are typically RVs.³

As mentioned before, the class of RVs does not involve a fixed set of verbs but rather constitutes a continuum that varies from language to language, speaker to speaker and—as Aissen

² Some comments on this table are necessary. The table is slightly idealized in two ways: first, it represents the opinion of the majority of authors (see Appendix §1 for a detailed literature review); second, language specific idiosyncrasies that are irrelevant at the moment are omitted. That is, the verbs *continue* and *finish* are a particle-verbs in Dutch that do not allow restructuring; however, this is due to an independent property of particle-verbs (cf. (Evers 1975a, Hoeksema 1988, Rutten 1991). I also included the verb *return*, however it has to be noted that *return* does not select infinitival complements in German and Dutch. For a separate classification of each verb, I refer the reader to table 1 in the Appendix.

³ Throughout this dissertation, I will refer to verbs (and only the verbs) marking the temporal structure of an event (i.e., *begin, finish, continue*) as 'aspectual' verbs.

& Perlmutter (1983) put it—from a speaker on one day to the same speaker on another day. Verbs that are RVs for some speakers but NRVs for other speakers belong to what I will call the *periphery* of restructuring. If we look at the class of RVs across languages, it can be observed that the periphery of restructuring also shows striking similarities.

To illustrate, consider the class of restructuring predicates in German which is summarized in Table 2. The left column of Table 2 involves verbs that belong to the universal core of RVs. However, as can be seen in the right column of Table 2, the core of RVs in German—i.e. the verbs that are uniformly considered as RVs in German (here marked with “+”)—goes beyond the universal core of RVs. Verbs belonging to the periphery of restructuring in German are for instance the verbs *order* and *permit* (marked as “±” in Table 2).

Table 2: Restructuring predicates in German

Verb	RV	Verb	RV
<i>want, can, must...</i>	+	<i>seem</i>	+
<i>come, go</i>	+	<i>try</i>	+
<i>used to</i>	+	<i>manage</i>	+
<i>begin</i>	+	<i>fail</i>	+
<i>know-how</i>	+	<i>dare</i>	+
<i>easy-adjectives</i>	+	<i>forget</i> (implicative)	+
SUBJECT-less causatives	+	<i>order, permit</i>	±

What is important to note at this point is that in Italian or Spanish, the verbs corresponding to the verbs in the right column in Table 2 are exactly the verbs that belong to the periphery of RVs in Romance. The verb *try* is a good example to illustrate the variation: Aissen & Perlmutter (1983) and Moore (1990) consider *try* a RV in Spanish. Other speakers consulted, however, find constructions with clitic climbing from an infinitive selected by *try* rather awkward. Similarly for Italian, Napoli (1981) and Cinque (1997a,b) accept clitic climbing from a *try*-infinitive (at least marginally), but most other authors and many speakers I consulted reject it as a RV. Rizzi

(1982:41) notes that there is a great amount of speaker variation with exactly this class of *try*-verbs: “For every speaker of Italian there is a class of main verbs which plainly allows extraction of the clitic, and a class of main verbs which clearly does not allow this phenomenon. But, between these well-defined classes, there is a vast area of marginal acceptability, which sometimes involves rather homogeneous classes of verbs (this is the case of ‘conative’ verbs such as *cercare*, *tentare*, *provare*... ‘to try’) [...]”. Guglielmo Cinque (p.c.) pointed out to me that he fully accepts clitic climbing with one version of *try* (i.e., *provare*) but only marginally with the others.

Though unexpected under a mere semantic approach to restructuring, this kind of variation receives an interesting explanation if we look at restructuring in the following way: some property of *try* in Romance indicates that it should be a RV (this obviously should be the same property that makes *try* a RV in Germanic), and some other property of a structure involving *try* indicates that it should be a NRV. Conflicts of this sort can be resolved in two different ways, none of them resulting in the perfect solution. Hence, provided the two conflicting properties can be substantiated, uncertainty and variation among speakers and languages would not be surprising.

To conclude, the following two generalizations about the class of RVs can be drawn from the discussion so far:

- A:** There is a clear core of restructuring predicates that is found across languages (cf. Table 1)
- B:** If the class of restructuring predicates in a particular language includes verbs beyond the universal core of restructuring predicates, these verbs are part of the periphery of restructuring in other languages (cf. the right column in Table 2).

A theory that assumes that restructuring is an arbitrary lexical phenomenon misses these two generalizations that are obviously not an accidental fact about restructuring.

1.3 The structure of restructuring infinitives

In order to account for the transparency of RIs two basic approaches are conceivable. First, and as most authors assume, the clause union effect can be attained derivationally: RIs and NRIs start out with the same syntactic structure and an application of ‘restructuring’ alters the structure and/or properties of the infinitive in a way that ultimately renders it transparent for various processes (abstracting away for now from how restructuring is defined, instantiated, and what the exact mechanics of this process are). The main motivation for the first set of approaches is the idea of uniformity of phrase structure; i.e., infinitival complements involving control project a TP, CP etc., irrespective of the syntactic or semantic content of these projections. The challenge for approaches of this sort is to provide evidence for the initial clausal structure of RIs and to characterize and motivate this operation of ‘restructuring’.

Alternatively, one could assume that RIs and NRIs are represented by different structures throughout the derivation; i.e., while NRIs are clausal categories, RIs never constitute a clausal domain. The advantage is that no mechanism of ‘restructuring’ is necessary on this approach; furthermore no additional language or construction-specific assumptions have to be made to account for the transparency of the infinitive, since there is no representation or stage of derivation in which a sentence with a restructuring verb consists of two clauses. The challenge for approaches of this sort is to motivate the existence of different initial structures for infinitival complements.

The main claim in this dissertation is that ‘restructuring’ or ‘clause union’ as such in fact does not exist in any form, but that restructuring phenomena are simply the result of a monoclausal

structure: a sentence with a RI is a simple clause throughout the derivation. I will give a definition of a 'clause' that builds on the idea that a clause has a unique functional part (consisting of CP, TP and *v*P) but a recursive lexical part (various VP-levels).

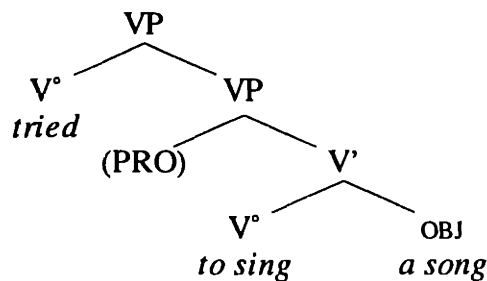
1.3.1 Some history of the structure of restructuring infinitives

The structure of sentences involving a transparent infinitival complement has been a long-standing issue. Three basic approaches can be distinguished. First, it has been proposed that RIs involve a special process that transforms a CP-complement into a VP-complement. Evers suggests a *pruning* principle, Rizzi (1978, 1982) postulates a *restructuring* rule, Haegeman & van Riemsdijk (1986) assume a *reanalysis* process, and von Stechow (1990) speculates that RIs might be created by deletion of the CP and IP-nodes.⁴ The common property of these approaches is that RIs start out as sentential complements, then lose various projections in the course of the derivation, and finally end up as VP-complements (see table 2 in the Appendix §2 for other references). Arguments standardly raised against structure changing processes of this sort are that they cause a violation of the projection principle (Chomsky 1981) and that they are to a large degree arbitrary rules. Additionally, I will show that an initial clausal structure for RIs does not seem to be motivated.

⁴ Von Stechow does not commit himself to any assumption about the initial structure of RIs (i.e., whether they are base-generated VPs or reduced CPs). However, since he talks about potential deletion of PRO and sentential nodes I include his reference here.

A different view of restructuring is that NRIs are clausal complements, but RIs are generated as smaller categories. Here we find two basic approaches: i) RIs are IPs/TPs/AgrSPs; and ii) RIs are VPs.⁵ The VP-approach is illustrated in (4).

(4) **RIs are VPs**

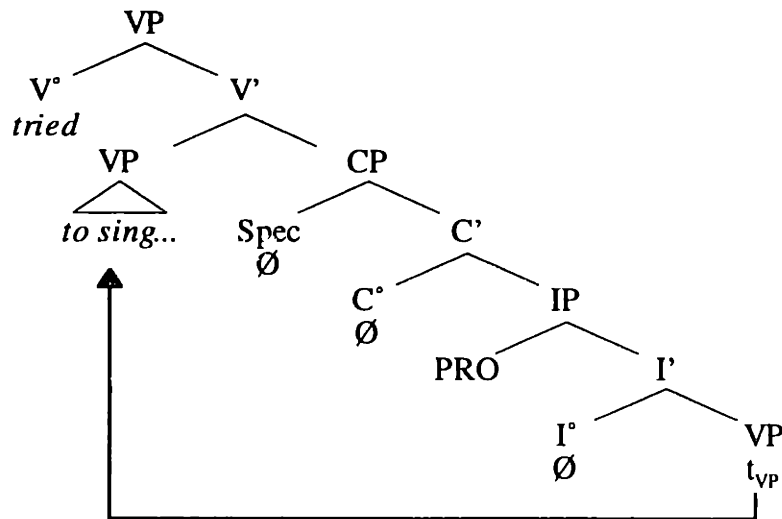


The main questions raised by structures like (4) are whether there is an embedded PRO subject and why infinitives are VPs when they are RIs, but CPs when they are NRIs.

Finally, the third set of approaches to restructuring assumes that RIs are clausal complements throughout the derivation but that a special process applies that deactivates the CP-boundary (i.e., RIs are CPs, however, these CPs are transparent for operations that are generally blocked by CPs). I will refer to these approaches as *CP-approaches*. Among the CP-approaches, three types of analyses can be distinguished: i) a VP-movement approach; ii) a head-movement approach; and iii) a topicalization + head-movement approach. The VP-approach is developed by Burzio (1986). In his theory, the CP-boundary is bypassed by moving the embedded VP to the matrix clause. The resulting structure is depicted in (5) (the zeros will be commented on in the next subsection):

⁵ Tappe (1984), Fanselow (1989), Rutten (1991), Rooryck (1994), and Li (1990) assume that RIs lack a CP-projection. Strozer (1976, 1981), Zagana (1982), Moore (1990, 1994), Picallo (1985, 1990), Rochette (1988, 1990), Rosen (1989, 1990), Haider (1986a,b,c, 1992, 1993), Rutten (1991) and Cinque (1997a,b) on the other hand, assume that (at least certain) RIs lack CP and IP projections. Rooryck assumes that RIs are AgrSPs, however for him they can also be CPs if they involve wh-elements.

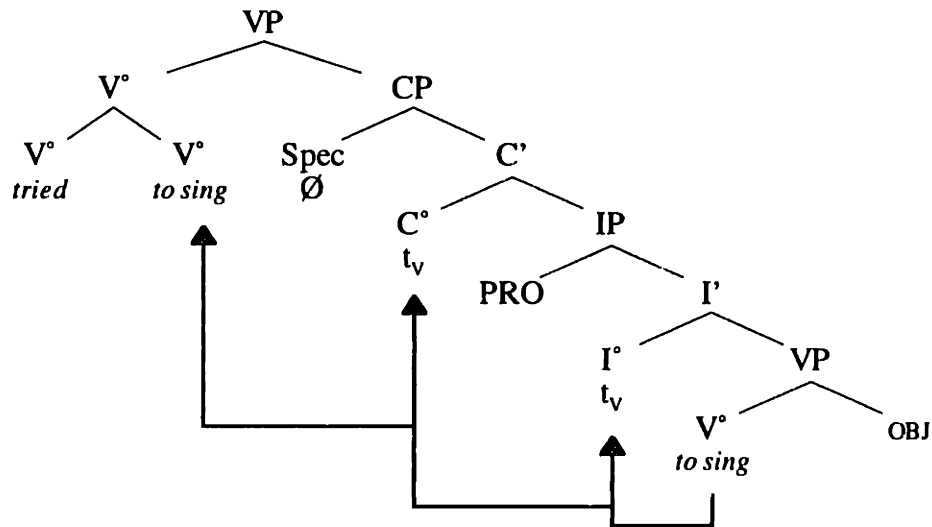
(5) VP-movement



The second (and predominant) approach to restructuring—the head-movement approach—is instantiated in various ways. The common idea is that some verbal head in the infinitive moves up to the matrix clause; head-movement of this sort is assumed to render the infinitive transparent for government by the matrix-verb (cf. Baker 1988). Evers (1975a,b) and Rizzi (1978, 1982) assume that the infinitive itself raises and adjoins to the matrix verb (in addition, verb raising in their analyses is followed by deletion of the clausal nodes of the infinitive). Since overt verb raising causes serious empirical problems (see chapter two), many authors assume that some form of abstract head movement applies from RIs. To give one example, Kayne (1989, 1991), suggest that restructuring involves overt T° raising from the infinitive to the matrix clause, leaving behind the infinitival verb.⁶ Head-raising analyses can be illustrated as in (6) with the arrows indicating overt or covert movement.

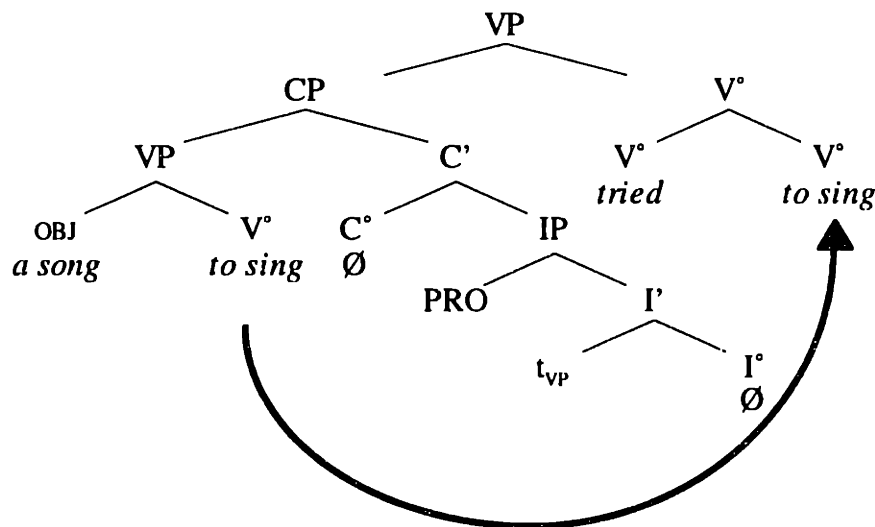
⁶ This idea has later been adopted by many others (cf. Roberts 1993, Bok-Bennema & Kampers-Manhe 1994, Rooryck 1994, Terzi 1996 among others). A slightly different approach is taken by Roberts (1997) who assumes that the infinitive raises overtly to the matrix verb but that the trace is pronounced.

(6) V/T-Raising



The third subgroup of CP-approaches is pursued by Baker (1988), Sternefeld (1990), Grewendorf & Sabel (1994) and Sabel (1996) who also assume that head-movement takes place from RIs. In these analyses, however, it is assumed that head-movement cannot proceed directly through C°, but has to apply after the embedded VP or AgrOP has undergone topicalization to the embedded SpecCP. The reason for this internal topicalization process is that head-raising from INFL° to COMP° would make the IP-projection (and hence SpecIP) transparent for government (cf. Baker 1988); a PRO subject in SpecIP would then be governed, which is fatal in the GB/Barriers framework they adopt. The structure is given in (7) (the position of the infinitival marker and the exact label of the XP that undergoes movement to SpecCP is immaterial here; see table 3 in the Appendix §2 for an overview of the different proposals):

(7) Topicalization & Overt/Covert Verb raising



1.3.2 Deficiency of restructuring infinitives

In addition to the claim that RIs involve some sort of VP-movement and/or head raising, most CP-approaches to restructuring have to assume that RIs are in some way or other *deficient*. Roberts (1993) proposes that RIs lack a thematic role. Li (1990) assumes that RIs involve a ‘dummy’ INFL that is invisible for head movement and subadjacency.⁷ Sternefeld (1990) argues that while NRIs involve an empty complementizer, RIs are deficient in that they lack an empty complementizer. Finally, the motivation for V/T-raising is usually related to some deficiency or inertness of the infinitival INFL or TENSE node in RIs in contrast to NRIs. It is postulated that the T° node in a RI is incapable of licensing the tense of the infinitive and that the embedded V or T

⁷ Recall that in Li’s analysis RIs also lack an embedded CP.

therefore has to raise to the matrix clause (cf. Rutten 1991, Rochette 1988, 1990, Roberts 1993, 1997, Bok-Bennema & Kampers-Manhe 1994, Rooryck 1994, Gonçalves 1998).

To illustrate the deficient character of a RI consider the structures in (5) through (7) again and compare it to the structure in (4). Assuming with the authors above that RIs indeed have a deficient INFL and COMP (I will review the arguments and provide additional evidence for this claim in chapter two), the difference between the structure in (4) and the structures in (5)-(7) is the following: under the VP-approach, certain properties (e.g., complementizer, tense etc.) are not found because the corresponding projections are absent; under a CP-approach, certain properties are not found because the corresponding projections—by assumption—lack the appropriate features. The main question then is: Is there motivation for featureless initial projections in RIs?

2. MAIN PROPOSAL

The main claim I will defend in this dissertation is that control infinitives do not have a uniform structure but that the structure is determined by the properties of a construction. In particular, I will follow the idea that a projection is only present when it hosts features associated with this projection. If for instance an infinitive does not show any properties that indicate the presence of tense features, the infinitive does not involve a TP. Thus, I will argue that infinitives are not generally represented by a CP-structure but that certain infinitival constructions—i.e., RIs—are VPs that do not contain an embedded subject. Hence I will argue for a structure as in (4) for RIs.

The arguments that I will present in chapter two through four will be built on the following observations. First, restructuring is blocked whenever a complementizer or *wh*-element is present, hence there is no evidence for a CP-projection in RIs (chapter two). Second, restructuring is

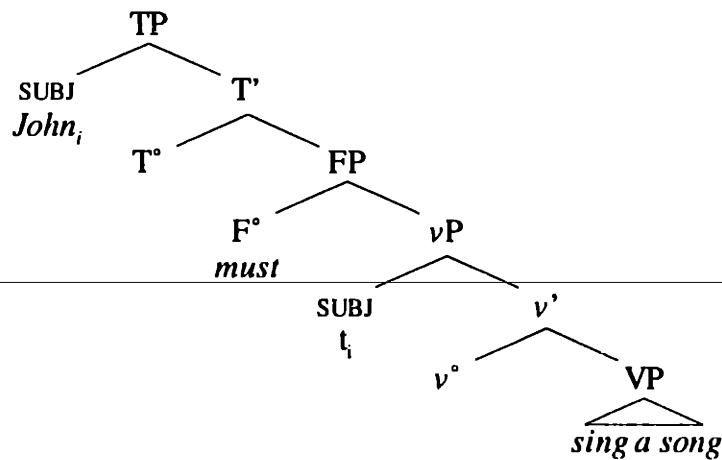
restricted to infinitival complements that lack tense marking and an independent tense interpretation. Hence syntactically and semantically, there is no evidence for a TP-projection in RIs (chapter two). Third, RIs lack a structural case position or assigner (chapter three), and do not involve an embedded syntactic subject (chapter four). Hence there is no evidence for a ν P-projection in RIs.

An account that assumes CP, TP and ν P projections in all control infinitives has three major shortcomings: i) a special mechanism of *restructuring* is necessary to distinguish between RIs and NRIs; ii) various cross-linguistic properties of RVs and restructuring constructions have to be stipulated as arbitrary selectional properties; and iii) additional principles are necessary to guarantee that the CP, TP, and ν P-projections are radically empty in RIs (semantically and syntactically). I will show that in a VP-approach the transparency of RIs falls out automatically, since the infinitive never involves a clausal projection. Furthermore, we will see that various selectional restrictions follow from one assumption: RIs are syntactically *and* semantically VP-predicates.

2.1 Two forms of monoclausal structures

The main assumption I will follow throughout this dissertation is that a clause involves only one subject, one TP, one CP, and one structural case position. However a clause could consist of more than one VP-layer. For restructuring this means that a monoclausal structure (i.e., a sentence with a RI) has a structure that involves only one TP, CP, an ν P, but one or more VPs. Under this assumption, there are two ways to build a restructuring configuration. First, a RI could have the structure in (8). The RV is a functional verb that takes a ν P-complement. Since there is only one subject, TP, CP and ν P, the structure in (8) would count as a monoclausal structure.

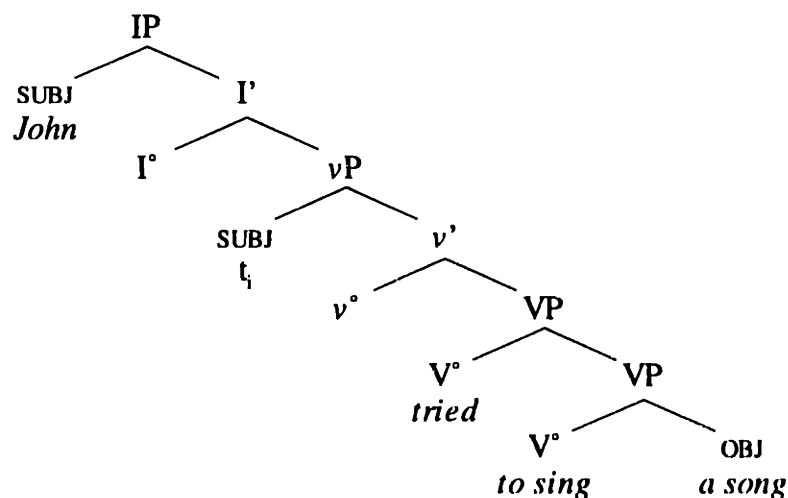
(8) Restructuring with functional RVs



In chapter six, I will propose that this simplest case of a monoclausal structure is the structure for modal verb and raising verb constructions. The structure in (8) of course raises a number of questions and issues: what is the nature of FP; how is the raising/control distinction expressed in a structure like (8); how are epistemic/root modality distinguished etc. to name just a few. These and other issues will be discussed in chapter six. What is important for now is to point out that the issue of restructuring, clause unification etc. does not arise in a structure like (8), since there is no representation or stage of derivation in which a modal verb construction consists of two clauses. Thus, provided the structure in (8) can be motivated, nothing more has to be said about the transparency of the infinitive (i.e., the main lexical VP of the sentence) than about the transparency of a VP in a simple clause.

The second way to build a RI is by combining a lexical verb and a bare VP-complement. This structure is depicted in (9).

(9) Restructuring with lexical RVs



One of the major issues of this dissertation, will be to motivate the structure in (9). Since the structure in (9) involves only one CP, TP and v P-projection, it represents again a monoclausal structure and no special mechanism of restructuring or clause unnification is necessary.

As for the classification of verbs as lexical vs. functional, I will assume that the RVs in German are classified as in Table 3.

Table 3: “Lexical” and “functional” restructuring predicates in German

“lexical”	RV	“functional”	RV
<i>easy-adjectives</i>	+	<i>want, can, must...</i>	+
<i>begin, continue, finish</i>	+	<i>come, go</i>	+
<i>try, know how</i>	+	<i>used to</i>	+
<i>manage, fail</i>	+	<i>seem</i>	+
<i>dare, forget (implicative)</i>	+	<i>promise, threaten</i>	±
<i>order, permit</i>	±		

In German, functional restructuring predicates are modal verbs (which include *want, can, must* etc., *come* and *go*) as well as raising verbs *scheinen* ‘seem’, and *pflanzen* ‘used to’. Although it is

often claimed that aspectual verbs are ambiguous between raising verbs and control verbs, I will group them together with lexical verbs rather than with functional verbs. (In chapter six, I will in fact challenge the claim that aspectual verbs are raising verbs). Other lexical restructuring predicates are the verbs *try*, *dare*, *manage* etc., i.e., verbs from the universal periphery of restructuring.

Note that I do not assume that this classification is universal. We will see that especially in the functional domain, languages show differences; e.g., *want* in English is a control or ECM-verb, whereas it is a modal verb in German. The question of what determines whether a verb is a functional or a lexical verb will not be solved here. However, I will show that the classification of functional vs. lexical verbs (or rather whatever property the classification will turn out to stand for) is nevertheless motivated and not completely arbitrary, since the two classes of verb correlate with a range of properties.

2.2 Illustration of major restructuring properties

In order to distinguish between RIs and NRIs, certain criteria have to be found or developed that can be shown to be sensitive to operative clause-boundaries (for the discussion at hand it is irrelevant whether RIs lack clause-boundedness effects as a consequence of the lack of clausal projections or of some process that renders the infinitive transparent). As mentioned above, properties found in RIs but not in NRIs (henceforth restructuring properties) differ from language to language, since language-specific factors have to be taken into consideration. The main properties to distinguish RIs from NRIs are movement operations that are prohibited from applying across a CP-boundary.

Starting with German, scrambling is such an operation: movement of an XP to the left of its base-position is possible as long as no clause-boundary is crossed. That is, scrambling from

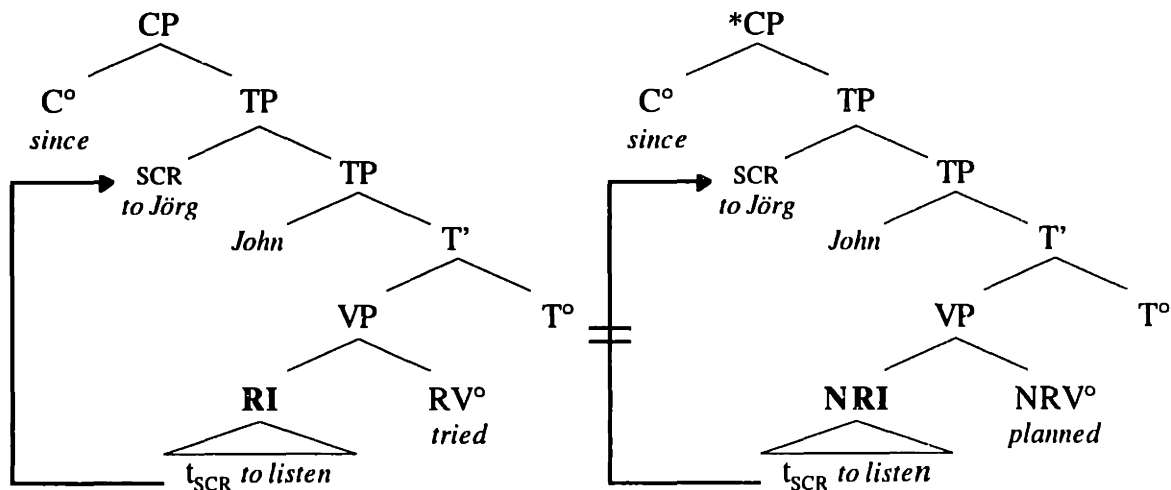
transparent infinitives (i.e., RIs) is possible but scrambling from finite clauses and non-transparent infinitives (i.e., NRIs) is blocked. This is illustrated in (10).

(10) “Long Distance Scrambling”

- | | | | | | | |
|----|--|---------------------------|----------|-------------------------------|------------------|------------|
| a. | weil | [dem Jörg] _{SCR} | der Hans | [t _{SCR} zuzuhören] | versuchte | <i>RI</i> |
| | since | to Jörg | the John | [t _{SCR} to listen] | tried | |
| | ‘since John tried to listen to Jörg’ | | | | | |
| b. | *weil | [dem Jörg] _{SCR} | der Hans | [t _{SCR} zuzuhören] | plante | <i>NRI</i> |
| | since | to Jörg | the John | [t _{SCR} to listen] | planned | |
| | ‘since John planned to listen to Jörg’ | | | | | |

Note that scrambling in (10) targets a position to the left of the matrix subject which clearly indicates that the direct object has moved out of the infinitival complement. A rough structure for the examples in (10) is given in (11):

- (11) a. **RI** b. **NRI**



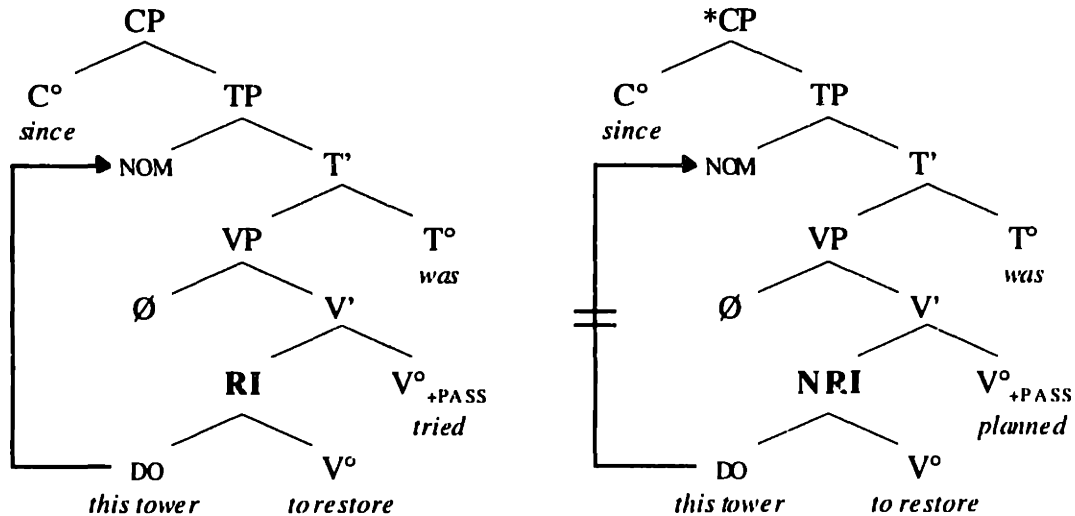
Leaving aside an analysis of scrambling for the moment, what is important in the structures in (11) is that NRIs constitute a barrier for scrambling while RIs don't.

A further characteristic of restructuring in German is that it allows a movement operation that has been labeled *Super Passive* or *Long Passive* (cf. Höhle 1978, Haider 1986a,b,c, 1992, 1993, Fanselow 1989). As is illustrated in (12)a, if a matrix RV is passivized, the embedded object moves to matrix subject position where it gets assigned NOM case. Note that passive morphology shows up only on the matrix verb. Again, this form of long passivization is restricted to RIs and blocked from finite clauses and NRIs (cf. (12)b).

(12) “Long Passive”

- | | | | | | |
|----|-------|---|-----------------------------------|----------|-------|
| a. | weil | [dieser Turm] _i | [t _i zu restaurieren] | versucht | wurde |
| | since | <i>this tower</i> -NOM | [t to restore] | tried | was |
| | | ‘since somebody tried to restore the tower’ | | | |
| | | | | | |
| b. | *weil | [dieser Turm] _i | [t _i zu restaurieren] | geplant | wurde |
| | since | <i>this tower</i> -NOM | [t to restore] | planned | was |
| | | ‘since somebody planned to restore the tower’ | | | |

A rough structure for (12) is depicted in (13). This form of passive will be investigated in detail in chapter three.

(13) a. **RI** b. **NRI**

Turning now to Romance—the main diagnostic for restructuring is clitic climbing: in Italian or Spanish, clitics cannot escape from finite clauses and NRIs, however they can climb out of a RI.

(14) “Clitic Climbing”

- | | | | | | |
|----|---------------------------|--------------|------------|------------------------|------------|
| a. | Gianni | lo | ha voluto | [leggere t_{CL}] | <i>RI</i> |
| | John | <i>it-CL</i> | has wanted | [to-read t_{CL}] | |
| | 'John wants to read it' | | | | |
| b. | *Gianni | lo | ha deciso | [di leggere t_{CL}] | <i>NRI</i> |
| | John | <i>it-CL</i> | decided | [to read t_{CL}] | |
| | 'John decided to read it' | | | | |

As is illustrated in (14)a, clitics can move out of a RI and attach to the finite matrix verb, while the same movement is blocked when the infinitive is a NRI as in (14)b.

Chapter Two:

CP, TP, Verb Raising

1. INTRODUCTION

The major claim in this chapter is that the control infinitives do not have a uniform (CP) structure but that certain control infinitives (namely RIs) are generated as simple VP-complements. In the first part of this chapter, I will argue against the presence of the functional projections TP and CP in RIs. In §2, I will demonstrate that overt complementizers and *wh*-elements are only found in NRIs. In §3, I will show that the class of RVs can be characterized by the following property: RVs are incompatible with a [+tense] complement. Assuming that the lack of tense and complementizer material is reflected in the lack of the corresponding functional projections, RIs are best analyzed as VPs. Finally, in §4, some speculations about the infinitival marker and negation will be offered.

The second part of the chapter addresses the question of whether RIs involve a special mechanism of restructuring or clause-union. The central claim in many approaches to restructuring is that the trigger for restructuring is the establishment of some head dependency between a head in the infinitival complement with a head in the matrix clause. More specifically, most analyses involve some sort of verb (or tense) raising from the infinitive to the matrix clause. Head movement of this sort has the consequence that the domain of the infinitive is extended and that the infinitival complement becomes transparent. It is assumed that V_{INF} -raising takes place only from RIs and not from NRIs, hence only RIs show clause union effects.

Under the assumption, that RIs are simple VPs the question arises of whether a special process like verb raising is indeed necessary. In §5, I will argue that verb raising (i.e., a mechanism that unifies the infinitive and the matrix clause) becomes superfluous since RIs do not constitute a clausal category at any point in the derivation.

2. CP-PROPERTIES OF RESTRUCTURING INFINITIVES

This section investigates the CP-properties of RIs—more specifically, the distribution of overt CP-material (i.e., overt complementizers and overt wh-specifiers) in RIs. The discussion will thus be restricted to languages and constructions that show overt material associated with the CP-projection of infinitival complements. If such material could be present in RIs, this would provide strong evidence for a CP-projection. However, we will see that overt CP-material is only possible if the infinitive is a NRI. In §2.1, I will summarize the distribution of overt complementizers; in §2.2, I will discuss wh-specifiers.

2.1 Restructuring infinitives are complementizer-less

2.1.1 Dutch, West Flemish

Dutch infinitival clauses can be introduced by the overt complementizer *om* when the infinitive is extraposed as in (1)a. If, however, scrambling applies as in (1)b or verb raising as in (1)c, an overt complementizer is prohibited (cf. Bennis & Hoekstra 1989, Besten & Rutten 1989, Broekhuis 1992, or Broekhuis, den Besten, Hoekstra & Rutten 1995).

(1) Dutch: no overt complementizer in RIs

- a. dat Jan heeft geprobeerd [(om) zijn broer die brief te schrijven]
 that Jan has tried [COMP his brother the letter to write]
 'that John has tried to write the letter to his brother'
- b. dat Jan [die brief]_{SCR} heeft geprobeerd [(om) zijn broer t_{SCR} te schrijven]
 that Jan *the letter* has tried [COMP his brother t_{SCR} to write]
 'that John has tried to write the letter to his brother'
- c. dat Jan [(om) zijn broer die brief t_v] heeft proberen te schrijven_v
 that Jan [COMP his brother the letter t] has try-INF to write
 'that John has tried to write the letter to his brother'

A few comments are necessary in order to interpret the facts in (1). Assuming an underlying OV-structure for Dutch, the example in (1)b is a case of so-called *remnant extraposition*—i.e., leftward movement of a constituent (the embedded direct object in (1)b) and rightward movement of a constituent containing the trace of scrambled phrase. This analysis was first proposed by Reuland (1981) and later on adopted for Dutch by den Besten & Rutten (1989), Broekhuis (1992), and Broekhuis, den Besten, Hoekstra & Rutten (1995). Assuming that a remnant extraposition analysis for (1)b is correct, we see that scrambling is only possible when the infinitive does not involve an infinitival complementizer.

The example in (1)c involves movement of the infinitive to the right of the matrix verb. This process is called *Verb-Raising*. One property of verb raising is that adjunction of the infinitive to the matrix verb triggers infinitival morphology on the matrix past participle (cf. *proberen* 'try' instead of *geprobeerd* 'tried' in (1)c). This phenomenon is called *Infinitivus Pro Participio* ('Infinitive for participle'; henceforth IPP). What is important here is that IPP is only possible when restructuring applies. Thus, the example in (1)c shows that an overt complementizer is prohibited in a RI.

Overt infinitival complementizers are also found in West Flemish. In contrast to Dutch, however, in most cases the complementizer *van* cannot be omitted:

(2) **West Flemish: overt complementizer**

(Rutten 1991:52)

- a. da Marie decideert [**(van)** hem een brief te schrijven]
 that Mary decides [COMP him a letter to write]
 'that Mary decided to write him a letter'
- b. *da Marie hem_{SCR} decideert [**van** t_{SCR} een brief te schrijven]
 that Mary *him* decides [COMP t_{SCR} a letter to write]
 'that Mary decided to write him a letter'

There are a few cases where the complementizer can be omitted. Interestingly, these are infinitives selected by verbs like *proberen* ('try'), *beginnen* ('begin'), *weigeren* ('refuse')—i.e., verbs that correspond to RVs in German or Dutch. The example in (3)a shows that the complementizer can be dropped in the complement of a RV. Like in Dutch, the complementizer has to be omitted when scrambling takes place as in examples like (3)b.

(3) **West Flemish: no overt complementizer in RIs**

(Rutten 1991:52)

- a. da Marie ee proberen [**(van)** hem een brief (te) schrijven]
 that Mary has try-INF [COMP him a letter to write]
 'that Mary tried to write him a letter'
- b. da Marie hem_{SCR} ee proberen [**(van)** t_{SCR} een brief (te) schrijven]
 that Mary *him* has try-INF [COMP t_{SCR} a letter to write]
 'that Mary tried to write him a letter'

To sum up, in Dutch and West Flemish which allow complementizers in certain contexts, infinitival complementizers are blocked when restructuring takes place.

2.1.2 Italian

A similar blocking effect of complementizers can be found in Italian. Kayne (1989, 1991) argues that *se* like English *if* is a complementizer rather than a *wh*-specifier.

(4) Italian: no overt complementizer in RIs

(Rizzi 1982:47)

- a. *Certe risposte non si sanno mai se dare
certain answers not SI-cl knows ever whether give
 'They don't know whether to give certain answers'
- b. *Non lo so se fare
 not *it* I-know whether do
 'I don't know whether to do it'

As shown in (4), object preposing and clitic climbing which are only possible under restructuring are blocked by an intervening overt complementizer.

2.1.3 German

I will end this section with a short discussion of infinitival complementizers in German. Although the distribution of overt complementizers in German will not allow us to draw any conclusions about the CP-projection in a RI, I include the German facts here for completeness. In German, infinitival complementizers are only found in purpose clauses (cf. (5)a) and are blocked in complement clauses (cf. (5)b):

(5) Overt complementizers in German

- a. weil Hans wegging [um Zigaretten zu kaufen]
 since John away-went [in order cigarettes to buy]
 'John left in order to buy cigarettes'
- b. *weil Hans versuchte [um Zigaretten zu kaufen]
 since John tried [in order cigarettes to buy]
 'John tried to buy cigarettes'

The complementizer in purpose clauses is obligatory and cannot be dropped (cf. (6)a). If we look at the restructuring properties of purpose clauses, it can be observed that purpose clauses in general are NRIs in German; i.e., scrambling from a purpose clause as in (6)b is clearly prohibited:

(6) **Purpose Clauses: obligatory complementizer, NRIs**

- a. *weil Hans wegging [Zigaretten zu kaufen]
 since John away-went [cigarettes to buy]
 'John left in order to buy cigarettes'
- b. *weil Hans [Zigaretten]_{SCR} wegging [(um) t_{SCR} zu kaufen]
 since John cigarettes away-went [(in order) t_{SCR} to buy]
 'John left in order to buy cigarettes'

Note, however, that the German facts in contrast to the Dutch or Italian facts cannot be taken as evidence against a CP-projection in RIs. The locality restrictions on restructuring require that the infinitive be the sister of the RV. Since purpose clauses are presumably in an adjunct position rather than in complement position of the matrix verb, purpose clauses can only be NRIs, independently of the presence or absence of an overt complementizer.

So far we have seen that restructuring is prohibited in cases where an overt complementizer is present. In the next section, I will argue that besides the restriction against complementizers in RIs, there is also a restriction against wh-specifiers in RIs.

2.2 Wh-specifiers

It has been claimed by Rizzi (1982) and Kayne (1989) that while wh-complementizers as in (4) are impossible in RIs, wh-specifiers are marginally possible:

- (7) ?Non ti saprei che dire t_{CL}
 not to-you I-would-know what say t_{CL}
 'I wouldn't know what to say to you' (Kayne 1989:16)

Taking clitic climbing as an indication of restructuring, the wh-infinitive in (7) would count as a RI, and hence provide evidence for the assumption that RIs can involve a CP-projection. The assumption that wh-specifiers are possible in RIs, however, has been questioned by many authors. Rooryck (1994:437, fn.6) for instance reports that there is a "tendency to exclude sentences with a

matrix tense other than the conditional” in Italian (cf. (8)) and a “strong tendency to exclude these structures with embedded verbs other than *decir* ‘say’” in Spanish (cf. (9)):

(8) **Italian: wh only with matrix conditional**

Rooryck (1994:437)

- a. ?Non ti **saprei** che regalare
 not *to-you* I-would-know what give
 ‘I wouldn’t know what to give to you’
- b. *Non ti **sapevo** che regalare
 not *to-you* I-knew what give
 ‘I didn’t know what to give to you’

(9) **Spanish: wh only with certain verbs**

Rooryck (1994:437)

- a. No te sabía/sé qué **decir**
 not *to-you* I-knew/I-know what say
 ‘I don’t/didn’t know what to tell you’
- b. *?No te sabía/sé qué **regalar**
 not *to-you* I-knew/I-know what give
 ‘I don’t/didn’t know what to give to you’

All the examples are fully grammatical when clitic climbing does not occur (i.e., in NRIs). Furthermore, Rooryck shows that wh-specifiers in Italian are if at all only marginally possible in left dislocation contexts or when the wh-element is *che* ‘what’; in all other contexts wh-specifiers are prohibited when clitic climbing occurs:

(10) **Italian: wh only with *what***

Rooryck (1994:421)

- a. *Non ti saprei **come** dire (che ...)
 not *to-you* I-would-know how say (that ...)
 ‘I wouldn’t know how to tell you (that ...)’
- b. *Non lo saprei **a chi** dire
 not *it* I-would-know whom say
 ‘I wouldn’t know who to tell it to’

Rooryck’s analysis is built on the assumption that clitic climbing is only possible if the verb+clitic complex raises first to the highest head position in the infinitival complement. In Rooryck’s

system, clitics have to be governed by the matrix tense in order to excorporate to the matrix clause; this condition is only met if the clitic is in the head position of the sister projection of the verb. To explain the contrast between cases like in (8)a vs. (10), Rooryck assumes that *che* 'what' cliticizes onto the embedded verb and the need of the wh-element to check its features in the CP-projection forces the complex head formed by the verb and all clitics to raise to C°. In contrast to the clitic *che*, full wh-phrases move to SpecCP independently to check their wh-features which takes away the motivation for the verb (+clitics) to raise to C°. RIs without a wh-element, on the other hand are AgrSPs which involve overt raising of the infinitive to AgrS° in Italian. In this position again the clitics attached to the verb are governed by the matrix T° and can excorporate. Although the contrast between clitic wh-words and full wh-phrase can be derived in Rooryck's mechanics it does not seem to provide room for the contrast in (8)a,b and (9)a,b.

Interestingly, a similar contrast is found in German. A general property of German is that it does not allow wh-infinitives. However, there are certain instances of what look like wh-infinitives:

(11) **German: apparent wh-infinitives**

- a. ?Ich weiß nicht was **tun**
 I know not what do
 'I don't know what to do'
- b. ??Ich weiß nicht was **essen**
 I know not what eat
 'I don't know what to eat'
- c. *Ich weiß nicht **wann/wo/warum** (es) tun
 I know not when/where/why (it) do
 'I don't know when/where/why to do it'
- d. *Ich weiß nicht **wann** essen
 I know not what eat
 'I don't know when to eat'

As in Italian RIs, the combination wh-expression+infinitive is only possible with the pronoun *was* 'what'; as in Spanish RIs, on the other hand there are strong limitations on the verb that appears as the infinitive (besides *tun* 'do' only *sagen* 'say' seems to be possible). Putting aside the question of what the exact nature of these fixed expressions is, I conclude from the highly restricted distribution that the wh-element and the verb form some sort of idiomatic phrase.⁸ I assume tentatively that the wh-word (as part of an idiomatic expression) is inside the VP and that no syntactic wh-movement to SpecCP is involved in the grammatical examples in (7) through (11).⁹ Assuming that these conjectures are right, and the idiomatic examples with apparent wh-specifiers receive a different explanation, it can be stated that RIs are only well-formed if they do not contain overt material in the embedded CP.

2.3 Summary

In §2, we have seen that restructuring properties like scrambling and clitic climbing correlate with the absence of CP-material—i.e., overt complementizers and wh-phrases are prohibited in RIs. The following table summarizes the main assumptions that are necessary to account for the lack of complementizers and wh-specifiers in RIs in the approach taken here (VP-approach), the head-raising approach, and the topicalization+head raising approach (for references see chapter one and the Appendix §2).

⁸ See also Napoli (1981:854f, fn. 18) who suggested that these wh-elements are part of fixed expressions.

⁹ This assumption seems to be supported by the fact that nothing is allowed to intervene between 'what' and the verb in Italian as well as in German.

Table 4: Lack of CP-properties of RIs

Approach	no complementizer	no wh-specifier
VP-approach	no CP	no CP
Topicalization+V/T-raising	additional assumption	unavailable SpecCP
V/T-raising	locality on head-movement	additional assumption

In the head-raising approach, the prohibition against complementizers in RIs can be explained by assuming that overt material in C° blocks head movement and that intervening heads cannot be skipped (i.e., some version of the *Head Movement Constraint* (HMC), cf. Travis 1984, Baker 1988). In addition, head-movement analyses have to rely crucially on the following assumptions: i) intervening heads cannot be skipped; ii) the verb cannot excorporate from C ; and iii) overt complementizers cannot be taken along when the infinitive moves to the matrix T/V (cf. Baker 1988, Li 1990). The first two assumptions can be reduced to the HMC. However, it is not clear why R-VR of the form C° —to V° should be impossible in cases (and only in cases) where C° involves an overt complementizer (recall that R-VR is possible when the complementizer is non-overt). Moreover, the existence of exactly this form of incorporation (C° —to V°) has been argued for by Pesetsky (1992).

Furthermore, the head-movement approach does not offer an explanation for the second property in Table 4—the prohibition against wh-elements in RIs. Since specifiers usually do not interact with head movement, additional assumptions are necessary to block restructuring across a wh-specifier.

In the topicalization+head raising approach, on the other hand, the blocking effect of wh-phrases is not surprising: provided that only one XP can appear in SpecCP, a wh-phrase would interfere with topicalization of VP/TP or AgrOP which is a necessary prerequisite for restructuring.

In this approach, however, the prohibition against complementizers in RIs requires additional assumptions (e.g., a version of the *Double Filled Comp* filter).

Under a VP-approach to restructuring both properties follow from the lack of a CP-projection in a RI:

Restructuring: ♦ RIs lack CP-properties \Rightarrow RIs lack CP
--

In the next section, we will see that RIs not only lack CP-properties but also do not show any properties that can be attributed to a TP-projection.

3. TP-PROPERTIES OF RESTRUCTURING INFINITIVES

Since Stowell's (1981, 1982) work on the tense of infinitives, many studies distinguish between two classes of infinitival constructions: *irrealis* vs. *propositional* infinitives. Irrealis infinitives refer to situations in which the event denoted by the infinitive is unrealized or uncompleted at the time of the matrix event. That is, examples like (12)a,b cannot refer to situations in which John has already gone to Kamchatka at the time of trying or deciding. Propositional infinitives, on the other hand, do not presuppose or assert anything about the embedded event. Thus, in a propositional infinitive like (12)c, the embedded event could have occurred at the time of John's believing (i.e., Mary could have gone to Kamchatka).

- (12) a. John tried to go to Kamchatka
b. John decided to go to Kamchatka
c. John believed Mary to have gone to Kamchatka

Stowell attributes the distinction between irrealis and propositional infinitives to the presence vs. absence of infinitival tense: propositional infinitives are tenseless whereas irrealis infinitives involve infinitival tense. Infinitival tense is characterized as *anunrealized* or *possible future* tense (Stowell 1981:562).

The distinction between irrealis and propositional infinitives is certainly an important factor in the semantic specification of infinitival-taking verbs.¹⁰ However, I will argue here that it cannot be reduced to infinitival tense. Despite the fact that the examples in (12)a and (12)b both involve irrealis complements, I will show that the tense properties of the infinitival complements in (12)a vs. (12)b are quite different. More specifically, it will be demonstrated that certain tense properties divide infinitival complements into two classes that do not correlate with the irrealis/propositional distinction but rather with the restructuring/non-restructuring distinction.¹¹ The conclusion will be that RIs like (12)a do not have a tense node that contributes independent tense information. The

¹⁰ Stowell claims that the distinction between irrealis and propositional infinitives is directly reflected in the syntax of infinitival constructions: he notes that there is a correlation between irrealis and control infinitives on the one hand vs. propositional and ECM-infinitives on the other hand. However, as has been pointed out by Pesetsky (1992), both correlations are not perfect. First, there are irrealis ECM-infinitives (infinitives combining with verbs like *want*; see also Pesetsky for arguments that *want*-constructions involve ECM); and second, not all control infinitives are irrealis (e.g., infinitives selected by factive verbs like *hate*).

¹¹ As I will argue in chapter four, RIs (i.e., *try*-type infinitives, aspectuals etc.) do not involve an embedded PRO subject and hence are not *control* infinitives. In this sense, Stowell's generalization—namely that only *control* infinitives involve tense—will again be valid. However, the empirical domains captured by the two generalizations (i.e., Stowell's proposal that only irrealis control infinitives involve tense; vs. the proposal here, namely that only NRIs involve tense) are quite different.

lack of an independent internal tense specification in the infinitive will be taken to reflect the lack of a TP-projection.

3.1 Restructuring infinitives are tenseless

Let us first look at an infinitive selected by a NRV like *decide*. As is illustrated in (13)a, the embedded infinitival tense (following Stowell 1982:566, I will refer to the infinitival tense in irrealis complements as a *quasi-future* tense) can be modified by a future oriented adverbial phrase like *in two months*. Infinitives selected by a RV like *try*, on the other hand, do not allow future oriented time adverbials (cf. (13)b).

(13) Adverbial modification of embedded tense

- a. Hans beschloß [Maria in zwei Monaten in Wien zu besuchen]
 ‘John decided to visit Mary in two months in Vienna’
- b. #Hans versuchte [Maria in zwei Monaten in Wien zu besuchen]
 #‘John tried to visit Mary in two months in Vienna’

One interesting property that complicates the facts and is—as I will show in more detail below—responsible for some of the speaker variation found with respect to the restructuring/non-restructuring distinction is that many infinitival constructions also allow a marked reading. In examples like (13)b, an interpretation like *John tried to make arrangements so that he would be able to visit Mary in two months* is marginally available as well. However, I will show in §3.2 that this marked [+tense] reading that involves independent tenses for the infinitive and the matrix clause is actually an instance of a NRI.

To come back to the impossibility of temporal modification of the embedded event as in (13)b, we will see momentarily that the illformedness of examples like (13)b is a general property of RIs. I will conjecture that the reason for this property found in restructuring contexts is that RVs

combine with complements without an independent tense contribution. The lack of an independent tense contribution then has the effect that the temporal orientation of the embedded complement is seen as *simultaneous* with the tense of the matrix event.

The notion of simultaneous events has to be qualified in the following way. Let us look more closely at the meaning of examples involving an infinitival complement. The examples in (14), involve intensional irrealis complements; i.e., according to John's beliefs, the situation that he tried/decided to achieve is not completed at the time of his attempt/decision (in other words, at the time of trying/deciding John has to believe that the light is off). The difference between the restructuring context in (14)a and the non-restructuring context in (14)b is that in (14)a, some aspect of what John thinks is switching on the light has to happen at the time of trying (i.e., John has to set some action that according to his beliefs will make the light go on). Thus, the simultaneous character of restructuring contexts is not a simultaneity between two actual events, but rather between the (actual) event of trying and whatever John thinks that will bring about the situation described in the infinitive. In the non-restructuring context in (14)b, on the other hand, the embedded situation is entirely situated in a future world.

- (14) a. John tried to switch on the light
 b. John decided to switch on the light

Although I will refer to the tense interpretation in restructuring contexts as a *SIMULTANEOUS* interpretation, this qualification should be kept in mind.

Looking at the class of RVs, aspectual verbs clearly prohibit a quasi-future interpretation for the infinitival complement. Aspectual contexts as in (15) do not allow a marked reading either.

(15) Aspectual RVs: simultaneous tense interpretation

- a. Hans hat gestern **begonnen** [(*)morgen) einen Kuchen zu backen]
 John has yesterday begun [tomorrow a cake to bake]
 'John began yesterday to bake a cake (*tomorrow)'
- b. Hans **fuhr** gestern **fort** [(*)morgen) einen Kuchen zu backen]
 John continued yesterday PARTICLE [tomorrow a cake to bake]
 'John continued yesterday to bake a cake (*tomorrow)'
- c. Hans hat gestern **aufgehört** [(*)morgen) einen Kuchen zu backen]
 John has yesterday finished [tomorrow a cake to bake]
 'John finished yesterday baking a cake (*tomorrow)'

Other RVs show the same inconsistency with non-simultaneous tenses (the verb *forget* is ignored for the moment and will be discussed separately in chapter five). For implicative verbs like *manage* or *dare*, this conflict has already been observed by Karttunen (1971).

(16) Non-aspectual RVs: simultaneous tense interpretation

- a. Hans hat gestern **gewagt** [(*)morgen) einen Kuchen zu backen]
 John has yesterday dared [tomorrow a cake to bake]
 'John dared yesterday to bake a cake (*tomorrow)'
- b. Hans ist es gestern **gelingen** [(*)morgen) einen Kuchen zu backen]
 John is it yesterday managed [tomorrow a cake to bake]
 'John managed yesterday to bake a cake (*tomorrow)'
- c. Hans ist es gestern **mißlungen** [(*)morgen) einen Kuchen zu backen]
 John is it yesterday failed [tomorrow a cake to bake]
 'John failed yesterday to bake a cake (*tomorrow)'
- d. Der Kuchen war gestern **leicht** [(*)morgen) zu backen]
 The cake was yesterday easy [tomorrow to bake]
 'Yesterday, the cake was easy to bake (*tomorrow)'

Although a quasi-future interpretation in the infinitival complements is not available under the unmarked readings of the sentences above, a distinct tense in the infinitive can be forced in some cases. These readings, however, are quite marked and highly dependent on an appropriate context. A 'contest' context usually facilitates the marked reading. Suppose various tasks are assigned to a group of organizers of a party the next day. One of the duties is to bake a cake and most people would prefer this duty over others. They argue, and finally John convinced them that he would be

the best cake-baker. It might then be possible for some speakers to say a sentence like (16)b—*he managed to bake the cake tomorrow*. The judgments in (16) refer to the unmarked readings.

Not all RVs allow the marked tense reading in the same way. As was pointed out above, aspectual verbs like *begin* seem to be unambiguous RVs in this respect. If we think about the meaning of aspectual verbs, this should not be surprising. Shifting the tense of the complement of *begin* to the future for instance, would mean that the embedded event in fact did NOT start at the time specified in the matrix predicate. Thus, the meaning of the verb *begin* would undergo a radical meaning change to *not begin*. Under the marked readings of complements of RVs like *try*, on the other hand, the basic meaning of the matrix verb is preserved (i.e., *try* still means *try*). In a sentence like *#John tried yesterday to visit Mary in two months* John has to have made some attempt; more specifically, he must have tried to do something that is related to visiting Mary or that is seen as a precondition for the visit. The marked readings hence do not involve a radical meaning change. Rather, a dissociation of the tense of the matrix clause and the embedded clause requires some ‘filling in’ of additional contextual information or contextual extension of the embedded complement.

The way I would like to interpret the facts in (15)-(16) is that the impossibility of a quasi-future interpretation in RIs is the result of a semantic incompatibility of a RV with a [+tense] infinitival complement. More specifically, I assume that RVs require as part of their meaning that their complement be tenseless. If a [+tense] infinitive is combined with a RV, the result is uninterpretable (unless certain adjustments like the marked readings are made), and hence the structure would not pass the syntax/semantics interface.

In the following three subsections, I will present other properties of RVs that provide further support for the claim that RVs are incompatible with [+tense] complements. In §3.2, I will show

that sentences with a marked tense reading are indeed instances of NRIs. In §3.3, I will discuss another tense related property of RVs, namely their incompatibility with finite complements. And finally in §3.4, I will investigate the tense properties of verbs corresponding to RVs in Germanic or Romance in a language with overt tense markers in infinitival clauses.

3.2 Tense clash

The claim that I have made so far is that RVs, but not NRVs are semantically incompatible with a [+tense] complement. Thus, if a verb allows a tense specification in the infinitive that is different from the tense in the matrix clause, it can only be an instance of non-restructuring. Recall that verbs like *try* are ambiguous between an unmarked tenseless and a marked tense reading of the infinitive. The prediction then is that these two readings correspond to two distinct structures, and that only the unmarked reading should be a case of restructuring.

Looking at examples involving the restructuring property long passive, we see that this prediction is borne out. If the infinitive has a simultaneous tense interpretation as in (17)a, long passive is fine. However, if the infinitive is constructed with a marked tense reading as in (17)b (i.e., with a reading like *They tried (yesterday) to make arrangements for smuggling the car across the border the next day*), the situation is different. The example in (17)c, which is only minimally different from (17)a in that it requires an independent tense interpretation for the infinitival complement, crucially differs in its behavior with respect to passive: long passive is possible in the former but becomes ungrammatical in the latter.

(17) **Marked tense reading: NRI**

- a. weil der Wagen gestern über die Grenze zu schmuggeln versucht wurde
 since *the car*-NOM yesterday across the border to smuggle tried was
 'since somebody tried yesterday to smuggle the car across the border'
- b. #weil den Wagen morgen über die Grenze zu schmuggeln versucht wurde
 since *the car*-ACC tomorrow across the border to smuggle tried was
 #'since somebody tried to smuggle the car across the border tomorrow'
- c. *weil der Wagen morgen über die Grenze zu schmuggeln versucht wurde
 since *the car*-NOM tomorrow across the border to smuggle tried was
 #'since somebody tried to smuggle the car across the border tomorrow'

The same contrast can be found with scrambling. As shown in (18)b, scrambling of the direct object is possible from an unmarked RI.

(18) **Scrambling from a RI**

- a. weil der Hans versuchte [den Wagen über die Grenze zu schmuggeln]
 since der Hans tried [the car across the border to smuggle]
 'since John tried to smuggle the car across the border'
- b. weil der Hans [den Wagen]_{SCR} versuchte [_{SCR} über die Grenze zu schmuggeln]
 since the John *the car* tried [_{SCR} across the border to smuggle]
 'since John tried to smuggle the car across the border'

If, however, the context is changed—in a way that requires a quasi-future interpretation for the infinitival complement; i.e., we force the marked tense interpretation as in (19)a, scrambling is not available anymore (cf. (19)b).¹²

¹² The contrast is not as strong with scrambling as it is with passive. I assume that this has to do with the (marginal) option of focus scrambling that is also available from certain NRIs (see chapter five).

(19) **Marked tense reading: NRI**

- a. #weil der Hans versuchte [den Wagen morgen über die Grenze zu schmuggeln]
 since the John tried [the car tomorrow across the border to smuggle]
 #‘since John tried to smuggle the car across the border tomorrow’
- b. *weil Hans [den Wagen]_{SCR} versuchte [t_{SCR} morgen über die Grenze zu schmuggeln]
 since John *the car* tried [t_{SCR} tomorrow across the border to smuggle]
 #‘since John tried to smuggle the car across the border tomorrow’

These contrasts argue strongly against a lexical approach to restructuring. If restructuring were simply determined by some arbitrary lexical feature, it would be quite dubious how the temporal and contextual information could influence the possibility of restructuring.

3.3 No finite clauses

Finite (indicative) clauses are by definition tensed clauses. If RVs are semantically incompatible with a [+tense] complement, we expect that the complement of a RV should not show up as a finite clause. This prediction is borne out as the following examples illustrate. Aspectual RVs prohibit finite complements—independently of the tense and mood of the embedded verb (cf. in (20)).

(20) **Aspectual RVs: *finite complements**

- a. *Hans **begann** [daß er das Bad mit einem Besen putzt(e)]
 *‘John began [that he cleans/cleaned the bathroom with a broom]’
- b. *Hans **fuhr fort** [daß er das Bad mit einem Besen putzt(e)]
 *‘John continued [that he cleans/cleaned the bathroom with a broom]’
- c. *Hans **hörte auf** [daß er das Bad mit einem Besen putzt(e)]
 *‘John stopped [that he cleans/cleaned the bathroom with a broom]’

Other lexical RVs also do not show up with finite complements as is illustrated in (21) (the discussion of the properties of the verb *forget* is again postponed until chapter five). However, in some cases, finite complements are available under the marked reading (this is especially the case

in colloquial German). Similarly to (16)b, a sentence like (21)b could get a marked reading like *John managed to perform a certain action that finally made the guests leave*. Since—as I will show in the next subsection—a marked reading of this sort is essentially a case of non-restructuring, the distribution of finite clauses supports the claim that RVs cannot take tensed complements. The judgments in (21) again refer to the unmarked readings.

(21) **Non-aspectual RVs: *finite complements**

- | | | | |
|-----|----------------------------|------------------------------|---|
| a. | *Hans
*‘John | wagte
dared | [daß er das Bad mit einem Besen putzt(e)/putzen wird]
[that he cleans/cleaned/will clean the bathroom with a broom]’ |
| b. | *Hans
*‘John | gelang es
managed | [daß die Gäste endlich verschwinden/verschwanden]
[that the guests disappear(ed) finally]’ |
| c. | *Hans
*‘John | mißlang es
failed | [daß die Gäste endlich verschwinden/verschwanden]
[that the guests disappear(ed) finally]’ |
| d. | *Hans
*‘John | versuchte
tried | [daß die Gäste endlich verschwinden/verschwanden]
[that the guests disappear(ed) eventually]’ |
| e. | *Es
*‘It | ist leicht
is easy | [daß der Hans das Bad mit einem Besen putzt/putzen wird]
[that John cleans/will clean the bathroom with a broom]’ |
| e’. | *Das Bad
*‘The bathroom | ist leicht
is easy | [daß der Hans mit einem Besen putzt(e)/putzen wird]
[that John cleans/cleaned/will clean with a broom]’ |

Note that the corresponding verbs in English also prohibit finite complements.¹³ The impossibility of finite complements in (20) and (21) has to be contrasted with the availability of finite clauses with NRVs:

¹³ Sentences like *John managed it so that the guests disappeared finally* do not contradict this claim since, in this case *manage* has a different meaning (i.e., it means something like *arrange* or *direct* rather than *succeed*).

(22) NRVs: ✓ **finite complements**

- | | | | |
|----|---------------|---------------------------------|---|
| a. | Hans
'John | beschloß
decided | [daß er das Bad putzen werde]
[that he would clean the bathroom]' |
| b. | Hans
'John | plante
planned | [daß der das Bad putzen werde]
[that he would clean the bathroom]' |
| c. | Hans
'John | kündigte an
announced | [daß er das Bad putzen wird]
[that he would clean the bathroom]' |
| d. | Hans
'John | bedauerte
regretted | [daß er das Bad geputzt hatte]
[that he had cleaned the bathroom]' |

As has been noted by Rochette (1988, 1990), this restructuring/non-restructuring contrast for finite complements is found across languages (e.g., English, Dutch, French, Italian etc.). It seems thus desirable to treat it as a deeper property of grammar rather than as a selectional accident. In the next section, I will show that this property is not restricted to Romance and Germanic languages but shows some reflection in a typologically different language, namely Japanese.

3.4 No overt tense markers—a case study of Japanese

Comparing infinitival constructions in a language like English with the corresponding constructions in Japanese, we find that Japanese 'infinitives' come in a variety of forms. In this section, I will show that among the various constructions two classes can be distinguished that are of specific interest for the issue of tense in infinitives: infinitives without an overt tense-marker on the embedded verb and INFINITIVES with an overt tense-marker on the embedded verb. For the latter, it is not obvious whether they should be classified as infinitives or finite clauses. I will not take any position on this issue here, but simply use the term INFINITIVE to refer to constructions that correspond to infinitives in English or German, but that show overt tense marking in Japanese. What is important here is that the verbs selecting INFINITIVES in Japanese correspond to NRVs in Romance and Germanic, whereas the verbs selecting infinitives without overt tense markers are exactly the verbs that corresponds to RVs.

Let us begin with INFINITIVES that appear with an overt tense-marker. A common way of expressing an INFINITIVE in Japanese is by embedding it in a complex NP. What is important for the discussion at hand is that the embedded verb in constructions under *koto* 'fact' shows up with an obligatory tense marker (cf. (23)).

(23) **Japanese: *koto* INFINITIVES**

- a. Emi-ga [ringo-o tabe-**ru** koto]-ni kimeta
 Emi-NOM [apple-ACC eat-PRES fact]-DAT decided
 'Emi decided to eat an apple'
- b. Emi-ga [ringo-o tabe-**ru** koto]-o yakusoku sita
 Emi-NOM [apple-ACC eat-PRES fact]-ACC promise did
 'Emi promised to eat an apple'
- c. Emi-ga [ringo-o tabe-**ta** koto]-o kuyanda
 Emi-NOM [apple-ACC eat-PAST fact]-ACC regretted
 'Emi regretted that she had eaten an apple'
- d. Emi-ga Susi-ni [ringo-o tabe-**ru** koto]-o settoku sita
 Emi-NOM Susi-DAT [apple-ACC eat-PRES fact]-ACC persuade did
 'Emi persuaded Susi to eat an apple'

Furthermore, we find INFINITIVES with overt complementizers. This is illustrated in (24). Here again, the embedded verb shows up with a PRES or PAST-tense marker that cannot be dropped.

(24) **Japanese: INFINITIVAL complementizers**

- a. Emi-ga [ringo-o tabe-**ru** to] yakusoku sita
 Emi-NOM [apple-ACC eat-PRES COMP] promise did
 'Emi promised to eat an apple'
- b. Emi-ga [ringo-o tabe-**ru** to] happyou sita
 Emi-NOM [apple-ACC eat-PRES COMP] announcement did
 'Emi announced that she would eat an apple'
- c. Emi-ga [ringo-o tabe-**ta** to] happyou sita
 Emi-NOM [apple-ACC eat-PAST COMP] announcement did
 'Emi announced that she had eaten an apple'

Finally, there are INFINITIVAL constructions involving the somewhat mysterious element *yoo(ni)*.¹⁴ Ignoring the exact nature of these constructions, the point here is again that the embedded verb is marked for tense. Moreover, in the examples in (25), an additional complementizer can occur in certain dialects of Japanese (cf. Nemoto 1993:194).

(25) **Japanese: *yoo* infinitives**

- | | | | | | | | |
|----|--------------------------------------|----------|------------|-----------------|----------|----------|------|
| a. | Emi-ga | Susi-ni | [ringo-o | tabe- ru | yoo(ni)] | itta | |
| | Emi-NOM | Susi-DAT | [apple-ACC | eat-PRES | YOO | told | |
| | 'Emi told Susi to eat an apple' | | | | | | |
| | | | | | | | |
| b. | Emi-ga | Susi-ni | [ringo-o | tabe- ru | yoo(ni)] | kyoosei | sita |
| | Emi-NOM | Susi-DAT | [apple-ACC | eat-PRES | YOO | force | did |
| | 'Emi forced Susi to eat an apple' | | | | | | |
| | | | | | | | |
| c. | Emi-ga | Susi-ni | [ringo-o | tabe- ru | yoo(ni)] | settoku | sita |
| | Emi-NOM | Susi-DAT | [apple-ACC | eat-PRES | YOO | persuade | did |
| | 'Emi persuaded Susi to eat an apple' | | | | | | |

To summarize, in many cases, INFINITIVAL-taking verbs in Japanese can take more than one kind of complement (e.g., the verb *promise* can combine with a *koto* INFINITIVE as well as an INFINITIVE with an overt complementizer; the verb *persuade* and most verbs with an additional DAT argument can combine with a *koto* INFINITIVE as well as a *yoo(ni)* INFINITIVE). I will set aside the exact distributional aspects of INFINITIVES with overt tense markers as well as the question whether the constructions in (23) through (25) are finite complements or infinitives. What is important for the discussion in this chapter, however, is that constructions corresponding to NRIs in Germanic or Romance display one common property in Japanese: the embedded verb is marked for tense, and in none of the examples can the tense marker be left out. Under the approach taken here, this is not surprising since NRVs are compatible with a [+tense] complement.

¹⁴ According to the literature, it is unclear what this element is (cf. Nemoto 1993:44, fn. 43). There seems to be consensus, however, that it is not a complementizer, but some kind of infinitival element.

Let us now turn to the class of verbs that correspond to RVs in Romance and Germanic. It has been pointed out by many authors that certain verbs in Japanese are affixes (cf. Shibatani 1978, Nishigauchi 1993, Kageyama 1993, Koizumi 1995); i.e., they do not have independent word status but appear attached to the embedded verb. A list of these verbs is given in (26):

(26) **Affixal verbs in Japanese**

a.	Emi-ga	ringo-o	tabe-rare-ta	<i>can</i>
b.	Emi-ga	ringo-o	tabe-taka-tta	<i>want</i>
c.	Emi-ga	ringo-o	tabe-hazime-ta	<i>begin</i>
d.	Emi-ga	ringo-o	tabe-dasi-ta	<i>start</i>
e.	Emi-ga	ringo-o	tabe-tuzuke-ta	<i>continue</i>
f.	Emi-ga	ringo-o	tabe-oe-ta	<i>stop</i>
g.	Emi-ga	ringo-o	tabe-age-ta	<i>finish, complete</i>
h.	Emi-ga	ringo-o	tabe-sugi-ta	<i>overdo</i>
i.	Emi-ga	ringo-o	tabe-kake-ta	<i>be about</i>
j.	Emi-ga	ringo-o	tabe-owe-ta	<i>come to an end, finish</i>
k.	Emi-ga	ringo-o	tabe-naos-ta	<i>re-do</i>
l.	Emi-ga	ringo-o	tabe-wasure-ta	<i>forget</i>
m.	Emi-ga	ringo-o	tabe-sokone-ta	<i>fail</i>
n.	Emi-ga	ringo-o	tabe-toge-ta	<i>manage</i> ¹⁵
o.		Ringo -ga	tabe-yasuka-tta	<i>easy</i>
	Emi-NOM	apple-ACC/NOM	eat-VERB/ADJ-PAST	

Three important things have to be noted for the constructions in (26). First, in contrast to (23)-(25), tense markers on the embedded verb are prohibited. Second, none of the INFINITIVAL elements found in the NRIs discussed above (i.e., *koto*, *yoo(ni)*, or complementizers) can appear with those verbs. In other words, the structures in (26) do not alternate with other structures but are the only way to express an infinitive with the verbs under consideration. Third, each of the

¹⁵ To express the meaning of *manage*, an additional adverb *nantoka* 'barely, with an effort' is usually added.

above verbs corresponds to a RV in Romance and/or Germanic (see the Appendix §1 for a summary of RVs in different languages).

The distribution of tense markers in Japanese ‘infinitives’ thus directly reflects the restructuring/non-restructuring distinction. Assuming that the claim I have made in §3.1—RVs are incompatible with a [+tense] complement—is indeed a deep property of grammar, the distribution is not surprising.

To complete the list of verbs combining with tenseless complements in Japanese, two additions have to be made. First, although the verb *must* (which is a RV in the other languages) is non-affixal and more complex in Japanese, it can nevertheless be used to confirm the generalization proposed here. Like the verbs in (26), the embedded verb in (27) lacks tense marker, complementizer, or other infinitival *yoo*-like elements.

(27) **Japanese: *must***

- | | | | | |
|----|-------------------------|-----------|-----------------|---------|
| a. | Emi-ga | ringo-o | tabe-nakere-ba | naranai |
| | Emi-NOM | apple-ACC | eat-if not-COND | must-do |
| | ‘Emi must eat an apple’ | | | |
| b. | Emi-ga | ringo-o | tabe-nakute-wa | naranai |
| | Emi-NOM | apple-ACC | eat- if not-TOP | must-do |
| | ‘Emi must eat an apple’ | | | |

Finally, as was first discussed by Miyagawa (1987), purpose clauses selected by motion verbs like *come*, *go* show various restructuring properties in Japanese. For here, it is important to emphasize that these RVs—although they differ from the verbs in (26) in that they are not affixes—combine with an infinitive that cannot involve overt tense markers (cf. (28) vs. (29)). Thus, we can also include motion verbs among the class of Japanese RVs.

(28) Other RVs in Japanese

Miyagawa (1987)

- a. Emi-ga ringo-o tabe-ni itta
 Emi-NOM apple-ACC eat-to went
 'Emi went to eat apples'
- b. Emi-ga ringo-o tabe-ni kita
 Emi-NOM apple-ACC eat-to came
 'Emi came to eat apples'

(29) No overt tense-markers with RVs

- a. *Emi-ga ringo-o tabe-**ta**-ni itta
 Emi-NOM apple-ACC eat-PAST-to went
 'Emi went to eat apples'
- b. *Emi-ga ringo-o tabe-**ru**-ni itta
 Emi-NOM apple-ACC eat-PRES-to went
 'Emi went to eat apples'
- c. *Emi-ga ringo-o tabe-**ta**-ni kita
 Emi-NOM apple-ACC eat- PAST-to came
 'Emi came to eat apples'
- d. *Emi-ga ringo-o tabe-**ru**-ni kita
 Emi-NOM apple-ACC eat- PRES-to came
 'Emi came to eat apples'

To conclude, Table 5 summarizes the verbs that combine with non-tense-marked complements in Japanese. The correlation with restructuring is striking: all the verbs belong to the class of RVs in Germanic or Romance (as the reader can verify by the table in the Appendix §1).¹⁶

¹⁶ Japanese RVs include verbs from the core and the periphery of RVs. The verbs *know-how* and *dare* lack an equivalent infinitival-taking verb in Japanese and are therefore missing from Table 5; the only verb that behaves differently in Japanese and German (but not Romance) is the verb *try* which takes a [+tense] complement in Japanese.

Table 5: Verbs taking tenseless complements in Japanese

VERBS	Japanese	RV in Romance and/or Germanic
<i>want, can, must</i>	+	+
<i>come, go</i>	+	+
<i>begin, continue, finish</i>	+	+
<i>be about to, re-do</i>	+	+
<i>easy-adjectives</i>	+	+
<i>manage, fail</i>	+	+
<i>forget</i>	+	+

Assuming that RVs are incompatible with a [+tense] complement, the distribution of tense markers in Japanese receives a straightforward account.

3.5 Summary

The main points that have been discussed in §3 are: i) the lack of an independent tense contribution in complements to RVs; and ii) the prohibition against finite complements with RVs. Comparing the approach taken here with a head-movement approach and a topicalization + head-movement approach, we get the following picture.

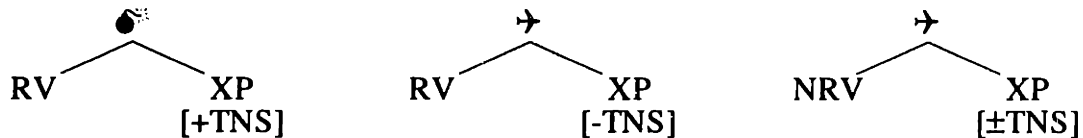
Table 6: Lack of TP-properties of RIs

Approach	tenselessness	no finite complements
VP-approach	*[RV + TP]	*[RV + TP]
Topicalization+V/T-raising	TP, but no T-features in INF	selectional restriction
V/T-raising	TP, but no T-features in INF	selectional restriction

Assuming that these properties are not accidental, the first property can be attributed in all approaches to some semantic incompatibility between a RV and a [+tense] complement which is structurally manifested as the lack of a TP in the VP-approach and as the lack of T-features in the CP-approaches. The main difference between the two approaches seems to lie in the way this

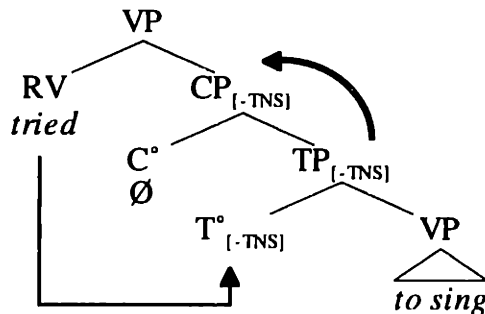
incompatibility can be instantiated. In the approach taken here, it can be expressed as a simple interpretability issue; i.e., the combination of two elements has to yield an interpretable structure, and the meaning of RVs is incompatible with a [+tense] complement.

(30) **RVs are incompatible with [+tense] complement**



In a CP-approach, however, this mechanism would have to be enriched by certain assumptions that guarantee that (in)compatibility can be checked across the CP-projection. Thus, one obvious way would be to assume that some kind of percolation takes place that transfers the features from the TP to the CP-level. Another way to instantiate the incompatibility between a RV and an infinitive involving T-features would be via selection. Here again, assumptions have to be made to ensure that non-local selection is possible. Similar considerations apply to the second property in Table 6, the ban against finite clauses.

(31) **CP-approach**



In a VP-approach, on the other hand, all the tense related properties discussed in this chapter can be related to the lack of a TP-projection.

The assumption that RIs are VPs raises the obvious question of where the infinitival marker *zu* ‘to’ and negation—i.e., categories that are often associated with functional head positions in the clause—appear. The next section will provide some discussion of these categories.

4. FUNCTIONAL PROJECTIONS IN RESTRUCTURING INFINITIVES

4.1 Infinitival marker

The assumption that RIs do not involve a tense projection raises the question of where the infinitival marker *zu* ‘to’ that appears in a subgroup of the class of RIs is situated.

The distribution of the infinitival marker *zu/to* is by and large the same in German and English. Modal verbs, perception verbs and causative verbs combine with bare infinitives (i.e., infinitival complements without the infinitival marker); control verbs and raising verbs require an infinitival marker. There are a few verbs that have an intermediate (dual) status—i.e., it is not clear whether they are modals or control verbs. Verbs of this category—which in German include *helfen* ‘help’ and *brauchen* ‘need’—can show up with or without infinitival marker (see chapter six). This distribution is summarized in the following table.

Table 7: Infinitival marker

Verb classes	<i>zu</i>	<i>to</i>	RV (German)
modal verbs	-	-	+
active perception verbs	-	-	±
active causative verbs	-	-	±
passivized perception verbs, causatives	-	+	+
control verbs	+	+	±
raising verbs	+	+	+
ECM-verbs	Ø	+	Ø
control verb or modal (<i>need</i>)	±	±	+

It seems quite complicated (if not impossible) to find a common property to either the class of verbs that take a *zu/to*-infinitive, or the class of verbs that take bare infinitives. To give a few examples, overt subjects appear in *to*-infinitives (ECM), as well as bare infinitives (causatives, perception verbs). Subject traces are found in *to*-infinitives (raising, passivized perception verbs in English) and bare infinitives (epistemic modals). Intensional infinitives can involve *to* (control infinitives like *try*, *decide* etc.) or lack *to* (modals). Non-intensional infinitives can involve *to* (factive or aspectual infinitives; e.g., *hate*, *begin*) or lack *to* (perception verbs, causatives). And finally, the presence or absence of the infinitival marker certainly does not correlate in any form with restructuring. Many authors thus assume that the distribution is determined by a lexical or selectional property of the matrix verb (cf. Burzio 1986, Rochette 1988). Hence, the infinitival marker can satisfy different functions depending on which construction it occurs in (see for instance Pesetsky 1992, who distinguishes between a propositional, factive, and implicative *to*).

Intuitively, the infinitival marker appears in contexts that can be described as [-finite]. Apart from the fact that not all non-finite constructions involve an infinitival marker, we seem to run into problems again, if we try to define what aspect of *non-finite* is represented by *to*; or in other words, what the meaning of *to* could be. Two possibilities come to mind: *to* represents infinitival tense features or *to* represents infinitival case and/or agreement. Both assumptions are problematic.

The assumption that the function of *to* is to assign case to the infinitival PRO subject (e.g. *Null Case* as in Chomsky & Lasnik 1993) would (falsely) exclude *to* in ECM-infinitives and raising infinitives. Since the embedded subject in an ECM or raising construction checks case in the matrix clause, *to* does not assign any case in these contexts.

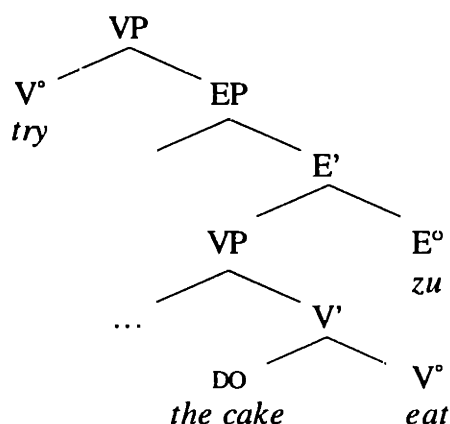
That finiteness is not equivalent with ‘lack of tense’, has more or less been accepted since Stowell (1981, 1982). Following Stowell, Martin (1992, 1996) assumes that irrealis complements (i.e., control infinitives) are [+tense] since they involve a “hypothetical” or quasi-future tense, whereas propositional complements (i.e., raising and ECM-complements) are [-tense] since they lack this kind of quasi-future interpretation. In this chapter, I have argued that this classification is an oversimplification and that control infinitives are not necessarily [+tense] but fall into two classes: [+tense] NRIs, and [-tense] RIs. Abstracting from this dispute, what is crucial for the discussion here, is that both control infinitives and ECM-infinitives involve the infinitival marker *to* in English (German lacks ECM-constructions). Thus, the distribution of the infinitival marker does not correlate with [\pm tense] in either approach (the Stowell/Martin approach or the approach taken here). In both approaches, [+tense] and [-tense] infinitives show up with the infinitival marker. The assumption that infinitival *to* represents tense seems thus problematic as well.

I will conclude here that so far, there does not seem to be a coherent way to assign a specific meaning to the infinitival marker that captures the range of facts in Table 7. Following Burzio (1986), I assume that the (kind of) infinitival marker is determined by a selectional property of the matrix verb. Rochette also notes that the choice of infinitival marker shows certain regularities (though not absolute ones) in French—for instance, verbs that convey the meaning of the beginning of an action require the preposition *à* (cf. Rochette 1988:247, fn. 33). Although, the question of what and where the infinitival markers are does not seem to be settled completely yet (especially in Romance infinitives), there is to some extent consensus among authors that the

infinitival marker(s) in Romance are not INFL-elements but rather the head of a prepositional phrase outside the infinitive (cf. Manzini 1982, Rizzi 1982, Burzio 1986, Rosen 1989, Rochette 1988 among others).

Furthermore, Travis (1994 and forthcoming) argues against the assumption that the infinitival marker *to* occupies the T°-position in English since the infinitival marker appears after negation (e.g., *He tried not to win*). She proposes that *to* is the head of an event phrase (EP) that is part of the VP and hence lower than Tense or INFL. A RI would then have the structure in (32).

(32) RI



In structures where the infinitival marker shows up before negation, Travis assumes that negation is an instance of constituent negation. Some evidence for this assumption could be drawn from the following examples involving VP-ellipsis. As is shown in (33)a,b the infinitival marker *to* and negation can appear in either order. If, however, the infinitival VP is elided, only the order negation-infinitival marker is possible (cf. (33)c,d). In contrast to (33)d, stranding of the negation would be fine in a finite clause.

(33) **VP-ellipsis**

- a. John tried **not to** win
- b. John tried **to not** win
- c. John tried to win the game but Mary tried **not to** (in order to make him happy)
- d. *John tried to win the game but Mary tried **to not**

One way to interpret these facts, is to assume that (sentential) negation appears in a position that is higher than the infinitival marker (as in Travis's (32)). Thus, an order where negation follows the infinitival marker can only involve constituent negation. Assuming that constituent negation cannot modify an empty category (constituent negation usually requires some focus etc. which presumably cannot be realized by an elided phrase), the ungrammaticality of (33)d is expected.

To conclude this section, I will not commit myself to any specific analysis for infinitival markers here (i.e., whether they are aspect or event markers, inside the infinitival VP or matrix prepositions etc.). But I will assume with the authors above that the infinitival marker does not occupy a position in the CP or IP domain of the infinitive—and specifically, infinitival prepositions do not represent tense information.

4.2 Negation

In many works since Pollock (1989) it has been assumed that sentential negation is the head of a functional projection NegP that appears above VP. The assumption that RIs are bare VPs raises the question of whether the infinitive can involve a functional NegP, or, more generally, whether RIs can involve sentence negation at all. Sabel (1996:214) who argues for a clausal structure of RIs claims that negation has no effect on restructuring properties in German. If scrambling takes place—i.e., the infinitive is a RI—negation can still appear in the embedded infinitive. Haider (1993), on the other hand, claims that RIs do not constitute an independent

domain for sentential negation, but that a sentence with a RI consists of only one single (sentential) negation domain.

Consider first a basic restructuring example involving scrambling. A sentence like (34)a has two interpretations: ‘John was supposed not to wash the car, but he forgot’ (i.e., the negation takes scope under the matrix verb); and ‘John was supposed to wash the car and he didn’t forget’ (i.e., the negation takes matrix scope). Crucially, if the infinitive involves scrambling as in (34)b (i.e., if it is a RI), both readings are preserved.

(34) Negation & Scrambling

- | | | |
|----|--|---------------------|
| a. | weil der Hans den Wagen nicht zu waschen vergessen hat | |
| | since the John the car not to wash forgotten has | |
| | ‘since John forgot not to wash the car’ | <i>embedded NEG</i> |
| | ‘since John didn’t forget to wash the car’ | <i>matrix NEG</i> |
| | | |
| b. | weil den Wagen der Hans nicht zu waschen vergessen hat | |
| | since [<i>the car</i>] _{SCR} the John not to wash forgotten has | |
| | ‘since John forgot not to wash the car’ | <i>embedded NEG</i> |
| | ‘since John didn’t forget to wash the car’ | <i>matrix NEG</i> |

Does this show that the infinitive involves sentential negation? Since truth conditionally, sentential negation as in *not to wash* and constituent negation as in *to not wash* seem to be indistinguishable, the sentence in (34)b could also involve constituent negation. Thus, although examples like the ones in (34)b are RIs that involve embedded negation, they do not show that RIs involve sentential negation.

Although I will not provide an account for it, I would like to point out an interesting contrast with respect to negation that can be observed in RIs involving passive in German. In (35)a, negation appears inside an extraposed infinitive. In this position, the negation can only take embedded scope. As I will show in chapter three, infinitives that combine with a passivized matrix verb are NRIs if they involve an ACC-object. Thus both examples in (35)a and (35)b are NRIs; i.e.,

clauses. Since in general, quantifiers cannot scope out of an clause in German, the unambiguity of (35)a,b is not surprising. If, however, long passive or long object movement applies as in (35)c,d the interpretation where the RV takes scope over negation disappears—i.e., the only readings available in (35)c,d are readings in which the negation has matrix scope.

(35) Passive & Negation

- | | | |
|----|---|--|
| a. | weil vergessen wurde [den Wagen nicht zu waschen]
since forgotten was [the car-ACC not to wash]
‘since somebody forgot not to wash the car’
*‘since somebody didn’t forget to wash the car’ | <i>embedded NEG</i>
<i>*matrix NEG</i> |
| b. | weil [den Wagen nicht zu waschen] vergessen wurde
since [the car-ACC not to wash] forgotten was
‘since somebody forgot not to wash the car’
*‘since somebody didn’t forget to wash the car’ | <i>embedded NEG</i>
<i>*matrix NEG</i> |
| c. | weil der Wagen nicht zu waschen vergessen wurde
since [the car]-NOM not to wash forgotten was
*‘since somebody forgot not to wash the car’
‘since somebody didn’t forget to wash the car’ | <i>long passive</i>
<i>*embedded NEG</i>
<i>matrix NEG</i> |
| d. | weil ihnen der Turm nicht zu zerstören gelungen ist
since them-DAT [the tower]-NOM not to destroy managed is
*‘since they managed to not destroy the tower’
‘since they didn’t manage to destroy the tower’ | <i>long passive</i>
<i>*embedded NEG</i>
<i>matrix NEG</i> |

The examples in (35)c,d have to be contrasted with (34)b: while embedded negation is possible in a RI involving scrambling, it is prohibited in a RI involving passive. An account of these facts hinges crucially on the (semantic) analysis of passive, and in particular the interaction of negation and passive. I will not be able to provide an account here. But let me just offer a few speculations. If it is assumed that passive involves existential quantification over the implicit argument, it has also to be assumed that negation always takes higher scope than this existential quantification. That is, a sentence like *It was not destroyed* is only true if ‘it was not the case that there was somebody such that he destroyed it’ (it does not mean that ‘there is/was somebody such that he didn’t destroy it’). In chapter four, I will argue in some detail that RIs do not involve an embedded subject but

that a sentence with a RI contains only one syntactic subject. Putting together the assumption that the subject of a RI is in the matrix clause, or in other words, that a restructuring predicate + the infinitive form a simple clause, and the assumption that (for whatever reason) negation always has to take highest scope in a passive sentence, the prohibition against lower scope in (35)c,d could be accounted for. This line of analysis would of course require an investigation of the interaction of passive and constituent negation which does not seem to be a straightforward issue.

To conclude, RIs can involve negation, however, it is not clear whether this negation is an instance of sentence or constituent negation. Furthermore, negation also shows certain restrictions (i.e., in German, in passive contexts) that—although an account is still outstanding—nevertheless show that restructuring does have an effect on the behavior of negation.

5. VERB/TENSE RAISING

Many analysis of restructuring are built on the idea that restructuring involves some sort of head-movement (see chapter one, and the Appendix §2 for references). The main function of head-movement (i.e., verb raising) in clausal approaches to restructuring is to unify the infinitive and matrix predicate and to render the infinitive transparent. Under a VP-approach as proposed here, where a RI forms a monoclausal structure with the ‘matrix’ verb from the beginning, this major motivation for verb raising disappears. We thus have to ask whether verb raising is still a mechanism necessary to account for locality effects in infinitives.

The literature on restructuring provides four main arguments for (c)overt head raising in restructuring contexts: i) RIs are in a tense dependency with the matrix tense; ii) intervening heads block restructuring; iii) restructuring is blocked when head raising is impossible; iv) certain adjacency requirements are found between the infinitive and the matrix clause. In this section, I

will investigate these arguments. I will show that the arguments for R-VR are not convincing and that R-VR is not needed in any of the above contexts. We will see that the phenomena that are claimed to be tied to R-VR are also found in contexts other than RIs. Hence, independent explanations are required to account for these phenomena. Assuming that the phenomena R-VR is supposed to account for follow from independent considerations, R-VR does not seem to be motivated and is thus superfluous.

5.1 Introduction

The idea of V_{INF} -raising (henceforth R-VR which stands for *restructuring verb-raising*) goes back to Evers (1975) who observed that the matrix verb and the infinitive have to be strictly adjacent in certain contexts in Dutch and German. Assuming a basic head-final VP-structure, the infinitives in (36) show up on the ‘wrong’ side of the matrix verbs in Dutch. Evers proposes that this reordering effect is the result of a movement process of the infinitival verb—i.e., the infinitive moves up to the matrix clause and attaches to the right of matrix verb in Dutch in (36)a (for German see §5.5)

(36) Dutch: Verb Raising

- | | | | | | | | | |
|----|---------------------------------------|-------|-------|-----------|----|-----------|----------|-----------|
| a. | Jan | heeft | Marie | gisteren | op | t_{INF} | proberen | te bellen |
| | John | has | Mary | yesterday | up | t_{INF} | try-INF | to call |
| | ‘John tried to phone Mary yesterday’ | | | | | | | |
| | | | | | | | | |
| b. | Jan | heeft | Marie | gisteren | op | t_{INF} | willen | bellen |
| | John | has | Mary | yesterday | up | t_{INF} | want-INF | call |
| | ‘John wanted to phone Mary yesterday’ | | | | | | | |

In a sentence like (36)a, the question arises whether the material to the right of the matrix verb is indeed a head or whether it is a bigger constituent. One might speculate that the infinitive could also be part of a remnant XP that appears in extraposed position. Note that in the Dutch example in (36)a the particle *op* which is associated with the embedded verb, appears to the left of the matrix

verb. If (36)a were a case of remnant movement, one would have to assume that the embedded VP has first been emptied by scrambling. However, since particles cannot undergo scrambling in Dutch, but nothing blocks stranding of a particle (as for instance in a verb-second context), it is generally assumed that the dissociation of a particle from its corresponding verb such as in (36)a provides evidence for R-VR rather than extraposition (see den Besten & Rutten 1989, Rutten 1991, Broekhuis 1992, or Broekhuis, den Besten, Hoekstra & Rutten 1995 among others).

Evers (1975a,b) was the first who suggested that there is a close relation between R-VR and restructuring or clause union. Following a proposal by Kuroda (see Ross 1967:56) he formulates what he calls a *Guillotine Principle* for Dutch R-VR:

(37) S-pruning Principle Evers (1975a:56)

Delete the S labeled node of a clause when its V constituent has been removed

Thus, in Evers' account the formation of a complex verb consisting of the matrix verb and the infinitive creates a sentence that has lost its head and therefore the S-node cannot survive (by the principle in (37)).

A similar idea—namely relating transparency effects to some form of verb complex formation—was suggested by Rizzi (1978, 1982) for Italian. The formation of a complex head in Italian, however, is less straightforward than it appears in Dutch, since various elements may intervene between the matrix verb and the infinitive. As Rizzi notes, clitic climbing (cf. (38)a), object preposing (cf. (38)b) and auxiliary switch (cf. (38)c) are possible in cases where adverbs show up between the two verbs:

(38) No adjacency between matrix verb and infinitive

- a. Lo verrò **subito** a scrivere Rizzi (1982:38)
 it-CL I-will-come at-once to write
 'I will come to write it at once'
- b. Gli stessi errori si continuano **stupidamente** a commettere
 the same errors *SI* continue stupidly to make
 'People continue to make the same errors in a stupid way'
- c. Maria è dovuta **immediatamente** tornare a casa
 Mary *is* must immediately return at home
 'Mary has had to come home immediately'

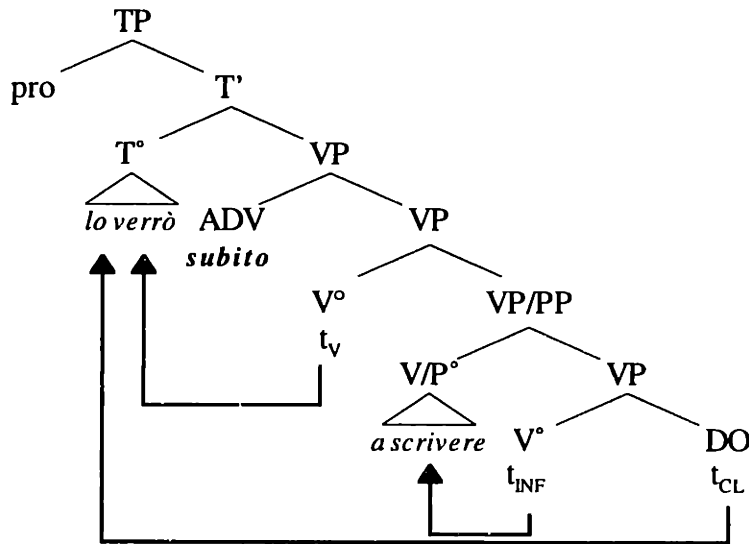
Rizzi therefore argues that "Restructuring creates a syntactic constituent 'verbal complex', and that this constituent cannot be simply a V. [...] Italian syntax makes use of a syntactic category, distinct from V, dominating nonlexical verbal compounds." (Rizzi 1982:38). Since head raising creates X° categories rather than X' categories, it is not clear how Rizzi's syntactic complex verb could be implemented into a standard GB style analysis of head movement. To account for the discontinuity of the two verbs found in Romance RIs (by keeping the assumption that the infinitive and the matrix verb form a complex head) various analyses have been proposed: R-VR in RIs takes place abstractly as LF-incorporation of the infinitive (cf. Sternefeld 1990, Grewendorf & Sabel 1994, Gonçalves 1998); the infinitival T or Agr-node undergoes abstract R-VR in RIs leaving behind the infinitival verb (cf. Kayne 1989, Roberts 1993, Bok-Bennema & Kampers-Manhe 1994, Rooryck 1994, Sabel 1996, Terzi 1996); or V/T raising applies overtly, but at PF the tail rather than the head of the chain is pronounced (cf. Roberts 1997). Besides various timing and technical differences of movement, the approaches have in common that clause union is seen as the result of some form of head movement.

In the approach taken here, RIs in Italian involving clitic climbing as in (38) are represented as in (39): following the standard assumption that finite as well as infinitival verbs move out of the VP in Italian (cf. Kayne 1989, 1990, Pollock 1989, Belletti 1990), the matrix verb ends up to the left of a VP-adjoined adverb (contra Cinque 1997, I do not assume that adverbs are generated in

the specifier of functional projections; though nothing essential seems to hinge on it). Similarly, the embedded infinitive raises to some infinitival head in overt syntax.¹⁷ As for the position of clitics, I simply assume for now that clitics attach to T° in Italian. (The base position of the subject is ignored.)

(39) **no overt R-VR**

=(38)a



Assuming (39) as the basic non-modal structure for Italian RIs, the question arises whether it is necessary to assume a process of further R-VR at LF. In the next sections, I will investigate the arguments for R-VR made in the literature in the light of a simple bare VP-structure or monoclausal structure for RIs.

¹⁷ The VP/PP could be seen similar to Inf_n in Kayne (1989, 1991), or the EP proposed by Travis (1994) for the infinitival marker. See chapter two for the position of the infinitival marker.

5.2 Tense dependencies

Many approaches to restructuring assume that RIs lack a tense specification (cf. Rutten 1991, Bok-Bennema & Kampers-Manhe 1994, Rooryck 1994) and that the lack of tense triggers R-VR. This claim is rooted in theories that are based on the assumption that verbs (i.e., finite verbs, participles and infinitives) have to be “tense licensed”; i.e., in a local relation with a T° head (cf. Guéron & Hoekstra 1988, Bennis & Hoekstra 1989). Thus, the argument for R-VR relies on the following assumptions: i) RIs lack tense but nevertheless project a TP; ii) the T° in RIs is not ‘strong’ enough to license an infinitive; and iii) all verbs have to raise to T° .

In §3, I have argued that the first two assumptions are unnecessary if we assume that RIs do not involve a TP-projection altogether. Since there is no independent evidence for the claim that verbs that do not raise to T° overtly have to raise to T° at LF in order to be tense licensed, the third assumption seems unmotivated: it is not clear why or how infinitives and participles have to be tense licensed, or why these verbs which are already in the scope of a tense operator have to raise covertly.

At this point, I would like to point out an inconsistency with respect to R-VR found in many analyses. It has been argued for that infinitives in Italian raise to some inflectional head outside the VP—in most approaches T° (see for instance Kayne 1989, Belletti 1990). In many clausal analyses of restructuring, it is assumed that simple V-to-T raising takes place in NRIs as well as in RIs, since both types of infinitives have to show up to the left of certain adverbs. However, since it cannot be assumed that RIs raise overtly to the matrix T° (see the discussion of adverb positions in the previous section), RIs (like NRIs) appear in the embedded T-node at S-structure. The question then is why RIs raise to some infinitival T, and why they do not raise further to the matrix T. If raising of infinitives is triggered by the need to check tense features and if RIs lack tense features,

the infinitive should never stop in the deficient infinitival T, but rather—like finite verbs—raise to the matrix T.

Under the approach here, the tense properties in RIs work as in a simple clause. In terms of tense, the relation between a matrix verb and a RI is similar to the relation between an auxiliary and a participle (cf. Napoli 1981). If the participle in a simple clause raises to T (or some functional projection above VP), we expect that a RI raises out of the VP-projection as well. This situation is true for Dutch. In most other languages, there is no evidence for movement of participles or RIs to the matrix T°. I will thus assume that the question of whether RIs involve R-VR reduces to the question of whether non-finite verbs (participles etc.) raise to T.

5.3 Do intervening heads block restructuring?

There are two major contexts that have been taken to motivate the existence of verb raising in restructuring contexts: overt complementizers and negation. A general property of restructuring is that transparency effects are not found with finite clauses and in the presence of complementizer material. Many analyses (e.g., Kayne 1989, Roberts 1993, 1997, Bok-Bennema & Kampers-Manhe 1994, Sabel 1996, Terzi 1996) invoke these properties as evidence for an obligatory process of verb raising in RIs. That is, according to these analyses, restructuring is only possible when some verbal head from the infinitive raises to the matrix clause. Since intervening heads like complementizers block restructuring, the process of verb raising seems to be motivated. As I have argued in §2.3, this argument requires various assumptions about the mechanism of verb raising. Under the assumption that RIs are bare VPs, on the other hand, it follows without other assumptions that a RI cannot involve a complementizer no process of R-VR is necessary.

The second argument for R-VR that is usually mentioned in the literature is based on the behaviour of negation in the infinitival complement. Under the assumption that negation heads a functional NegP projection, it would be expected that the presence of negation should interfere with R-VR; i.e., negation should block R-VR and hence restructuring. I will show in this section that while it is true that negation has certain blocking effects on clitic climbing it does not block restructuring generally.

The examples in (40) and (41) show that in Italian and Spanish, clitic climbing is blocked whenever the infinitive contains a negation:

(40) **Italian: negation blocks clitic climbing**

- a. Avrebbe anche potuto **non** farlo Radford (1977:112)
 he-would-have also been-able not to-do+*it*-CL
 'He would also not have been able to do it'
- b. *L'avrebbe anche potuto **non** fare
it-CL-he-would-have also been-able not to-do
 'He would also not have been able to do it'
- c. Voglio **non** farlo Kayne (1989)
 I-want not to-do+*it*-CL
 'I want not to do it'
- d. *Lo voglio **non** fare
it-CL I-want not to-do
 'I want not to do it'

(41) **Spanish: negation blocks clitic climbing**

Luján (1980)

- a. Quisiera **no** verte más
 I-would-like not see+*you*-CL again
 'I would like not to see you again'
- b. *Te quisiera **no** ver más
you-CL I-would-like not see again
 'I would like to not see you again'

To account for the contrast in (40)a,c, (41)a vs. (40)b,d, (41)b two basic approaches have been pursued in the literature: i) negation blocks clitic climbing (cf. Kayne 1989, 1991, Watanabe

1993); or ii) negation blocks restructuring (i.e., by interfering with V/T-raising) and as a result clitic climbing is blocked (cf. Roberts 1993, 1997, Bok-Bennema & Kampers-Manhe 1994).

The second approach makes the prediction that restructuring should never be found when the infinitive contains a negation; i.e., other restructuring properties like object preposing or auxiliary switch should also be impossible. This, however, does not seem to be the case. Watanabe (1993:366, following T. Guasti) reports that object preposing as in (42) is possible across an embedded negation (the judgement has been confirmed by all of my informants).

(42) **Negation does *not* block object preposing**

Quei libri si potrebbero **non** leggere subito
these books SI would-be-able-to not read immediately
 'What people could do is to not read these books immediately'
 *'What people could not do is to read these books immediately'

The only way to interpret the sentence in (42) is with narrow scope for the negation; i.e., the negation cannot have scope over the modal. Examples such as the one in (42) thus show that negation in the embedded complement does not block restructuring; hence, (42) provides evidence against the assumption that negation forms an intervening head in a head relation formed by the infinitive and the matrix verb. Rather the different behaviour of negation with respect to different restructuring properties (clitic climbing in (40) vs. object preposing in (42)) seems to indicate that negation has an effect on clitic climbing but not on object preposing. Without going into detail about the mechanism of clitic climbing, there is consensus that clitic climbing involves at least a step of head movement. It is then not surprising that clitic climbing is sensitive to intervening heads, whereas object preposing which is XP-movement is not affected by intervening heads.¹⁸

¹⁸ The third property that is usually related to restructuring—auxiliary switch (see below)—seems to be affected

5.4 Dislocation of restructuring infinitives in Italian

A further argument for R-VR is built on the observation that restructuring in Italian is only possible when the infinitive appears in its base position. If dislocation of various sorts takes place, restructuring becomes illicit. Proponents of R-VR assume that the prohibition against movement of a RI follows from an obligatory R-VR requirement that cannot be met when the infinitive is dislocated. I will show in this section that i) the descriptive generalization is too strong since there are cases where RIs can be dislocated; ii) the impossibility of certain movement operations in restructuring contexts that is attributed to R-VR is in fact a more general phenomenon that is found outside of restructuring as well.

The facts go back to Rizzi (1978, 1982) who proposes a process of restructuring that reduces two clauses to one. One aim of his approach is to show that there is indeed evidence for two structures: a clausal structure of the infinitive (before restructuring occurs) and a complex verb structure (after restructuring occurs). The general idea of Rizzi's analysis is as follows: if restructuring applies (as can be witnessed by clitic climbing etc.), the matrix verb and the infinitive end up as parts of one complex verb and the infinitive does not form a constituent on its own anymore. In this case, operations that apply to constituents cannot affect a part of the complex verb

to some degree by embedded negation as well. Sentences like i. are considered worse than ii., however, not as ungrammatical. I have no explanation at the moment for this intermediate status.

- i. ??Gianni è voluto non venire con noi
 Gianni is wanted not to-come with us
 'Gianni wanted to not come with us'
- ii. ?Gianni ha voluto non venire con noi
 Gianni has wanted not to-come with us
 'Gianni wanted to not come with us'

I will also not offer any account for the mechanism of auxiliary choice in Italian and therefore leave the question of what exactly causes the deviance in ii. open.

(i.e., the infinitive alone) and dislocation therefore becomes impossible. If restructuring does not apply (i.e., there is no clitic climbing etc.), dislocation of the infinitive is possible since the infinitive stays intact and remains an independent constituent.

The constructions Rizzi investigates are pied-piping, clefts, and right node raising. Let us first consider some of his examples involving pied piping (cf. Rizzi 1982:7). As is illustrated in (42)a, clitic climbing is possible from a complement of *come* from which wh-movement has occurred (cf. relative clause movement of the embedded object). Furthermore, Italian allows a pied-piping process of the infinitival complement involving the wh-phrase to SpecCP (cf. movement of *to talk with you about which* in (42)b). What is crucial, however, is, that in case pied-piping takes place, clitic climbing to the matrix clause is prohibited; or in other words, the clitic can only appear inside the infinitival clause ((42)b) and cannot climb to the matrix clause ((42)c).

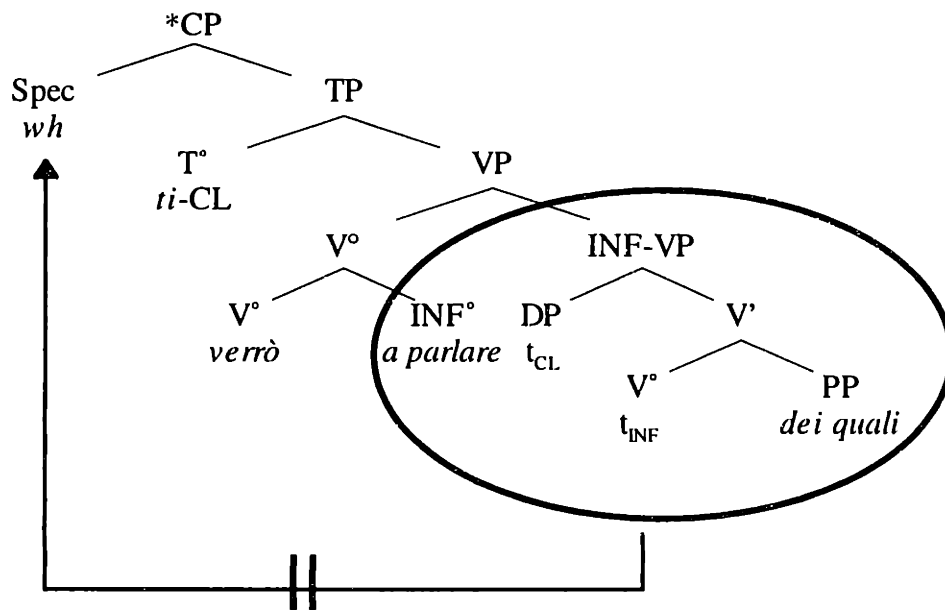
(15) **Italian: pied-piping & clitic climbing**

- a. questi argomenti [[dei quali] **ti** verrò **a parlare** t_{CL} ____ al più presto]
 these topics [[about which] you-CL I-will-come to talk t_{CL} ____ asap]
 'these topics, to talk with you about which I will come as soon as possible...'
- b. questi argomenti [[**a parlarti** dei quali] verrò ____ al più presto]
 these topics [[to talk+you-CL about which] I-will-come ____ asap]
 'these topics, to talk with you about which I will come as soon as possible...'
- c. *questi argomenti [[**a parlare** t_{CL} dei quali] **ti** verrò ____ al più presto]
 these topics [[to talk t_{CL} about which] you-CL I-will-come ____ asap]
 'these topics, to talk with you about which I will come as soon as possible...'

Under the assumption that R-VR takes place, the prohibition against dislocation of the infinitive receives a straightforward explanation: the moved material does not form a constituent. The example in (42)c can be illustrated as follows in Rizzi's analysis (unnecessary details are omitted):

(43) RI: no pied-piping

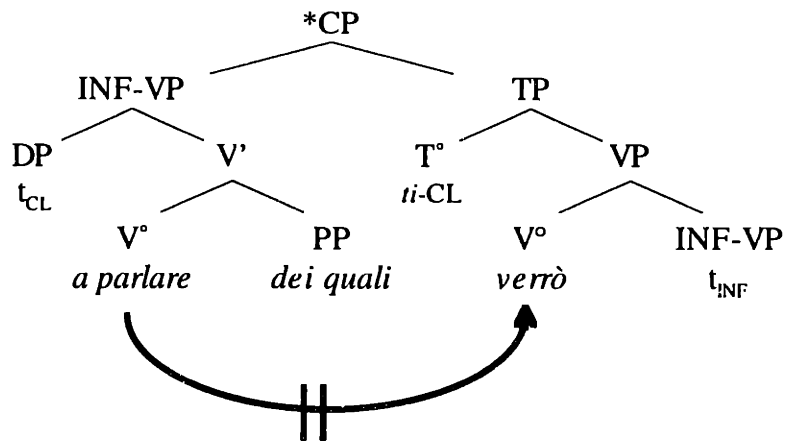
=(42)c



However, as noted above, the assumption that the infinitive and the matrix verb form a complex verb at S-structure in Italian, is problematic. To avoid this problem, Roberts (1993) proposed the following modification to Rizzi's analysis: R-VR does apply in Italian, however, it applies covertly. Furthermore, he assumes (like Rizzi) that R-VR is a necessary prerequisite for transparency and that R-VR is subject to the HMC that prohibits lowering movement. Under this analysis, (42)c is ruled out because the infinitival verb is part of the fronted INF phrase in SpecCP; i.e., it is in a position from which R-VR is impossible (cf. (44)).

(44) *RI: pied-piping

=(42)c



To summarize, the following three assumptions about R-VR account for the pied-piping properties in RIs: i) R-VR is obligatory to license restructuring properties; ii) R-VR applies at LF (in Italian); and iii) if a constituent involving the infinitival verb is dislocated from its base position, the infinitival verb is ‘stuck’. This last assumption does not seem to be trivial, since it has to be guaranteed that R-VR (which applies at LF) cannot occur after reconstruction of the constituent containing the infinitive. Assuming that this potential problem does not arise, the pied-piping cases provide a potential argument for R-VR.

Before concluding that what causes the ungrammaticality in examples like (42)c is indeed the lack of R-VR—which then as a consequence blocks clitic climbing, it has to be shown that the ungrammaticality in (42)c is not caused by an independent violation of some condition on clitic climbing or pied-piping. An alternative explanation that comes to mind immediately is that clitic climbing in (42)c is ill-formed because the clitic does not c-command or bind its trace (as was proposed by Strozer (1981)). The problem with this approach would be that clitics do not seem to have to c-command their trace at S-structure in Italian. Examples such as the one in (44) show that clitics can appear in a position where they do not c-command their trace at S-structure.

(16) Italian: clitic does not c-command trace

Roberts (1993:37)

[Dato	t _{CL}	a Gianni]	non	I'ho	—
[given	t _{CL}	to Gianni]	not	it+I-have	—
'I haven't given it to John'					

Let us thus see whether pied-piping itself causes a problem for the examples in (42)c. As was pointed out to me by G. Cinque, topicalization or pied-piping is subject to the following quite complex conditions in Italian: it is generally possible when the phrase undergoing movement is a DP, PP or CP. Topicalization of VPs is only allowed when the topicalized phrase is focused or when a negation is present. The example in (44) is thus fine, since it involves a negation.

Let us now go back to the examples in (42). According to Cinque (p.c.), (42)c becomes grammatical when a negation in the matrix clause is added. The example in (45)a shows that sentences like (42)c become grammatical when the fronted constituent is focused (cf. Cinque 1998). A similar restriction is found with auxiliary/participle constructions. As is illustrated in (45)b, pied-piping of a participle is prohibited under a normal non-focus interpretation. If, however, negation is added as in (45)c, the sentence is fine.

(45) Italian: pied-piping & focus, negation

- a. [A PARLARE t_{CL} DI QUESTI PROBLEMI] **ti** verrà —]
 [to talk t_{CL} about these problems] you-CL he-will-come —]
 'He will come to speak to you about these problems'
- b. ??questi argomenti [[parlato t_{CL} dei quali] **ti** ho —]
 these topics [[talked t_{CL} about which] you-CL I-have —]
 'these topics talked about which I have with you...'
- c. questi argomenti [[parlato t_{CL} dei quali] non **ti** ho —]
 these topics [[talked t_{CL} about which] non you-CL I-have —]
 'these topics talked about which I have not with you...'

Whatever the exact nature of these restrictions on topicalization and pied-piping is, it allows us to determine whether an infinitive is a VP or a CP: if topicalization or pied-piping are possible in contexts without focus and negation, the moved phrase cannot be a VP; if topicalization or pied-

pping are blocked in non-focus contexts without negation, the moved phrase is a VP. Again going back to the examples in (42), we can conclude that the fronted phrase in the non-restructuring variant in (42)b is not a VP (since topicalization does not require a focus structure), whereas the moved constituent in the restructuring case in (42)c is best analyzed as a VP which is only wellformed when it is focused (as for instance in (45)a). Furthermore, the parallel behaviour of auxiliary/participle constructions and RV/RI constructions supports the general idea in this dissertation, namely that a sentence with a RI is a single clause (very much like an auxiliary/participle construction).

Calling to mind the basic question that we are trying to answer in this section, pied-piping does not seem to provide an argument for R-VR either, since the ungrammaticality of examples like (42)c appears to be part of a broader generalization about VP-fronting in Italian rather than about restructuring. Moreover, to keep the assumption that RIs involve R-VR, various (quite unmotivated) assumptions would have to be made: i) auxiliary/participle constructions involve VR of the participle to the auxiliary (to account for the ungrammaticality of (45)b); ii) VR is possible after the fronted phrase has reconstructed ((44), (45)a,c); and iii) negation forces reconstruction and focused phrases obligatorily reconstruct ((45)b vs. (45)c); (42)c vs. (45)a). Alternatively one could assume that VR does not play a role at all in RIs and auxiliary/participle constructions but that topicalization and pied-piping are restricted by the constraints mentioned above.

Let us now turn to another dislocation operation, namely *cleft* formation. We will see that the same argument that has been made for pied-piping constructions can be made for clefts.

If the infinitive appears in a cleft sentence, clitic climbing as in (46)b is prohibited. The cleft is fine when the clitic does not leave the infinitive but attaches to the embedded verb (cf. (46)a).

(46) Italian: clefts & clitic climbing

(Burzio 1986:326)

- a. È [proprio leggerlo] che Mario voleva ____
 it-is [really to-read+it-CL] that Mario wanted ____
 'It is really read it what Maria wants'
- b. *È [proprio leggere t_{CL}] che Mario lo voleva ____
 it-is [really to-read t_{CL}] that Mario it-CL wanted ____
 'It is really read it what Maria wants'

Assuming that clefts are also subject to a “no-VP” constraint, the examples in (46) are not surprising: the clefted constituent in (46)a is a NRI, hence a clause, whereas the clefted constituent in (46)b is a RI, hence a VP (see again also Cinque 1998).¹⁹ The assumption that what causes the violation in (46)b is the size of the constituent that appears in clefted position rather than clitic climbing is supported again by the behaviour of participles. As is illustrated in (47), participle phrases can generally not appear in clefted position since they are necessarily VPs (or some verbal projection) and do not have a clausal counterpart.

(47) Italian: clefts & AUX/PART construction

(Cinque 1998)

- a. *È [parlato di questo t_{CL}] che gli avrà ____
 it-is [spoken about this t_{CL}] that to-him-CL he-will-have ____
 'It is spoken to him about this that I will have...'
- b. *È [mangiato una mela] che Gianni ha ____
 it-is [eaten an apple] that Gianni has ____
 'It is eaten an apple that John has'

That the violations in (46)b and (47)a have nothing to do with the licensing of clitics is further supported by structures involving other restructuring properties. If object preposing occurs in an infinitive, the infinitive cannot be clefted anymore (cf. (48)a vs. (48)b; the latter would be

¹⁹ I will not go into detail here about the nature of the “no-VP” constraint, but intuitively, it seems that only constituents that are in some sense ‘referential’ can appear in clefted position. IN chapter five, I will argue that RIs are properties rather than propositions (i.e., they involve an unsaturated argument variable). Under this assumption, the difference between RIs and NRIs with respect to clefts and topicalization is then not surprising.

grammatical without clefting). Auxiliary/participle constructions show the same restriction (cf. (48)c), which is not surprising since clefts with participle phrases are generally ungrammatical (cf. (47)b).

(48) **Italian: clefts & object preposing**

(a,b from Burzio 1986:326)

- | | | | | | | | |
|----|---|------------------|------------------|------|--------------------------------|-------------|-----|
| a. | È | [proprio leggere | questi libri] | che | si | voleva | ___ |
| | it-is | [really to-read | these books] | that | SI | wanted | ___ |
| | 'It is to really read these books that they want' | | | | | | |
| | | | | | | | |
| b. | *È | [proprio leggere | t _i] | che | questi libri _i | si volevano | ___ |
| | it-is | [really to-read | t _i] | that | <i>these books_i</i> | SI wanted | ___ |
| | 'It is to really read these books that they want' | | | | | | |
| | | | | | | | |
| c. | *È | [proprio letti | t _i] | che | questi libri _i | si sono | ___ |
| | it-is | [really to-read | t _i] | that | <i>these books_i</i> | SI are | ___ |
| | 'It is really read these books that they have' | | | | | | |

The final restructuring property is auxiliary switch. As for the other restructuring properties, an infinitive can only appear as a cleft if auxiliary switch does not occur. The infinitive in (49)a can be a RI or a NRI; thus, it can appear as a clefted constituent. In contrast, (49)b, which involves auxiliary switch and hence restructuring, can only be a RI. As such it is too "small" (or not referential enough) to undergo clefting (the example would of course be fine without clefting).

(49) **Italian: clefts & auxiliary switch**

(Burzio 1986:326)

- | | | | | | | | | |
|----|---|-----------------|---------|------|-------|-----------------|--------|-----|
| a. | È | [proprio andare | a casa] | che | Mario | avrebbe | voluto | ___ |
| | it-is | [really to-go | home] | that | Mario | would-have | wanted | ___ |
| | 'It is really go home that Mario would have wanted' | | | | | | | |
| | | | | | | | | |
| b. | *È | [proprio andare | a casa] | che | Mario | sarebbe | voluto | ___ |
| | it-is | [really to-go | home] | that | Mario | <i>would-be</i> | wanted | ___ |
| | 'It is really go home that Mario would have wanted' | | | | | | | |

To sum up, I have argued that the prohibition against dislocation of a RI cannot be attributed to R-VR (unless certain stipulations are added), but follows from the (presumably semantic) size of

RIs. Under the assumption that RIs are VP-predicates whereas NRIs are clauses, it is predicted that only NRIs can undergo movement operations that are restricted to clausal categories.²⁰ I have demonstrated that the generalization known since Rizzi (1978, 1982)—namely that if restructuring takes place (as evidenced by clitic climbing, auxiliary switch or object preposing), the infinitive has to stay in its base position—is only partially true. While NRIs generally allow clefts, pied-piping, and topicalization of the infinitival complement, (remnant) RIs can never appear in a cleft structure, but they can undergo pied-piping and topicalization under certain focus structures.

5.5 Verb raising in German

In this section, I will show that the assumption that RIs cannot be dislocated is even more problematic for German. Going back to early studies on restructuring in German, Evers (1975a,b) was the first to propose that RIs in German involve overt R-VR. In contrast to Dutch (cf. (36)), however, the infinitive is assumed to attach vacuously to the left of the matrix verb (cf. (50)) in German.

(50) Verb raising in German

Evers (1975)

Hans	hat	Maria	gestern	an	t _{INF}	zu rufen	versucht
John	has	Mary	yesterday	up	t _{INF}	to call	tried
'John tried to phone Mary yesterday'							

The motivation for R-VR is usually tied to the adjacency requirement between the infinitive and the matrix RV in examples such as (51)a vs. (51)b,c.

²⁰ The same argument can be made for *Heavy NP-Shift* and *Right Node Raising* (see also Cinque 1998).

(51) Adjacency between infinitive and matrix verb

- a. Hans hat Maria gestern t_{INF} **nicht** anzurufen versucht
 John has Mary yesterday t_{INF} not up-to-call tried
 'John didn't try to phone Mary yesterday'
- b. *Hans hat Maria gestern anzurufen **nicht** versucht
 John has Mary yesterday up-to-call not tried
 'John didn't try to phone Mary yesterday'
- c. *Hans hat anzurufen gestern Maria (nicht) versucht
 John has to-call yesterday Mary (not) tried
 'John didn't try to phone Mary yesterday'

As has been pointed out by a number of authors (cf. for instance Grewendorf & Sabel 1994, Sabel 1996), an overt R-VR approach runs into various empirical problems. The main observation is that the infinitive does not seem to form a complex head with the matrix verb but can appear separated from the matrix verb. Examples involving remnant movement provide such contexts in which the infinitive and the matrix verb do not have to be adjacent in restructuring contexts. Infinitives involving scrambling (i.e., RIs) allow both remnant topicalization (cf. (52)a) and remnant extraposition (cf. (52)b).

(52) Remnant movement in RIs

- a. [t_{SCR} **Anzurufen**]_{INF} hat der Hans [$den\ Peter$]_{SCR} t_{INF} **versucht**
 [t_{SCR} to-call]_{INF} has the John [$the\ Peter$]_{SCR} t_{INF} tried
 'John tried to call Peter'
- b. weil der Hans [$den\ Peter$]_{SCR} t_{INF} **versucht** hat [t_{SCR} **anzurufen**]_{INF}
 since the John [$the\ Peter$]_{SCR} t_{INF} tried has [t_{SCR} to-call]_{INF}
 'John tried to call Peter'

Since both forms of remnant movement are fine with RIs, overt R-VR cannot have taken place in (52). The data in (52) also show that the embedded verb heads a maximal projection, which would be problematic for approaches that assume that RVs form a base-generated (lexical) complex head with the infinitive (cf. Haider 1986a,c, 1992, 1993, Saito & Hoshi 1998).

Since overt R-VR cannot be used to explain the apparent adjacency requirement in (51), we have to look for a different account for the ungrammaticality of these examples. Let us look at the examples more closely. Suppose that the negation in (51) is left-adjoined to the matrix VP and the infinitive is base-generated as the complement of the matrix verb. Thus, in order for the infinitive to appear to the left of negation, the infinitive has to undergo movement. The structures of (51)b,c and (52)a,b are schematized as follows:

(53) **Remnant movement structures**

- a. *... SCR-2 ... [_{SCR-2} t_{SCR-2} INF]_{SCR-1} ... t_{SCR-1} MATRIX-VERB =(51)b
- b. *... [_{SCR-2} t_{SCR-2} INF]_{SCR-1} ... SCR-2 ... t_{SCR-1} MATRIX-VERB =(51)c
- c. ^{ok}... [_{SCR-2} t_{SCR-2} INF]_{TOP-1} ... SCR-2 ... t_{TOP-1} MATRIX-VERB =(52)a
- d. ^{ok}... SCR-2 ... t_{EXTR-1} MATRIX-VERB [_{SCR-2} t_{SCR-2} INF]_{EXTR-1} =(52)b

Comparing the structures in (53), we find that structures involving scrambling of a remnant infinitive are ill-formed, whereas extraposition and topicalization of a remnant infinitive are well-formed. The generalization that goes back to Müller (1993) is that remnant movement is impossible when the remnant involves a trace that is of the same type of movement as the remnant movement. Thus, topicalization or extraposition of a remnant containing a scrambling trace is fine; however, remnant scrambling is only licit if the remnant does not contain a scrambling trace. I will not reproduce any of the accounts of *Müller's Generalization* but refer the reader to Müller (1993, 1996), Takano (1993) and Sauerland (1996). What is important for the discussion here is that scrambling of a constituent that involves a scrambling trace is generally prohibited in German and not tied to restructuring.

Let us now return to the question of whether RIs involve R-VR. Since an account of Müller's Generalization is necessary independent of restructuring in German, nothing seems to force us to the assumption that restructuring involves (covert) R-VR. If it is assumed, however, that R-VR

takes place covertly, R-VR has to apply after the extraposed or topicalized phrases in (52) reconstruct into their base-positions. I will not discuss this assumption further here but just mention it as an additional assumption that is required in an approach that assumes a CP-structure for RIs and R-VR.

6. CONCLUSION

In this chapter, I have argued that two sets of properties of RIs—the lack of complementizer and *wh*-material and the lack of tense properties—are best accounted for by a simply VP-structure for RIs. Approaches that assume CP and TP-projections for RIs are forced to the postulation of projections that have to be radically empty and do not contribute any content or features (neither to the phonological nor to the semantic representation of the infinitive).

The assumption that RVs are incompatible with a [+tense] complement allows us to characterize the class of RVs. Although this dissertation cannot provide an in-depth cross linguistic study, we have seen already that the class of RVs shows special behavior in many languages that can be attributed to the incompatibility of RVs with a [+tense] complement. In languages like Japanese, RIs (in contrast to NRIs) do not involve overt tense markers. Furthermore, in many languages, RIs cannot involve modification of the embedded tense and RVs cannot combine with finite complements.

Finally, I have shown that the assumption that restructuring contexts involve verb raising is superfluous. The major motivation for verb raising—i.e., to render the infinitive transparent—disappears if it is assumed that constructions involving a RI are monoclausal structures from the beginning.

Although the assumption that restructuring requires a tenseless complement allows us to identify the class of RVs, I will show in the next two chapters that 'tenselessness' is not a sufficient condition for restructuring but that other syntactic and semantic factors have to be met as well. In particular, I will argue that RIs also lack an embedded structural case position or assigner (chapter three) and do not project an embedded syntactic subject (chapter four).

To conclude, the properties of restructuring configurations discussed so far are summarized as follows:

Restructuring:	♦ RIs lack CP-properties	⇒	RIs lack CP
	♦ RIs lack TP-properties	⇒	RIs lack TP

Chapter Three:

**Structural Case In
Infinitival
Constructions**

1. INTRODUCTION

Central to this chapter are the structural case properties in RIs. In the previous chapter, I have argued that RIs do not involve CP and TP-projections. In this chapter, we will see that RIs also do not involve an embedded structural object case position.

Since Larson's (1988) work on double object constructions in English, various proposals have been made concerning the internal structure of the verbal projection of a clause. Most theories assume that the "VP" is not a single projection but that it involves a more elaborate structure. Apart from Larson's various VP-layers that host the arguments of the verb, it has been proposed that the lexical "VP" includes aspect, event, and/or voice phrases (see for instance Travis 1992, 1994, forthcoming, Harley 1995 among others). Furthermore, there seems to be consensus among many authors that there is some kind of asymmetry between the external argument and the internal arguments of a verb. More specifically, many contemporary theories assume that the VP-layer hosting the external argument has a different status from the VP-layers that host the internal arguments of the verb (cf. Marantz 1993, Kratzer 1994, Chomsky 1995 among many others). The 'VP' hosting the external argument has been labelled ν P (light verb phrase, voice phrase etc.).

Although the approaches mentioned above differ in various aspects, they all assume in some form or the other that the ν P-projection has two functions: i) it hosts the external argument, and ii) it is responsible for structural ACC-case. The main claim of this chapter is that RIs lack a structural ACC-assigner. There are two basic ways to implement this assumption: i) RIs do not project a ν° -head; or ii) the ν° -head in RIs is essentially like a passive ν° -head, which does not have the capacity to assign ACC. Since for present purposes these two assumptions make the same predictions empirically, I will not decide between these two options. For expository simplicity,

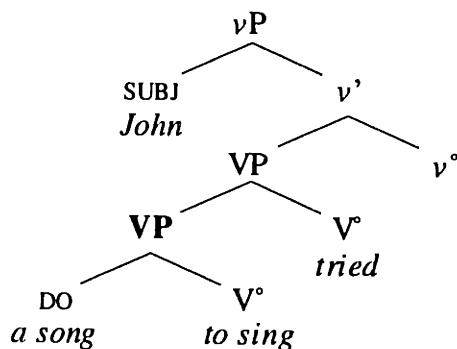
however, I will represent RIs as bare VPs. The question of whether RIs involve an external argument will be postponed until chapter four.

The chapter is divided into three sections: §2 gives arguments for the lack of structural case in RIs, and I will show that the embedded object receives case in the matrix clause. §3 shows that whenever an infinitive involves structural case that cannot be assigned by the matrix predicate, the infinitive is a NRI. Finally, in §4, I will argue that the assumption that RIs do not involve a structural object position allows us to account for a number of object movement constructions that are otherwise somewhat mysterious.

2. RESTRUCTURING INFINITIVES LACK A STRUCTURAL ACC-CASE POSITION

The main claim that I am defending in this dissertation is that RIs have the basic structure in (1)—the position of the infinitival marker *zu* ‘to’ is ignored (see chapter two for some suggestions):

(1) Basic structure of RIs



It is often assumed that passive, scrambling and clitic movement from RIs are considered as ‘special’ movement processes that obey different conditions than the corresponding operations in contexts other than RIs (note also the special terms *Long/Super Passive*, *Long Distance Scrambling* and *Clitic Climbing*). However, since for instance long-distance scrambling is impossible in German (i.e., scrambling from NRIs or finite clauses), it seems undesirable for a grammar to contain constraints with construction-specific clauses or conditions of the form ‘scrambling cannot cross a CP boundary unless CP = [+restructuring]’.

The main advantage of a VP-approach is—as I will show in this chapter—that we can dispense with special movement operations. What I suggest instead is that there is in fact no special ‘Super Passive’, ‘Long Distance Scrambling’ or ‘Clitic Climbing’. What look like long movement processes are exactly what we would expect from the regular application of these operations. Without giving an account of the various movement operations at this point, it can be seen already that under a bare VP-structure for RIs, passive, scrambling and clitic movement in RIs are not different from regular passive, scrambling and clitic movement. That is, assuming that scrambling or clitic movement are operations whereby an element is moved out of the ν P its subject originates in, ‘Long Distance Scrambling’ and ‘Clitic Climbing’ become identical to scrambling and clitic placement in a simple clause, i.e., they obey the same locality constraints.

Assuming a structure as in (1), an obvious question is how ACC is assigned to the embedded object. An account will be provided in the next section.

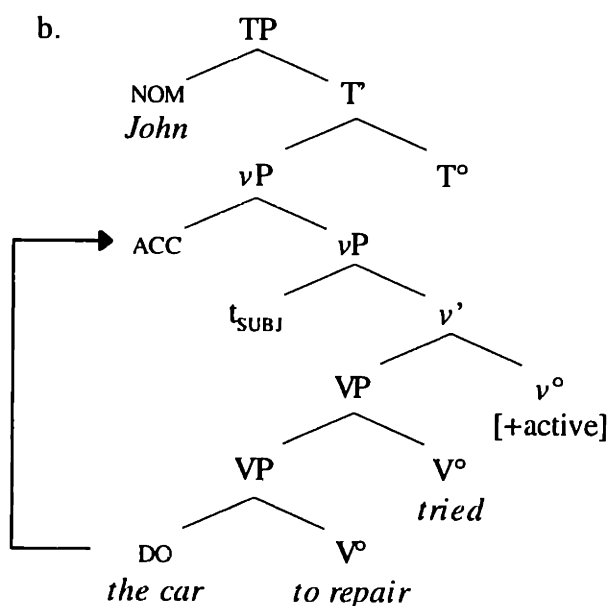
2.1 Restructuring—a special case of ECM

In a structure like (1), the absence of an ACC-case position in the infinitival complement has the effect that an embedded direct object cannot check its case in the infinitive. The only structural

case position in a sentence like (2)a is provided by the matrix ν P. The proposal that I will make here is that it is indeed the matrix ν P that is responsible for the structural case of the embedded object—i.e., RIs involve a special form of *Exceptional Case Marking* (ECM). Assuming here for convenience a movement approach for case checking, the embedded object raises (overtly or covertly) to the “matrix clause” in order to check its ACC-case.²¹ The structure is depicted in (2)b:

(2) ACC assignment in a RI

- a. weil Hans den Wagen zu reparieren versuchte
 since John [the car]-ACC to repair tried
 ‘since John tried to repair the car’



What is special about a structure like in (2)b is that the embedded object is the thematic object of the embedded infinitive, however, it checks its case in the “matrix” ν P.

²¹ The term *matrix clause* now refers to the VP headed by the RV and the functional projections dominating the RV; given the structure I am proposing for RIs, the term is obviously wrong but I will continue to use it as a mere descriptive label to distinguish the infinitival VP from the higher VP without assuming that there is an embedded clause.

In the following subsections, I will provide further evidence for this kind of split. In §2.2 I will illustrate with Japanese that the object that thematically belongs to the embedded verb enters a case or agreement relation with the higher verb. In §2.3, I will discuss constructions with passivized or unaccusative RVs, which again will provide strong support for the claim that there is a direct dependency between the case properties of the embedded verb and the voice properties of the matrix verb.

2.2 Japanese

In this section, I will discuss the case properties of RIs in Japanese. We will see that Japanese provides further support for the claim that in RIs, the case properties of the embedded verb are determined by the matrix verb. Let me start with a few introductory comments on case assignment in Japanese. In Japanese, the case of the direct object depends on the stativity of verb: [-stative] verbs assign ACC, [+stative] verbs assign NOM (cf. Kuno 1973). Thus, in a simple clause headed by a [-stative] verb like *eat*, only ACC-objects are licit, and NOM-objects are prohibited (cf. (3)a vs. (3)b).

(3) Japanese: [-stative] verbs assign ACC

- | | | | | |
|----|------------------|-----------|----------|-----------------|
| a. | Emi-ga | ringo-o | tabe-ta | ACC [-stative] |
| | Emi-NOM | apple-ACC | eat-PAST | |
| | 'Emi ate apples' | | | |
| b. | *Emi-ga | ringo-ga | tabe-ta | *NOM [-stative] |
| | Emi-NOM | apple-NOM | eat-PAST | |
| | 'Emi ate apples' | | | |

If the verb is a stative verb like *be-capable*, the opposite situation holds: ACC-objects are prohibited, whereas NOM-objects are licit (cf. (4)a vs. (4)b; examples from Koizumi 1995:66).

(4) **Japanese: [+stative] verbs assign NOM**

- | | | | | |
|----|-----------------------|----------------------------|-------------------------|-----------------|
| a. | *Emi-ga
Emi-NOM | nihongo-o
Japanese-ACC | deki-ru
capable-PRES | *ACC [+stative] |
| | ‘Emi speaks Japanese’ | | | |
| b. | Emi-ga
Emi-NOM | nihongo-ga
Japanese-NOM | deki-ru
capable-PRES | NOM [+stative] |
| | ‘Emi speaks Japanese’ | | | |

The distribution of NOM-objects provides us with a test to see whether in restructuring contexts, objects check case in the infinitive or in the matrix clause. If a sentence like the one in (3)a, which prohibits a NOM-object, is embedded under a [+stative] RV, NOM should become available for the embedded object iff the case of the embedded object is determined in the matrix clause rather than in the infinitive. This prediction is borne out as the sharp contrast between (3)a and (5)a shows: the thematic object of the verb *eat* appears with NOM when the infinitive is embedded under a [+stative] RV as in (5)a.²²

(5) **Japanese: [+stative] RVs**

- | | | | |
|----|---------------------------|-----------------------|------------------------------|
| a. | Emi-ga
Emi-NOM | ringo-ga
apple-NOM | tabe-rare-ru
eat-can-PRES |
| | ‘Emi can eat apples’ | | |
| b. | Emi-ga
Emi-NOM | ringo-ga
apple-NOM | tabe-ta-i
eat-want-PRES |
| | ‘Emi wants to eat apples’ | | |

²² Another prediction that this analysis makes is that when a [+stative] complement is embedded under a [-stative] RV, ACC should become available for the embedded object. This case, however, is more complicated to test. Most RVs combine with [-stative] complements. That is, although cases like *John began to know French* are wellformed utterances, they seem to involve an interpretation in which the embedded event is interpreted as [-stative] rather than [+stative]. Second, in Japanese, most combinations of a [-stative] RV with a [+stative] complement are quite marked and often rejected. However, the example in i. (which was pointed out to me by Kazuko Yatsushiro) seems to confirm the analysis proposed here. Since *deki* normally requires a NOM object, but ACC is fine in i., this example could be taken to support the claim that the embedded object is assigned case by the matrix predicate.

i.	Emi-ga Emi-NOM	nihongo-o Japanese-ACC	deki-hazime-ta capable-begin-PAST
	‘Emi began to be able to speak Japanese’		

The sentences in (5) should be compared again to NRIs; i.e., INFINITIVES that show tense marking on the embedded verb. If a NRI is embedded under a stative matrix verb, the embedded object can only be realized with ACC—hence the case of the embedded object is determined inside the infinitive if the infinitive is a NRI. The impossibility of NOM for the embedded object in a NRI is illustrated with a *yoo(ni)* type infinitive in (6)b.²³

(6) **Japanese: [+stative] NRVs**

- a. Emi-ga Susi-ni [ringo-o tabe-**ru** yoo(ni)] ii-taga-tta
 Emi-NOM Susi-DAT [apple-ACC eat-PRES YOO tell-want-PAST
 ‘Emi wanted to tell Susi to eat an apple’
- b. *Emi-ga Susi-ni [ringo-ga tabe-**ru** yoo(ni)] ii-taga-tta
 Emi-NOM Susi-DAT [apple-NOM eat-PRES YOO tell-want-PAST
 ‘Emi wanted to tell Susi to eat an apple’

At this point, I would like to point out an apparent complication for the theory proposed here. Besides NOM-case in the examples in (5), the object can also show up with ACC. However, as I will show in §3.2, a comparison of the properties of stative constructions involving NOM-objects vs. the same constructions with ACC-objects will lead to the conclusion that only the sentences in (5) are instances of RIs. Stative constructions involving ACC-objects, on the other hand, are instances of NRIs. Thus, the Japanese case pattern will provide further support for the analysis proposed here.

²³ The sentence in (16)b is grammatical under an irrelevant reading here, namely when *the apple* is interpreted as ‘major subject’—i.e., under an interpretation like *An apple is such that Emi wanted to tell Susi...* If *apple* is interpreted as the embedded object however, the sentence is ungrammatical. The sentences in (16), on the other hand, are of course evaluated under the object reading and not the ‘major subject’ reading.

2.3 Matrix clauses without a structural ACC position

Under the assumption that the embedded object receives or checks ACC-case in the matrix ν P, an obvious prediction is that ACC-case for the embedded object should only be available in a RI when the matrix clause involves an ACC-assigning ν P. When the matrix clause lacks an ACC-assigner, the embedded object should not show up with ACC. In this section, I will provide various arguments that will confirm this prediction.

2.3.1 Passive restructuring verbs

In the previous chapters, I have invoked a property of RIs—so-called *long passive*—to distinguish between RIs and NRIs. In this section, I will show that the analysis proposed here not only provides a straightforward account for this movement operation but also predicts that a process of *long passive* should exist. The relevant examples are repeated here again as (7).

(7) “Long Passive”

- | | | | | | |
|----|-------|--|---------------|----------|---------------|
| a. | weil | [der Lastwagen und der Traktor] | zu reparieren | versucht | wurden/*wurde |
| | since | [<i>the truck and the tractor</i>]-NOM | to repair | tried | were/*was |
| | | ‘since somebody tried to repair the truck and the tractor’ | | | |
| | | | | | |
| b. | *weil | [der Lastwagen und der Traktor] | zu reparieren | geplant | wurden/wurde: |
| | since | [<i>the truck and the tractor</i>]-NOM | to repair | planned | were/was |
| | | ‘since somebody planned to repair the truck and the tractor’ | | | |

In restructuring contexts like (7)a which involve a passivized matrix verb, the underlying embedded object moves to the matrix subject position—it appears with NOM-case and obligatorily agrees with the finite matrix verb (the auxiliary). Note again that the infinitive does *not* show passive morphology. The same kind of movement is prohibited in non-restructuring contexts as in (7)b.

This long passive movement is not an idiosyncratic property of German, but rather a general property of RIs, as the following examples from Italian and Spanish show (examples from Cinque 1997b):²⁴

(8) “Long Passive” in Italian and Spanish

- | | | | | | | |
|----|---|--------------------|---------------------|--|--------------------------------------|---|
| a. | [Le nuove case] _i
<i>the new houses-NOM</i> | furono
were- PL | iniziate
started | a costruire t _i
to build | negli anni ‘20
in the 20’s | <i>Italian</i> |
| | | | | | | ‘Somebody started to build these houses in the 20s’ |
| b. | [Estas paredes] _i
<i>these walls</i> | están
were | siendo
being | terminadas
finished | de pintar t _i
to paint | <i>Spanish</i> |
| | | | | | | ‘Somebody was finishing painting these walls’ |

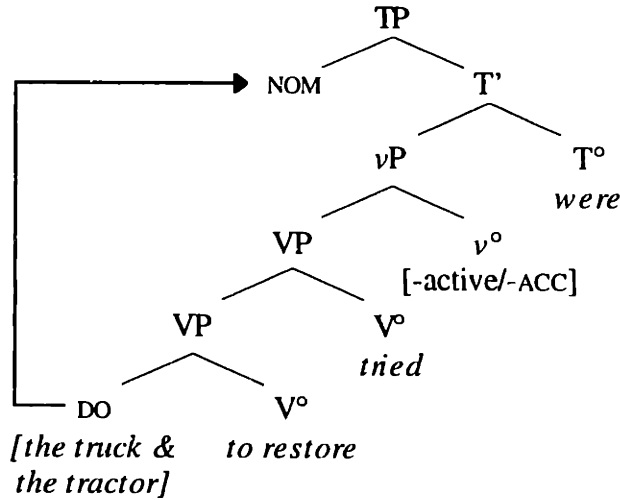
What is crucial about object movement of this sort is that in RIs, the case assignment properties of the embedded verb are affected by passivization of the matrix verb; i.e., the suppression of structural case in the matrix clause (as a result of passive) causes the loss of ACC in the embedded complement. This behavior is quite unexpected if it is assumed that the two verbs project their own argument structures, which seems to be an unavoidable assumption under the CP-approach to RIs where the infinitive is the head of a separate clause.

Under the bare VP-approach proposed here, the examples in (7) and (8) are analyzed as follows:

²⁴ Crosslinguistically, however, this construction is quite rare. Moreover, in Romance long passive is only possible with a subset of RVs. See chapter six for some discussion.

(9) **Passive RI**

= (7)a



As illustrated in (9), if the matrix verb is passivized, the (only) ACC position in the sentence becomes unavailable since [-active] v^o 's cannot assign ACC. As a result, the embedded object has to raise to the (matrix) subject position where it checks NOM case and triggers agreement with the matrix verb (the auxiliary).

To conclude, under the analysis proposed here, no special “Long Passive” operation is needed. In the next section, unaccusative restructuring predicates will provide additional evidence for the claim that the constructions in (7) and (8) are not to be considered as exceptional operations but are what we would expect if RIs are vP -less.

2.3.2 Unaccusative restructuring predicates

Following standard assumptions about case, ACC-case cannot be assigned by unaccusative verbs (I will not present any analysis of this fact but simply assume it is true). The claim that objects in a RI check case in the matrix Spec vP makes a clear prediction concerning unaccusative restructuring predicates: since unaccusative verbs/adjectives do not have the ability to assign ACC-case, objects embedded in RIs should not appear with ACC but rather with NOM. We find three set

of examples where this prediction is borne out in German: i) unaccusative matrix verbs; ii) the so-called *easy-to-please* construction; and iii) a construction formed by an auxiliary plus an infinitive. I will discuss these constructions in turn.

The verb *gelingen* ‘manage’ in German is an unaccusative verb that takes a transparent infinitival complement. Since the structure diverges quite significantly from the English analogue, let me first mention a few things about the argument structure of *gelingen*. As can be seen in (10), *gelingen* takes the copula *be*. Furthermore, the experiencer argument shows up as DAT-DP, the theme argument appears as an infinitive. If the infinitive is extraposed an expletive *es* ‘it’ is realized which for many speakers is optional.

(10) *gelingen* ‘manage’

weil	?(es)	ihm	gelingen	ist/*hat	[zu flüchten]
since	?(it)	him-DAT	managed	is/*has	[to escape]
‘since he managed to escape’					

Turning to the restructuring properties of *manage*, Haider (1993) was the first to notice the following case conversion: the embedded object moves to the matrix subject position and shows up with NOM-case. This is illustrated in (11).²⁵

(11) Case conversion with *gelingen* ‘manage’

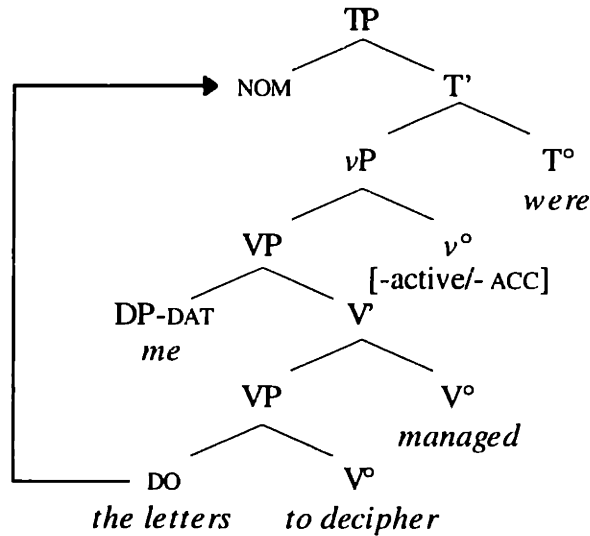
- a. ?weil mir [der Brief]_i auf Anhieb _{t_i} zu entziffern gelungen ist
 since me-DAT [the letter]-NOM straightaway _t to decipher managed is
 ‘since I managed straightaway to decipher the letter’
- b. ?weil mir [die Briefe]_i auf Anhieb _{t_i} zu entziffern gelungen sind
 since me-DAT [the letters]-NOM straightaway _t to decipher managed are
 ‘since I managed to decipher the letters’

²⁵ These data are somewhat marked and not easy for many speakers. I will come back to this point in §3.

Assuming that unaccusatives (like passives) lack an ACC position, it follows again from a bare VP-structure for RIs as in (12) that the embedded object does not show up with ACC but rather with NOM.²⁶

(12) **Unaccusative RI**

= (11)b



As for the DAT-argument, it suffices to assume that DAT-arguments do not compete for structural case checking in German—the DAT-argument in SpecVP therefore does not intervene when the embedded object moves to the NOM-position (the same situation holds for DAT-arguments in a simple clause).

The second set of examples involving an ACC-less matrix predicate is the so-called *easy-to-please* construction (cf. (13)).

²⁶ Although nothing hinges on it at the moment, I assume that unaccusatives also project a vP which I labeled as [-active] in the text. See Harley (1995), Collins (1996), von Stechow (1996), Nishiyama (1998) for arguments for an unaccusative vP.

(13) *Easy-to-please* construction

- | | | |
|----|---|----------------|
| a. | Questo libro è difficile da finire prima di lunedì
this book is difficult to finish before Monday
'This book is difficult to finish before Monday' | <i>Italian</i> |
| b. | Dieses Buch ist schwer zu lesen
This book is hard to read
'This book is hard to read' | <i>German</i> |
| c. | Ce genre de livre serait difficile à lire
this kind of book would-be difficult to read
'This kind of book would be difficult to read' | <i>French</i> |

In contrast to the English *easy-to-please* construction which involves some form of A'-movement—so-called *tough*-movement (cf. Chomsky 1982, 1986a,b, Browning 1987, Cinque 1990, and Chomsky & Lasnik 1993), the corresponding constructions in Italian and German seem to be best described as involving A-movement (cf. Haider 1993, Roberts 1993, Wurmbrand 1994).²⁷ One crucial difference between the *easy-to-please* construction in English, on the one hand, and the corresponding constructions in Italian, German and also French, on the other hand, is that the latter are blocked if additional A-positions are present between the overt subject and the gap or trace in embedded object position (cf. (14)).

²⁷ Although the English *tough*-constructions shows A'-properties it also has certain A-properties. For the sake of the discussion here the exact nature of the English constructions does not matter. See Bresnan (1971) or Lasnik & Fiengo (1974) for arguments for A-movement.

(14) *Easy-to-please* construction: locality differences

- | | | | | | | | |
|----|--|--|------------------------------|------------------------------|-----------------------|----------------------------------|----------------|
| a. | *Questo libro
this book | è difficile
is difficult | da convincere
to convince | Mario
Mario | a finire
to finish | prima di lunedì
before Monday | <i>Italian</i> |
| | ‘This book is difficult to convince Mario to finish before Monday’ | | | | | | |
| b. | *Dieses Buch
This book | ist schwer
is hard | den Hans
the John | zu überzeugen
to convince | zu lesen
to read | <i>German</i> | |
| | ‘This book is hard to convince John to read’ | | | | | | |
| c. | *Ce genre de livre
this kind of book | serait difficile
would-be difficult | à convaincre
to convince | Jean
Jean | de lire
to read | <i>French</i> | |
| | ‘This kind of book would be difficult to convince Jean to read’ | | | | | | |

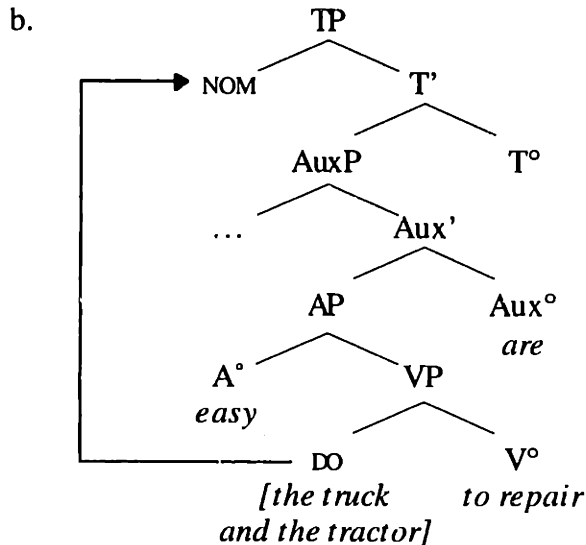
Further differences will be discussed in §4. At this point, I would like to suggest the following analysis for the *easy-to-please* construction: the complement of an *easy* adjective is a RI, i.e., a bare VP-complement without an embedded subject. Since there is no ACC-position in the infinitive, the embedded object raises to the matrix clause to check case. However, since adjective-copula constructions are unaccusatives, there is no ACC-position in the matrix clause. The only case position available for the embedded object is the matrix subject position. The relevant structure is given for German:²⁸

²⁸ A peculiar property of the *easy-to-please* construction in German is that—although adjectives project head-finally in German, the *easy* adjective (in contrast to other RVs) has to precede the complement VP. I have no explanation for this fact at the moment.

- | | | | | | |
|----|-------------------------------------|------------------------------|----------------------------|----------------|-----------|
| i. | ??weil
since | ein neuer Wagen
a new car | zu reparieren
to repair | leicht
easy | ist
is |
| | ‘since a new car is easy to repair’ | | | | |

(15) *Easy-to-please* construction

- a. weil [der Lastwagen und der Traktor] leicht zu reparieren sind/*ist
 since [the truck and the tractor]-NOM easy to repair are/*is
 'since the truck and the tractor are easy to repair'



What is important again is that in a RI the embedded object shows up with NOM when no ACC-position is present in the matrix clause.

The third construction that supports the claim that the object embedded in a RI checks its case in the matrix clause can be seen as a subgroup of the class of unaccusative RVs discussed above. In German, the auxiliary verb *be* can combine with an infinitive. Since *be* is an unaccusative verb, we expect again that the embedded object should show up with NOM rather than ACC. As is illustrated in (16), this prediction is borne out: the underlying embedded object shows up in matrix subject position (i.e., with NOM case) and agrees with the auxiliary:

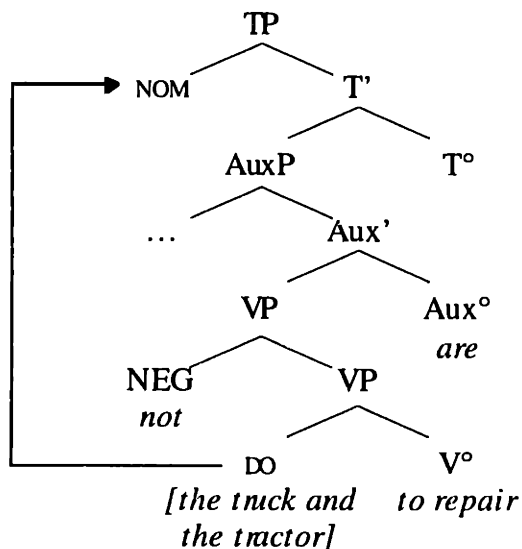
(16) Auxiliary-infinitive construction

- a. weil [dieser Wein]_i nicht t_i zu trinken ist
 since *this wine*-NOM not t to drink ist
 ‘since it is impossible to drink this wine’
 ‘since this wine cannot be drunk’
- b. weil [der Lastwagen und der Traktor]_i nicht t_i zu reparieren sind/*ist
 since [*the truck and the tractor*]-NOM not t to repair are/*is
 ‘since it is not allowed to repair the truck and the tractor’
 ‘since it is impossible to repair the truck and the tractor’

The meaning of auxiliary-infinitive constructions depends highly on the context—in (16)a, the preferred interpretation is a possibility interpretation, while (16)b is compatible with a necessity as well as a possibility interpretation. I have nothing to say about the semantics of auxiliary-infinitive constructions. What is of interest here, is that auxiliary-infinitive constructions represent another case of RIs showing that the case properties of the embedded arguments depend on the argument structure (hence case) properties of the higher predicate. A structure for auxiliary-infinitive constructions is depicted in (17):

(17) Auxiliary-infinitive construction

= (16)a



To summarize, I have shown that there are a number of constructions that confirm the claim central to the analysis proposed here: embedded objects of RIs check structural case in the matrix

clause (i.e., the matrix vP). If the matrix clause does not involve a structural ACC-case position, the embedded object moves to matrix subject position where it shows up with NOM-case and enters into an agreement relation with the finite matrix verb or auxiliary. So far, I have discussed only cases where NOM is possible when the matrix predicate does not involve an ACC-assigner. In the next section, I will show that ACC is indeed impossible. Examples that at first sight contradict this claim will turn out to be cases of NRIs.

3. RESTRUCTURING INFINITIVE OR NON-RESTRUCTURING INFINITIVE?

3.1 German

In the previous sections, I have argued that the embedded object of a RI moves to the matrix clause to check case. We have seen that the lack of a matrix ACC-position causes the loss of ACC-case in the infinitival complement. The four cases that were discussed—passives, unaccusatives, *easy-to-please* constructions, and auxiliary-infinitive constructions—are repeated in (18).

(18) Embedded objects in matrix subject position

a. Passive =(7)a

weil	[der Lastwagen und der Traktor]	zu reparieren	versucht	wurden/*wurde
since	[<i>the truck and the tractor</i>]-NOM	to repair	tried	were/*was
	'since somebody tried to repair the truck and the tractor'			

b. Unaccusative RV =(11)b

?weil	mir	[die Briefe] _i	auf Anhieb	_i	zu entziffern	gelingen sind
since	me-DAT	[<i>the letters</i>]-NOM	straightaway	_i	to decipher	managed are
	'since I managed to decipher the letters'					

c. **Easy-to-please construction** =(15)

weil	[der Lastwagen und der Traktor]	leicht	zu reparieren	sind/*ist
since	[<i>the truck and the tractor</i>]-NOM	easy	to repair	are/*is
	'since the truck and the tractor are easy to repair'			

d. **Auxiliary-infinitive construction** =(16)

weil	[der Lastwagen und der Traktor] _i	nicht	t _i	zu reparieren	sind/*ist
since	[<i>the truck and the tractor</i>]-NOM	easy	t	to repair	are/*is
	'since it is not allowed to repair the truck and the tractor'				
	'since it is impossible to repair the truck and the tractor'				

The examples in (18) show that NOM is certainly possible for objects of a RI in cases where the matrix clause lacks an ACC-position. The question now is whether this case pattern is necessary. If the objects in the constructions in (18) could also show up with ACC, the analysis proposed here would be weakened.

Let us first look at the *easy-to-please* construction and the auxiliary-infinitive construction. As is illustrated in (19), the underlying object cannot appear with ACC-case.

(19) **ACC-objects: ***a. **Easy-to-please construction**

*weil	[den Lastwagen und den Traktor]	leicht	zu reparieren	ist/sind
since	[<i>the truck and the tractor</i>]-ACC	easy	to repair	is/are
	'since the truck and the tractor are easy to repair'			

b. **Auxiliary-Infinitive construction**

*weil	[den Lastwagen und den Traktor] _i	nicht	t _i	zu reparieren	ist/sind
since	[<i>the truck and the tractor</i>]-ACC	easy	t	to repair	is/are
	'since it is not allowed to repair the truck and the tractor'				
	'since it is impossible to repair the truck and the tractor'				

Turning now to the first two constructions in (18), however, one doesn't have to look far to encounter potential problems for the analysis proposed here. The generalization that ACC should be impossible if there is no ACC-assigner in the matrix clause is apparently contradicted by examples like the ones in (20). Since the embedded objects in (20) show up with ACC-case, but the matrix

clauses do not involve an ACC-assigning position, the claim I have made so far seems to be challenged—under the analysis I have proposed here, ACC should become impossible when the matrix verb loses the ability to assign ACC as in passives (cf. (20)a) or unaccusative contexts (cf. (20)b).

(20) ACC in sentences without matrix *v*P

- a. weil versucht wurde [der Maria **einen Brief** zu übermitteln]
 since tried was [to Mary [a letter]-ACC to send]
 ‘since somebody tried to send a letter to Mary’
- b. weil es dem Hans gelang [der Maria **einen Brief** zu übermitteln]
 since it the John-DAT managed [to Mary [a letter]-ACC to send]
 ‘since John managed to send a letter to Mary’

One might think that the sentences in (20) are different since the infinitives appear in extraposed position. Although extraposition has some effect on restructuring (to which I will return in chapter six), we will see right below that it is irrelevant for the examples in (20). First, the sentences in (18)a,b, which do not involve extraposition, also can involve an ACC-object if the infinitive is preceeded and followed by a significant intonational break (cf. (21); which I will refer to as ‘bracketed reading’).

(21) ACC-objects: bracketed reading

a. **Passive**

- ?weil [[den Lastwagen und den Traktor] zu reparieren] versucht wurde
 since [[the truck and the tractor]-ACC to repair] tried was
 ‘since somebody tried to repair the truck and the tractor’

b. **Unaccusative RV**

- ?weil mir [[die Briefe]_i auf Anhieb _{t_i} zu entziffern] gelungen ist
 since me-DAT [[the letters]-ACC straightaway _t to decipher] managed is
 ‘since I managed to decipher the letters’

Although extraposition does not seem to be the right way to distinguish between the cases involving NOM-objects vs. the cases involving ACC-objects, I will show that the sentences in (20)

and (21) do indeed have different properties from the sentences in (18): while the latter are RIs (hence subject to the analysis I have proposed), the former are instances of NRIs and hence do not involve movement of the embedded object to the matrix clause for case reasons. Recall from the discussion of the tense properties of RIs (specifically the fact that some RIs allow a marked tense reading) that certain RVs can also function as NRVs. If the analysis here—i.e., RIs are bare VPs—is right, the sentences in (20) and (21) could only be NRIs. We will see that this prediction is indeed confirmed.

One way of determining whether an infinitive is a RI or a NRI is by invoking scrambling. As predicted by the analysis here, the sentences in (20) become ungrammatical when the ACC-marked object scrambles to the matrix clause. This is illustrated in (21):

(17) ACC in sentences without matrix ν P: NRIs

- a. *weil [einen Brief]_{SCR} versucht wurde [der Maria t_{SCR} zu übermitteln]
 since [a letter]-ACC tried was [to Mary t_{SCR} to send]
 ‘since somebody tried to send a letter to Mary’
- b. *weil [einen Brief]_{SCR} Hans gelang [der Maria t_{SCR} zu übermitteln]
 since [a letter]-ACC John-DAT managed [to Mary t_{SCR} to send]
 ‘since John managed to send a letter to Mary’

Note again that scrambling is not blocked in active sentences—i.e., in cases where ACC can be assigned in the matrix clause. The sentence in (21)a thus contrasts sharply with the acceptability of scrambling in (21) which I repeat here for completeness. The example in (21) also proves that extraposed infinitives cannot simply be classified as NRIs.

(18) Scrambling from extraposed RI

- weil der Hans [einen Brief]_{SCR} versucht hat [der Maria t_{SCR} zu übermitteln]
 since the John [a letter]-ACC tried has [to Mary t_{SCR} to send]
 ‘since somebody tried to send a letter to Mary’

The same situation holds for the bracketed readings in (21). If the object appears to the left of the DAT-argument of the matrix clause (i.e., scrambling has applied), it can only show up with NOM-case and ACC-is excluded (cf. (22)b vs. (22)c).

(22) ACC in sentences without matrix ν P: NRIs

- a. weil dem Hans [[der Maria einen Brief zu übermitteln]] gelungen ist
 since the John-DAT [[to Mary [a letter]-ACC to send]] managed is
 'since John managed to send a letter to Mary'
- b. *weil [einen Brief]_{SCR} dem Hans [der Maria t_{SCR} zu übermitteln] gelungen ist
 since [a letter]-ACC the John-DAT [to Mary t_{SCR} to send] managed is
 'since John managed to send a letter to Mary'
- c. ?weil [ein Brief]_i dem Hans [der Maria t_i zu übermitteln] gelungen ist
 since [a letter]-NOM the John-DAT [to Mary t to send] managed is
 'since John managed to send a letter to Mary'

Thus, taking scrambling as an indication of restructuring, the fact that scrambling is blocked when the infinitive involves an ACC-DP and the matrix verb is not an ACC-assigner (as in (21) and (22)), strongly supports the claim that the infinitives in (20)—and hence infinitives involving an ACC-assigning ν P—are NRIs.²⁹

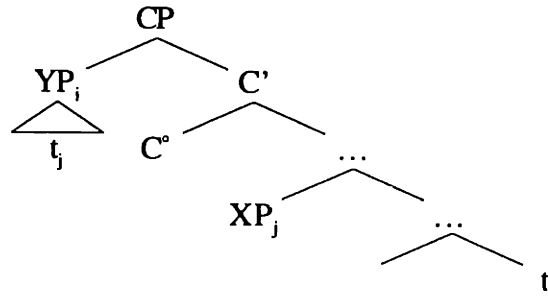
Finally, I will close this section with a further contrast between NOM and ACC-objects found in so-called *remnant topicalization* contexts. Although the examples will make the same point as the examples in (21) and (22), I will include them here since the contrast seems to be stronger for many speakers of German.³⁰ Remnant topicalization refers to the following phrasal movement

²⁹ I will not discuss the question of what the structure of NRIs is. I will simply assume that NRIs are bigger than VPs (i.e., VPs including a subject, TPs, and CPs are all possible NRIs).

³⁰ The reason has probably to do again with the interference of focus scrambling in certain contexts. I will show in chapter five that for some speakers focus scrambling is possible from RIs as well as marginally from NRIs (thus, for some speakers, the sentences in (17) and (18) can be improved when the scrambled argument is focused). If topicalization takes place, on the other hand, for most speakers the availability of focus scrambling decreases

operation which involves two steps: first, an XP undergoes scrambling out of a bigger phrase; second, the bigger phrase is moved to topic position.

(23) **Remnant topicalization**



Consider now the following examples involving remnant topicalization. Since the topicalized XPs in (23) include the infinitive and the matrix verb (participle), the constituent that is fronted has to be at least the matrix VP (assuming that only one XP can move to SpecCP in German). For the position of the stranded object, however, this means that it has to be located in the matrix clause; i.e., movement of the object out of the infinitive to the matrix clause (presumably by scrambling) must have applied in examples like (23). We then expect that this form of topicalization is only possible in restructuring contexts (since only RIs allow scrambling). The contrast between (23)a and (23)b illustrates that this claim is correct.

(19) **Remnant topicalization in (N)RIs**

- a. $[t_{SCR} \text{ Zu reparieren versucht}]_{VP}$ hat nur Hans $[\text{diesen Wagen}]_{SCR}$ t_{VP}
 $[t_{SCR} \text{ to repair tried}]_{VP}$ has only John *this car* t_{VP}
 'Only John has tried to repair this car'
- b. $*[t_{SCR} \text{ Zu reparieren geplant}]_{VP}$ hat nur Hans $[\text{diesen Wagen}]_{SCR}$ t_{VP}
 $[t_{SCR} \text{ to repair planned}]_{VP}$ has only John *this car* t_{VP}
 'Only John has planned to repair this car'

significantly.

The phenomenon of remnant topicalization is thus a useful tool to determine whether scrambling (hence restructuring) is possible, and as such has also been made extensive use of in work on restructuring in German (see for instance Haider 1993).

Coming back to our examples involving NOM vs. ACC-objects, the situation is as follows. When the infinitive and matrix verb are topicalized as in (24) (and again, the matrix verb is not an ACC-assigner), an ACC-object is only possible when scrambling does not occur. That is, in (24)a, the scrambled object shows up with NOM and agrees with the matrix verb. If the case is changed to ACC, the sentence is ungrammatical. Finally, if scrambling does not take place—i.e., the infinitive is a RI or NRI—ACC is again possible for the embedded object.

(24) Remnant topicalization and case

- a. [t_{SCR} zu reparieren gelungen] sind ihm [nur der Lastwagen und der Traktor]_{SCR}
[t_{SCR} to repair managed are him-DAT [*only the truck and the tractor*]-NOM
‘He managed to repair only the truck and the tractor’
- d. *[t_{SCR} zu reparieren gelungen] ist ihm [nur den Lastwagen und den Traktor]_{SCR}
[t_{SCR} to repair managed is him-DAT [*only the truck and the tractor*]-ACC
‘He managed to repair only the truck and the tractor’
- c. [[den Lastwagen und den Traktor] zu reparieren gelungen] ist nur ihm
[[*the truck and the tractor*]-ACC to repair managed is only him-DAT
‘Only he managed to repair the truck and the tractor’

To sum up, I have argued in this section that apparent counterexamples to the claim that RIs do not involve an ACC-assigning position, in fact provide support for the analysis proposed here: whenever an infinitive involves a structural ACC-argument which cannot have been case-marked by the matrix verb, the infinitive is a NRI.

I will now turn again to Japanese and we will see that essentially the same point can be made for restructuring (i.e., the NOM/ACC alternation) in Japanese.

3.2 Japanese

3.2.1 NOMINATIVE vs. ACCUSATIVE

Recall that in Japanese, the object in a [-stative] RI can show up with NOM iff the matrix RV is a stative verb (cf. the examples in (5); (5)a is repeated here as (25)a). However, as was pointed out at the end of §2.2, in examples involving a [+stative] RV, ACC is still possible for the embedded object (cf. (25)b).

(25) Japanese: [+stative] RVs

- | | | | |
|----|----------------------|-----------|--------------|
| a. | Emi-ga | ringo-ga | tabe-rare-ru |
| | Emi-NOM | apple-NOM | eat-can-PRES |
| | 'Emi can eat apples' | | |
| b. | Emi-ga | ringo-o | tabe-rare-ru |
| | Emi-NOM | apple-ACC | eat-can-PRES |
| | 'Emi can eat apples' | | |

There are two ways to interpret this case pattern: i) stative verbs assign NOM or ACC; and ii) only (25)a is an instance of restructuring, but (25)b is a case of non-restructuring. If we can show that the second option is the correct one, we have another case where the absence of an ACC-position in the infinitive correlates with restructuring, and the presence of an ACC-position in the infinitive correlates with non-restructuring.

Let me start with a consideration that at first sight supports the first hypothesis. It has been noted in the literature that 'stativity' has to be seen as a continuum rather than a fixed value. Many verbs that allow NOM-objects also allow ACC-objects (cf. Sugioka 1984, Koizumi 1995). However, what is crucial is that verbs that are borderline cases between [+stative] and [-stative] allow ACC-

objects only marginally and only if the verb can be interpreted as [-stative]; NOM is clearly the preferred option:³¹

(26) **Japanese: ACC-objects with [+stative] verbs** (Koizumi 1995:67)

- | | | | | |
|----|--------------------------|-----------------------------|----------------------------|-----------------|
| a. | ?Emi-ga
Emi-NOM | huransugo-o
French-ACC | waka-ru
understand-PRES | ?ACC [+stative] |
| | ‘Emi understands French’ | | | |
| b. | Emi-ga
Emi-NOM | huransugo-ga
French -NOM | waka-ru
understand-PRES | NOM [+stative] |
| | ‘Emi understands French’ | | | |

In contrast to examples like in (26), however, examples like (25)b are completely grammatical and do not require a [-stative] interpretation of the matrix verb.

A stronger argument for the claim that the examples in (25) involve different structures (i.e., restructuring vs. non-restructuring) is offered by the binding and scope properties of NOM vs. ACC-objects. We will see that NOM-objects differ crucially from ACC-objects in that the former behave like arguments of the matrix clause with respect to binding and scope, whereas the latter seem to be part of an independent binding and scope domain (i.e., a domain distinct from the matrix clause).

3.2.2 Scope properties of NOMINATIVE vs. ACCUSATIVE objects

Let us look first at the scope properties of NOM vs. ACC-objects in stative contexts. Tada (1992) notes that in sentences like (27), which differ in the case of the embedded object, NOM-objects take higher scope than ACC-objects (see also Tada 1993, Koizumi 1995): the example in

³¹ There is also some speaker variation; Saito & Hoshi (1998) consider examples like (26)a ungrammatical. Other native speakers consulted allow NOM and ACC equally.

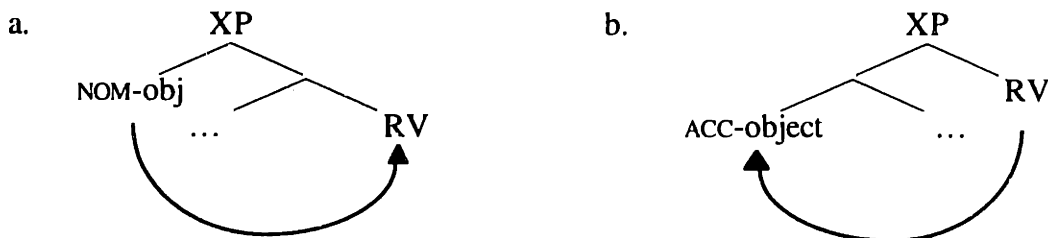
(27)a conveys that John has the ability to close only his right eye (and to leave his left eye open). The sentence in (27)b, on the other hand, conveys that only John's right eye is such that he can close it (i.e., he cannot close his left eye). The two readings thus express different scopal relations between the modal and the *only*-phrase: in the first case, the modal scopes over the *only*-object, whereas the *only*-objects takes scope over the modal in the second case.³²

(27) **Japanese: scope of NOM vs. ACC-OBJECTS**

- | | | | | |
|----|-------------------------------------|--------------------|-----------|-----------------------|
| a. | John-ga | migime-dake-o | tumureru | ACC |
| | John-NOM | right eye-only-ACC | close-can | <i>can>only</i> |
| | 'John can close only his right eye' | | | ?? <i>only>can</i> |
| | | | | |
| b. | John-ga | migime-dake-ga | tumureru | NOM |
| | John-NOM | right eye-only-NOM | close-can | * <i>can>only</i> |
| | 'John can close only his right eye' | | | <i>only>can</i> |

The importance of the examples in (27) thus is that ACC-objects obligatorily take scope under the RV (modulo fn. 32), whereas NOM-objects obligatorily scope over the RV. Assuming that scope reflects a hierarchical (c-command) relation between two elements, the two sentences in (27) have the LF-representations in (28):

(28) **LF: object-positions of [+stative] RVs**



³² The example in (19)a is ambiguous for some speakers when the object is focused (cf. Koizumi 1995:68, fn. 6). I assume that an inverse scope reading results from focus scrambling which is irrelevant for the discussion here.

As can be seen in (28) NOM-objects appear in a higher position at LF than the matrix RV, whereas ACC-objects appear in a lower LF-position than the RV. Assuming that the position of the modal verb is the same in all of (28), we can conclude that NOM-objects appear in a higher position at LF than ACC-objects.

What are the positions of the objects in (28)? Under the account that I will give here, the scope properties are straightforward: if the RV is a stative verb, it assigns NOM-case and ACC can only be assigned by the embedded verb. The position where the object checks case is then the same as the position where it takes scope (this is not unmotivated since it has been argued that quantifiers are assigned surface scope in Japanese and do not undergo QR; see for instance Hoji 1985 among many others). Since ACC-arguments appear in the infinitive, they take embedded scope, but NOM-arguments which get case in the matrix clause have matrix scope.

Let us now go back to the hypothesis that stative verbs assign either NOM or ACC; i.e., in both examples in (25), the embedded object is assigned case by the matrix verb. Since (28) represents the LF-positions of the embedded object, the assumption that both ACC and NOM are assigned by the matrix RV could only be preserved if one of the following two additional conditions holds: i) ACC objects reconstruct obligatorily (from their alleged case-position in the matrix clause to their base position in the infinitive), and NOM-objects must not reconstruct; or ii) the verb appears in an LF-position which is higher than the position where ACC is assigned but lower than the position where NOM is assigned and it must not reconstruct.

The first assumption seems to be hard to motivate since both positions are case-positions (i.e., presumably A-positions), hence it does not follow from any other principles but rather seems to be contrary to what is standardly assumed (e.g., condition C effects etc.). The second assumption runs into problems when we consider examples with [-stative] RVs. Recall that NOM-

objects are only possible when the matrix-verb is [+stative]. Hence, the examples in (29), which involve a [-stative] matrix verb, allow only ACC-objects and NOM would be ungrammatical. If the verb could appear in a position higher than the position of ACC-objects, it would be predicted that objects in non-stative restructuring contexts should never take scope over the RV. This is clearly not the case. As is shown in (29), ACC-objects in non-stative restructuring contexts can clearly take scope over the RV.

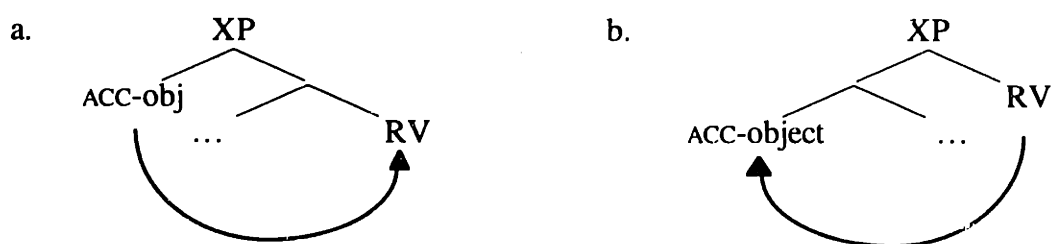
(29) **Japanese: scope of ACC-objects**

(Koizumi 1995:61f)

- | | | |
|----|---|--|
| a. | Emi-ga ringo-dake-o tabe-hazime-ta
Emi-NOM apple-only-ACC eat-begin-PAST
'Emi began to eat only apples' | <i>begin > only</i>
<i>only > begin</i> |
| b. | Emi-wa niku-dake-o tabe-sugi-ta
Emi-TOP meat-only-ACC eat-overdo-PAST
'Emi overdid eating only meat' | <i>overdo > only</i>
<i>only > overdo</i> |

An abstract representation of (29) is given below:

(30) **LF: object-positions of [-stative] RVs**



If we compare the LF-structure in (30)a with the impossible structure in (27)a, it should be obvious that an account along the lines outlined above (i.e., the LF-position of the verb is higher than the position where ACC is assigned but lower than the position where NOM is assigned) is untenable.

Let us return to the question raised at the beginning of this section—the dual case pattern of examples involving a stative RV (cf. (25), repeated here as (31)).

(31) Japanese: [+stative] RVs

- | | | | |
|----|----------------------|-----------|--------------|
| a. | Emi-ga | ringo-ga | tabe-rare-ru |
| | Emi-NOM | apple-NOM | eat-can-PRES |
| | 'Emi can eat apples' | | |
| b. | Emi-ga | ringo-o | tabe-rare-ru |
| | Emi-NOM | apple-ACC | eat-can-PRES |
| | 'Emi can eat apples' | | |

What I have argued so far is that an account that assumes that [+stative] RVs can assign either NOM or ACC, faces three major problems: i) ACC-objects in sentences like (25)b are unmarked and do not require a change in the stativity properties of the verb; ii) the contrast between (28)a and (28)b is unexpected or requires additional stipulations; and iii) the contrast between (27)a and (30)a is left unexplained. Before I will offer an analysis for these facts, let me first point out an additional property that distinguishes between NOM or ACC-objects.

3.2.3 Binding properties of NOMINATIVE vs. ACCUSATIVE objects

As has been mentioned by Miyagawa (1987), RIs in Japanese—as a result of clause-union with the matrix clause—cease to function as an independent domain for binding. Miyagawa shows that pronouns that appear embedded in a RI cannot be construed as coreferential with a c-commanding R-expression in the matrix clause. This is illustrated in (32). The infinitive *to introduce her* is embedded under a motion verb (i.e., a RV) and a stative RV. As expected, the embedded object can show up with either NOM or ACC. If the object shows up with ACC, coreference between the embedded pronoun and *Hanako* is possible (cf. (32)a). However, crucially, when the object appears with NOM, coreference between the embedded pronoun and the matrix argument *Hanako* is blocked (cf. (32)b).

(32) **Japanese: principle B in (N)RIs**

- a. Taro_i-ga Hanako_j-to daigaku-ni [kanoz_{ij}yo_{ij} -o syookaisi-ni] ikeru
 Taro_i-NOM Hanako_j-with university-to [she_{ij} -ACC introduce-to] go-can
 'Taro can go with Hanako to the university to introduce her'
- b. Taro_i-ga Hanako_j-to daigaku-ni [kanoz_{ij}yo_{ij} -ga syookaisi-ni] ikeru
 Taro_i-NOM Hanako_j-with university-to [she_{ij} -NOM introduce-to] go-can
 'Taro can go with Hanako to the university to introduce her'

To conclude, the data in (32) show that in stative contexts, an infinitive involving an ACC-object is an independent binding domain, whereas infinitives with NOM-objects are part of the binding domain of the NOM-assigning verb.

3.2.4 Analysis—RIs lack a structural object case position

The analysis that I have proposed for RIs provides a straightforward account for the case, scope and binding facts of NOM vs. ACC-objects in Japanese that I summarize here again in (33) through (36).

(33) **Japanese: [+stative] RVs** =(31)

- a. Emi-ga ringo-ga tabe-rare-ru NOM
 Emi-NOM apple-NOM eat-can-PRES
 'Emi can eat apples'
- b. Emi-ga ringo-o tabe-rare-ru ACC
 Emi-NOM apple-ACC eat-can-PRES
 'Emi can eat apples'

(34) **Japanese: scope of NOM vs. ACC-OBJECTS** =(27)

- a. John-ga migime-dake-ga tumureru NOM
 John-NOM right eye-only-NOM close-can *can>only
 'John can close only his right eye' only>can
- b. John-ga migime-dake-o tumureru ACC
 John-NOM right eye-only-ACC close-can can>only
 'John can close only his right eye' ??only>can

(35) Japanese: scope of ACC-objects

(Koizumi 1995:61f); =(29)

Emi-ga	ringo-dake-o	tabe-hazime-ta	
Emi-NOM	apple-only-ACC	eat-begin-PAST	<i>begin>only</i>
'Emi began to eat only apples'			<i>only>begin</i>

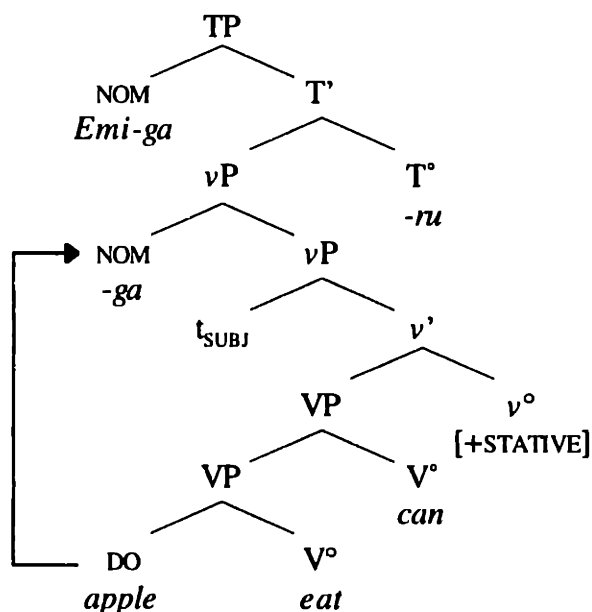
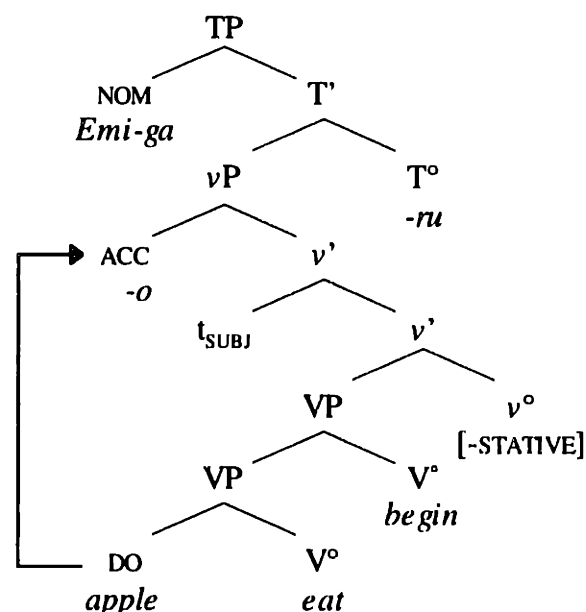
(36) Japanese: principle B in (N)RIs

=(32)

- a. Taro_o-ga Hanako_i-to daigaku-ni [kanozyo_{i,ij} -ga syookaisi-ni] ikeru
 Taro_o-NOM Hanako_i-with university-to [she_{i,ij} -NOM introduce-to] go-can
 'Taro can go with Hanako to the university to introduce her'
- b. Taro_o-ga Hanako_i-to daigaku-ni [kanozyo_{i,ij} -o syookaisi-ni] ikeru
 Taro_o-NOM Hanako_i-with university-to [she_{i,ij} -ACC introduce-to] go-can
 'Taro can go with Hanako to the university to introduce her'

Let us assume, following Tada (1992, 1993) that NOM is assigned by a [+stative] ν^o (his AgrO) rather than T^o (see Tada for arguments against a TP-position for NOM-objects). Furthermore, I assume that a stative ν^o always assigns NOM-case to the direct object; the (marginal) ACC-case requires that the verb be interpreted as [-stative].

The basic idea about RIs that I try to defend in this thesis is that they do not contain a structural object case position. Assuming that this is the case in Japanese RIs as well, the embedded object has to raise to the matrix clause to check its case. If the matrix verb is a stative verb, the embedded object shows up with NOM (cf. (33)a which is depicted in (37)a), if the matrix verb is non-stative as in (35), the object shows up with ACC (cf. (37)b).

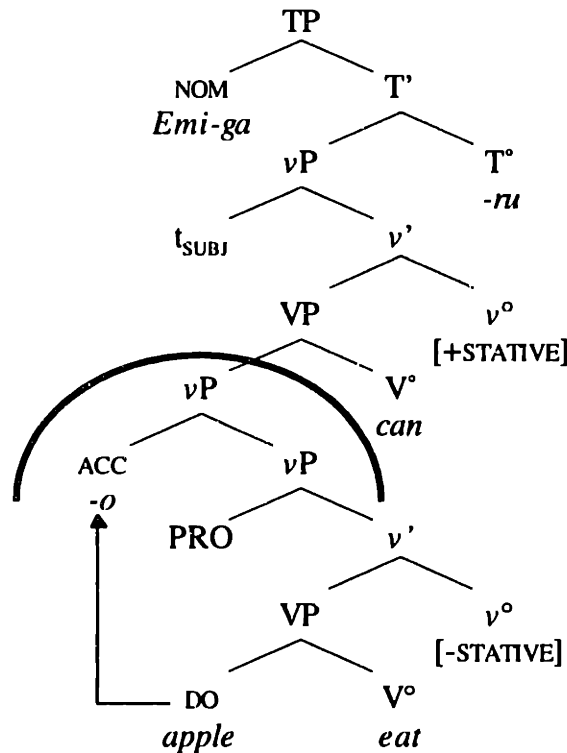
(37) a. **RI: NOM-OBJECT**b. **RI: ACC-OBJECT**

Let us see how these structures account for the scope and binding properties of NOM-objects. Since the embedded object in (37)a appears in the matrix clause at (least at) LF, it ends up in the same binding domain as other arguments from the matrix clause. It is thus not surprising that Principle B is violated in examples like (36)a, if the object pronoun is construed as coreferential with another argument from the matrix clause. Furthermore, it follows from the structure in (37)a that the object takes scope over the matrix verb as in (34)a.³³

Under the assumption that stative verbs assign only NOM, an infinitive involving an ACC-object in a stative context can only be a NRI. The structure of examples like (33)b can thus be depicted as in (38) (setting aside the question of whether there are other functional projections in a NRI):

³³ There is a question about why the object cannot take scope under the modal; i.e., why it cannot reconstruct. I will put this aside here.

(38) NRI: ACC-objects



What is important to note about the structure in (38) is that the embedded object appears inside the infinitive; i.e., lower than the matrix verb. It is thus expected that it should take lower scope than the modal which is the case as shown in (34)b. Let us assume here for simplicity that structural ACC-case is tied to the presence of an external argument. The best candidate for a subject in (38) seems to be PRO. Furthermore, the presence of an embedded subject could be seen as demarcating an independent binding domain (cf. for instance Chomsky 1981, Reinhart & Reuland 1993 and many others). Hence, examples like (36)b do not constitute a principle B violation since the pronoun and the R-expression are in different binding domains.

A final note on the structures in (37) and (38). In non-stative contexts, the RI in (37)b and the NRI in (38) are pronounced the same at the surface: since non-stative verbs do not allow NOM-objects both structures involve an ACC-object. However, the fact that sentences like (35) in contrast to (34)b—which both involve an ACC-object—are ambiguous, strongly supports the analysis here.

Examples like (35) show that there is not simply one ACC-position that is different from the NOM-position, but rather that there are two positions for the embedded object—a case position in the infinitive and a case position in the matrix clause. However, the properties of the construction change significantly, depending on which position the object occurs in: if the object is in the lower position the infinitive is a NRI; if the object is in the higher position it is a RI.

At this point, I would like to point out another important fact about restructuring that is provided by the properties of Japanese infinitives. Examples like (33)b—i.e., sentences involving a [+stative] affixal verb and an ACC-object—are NRIs (as witnessed by the scope and binding properties). However, since they are affixal verbs and do not involve a tense marker on the infinitive, they are potential RIs. In other words, the tense properties are compatible with restructuring, but the presence of structural case in the infinitive is incompatible with restructuring. Since constructions such as the ones in (33)b are in fact NRIs, we can conclude that both properties have to be met in order to license restructuring—a RI is tenseless and does not involve a structural case position.

The correlations between scope, binding and case discussed in this section again confirm the claim that whenever an infinitive involves its own structural object case position, the infinitive is a NRI.

4. LOCALITY OF OBJECT MOVEMENT

As was discussed at length in §2.3, RIs involve ‘long’ object movement: in cases where the matrix clause lacks structural case, the embedded object is raised to the matrix subject position. Four constructions have been mentioned: passive, unaccusative movement, *easy-to-please*

movement, and object movement in auxiliary-infinitive constructions. These four processes of *Restructuring Object Movement* (ROM) are repeated in (39).

(39) **Restructuring Object Movement (ROM)** =(18)

a. **Passive**

weil	[der Lastwagen und der Traktor]	zu reparieren	versucht	wurden/*wurde
since	[<i>the truck and the tractor</i>]-NOM	to repair	tried	were/*was
	'since somebody tried to repair the truck and the tractor'			

b. **Unaccusative RV**

?weil	mir	[die Briefe] _i	auf Anhieb	t _i	zu entziffern	gelingen sind
since	me-DAT	[<i>the letters</i>]-NOM	straightaway	t	to decipher	managed are
	'since I managed to decipher the letters'					

c. **Easy-to-please construction**

weil	[der Lastwagen und der Traktor]	leicht	zu reparieren	sind/*ist
since	[<i>the truck and the tractor</i>]-NOM	easy	to repair	are/*is
	'since the truck and the tractor are easy to repair'			

d. **Auxiliary-infinitive construction**

weil	[der Lastwagen und der Traktor] _i	nicht	t _i	zu reparieren	sind/*ist
since	[<i>the truck and the tractor</i>]-NOM	easy	t	to repair	are/*is
	'since it is not allowed to repair the truck and the tractor'				
	'since it is impossible to repair the truck and the tractor'				

The analysis that I have proposed here is based on the assumption that the infinitives in the examples in (39) do not involve a structural object case position. Since the embedded object cannot check case in the infinitive, it has to raise to the matrix clause.

Concerning the locality conditions on ROM, we have to look at cases where ROM is blocked. As was noted for passive in (7) (repeated here as (40)), this form of object movement is only available from RIs (cf. (40)a) and blocked from NRIs (cf. (40)b).

(40) "Long Passive"—*NRIs

=(7)

- | | | | | | |
|----|-------|--|---------------|----------|---------------|
| a. | weil | [der Lastwagen und der Traktor] | zu reparieren | versucht | wurden/*wurde |
| | since | [the truck and the tractor]-NOM | to repair | tried | were/*was |
| | | 'since somebody tried to repair the truck and the tractor' | | | |
| | | | | | |
| b. | *weil | [der Lastwagen und der Traktor] | zu reparieren | geplant | wurden/wurde |
| | since | [the truck and the tractor]-NOM | to repair | planned | were/was |
| | | 'since somebody planned to repair the truck and the tractor' | | | |

The same contrast holds for all ROM constructions when we look at multiple embeddings of RIs. This will be illustrated with the *easy-to-please* construction. Complements of *easy*-adjectives are RIs (by virtue of *easy* being a restructuring predicate). If the complement of an *easy*-adjective is complex—i.e., it embeds another infinitival complement—the well-formedness of the *easy-to-please* construction in Italian and German is dependent on restructuring. This has been noted by various authors (Rizzi 1982, Kayne 1989, Roberts 1993, Watanabe 1993). To be more explicit, if the complement of the *easy*-adjective contains an infinitive selected by a RV as in (41)a and (42)a, ROM from the infinitival complement of the RV is fine. If, on the other hand, the complement of the *easy*-adjective contains a NRV as in (41)b and (42)b, movement from the complement of this NRV is impossible (the examples involve the verb *promise*; the same blocking effects are found with verbs like *plan*, *decide* etc.).³⁴

³⁴ Kayne (1989) claims that the same contrast is also found in French:

- i. ?Ce livre serait impossible à **commencer** à lire
this book would-be impossible to start to read
- ii. *Ce genre de livre est facile à **promettre** de lire
this kind of book is easy to promise to read

However, it has been pointed out to me by all French speakers consulted that the sentences in i. and ii. are both unacceptable and do not show the contrast indicated above (see also Bok-Bennema & Kampers-Manhe 1994 who claim that sentences like the one in i. are ungrammatical in French). Further research is necessary to make generalizations about the *easy-to-please* construction in French.

(41) Italian: *easy-to-please* movement—*from NRIs

- a. Questa canzone_i è facile [da cominciare [a cantare t_i]]
 This song is easy [to begin [to sing t_i]]
 'This song is easy to start to sing'
- b. *Questa canzone_i è facile [da promettere [di cantare t_i]]
 This song is easy [to promise [to sing t_i]]
 'This song is easy to promise to sing'

(42) German: *easy-to-please* movement—*from NRIs

- a. Ein Turm_i ist leicht [[t_i zu bauen] zu beginnen]
 A tower is easy [[t_i to build] to begin]
 'A tower is easy to begin to build'
- b. *Ein Turm_i ist leicht [[t_i zu bauen] zu versprechen]
 A tower is easy [[t_i to build] to promise]
 'A tower is easy to promise to build'

The examples in (41)-(42) also represent another difference between the *easy-to-please* construction in English vs. German and Italian, since in English, the a. and b. examples are equally grammatical.

One way to account for these two contrasts—i.e., the contrast between English and German/Italian, on the one hand, and the contrast between the a. and b. examples in German/Italian on the other hand—is by assuming that *easy-to-please* movement is a form of A-movement in German and Italian, whereas it involves some form of A'-movement in English.³⁵

A condition on chains formed by movement which seems to be standardly accepted since Rizzi (1990) is that a chain is only licit if no 'relevant' element intervenes or is skipped—i.e., Rizzi's *Relativized Minimality*. In Rizzi's framework, 'relevant' elements are intervening

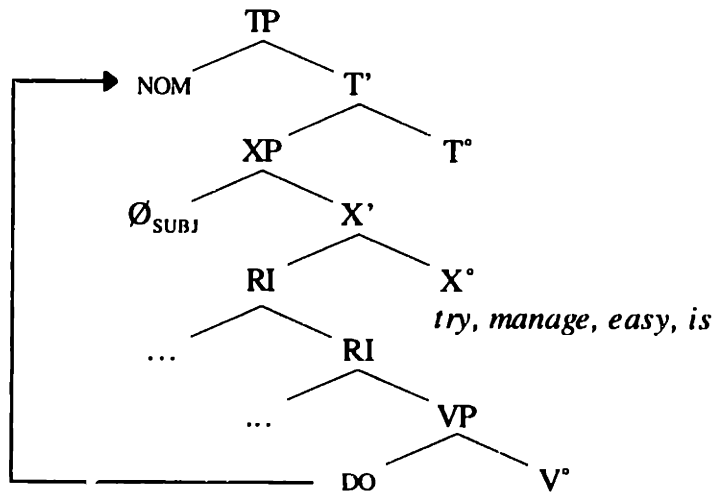
³⁵ I have nothing to say about why languages differ in this respect.

elements that have the same A/A'-status as the landing position. Thus, only A-positions compete in A-chains, and only A'-positions compete in A'-chains.

Easy-to-please movement as a form of A'-movement is then only possible if no intermediate A'-elements are present between the landing position and the trace. Since no operator or wh-elements occur in (41) and (42), all the examples are well-formed in English (for evidence that intervening A'-elements indeed block *tough*-movement in English see the extensive literature on this topic; e.g., Chomsky 1982, 1986a,b, Browning 1987, Cinque 1990, and Chomsky & Lasnik 1993).

In German and Italian, on the other hand, *easy-to-please* movement is sensitive to intervening A-elements. Thus, an obvious assumption is that in the NRIs in (41)b and (42)b an intervening argument is present that blocks A-movement, whereas in the RIs in (41)a and (42)a no such A-intervener is found. The most likely candidate seems to be PRO. Thus in a *Relativized Minimality* framework, the easiest way to account for the grammaticality of (41)a and (42)a—i.e., the possibility of A-movement out of a RI—is to assume that in RIs no embedded syntactic subject is present. This is illustrated in (43):

(43) RI: no intervening PRO

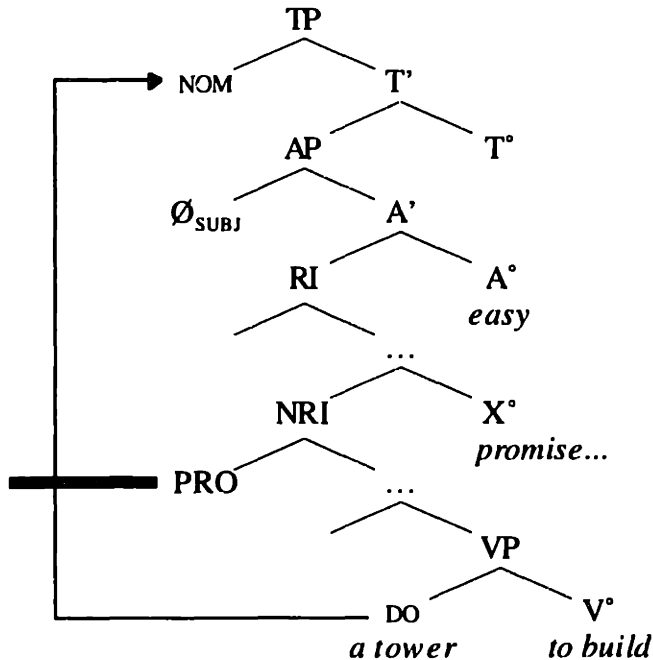


Assuming that RIs do not involve an embedded subject, multiple embedding of several RIs does not affect the grammaticality of ROM.

Let us now see first, how *Relativized Minimality* would account for the ungrammaticality of the *easy-to-please* construction in (41)b and (42)b. The assumption that we made here is that in RIs no PRO-subject is present, while in NRIs an embedded PRO-subject is projected in the syntax. Since PRO intervenes between the matrix subject position and the base position of the underlying object, movement of the object across PRO is blocked. This is illustrated in (44):

(44) NRI: intervening PRO

=(42)b



The question that arises at this point is what the relevant property of PRO is that makes it count as an intervening element for movement of the object to matrix subject position. Being an argument seems insufficient since for instance DAT-arguments do not interfere with A-movement in German. Notice further that PRO itself cannot raise to the matrix subject position in (44) which can be seen as a consequence of an incompatibility of the case features of PRO (e.g., no case in traditional theories, *Null Case* in terms of Chomsky & Lasnik 1993) and the case feature of finite T° (i.e., NOM).

A different way of looking at the blocking effect of NRIs for ROM is to tie it to the case properties that are different in RIs and NRIs. If we assume that ROM is essentially case movement, only objects that cannot check case in the infinitive will move out of the embedded clause(s). In RIs like (43), the embedded object has to raise out of the infinitives to check its case, since—as we assume here—RIs do not involve a structural object case position. The closest case

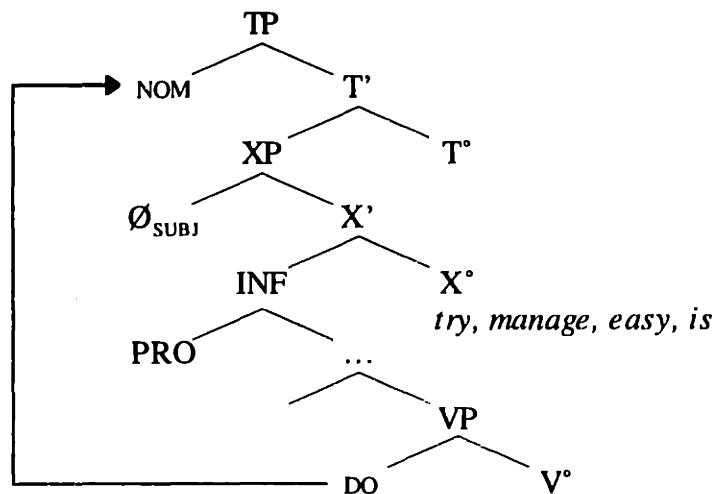
position for the object to move to is in the matrix clause. In (44), on the other hand, the deepest embedded infinitive does involve a structural case position (since it is a NRI) and the object moves to this case position. Further movement or double case checking is prohibited.

In the next section, I will compare this approach with approaches that assume that both types of infinitives—RIs and NRIs—do involve a structural case position. I will show that these approaches require non-trivial adjustments to account for contrasts like the ones in (41) and (42) that basically all result in the structure I am proposing here.

4.1 What CP-approaches have to say

In contrast to the analysis proposed here, many syntactic approaches to restructuring assume that both RIs and NRIs involve an embedded PRO-subject and an embedded structural case position (for references see the Appendix §2)—thus, RIs are represented by a structure as in (45) (setting aside the number and label of the various projections in the infinitive).

(45) Structure with PRO & ACC case



From the discussion in the previous section, it should be evident that a structure as in (45) raises a number of questions for ROM. Phrased in a general way, the main question is why the argument structure of the infinitive should be affected by the absence of structural case in the matrix clause.³⁶ In general, argument structure alternations like passive do not apply across clauses. Since the infinitive and matrix clause project independent argument structures in a structure like (45), it seems unclear what the motivation for ROM would be.

To put it slightly different, accounts based on a structure as in (45) are faced with two non-trivial questions: i) why does the object move, and ii) why is it not happy with ACC? Recall from the discussion in §3.1 that ACC is only possible in a RI when the *matrix* predicate is an ACC-assigner. If ACC cannot be assigned in the matrix clause, but the object nevertheless shows up with structural ACC-case, the infinitive is a NRI. Since under a structure like (45), nothing alters the argument structure of the embedded clause in cases where the matrix predicate does not involve structural case (unless additional assumptions are made), it is not clear why the ability to assign ACC in the infinitive should be lost in exactly and only the cases where a matrix subject and matrix structural case are missing.

Note that a mechanism like verb raising (which is often considered the trigger for restructuring) does not seem to be able to do the job here; ACC-case is only lost in a RI when the matrix predicate does not involve structural case, whereas verb raising always applies in RIs. Thus, whatever the explanation for ROM in CP-approaches is, it has to involve some kind of merging of the two argument structures—i.e., at some level, the embedded argument has to

³⁶ I will use 'argument structure' alternations as a shortcut for the fact that the object in passive or unaccusative constructions cannot show up with ACC.

become an argument of the matrix predicate in order to derive the effects of Burzio's generalization in the ROM constructions in (39).

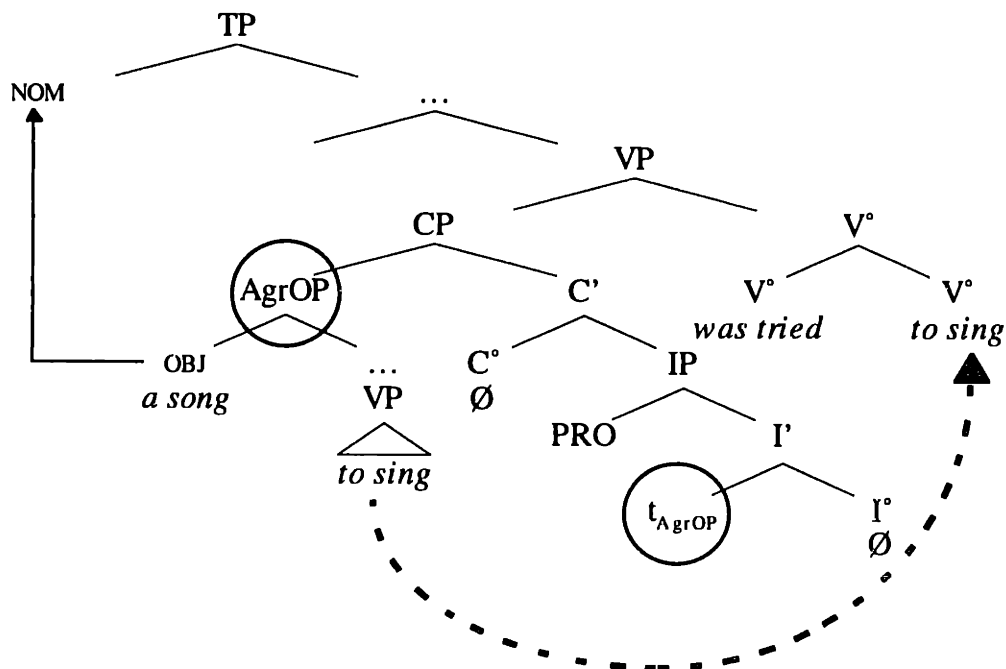
A slightly different question though related to the *why*-questions above is *how* ROM applies in a structure like (45), and what the locality conditions on this movement operation are. More specifically, depending on the framework chosen, it has to be explained either why the embedded PRO (or the embedded ACC-case) does not intervene in RIs (though it does in NRIs) when the object raises to the matrix subject position (*Relativized Minimality*). Or, put it differently, why the embedded object can and has to raise from a case position in the infinitive to a case position in the matrix clause (i.e., check case twice) in restructuring constructions but not in non-restructuring constructions (*Shortest Move/Attract*).

Let us first consider the head-raising approaches to restructuring; i.e., approaches that assume that RIs are full-fledged CPs or TP_s involving a PRO-subject, and that *restructuring* essentially means that a verbal head (T° or V°) raises from the infinitive to the matrix clause (for references see chapter one and the Appendix §2). Unless overruled by additional assumptions, head raising is not supposed to have any effect on the argument structure of the embedded clause. Thus, a priori it is not clear, how either the *why* or the *how* questions can be accounted for. One way of saving head-movement accounts would be to modify the theory of verb raising. Possibilities that come to mind are to assume that verb raising eliminates PRO (e.g., as a result of government by the trace of the verb in C°), or that it 'carries away' the structural case (feature) of the infinitive. However, crucially, PRO or ACC-case would then be impossible in passive and active restructuring contexts, since verb raising applies from RIs in general. In other words, it should not be possible to ever assign ACC in RIs. Thus, what we would end up with is exactly what I am proposing here: the object in a RI does not check case in the infinitive. The question then obviously is whether there is evidence or reason to assume an initial representation with an

embedded subject, and—provided there is such evidence—to balance whether the evidence is good enough to invoke a powerful process like deletion (of PRO or the case features) or feature hijacking.

The VP-movement approach and the topicalization+head-movement approach, on the other hand, offer a way to account for the *how*-question—the non-blocking character of PRO. Recall that in these approaches, the infinitival VP or AgrOP is moved to the matrix clause or to the embedded SpecCP (cf. again chapter one and the Appendix §2). As a result, the object is removed from the c-command domain of the infinitival PRO-subject. In terms of *Relativized Minimality*, this would mean that PRO does not intervene anymore when the embedded object moves to the matrix clause. The structure in (46) is a simplified version of the structure proposed in Sabel (1996).

(46) **Topicalization & overt/covert verb raising**



Note that it remains undetermined which argument (the embedded object or PRO) is closer to the matrix T° in the structure in (46) since the two arguments do not enter into any c-command relation with each other. However, the question of being closer does not arise in Grewendorf & Sabel's (1994) and Sabel's (1996) approach since their accounts are rooted in the *Barriers* framework (movement of PRO from SpecIP to the matrix clause would cross two barriers, which is illicit).

The question of *why* ROM should take place, however, remains mysterious in this set of approaches as well. Although there are attempts to capture the fact that the object cannot check case in the infinitive in passive contexts, they seem to simply restate the facts (Sabel 1996:205f for instance asserts that the *restructuring feature* when transferred from a passivized matrix RV to the embedded AgrO° absorbs the case assigning property of the embedded AgrO°. Beside the question what a *restructuring feature* is, it is not clear why and how it eliminates structural case in the infinitive). Thus, again, one of the following additional assumptions has to be made: either it has to be allowed (and in fact forced) that the embedded object checks case twice; or some sort of argument structure merger applies in passive restructuring contexts. Since neither assumption seems appealing, I conclude that the existence of ROM weakens approaches involving an embedded subject in RIs.

To sum up the two major questions concerning ROM that I have discussed here are: i) why does the object move and why is it not happy with ACC; and ii) what are the locality conditions on ROM? Thus, from the discussion in this section it should be clear that a structure like the one in (45) (i.e., a structure involving an embedded case position and an embedded PRO-subject in RIs) seems to be faced with a number of difficulties.

Table 8: Restructuring Object Movements

Approach	why ROM?	how ROM?
VP-approach	object lacks case	like in simple clause
Topicalization+V/T-raising	additional assumptions	PRO is bypassed by topicalization
V/T-raising	additional assumptions	additional assumptions

The major theoretical advantage of a theory that assumes that RIs do not involve embedded structural case is that no additional restructuring-specific assumptions have to be made about the motivation for and locality conditions on restructuring object movement like passive, unaccusative movement or *easy-to-please* movement. This has already been noted by Strozer (1981), who points out that theories that postulate a clausal structure for RIs (and hence a structurally present PRO-subject) have to be adjusted in non-obvious ways to explain why this PRO-subject does not intervene when the embedded object raises to matrix subject position.

Moreover, a VP-approach not only accounts for the contrast in (41) and (42) but also succeeds in motivating the existence of movement operations of the embedded object to matrix subject position. Since ROM is not simply driven by some unmotivated [+restructuring] feature but by case checking, we predict that ROM has to apply from RIs.

5. CONCLUSION

In this chapter, I have argued that RIs do not involve an embedded structural ACC-case assigner. Since the embedded object cannot receive case in the infinitive, it raises to the matrix clause to check case. Table 9 summarizes the constructions and properties that can be attributed to the lack of a structural case position in RIs.

Table 9: Lack of ACC in RIs

ROM	Languages discussed
“Long Passive”	German, Italian, Spanish
Unaccusative RVs	German
<i>Easy-to-please</i> construction	German, Italian, Spanish
Auxiliary-infinitive construction	German
Case of embedded object depends on stativity of matrix verb	Japanese
ACC in infinitive: NRI	German, Japanese

Since ROM is not a random phenomenon but is rather found systematically in a number of constructions and languages, it seems desirable to give an account without additional assumptions about the locality conditions. Under the analysis proposed here, the phenomena and constructions listed in Table 9 can be accounted for in a uniform way—RIs do not involve a position where structural ACC-case is assigned. Theories that postulate structural case and a structurally present PRO-subject in RIs have to employ a non-obvious mechanism in order to explain why only non-restructuring PRO-subjects intervene when the embedded object raises to matrix subject position, why case checking applies twice, and why the argument structure of the matrix clause influences the case properties of embedded RIs but not NRIs.

A final important remark: as has been discussed in detail, infinitives involving a structural case assigner or position are NRIs. Crucially, however, these NRIs do not necessarily involve

tense. In Japanese, this can be seen quite clearly. Examples like (33)b—i.e., sentences involving a [+stative] affixal verb and an ACC-object—are NRIs (as witnessed by the scope and binding properties). However, since they are affixal verbs and do not involve a tense marker on the infinitive, they are potential RIs. In other words, the tense properties are compatible with restructuring, but the presence of structural case in the infinitive is incompatible with restructuring. Since constructions such as the ones in (33)b are NRIs, we can conclude that both properties have to be met in order to license restructuring—a RI is tenseless and does not involve a structural case position.

One way of interpreting the lack of structural ACC-case is by the assumption that the projection hosting structural case is absent altogether. Thus, the chart of restructuring properties can be extended as below:

Restructuring:	♦ RIs lack CP-properties	⇒	RIs lack CP
	♦ RIs lack TP-properties	⇒	RIs lack TP
	♦ RIs lack an ACC-position	⇒	RIs lack v° [+ACC]

Chapter Four:

**Syntactic vs. Semantic
Control**

1. INTRODUCTION

In the previous chapter, I have argued that RIs do not involve structural case but that the direct object is assigned case by the matrix predicate. If an object in an infinitive shows up with ACC-case, the infinitive is a NRI. In this chapter, I will address the question of whether RIs involve an embedded syntactic subject.

I will argue that what is usually referred to as “control” involves two kinds of phenomena: *semantic control* vs. *syntactic control*. Structurally, these forms of control are distinguished by the absence vs. presence of a syntactic subject. What is importantly again is that the two forms of control coincide with restructuring vs. non-restructuring. Thus, the conclusion will be that RIs lack an embedded syntactic subject, whereas NRIs involve a syntactic subject.

The question of whether control infinitives involve an embedded subject has been a longstanding issue in both the syntactic as well as the semantic literature. The question of whether a control infinitive involves a syntactic subject often goes hand in hand with the question of whether infinitives are clauses (propositions) or VP-predicates.

The common approach in the 80s was that control infinitives are clauses (IPs or CPs) syntactically and propositions semantically—i.e., in traditional terms, a proposition does not involve an unsaturated subject position. One of the main reasons for the clausal nature of control infinitives in these theories has to do with the idea of uniformity of phrase structure. Since certain control infinitives can involve overt CP-material, control infinitives were generally considered as clauses; i.e., even in cases where no *wh*-element or complementizer were present, control infinitives were considered as CPs. Furthermore, the so-called *PRO-theorem* provided another theory-internal reason for a clausal structure of control infinitives. Since Chomsky’s *Lectures on*

Government and Binding (LGB), PRO has been assigned a special status—it is both anaphorical and pronominal, and to avoid violations of binding theory, PRO had to be ungoverned. A CP-projection in control infinitives was then necessary to protect PRO from government by the matrix verb.

A unified account for (all) control infinitives, however, has been challenged by many approaches. Rochette (1988), for instance, proposes that the size of an infinitive corresponds to its semantic category: CP-infinitives denote propositions, IP-infinitives denote events, and there are also subject-less infinitives—VP-infinitives which denote *actions*.

Moreover, with the development of a case theoretic account of PRO (Chomsky & Lasnik 1993, Martin 1996) one of the major motivation for a CP-structure for control infinitives disappears. Many contemporary syntactic approaches assume that complementizerless and non-wh-infinitives are smaller categories. To name just one, Bošković (1996, 1997) argues that control infinitives are IPs, while maintaining the idea that control infinitives involve an embedded PRO-subject which is present in the syntactic representation.

The question of how the semantic category of infinitives relates to the syntactic category has been central to a number of works on control infinitives. In standard *Lexical Functional Grammar* (LFG), control infinitives are considered as VPs in syntax and propositions in semantics (cf. Bresnan 1982). Similarly, Chierchia (1984a,b) argues that control infinitives are VPs in the syntax—at that time, the subject was still considered to be generated outside the VP—however, he assumes that they are predicates rather than propositions in the semantics (i.e., in contrast to *LFG* approaches, the semantic representation does not involve an infinitival subject either). In order to account for the control effect, Chierchia employs a *Control Principle* which associates the subject of the matrix predicate with the subject of the embedded predicate.

Adopting Chierchia's approach, I will argue that there are two classes of control infinitives—infinitives that lack a syntactic subject and infinitives that involve a syntactic subject. I will demonstrate that the split is not arbitrary but that it correlates with various interpretations of the (understood) embedded subject. Moreover, I will show that the presence vs. absence of a syntactic subject corresponds to the restructuring/non-restructuring distinction. Infinitives that appear with a syntactic subject are NRIs; infinitives that do not show any evidence of a syntactic subject are RIs.

2. WHAT IS UNDER CONTROL

To approach the question of whether infinitives involve a syntactic subject or not, I would like to suggest a basic classification of infinitives as in the following chart: infinitives with vs. infinitives without an overt subject.

Table 10: Subjects of infinitives

Infinitives with overt subject	Infinitives without overt subject		
ECM causatives, perception verbs	<i>control</i>		<i>no control</i>
	syntactic	semantic	causatives with non-overt subject

Infinitives involving an overt subject include ECM-constructions, causative, and perception verb constructions. Illustrations are provided in (1) with English examples.

(1) **Infinitives with overt subject**

- a. John believes *Mary* to be a spy *ECM*
- b. Frederik saw *Moel* steal olives *perception verb*
- c. Moel made *Frederik* steal olives *causative*

If—as I will argue—RIs do not involve a syntactic subject, constructions as the ones in (1) should not function as RIs.³⁷ ECM-constructions of the *believe*-type are not found in German, Italian and Spanish. The restructuring/non-restructuring behavior of causative constructions will be discussed in §3.

Infinitives without overt subjects fall into two subgroups: *control* infinitives and *no-control* infinitives. Let me start with the second group which is missing in English but available in most other Germanic and Romance languages. As is illustrated in (2), in causative constructions, the embedded subject can remain silent. Subject-less causatives receive a passive-like interpretation—i.e., they are interpreted with an understood external argument. Crucially, however, as in the ‘active’ (i.e., overt) case, this external argument cannot be coreferential with the matrix subject.

³⁷ Throughout this chapter, I will ignore raising constructions (which are RIs in German). Although raising constructions involve a subject in the infinitive, I will show in chapter six that raising does not contradict the generalizations made here. The main idea that I will pursue is that raising verbs (very much like modals) are functional categories that combine with a *vP*. However, since this *vP* is the main *vP* of the clause, raising constructions are monoclausal and hence show restructuring properties. See chapter five for a discussion of the structure of raising configurations in German.

(2) **Infinitives without overt subjects**

Hans _i	ließ	[Ø _{*i/j}	Oliven	stehlen]	<i>causative</i>
John _i	let	[Ø _{*i/j}	olives	steal]	
'John let/made somebody steal olives'						

The main claim of this chapter is that *control* infinitives fall into two subgroups: infinitives involving *syntactic* control (i.e., infinitives with a syntactic PRO subject as in (3)a), and infinitives involving *semantic* control (i.e., infinitives without a PRO-subject as in (3)b).

(3) **Infinitives without overt subjects**

- | | | | | | | | |
|----|--------------------------------|-----------|---|------------------|--------|-------------|------------|
| a. | Hans _i | beschloß | [| PRO _i | Oliven | zu stehlen] | <i>NRI</i> |
| | John _i | decided | [| PRO _i | olives | to steal] | |
| | 'John decided to steal olives' | | | | | | |
| b. | Hans | versuchte | [| | Oliven | zu stehlen] | <i>RI</i> |
| | John | tried | [| | olives | to steal] | |
| | 'John tried to steal olives' | | | | | | |

In this section, I will discuss various empirical properties of infinitival constructions to substantiate the distinction between syntactic and semantic control.

To summarize and to avoid confusion, I repeat here again the usage of the terms *control* as I will employ them from now on. The only place where I depart from standard assumptions about control and PRO is that *control* (in the sense here) involves two types of constructions—infinitives with and infinitives without PRO. *Syntactic control* refers to infinitives that involve a syntactic PRO-subject; *semantic control* refers to control infinitives without an embedded syntactic subject. Thus technically, *control* infinitives do not always involve actual syntactic 'control' of a PRO-subject (in the traditional sense). I nevertheless use the term *control* infinitives, since in both—in syntactic and in semantic control infinitives—the understood subject of the infinitive, which does not show up overtly, is referentially dependent on (though not necessarily identical to) an argument in the matrix clause.

2.1 Two forms of control

Since Williams (1980), it has been assumed by many authors that what is referred to as 'control' in *GB*-theories involves two phenomena: *obligatory* and *non-obligatory* control. Williams assumes that an infinitive involves obligatory control when the antecedent is thematically or grammatically uniquely determined, and when there has to be an antecedent (cf. Williams 1980:208). Infinitives involving arbitrary control are instances of non-obligatory control. Although I will follow this basic idea, I will depart from Williams's analysis in many crucial aspects. First, I will show that cases other than infinitives with arbitrary control are to be considered as non-obligatory control (e.g., *persuade*, *propose*), since the antecedent of the embedded subject is not uniquely determined. Second, in contrast to Williams (1980), I will assume that obligatory control does not involve a PRO subject but that PRO is only present in non-obligatory control constructions.

Similarly, Bresnan (1982) distinguishes between *anaphoric* control and *functional* control: anaphoric control in Bresnan's terms refers to obligatory control; functional control refers to non-obligatory control. Bresnan proposes further that only functional control can be represented in the syntactic structure; i.e., anaphoric control does not involve a syntactic subject.

I will adopt this general idea (though also depart from it in various points) and propose the following distinction: whenever a non-overt embedded subject has a variable interpretation, it has to be represented in the syntax. I will call this form of control *syntactic* control. We will see that infinitives involving syntactic control are NRIs. If, on the other hand, a non-overt embedded subject is obligatorily coreferential with a specific argument in the matrix clause, the infinitive does not involve a syntactic subject. I will refer to this kind of control as *semantic* control. The crucial observation will be that constructions involving semantic control are restructuring contexts.

2.2 Syntactic vs. semantic control

Let me start the discussion with control infinitives involving ditransitive matrix verbs. In this subsection, I will demonstrate that verbs taking a DAT-argument plus an infinitive fall into two groups that seem to be best described in terms of syntactic vs. semantic control. The following discussion refers mainly to German, though most of the examples seem to work the same in English (the verb *promise* is ignored here; see chapter five and six).

Infinitives selected by verbs like *offer* or *propose* allow two interpretations for the infinitival subject: the embedded subject can be associated with the indirect DAT-argument of the matrix verb or the matrix subject. Although control by the former is the unmarked option, control by the matrix subject is equally fine in the right context. The examples in (4) illustrate this form of syntactic control (since the ACC-pronoun *mich* is ambiguous between the reflexive pronoun ‘myself’ and the personal pronoun ‘me’, it can show up under both interpretations).³⁸

(4) Syntactic control

- a. Ich_i habe ihm_j angeboten [SUBJ_{i/j} mich zu erschießen]
 I_i have him_j-DAT offered [SUBJ_{i/j} me/myself to shoot]
 ‘I offered him to shoot myself’
 ‘I offered him that he could shoot me’
- b. Ich_i habe ihm_j vorgeschlagen [SUBJ_{i/j} mich zu erschießen]
 I_i have him_j-DAT proposed [SUBJ_{i/j} me/myself to shoot]
 ‘I proposed to him that he shoot me’
 ‘I proposed to him that I would shoot myself’

³⁸ There are in fact other possible interpretations (provided they appear in an appropriate context). Below, I will show that the embedded subject in examples such as (4) can also be controlled by both arguments, or by either the DAT-argument and/or the matrix subject + some additional higher argument or somebody salient in discourse (e.g., *John said that Mary proposed to Bill to leave together* where the subject of *leave* refers to John+Mary+Bill+maybe their kids).

Infinitives selected by verbs like *order*, *allow*, *recommend*, on the other hand, prohibit a variable interpretation of the embedded subject of the infinitive. The examples in (5) cannot receive an interpretation in which the embedded subject is coreferential with the matrix subject (independent of contextual factors).³⁹

(5) **Semantic control**

- a. Ich_i habe ihm_j befohlen [SUBJ_{i/j} mich zu erschießen]
 I_i have him_j-DAT ordered [SUBJ_{i/j} me/myself to shoot]
 'I ordered him to shoot me'
 *'I ordered him that I could shoot myself'
- b. Ich_i habe ihm_j erlaubt [SUBJ_{i/j} mich zu erschießen]
 I_i have him_j-DAT allowed [SUBJ_{i/j} me/myself to shoot]
 'I allowed him to shoot me'
 *'I allowed him that I would shoot myself'
- c. Ich_i habe ihm_j empfohlen [SUBJ_{i/j} mich zu erschießen]
 I_i have him_j-DAT recommended [SUBJ_{i/j} me/myself to shoot]
 'I recommended to him to shoot me'
 *'I recommended to him that I would shoot myself'

The general feeling about the impossible readings in (5) is that they are nonsensical; i.e., speakers usually respond that giving somebody an order or permission to do something implies that this person has to do it and not somebody else. Thus, the prohibition against syntactic control seems to be incompatible with some aspect of the meaning of the verb selecting the infinitive.

What is very interesting for the discussion here is that the verbs that do not allow syntactic control—i.e., the verbs that I claim do not involve an embedded syntactic subject—are exactly the verbs that are RVs for some speakers in German and Spanish. Concerning verbs such as the ones

³⁹ In order to mark the interpretations of the embedded subject, I use 'SUBJ + indices' in the examples. Note that the purpose of this notation is only to illustrate the (im)possible interpretations of the understood subject; it does not indicate the presence of an actual syntactic subject. This is crucial, since I will argue below that semantic control constructions do not involve a syntactic subject.

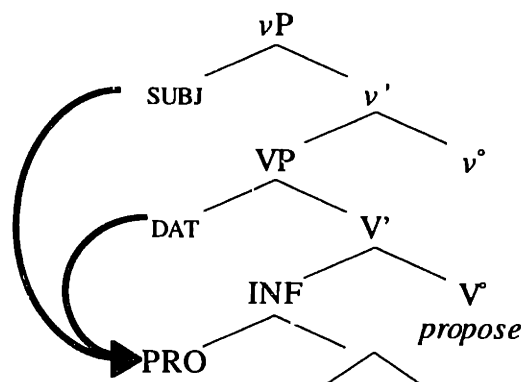
in (4), on the other hand, I have not found a single claim about them being RVs in the literature. Going back to the introduction, verbs like *order*, *permit* etc. belong to what I have labeled the *periphery* of restructuring—i.e., they are RVs for some speakers and NRVs for others. Without going into detail at this point about the periphery of restructuring, I will show in chapter five that restructuring is subject to two conditions: the lack of tense in the infinitival complement and semantic control of the embedded subject. Verbs like *permit*, *order* fulfil only one of these properties—they involve semantic control, however, the infinitival complement does contribute independent tense information. I will assume that this intermediate stage makes these verbs from the periphery RVs for some speakers, but NRVs for others. What is important for the discussion at hand again is that in terms of the control properties, verbs like *permit*, *order* are RVs.

The proposal that I would like to make here is that syntactic and semantic control involve different mechanisms for associating the understood subject of the infinitive with an interpretation. Syntactic control is subject to a syntactic control principle (see below), whereas semantic control is driven by a semantic entailment relation. Structurally, this difference is represented by the presence vs. absence of an embedded PRO-subject. Suppose, the examples in (4) and (5) have the following structures:

(6) Structure of DAT-infinitives

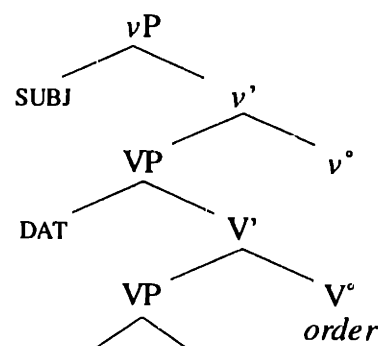
a. Syntactic control

=(4)b



b. Semantic control

=(5)a



Let me start with semantic control. If a structure is subject to semantic control (i.e., there is no syntactic subject as in (6)b), the interpretation of the understood subject of the infinitive is determined by the (meaning of the) matrix verb. Following Chierchia (1984a), this could be seen as an entailment relation that is licensed (and required) by certain predicates. That is, as part of their meaning, verbs like *order*, *allow*, *recommend* associate the understood external argument of the infinitive with the DAT-argument of the matrix clause (see below for examples that support this assumption). In other words, whatever argument binds or saturates the slot in the argument structure of a verb like *order* that is associated with the patient/goal argument, also binds the argument slot associated with the embedded external argument. Thus, what is crucial is that in a sentence with semantic control there is only one ‘physical’ subject; the association of the embedded predicate with an external argument is purely semantic. Hence, the controlling argument in the matrix clause and what we understand as the embedded subject are necessarily co-extensive.⁴⁰

⁴⁰ The assumption that one argument binds two argument slots constitutes a violation of the *theta criterion* (which requires a one-to-one relation between arguments and thematic positions). I will assume that this is possible (at least in German). An alternative analysis would be to assume that one of the theta-roles is in some sense ‘defective’ (e.g. Zubizarreta’s 1982 *adjunct* theta-roles).

If a structure is subject to syntactic control (i.e., involves a PRO-subject), I assume that the interpretation of the embedded subject is determined as follows (cf. Manzini 1983b).

(7) Syntactic control principle

- i. A PRO-subject is controlled by an argument of the verb selecting the infinitival predicate
- ii. x controls y , iff the reference set of x is part of the reference set of y

I will show that there are three properties of the interpretation of PRO that are captured by the control principle in (7): i) the choice of controller is free as long as the conditions in (7) are met (cf. §2.4); ii) PRO can be controlled by more than one argument (cf. split antecedents in §2.4.1); and iii) PRO does not have to be identical to its controlling argument (§2.4.2). Before I will discuss these properties, I will first present some important binding facts which will provide crucial support for the claim made here, namely that NRIs involve an embedded PRO-subject whereas RIs lack a syntactic subject.

2.3 Binding properties of infinitival subjects

In this section, I will show that RIs and NRIs display an interesting difference in their binding properties that can be attributed to the lack of an embedded syntactic subject in RIs vs. the presence of an embedded subject in NRIs.

I will adopt the following simplified assumptions for binding (details are irrelevant for the point that I will make here and can be translated into the reader's favorite framework): anaphors (e.g., reflexives pronouns) have to be bound in their binding domain; where binding domain is the (LF) projection containing the subject of the predicate the anaphor appears in.

In §2.3.1, *single-argument* infinitives (i.e., infinitival constructions where the infinitive is the only internal argument) will be examined. In §2.3.2, I will investigate the binding properties of DAT-infinitives (i.e., infinitives that are selected by verbs that also take a DAT-argument in the matrix clause).

2.3.1 Single-object infinitives

In this section, I will compare an approach that postulates a PRO-subject in RIs (henceforth *[+PRO]-approach*) with the approach taken here, which is based on the assumption that only NRIs involve a PRO-subject (henceforth a *[-PRO]-approach*). I will argue that *[+PRO]-approaches* make the wrong predictions concerning binding of anaphors and require certain accommodations to account for the facts.

To start with, consider a sentence like (8)a. In a *[+PRO]-approach*, the anaphor would be bound by the embedded PRO-subject (which is controlled by the matrix subject); this is illustrated in (8)b. In a *[-PRO]-approach*, on the other hand, the anaphor would be bound directly by the matrix subject (cf. (8)c).

(8) Antecedent for anaphors

- | | | | | | | |
|----|-------------------------------------|-------------------|-------------------|--------------------|-----------|------------------------------|
| a. | weil | der Hans | sich | zu rasieren | versuchte | |
| | since | the John | SELF | to shave | tried | |
| | 'since John tried to shave himself' | | | | | |
| b. | since | John | [PRO _i | SELF _i | to shave] | tried <i>[+PRO]-approach</i> |
| c. | since | John _i | | [SELF _i | to shave] | tried <i>[-PRO]-approach</i> |

Thus, with respect to sentences like (8)a, the two approaches seem to be indistinguishable. However, the predictions change significantly when the matrix subject becomes unavailable. The argument is designed as follows. Under a *[+PRO]-approach*, the presence or absence of a matrix

subject should not affect the binding properties in the embedded infinitive, since the PRO-subject would still be available as an antecedent (unless additional assumptions are made).

(9) [+PRO]-approach

- a. matrix-SUBJ_i ... active RV [_{INF} PRO_i ... ANAPHOR_i]
- b. ∅ ... passive RV [_{INF} PRO_i ... ANAPHOR_i]

Under a [-PRO]-approach, on the other hand, elimination of the matrix subject would eliminate the only available binder for an anaphor, and the structure should thus become ungrammatical.

(10) [-PRO]-approach

- a. matrix-SUBJ_i ... active RV [_{INF} ... ANAPHOR_i]
- b. *∅ ... passive RV [_{INF} ... ANAPHOR_i]

The [-PRO]-approach thus makes the prediction that anaphors should only be possible in the complement of a NRV or an active RV, but crucially not in the complement of a passivized or unaccusative RV, since no subject is available in these contexts. We will see that (10)b rather than (9)b is the correct description of RIs in German.

Before the argument can be made, the validity of two underlying assumptions has to be established. First, to ensure that unbound anaphors as in (10)b indeed lead to ungrammaticality, I will show that anaphors cannot be bound by implicit arguments in German. Second, to show that PRO in principle would be fine in (9)b, I will demonstrate that PRO can be controlled by an implicit argument in German.

The first point is straightforward. A benefactive anaphor that is bound by the subject as in (11)a becomes impossible under passive (cf. (11)c) (whereas passive without an anaphor as in (11)b is of course fine).

(11) Anaphors need structural antecedent

- a. Frederik hat sich ein Haus gekauft
 Frederik has himself a house bought
 'Frederik bought himself a house'
- b. Ein Haus wurde gekauft
 A house was bought
 'A house was bought'
- c. *Ein Haus wurde sich gekauft
 A house was oneself bought
 *'A house was bought oneself'

Thus, we can conclude that implicit arguments cannot bind anaphors in German, but that anaphors require an antecedent that is structurally present.

Let me now turn to the second assumption, namely that PRO-subjects are licensed in infinitives when the controlling argument remains implicit. The examples in (12) can be taken to make this point. The assumption that the sentences in (12) involve a PRO subject is justified by the embedded anaphors. As I have just shown, anaphors cannot be bound by an implicit argument but require the presence of a structural antecedent. Since the matrix predicates do not involve an overt argument that controls the embedded subject and the sentences are fine (i.e., the anaphors are bound), we can conclude that i) an embedded subject (PRO) is present in (12), and ii) PRO can be controlled by an implicit argument and does not need an antecedent that is structurally present in German.

(12) Implicit control

- a. Es ist wichtig [PRO_i sich_i einen Turm zu bauen] (wenn man Maurer ist)
 It is important [PRO oneself [a tower]-ACC to build] (if one is a bricklayer)
 'It is important to build oneself a tower (if one is a bricklayer)'
- b. Es wurde beschlossen [PRO_i sich_i den Fisch mit Streifen vorzustellen]
 It was decided [PRO SELF the fish with stripes to-imagine]
 'People decided to imagine what the fish would look like with stripes'

Having set up the right environment, we can now turn to question of whether RIs behave as in (10)b or as in (9)b. Consider first the sentences in (13). The infinitives in (13) involve ACC-objects; since ACC-case cannot be assigned in the matrix clause in (13) it has to be assigned inside the infinitives. Recall from chapter three that the presence of ACC-case in the infinitival complement of a passive or unaccusative predicate indicates that the infinitive can only be a NRI (which was demonstrated in chapter three with the impossibility of scrambling). Importantly, however, the examples in (13) do allow embedded anaphors, indicating that the infinitive involves a PRO-subject.⁴¹

(13) Anaphors in NRI-version of *try*, *easy*

- a. Es ist leicht [PRO_i sich_i einen Turm zu bauen] (wenn man Maurer ist)
 It is easy [PRO oneself [a tower]-ACC to build] (if one is a bricklayer)
 'It is easy to build oneself a tower (if one is a bricklayer)'
- b. Es wurde versucht [PRO_i sich_i den Fisch mit Streifen vorzustellen]
 It was tried [PRO SELF the fish with stripes to-imagine]
 'People tried to imagine what the fish would look like with stripes'

Since the examples in (13) can also be construed as RIs, they provide the right setup for the question of whether anaphors are possible in the restructuring versions of (13). Restructuring is guaranteed when the embedded object raises to the matrix clause to check case; i.e., by ROM. Now, as predicted by our analysis, if object movement, hence restructuring, applies in (13), the

⁴¹ As was pointed out to me by Noam Chomsky (p.c.), the assumption that the NRI-versions of *try* etc. involve an embedded PRO subject is problematic under a pure semantic approach, since the interpretation of the understood subject is the same as in the restructuring versions (i.e., the infinitives can only involve semantic control). However, since anaphors are possible and no other binder is available in those contexts, it seems that the assumption that PRO is present is unavoidable. Thus, we have to assume that although the lack of an embedded subject would be licensed semantically, certain syntactic or language specific factors that require a syntactic subject take preference. One could assume for instance that the presence of ACC in (13) is tied to the presence of a syntactic subject (i.e., some version of *Burzio's Generalization*). I will not pursue this idea further here. Note however, that the important generalization here is still valid: whenever the infinitive involves an embedded syntactic subject, the infinitive is a NRI.

anaphors cannot show up anymore. While ROM in principle is fine (as witnessed by (14)a), it is only licit if the anaphor is omitted (cf. (14)b).

(14) **RIs: no PRO-subject as antecedent for anaphors**

- a. weil ein Turm leicht zu bauen ist (wenn man Maurer ist)
 since [*a tower*]-NOM easy to build is (if one is a bricklayer)
 'since a tower is easy to build (if one is a bricklayer)'
- b. *weil {sich} ein Turm {sich} leicht {sich} zu bauen ist (wenn...)
 since {oneself} *a tower* {oneself} easy {oneself} to build is (if...)
 'since a tower is easy to build oneself if one is a bricklayer'
- c. *weil {sich} der Fisch {sich} vorzustellen versucht wurde
 since {SELF} *the fish*-NOM {SELF} to-imagine tried was
 'since somebody tried to recall the image of the fish'

If an anaphor is part of the lexical specification of a verb (e.g., as in case of the inherent reflexive verb *vorstellen* 'imagine' in (13)b), the reflexive is obligatory and cannot be omitted. Thus, the analysis correctly predicts that whenever an inherently reflexive verb is embedded in an infinitive, the infinitive is a NRI. Examples like (13)b are ungrammatical when ROM applies (cf. (14)c); and there is no way to turn them into RIs.

2.3.2 DAT-infinitives

Let us now turn to infinitives that involve a matrix DAT-argument. There are two kinds of DAT-infinitives that can function as RIs. The first kind includes only two verbs—the unaccusative verbs *manage* and *fail* (which in fact could be seen as the same verb with different prefixes). Both verbs are core RVs that take a DAT-argument but no external argument (cf. chapter three). The second kind involves the verbs *recommend*, *allow* and *order*. These are verbs from the periphery of restructuring; i.e., they are only marginally RVs.

Before I will investigate the binding properties of DAT-infinitives, a special property of anaphors in German has to be mentioned. It has been noted by Grewendorf (1984, 1988) that anaphors cannot be bound by DAT-arguments in German. While the direct object anaphor in (15) can be bound by the subject, it cannot be bound by the indirect object.

(15) DAT cannot bind anaphors

weil	der Hans _n	der Maria _m	sich _{n/*m}	auf dem Photo	zeigte
since	the John-NOM	to-the Mary-DAT	SELF	in the picture	showed
'since John showed Mary herself in the picture'					

The nature of this constraint is not important for the discussion at hand. What is of interest here is that this property of DAT-arguments provides us with another test to see whether anaphors in a RI are bound by a PRO-subject or directly by their antecedent. If an infinitive involves a PRO-subject, anaphors should be possible in the infinitive since they can be bound by PRO. If an infinitive does not involve an embedded PRO-subject but embedded anaphors are bound directly by the relevant argument in the matrix clause, anaphors should be impossible, if they are to be bound by the DAT-argument (assuming the conditions in infinitives are the same as in simple clauses).

To start with, consider the examples in (16). Since SELF-anaphors are possible in the infinitival complements of *manage* and *allow*, there is reason to assume that the examples in (16) involve an embedded PRO-subject (otherwise the constraint against DAT-antecedents would be violated).⁴²

⁴² The same problem arises as mentioned in fn. 41.

(16) NRIs: PRO binds anaphors

- a. Es ist dem Hans **gelingen** [PRO_i sich_i den Fisch mit Streifen vorzustellen]
 It is John-DAT managed [PRO SELF the fish with stripes to-imagine]
 'John managed to imagine what the fish would look like with stripes'
- b. Sie hat dem Hans **erlaubt** [PRO_i sich_i den Fisch mit Streifen vorzustellen]
 She has John-DAT allowed [PRO SELF the fish with stripes to-imagine]
 'She allowed John to imagine what the fish would look like with stripes'

For the analysis I am pursuing here, this can only mean that the examples in (16) have to be NRIs. An easy way to prove this claim is to make sure that restructuring is involved and to see whether SELF-anaphors are still licensed in clear cases of restructuring. As is illustrated in (17), both examples become ungrammatical if ROM applies. Under the "no-PRO" approach for RIs, this is not surprising: since RIs do not involve a PRO-subject, the only available antecedent for a SELF-anaphor embedded in the infinitive would be the matrix DAT-argument. However, since DATIVES cannot bind anaphors in German, the examples are ungrammatical.

(17) *anaphors bound by DAT-argument

- a. *weil der Fisch dem Hans sich_i mit Streifen vorzustellen **gelingen** ist
 since *the fish*-NOM the-John-DAT SELF with stripes imagine managed is
 'John managed to imagine what the fish would look like with stripes'
- b. *weil der Fisch dem Hans sich_i mit Streifen vorzustellen **erlaubt** wurde
 since *the fish*-NOM the-John-DAT SELF with stripes imagine allowed was
 'Somebody allowed John to imagine what the fish would look like with stripes'

The same effect can be achieved with infinitives of the *allow*-type with scrambling. Examples like the ones in (18) that involve scrambling from the infinitive, which contains a SELF-anaphor that would end up being bound by a DAT-argument, are ungrammatical.⁴³

⁴³ Sabel (1986:103) considers the example in i. below grammatical. Since scrambling applies from the infinitive, he concludes that i. is a RI. As I will show in chapter five, some speakers allow focus scrambling in German which can also apply from (certain) NRIs. Since the scrambled element in i. is a PP and it appears in topic position to the left of the subject, it is quite likely that i. is not an instance of regular scrambling. Thus, examples

(18) *anaphors bound by DAT-argument

- a. *weil sie [den Fisch]_{SCR} dem Hans_i sich_i t_{SCR} mit Streifen vorzustellen **erlaubte**
 since she *the fish* [the John]-DAT SELF t_{SCR} with stripes to-imagine allowed
 'She allowed John to imagine what the fish would look like with stripes'
- b. *weil sie [den Fisch]_{SCR} dem Hans_i sich_i t_{SCR} mit Streifen vorzustellen **befahl**
 since she *the fish* [the John]-DAT SELF t_{SCR} with stripes to-imagine ordered
 'She ordered John to imagine what the fish would look like with stripes'

An obvious question concerning examples like (18) is why the matrix subject cannot bind the reflexive anaphor. Although I do not want to go into the mechanics of how binding works, one can see already that the matrix subject and the SELF-anaphor are not arguments of the same predicate. Assuming, for instance, with Reinhart & Reuland that anaphors have to be bound by a co-argument would then block binding of the embedded anaphor by the matrix subject. Similarly, I have mentioned above that the external argument marks the edge of a binding domain. Since the external argument of the predicate that involves the anaphor (the infinitive) is the matrix DAT-argument, the matrix subject is outside the binding domain of the anaphor. Thus, principle A would be violated. Note that the approach here crucially does not involve any kind of *merging* of the argument structures—the matrix and the embedded predicate remain distinct predicates with distinct argument structures throughout the computation. The only 'special' property of RIs is that they share one (lexically determined) argument with the matrix predicate; i.e., the slot for the external argument of the infinitive is bound by an argument of the matrix clause.

of this sort do not jeopardize the claim made in the text since the possibility of focus scrambling does not tell us much about restructuring.

- i. #weil in diesem Spiegel_{SCR} niemand der wilden Hilde_i sich_i t_{SCR} anzuschauen erlaubte
 since *in this mirror* nobody the wild Hilde-DAT herself t_{SCR} to-look-at allowed
 'Nobody allowed the crazy Hilde to look at herself in this mirror'

Similarly, the example in (18) might improve for some speakers when the scrambled phrase is heavily focused. It has to be emphasized that scrambling from an infinitive does not necessarily imply restructuring (whereas ROM does). Since the examples in (17), on the other hand, are clearly ungrammatical, and these are contexts that are unambiguously RIs, I conclude that they show that the analysis here is on the right track.

To sum up this section, the main points I have made are that anaphors in RIs are not bound by an intermediate PRO-subject but rather bound directly by an argument in the matrix clause. If the relevant argument becomes unavailable (as in passives or unaccusatives) or cannot function as an antecedent for independent reasons (e.g., due to the restriction against DAT-binders), anaphors are not licensed in infinitival complements involving restructuring.

2.4 Interpretation of infinitival subjects

2.4.1 Split antecedents

Coming back to the basic difference between syntactic and semantic control, a further difference between the infinitives in (4) and the ones in (5) is that only the former allow *split antecedents*—i.e., the reference of the embedded subject is determined by two arguments conjointly. The adverb *gemeinsam* ‘together’ requires a plural antecedent. The most natural interpretation for the sentences in (19)a,b is a reading where the embedded subject refers to the combination of the matrix subject and DAT-argument (i.e., *I* and *he*).

(19) Split antecedents—together

- | | | | | | | | |
|----|--|------|-----------------------|---------------|----------------------|-----------|----------------|
| a. | Ich _i | habe | ihm _j | angeboten | [SUBJ _{i+j} | gemeinsam | zu musizieren] |
| | I _i | have | him _j -DAT | offered | [SUBJ _{i+j} | together | to make-music] |
| | ‘I offered him to make music together’ | | | | | | |
| | | | | | | | |
| b. | Ich _i | habe | ihm _j | vorgeschlagen | [SUBJ _{i+j} | gemeinsam | zu musizieren] |
| | I _i | have | him _j -DAT | proposed | [SUBJ _{i+j} | together | to make-music] |
| | ‘I proposed to him to make music together’ | | | | | | |

- c. *Ich_i habe ihm_j befohlen [SUBJ_{i+j} gemeinsam zu musizieren]
 I_i have him_j-DAT ordered [SUBJ_{i+j} together to make-music]
 'I ordered him to make music together'
- d. *Ich_i habe ihm_j erlaubt [SUBJ_{i+j} gemeinsam zu musizieren]
 I_i have him_j-DAT allowed [SUBJ_{i+j} together to make-music]
 'I allowed him to make music together'
- e. *Ich_i habe ihm_j empfohlen [SUBJ_{i+j} gemeinsam zu musizieren]
 I_i have him_j-DAT recommended [SUBJ_{i+j} together to make-music]
 'I recommended to him to make music together'

A clear contrast emerges when *together* is embedded in an infinitive selected by a verb that triggers semantic control. The adverb requires a plural antecedent. The understood argument in the infinitive which is associated with the DAT-argument in the matrix clause, however, is singular. Since the examples in (19)c,d,e are ungrammatical, we can conclude again that the embedded subject cannot be associated with any argument other than the DAT-argument when it appears under a verb like *order*.⁴⁴ The control principle in (7), on the other hand, does not require an antecedent that is identical to an argument in the higher matrix clause; it simply states that an argument from the higher clause has to be included in the reference set of the embedded subject.

The assumption that PRO is controlled by a split antecedent is further supported by reciprocal pronouns like *einander* 'each other' which have to be bound by a plural subject. Since the controlling arguments in (20)a,b are singular, the sentences, however, are grammatical, the antecedent of *each other* has to be plural—i.e., PRO is controlled by both arguments in the matrix clause.

⁴⁴ The examples might be acceptable marginally if *together* can be interpreted as 'with somebody, not alone', in which case *together* is compatible with a singular subject. Thus, the sentence would still not constitute a case of split antecedents, since the embedded subject again only associates with the DAT-argument and does not include the matrix subject.

(20) Split antecedents—*each other*

- | | | | | | | | |
|----|---|------|-----------------------|---------------|----------------------|------------|------------|
| a. | Ich _i | habe | ihm _j | angeboten | [SUBJ _{i+j} | einander | zu helfen] |
| | I _i | have | him _j -DAT | offered | [SUBJ _{i+j} | each other | to help] |
| | 'I offered him to help each other' | | | | | | |
| | | | | | | | |
| b. | Ich _i | habe | ihm _j | vorgeschlagen | [SUBJ _{i+j} | einander | zu helfen] |
| | I _i | have | him _j -DAT | proposed | [SUBJ _{i+j} | each other | to help] |
| | 'I proposed to him that we help each other' | | | | | | |
| | | | | | | | |
| c. | *Ich _i | habe | ihm _j | befohlen | [SUBJ _{i+j} | einander | zu helfen] |
| | I _i | have | him _j -DAT | ordered | [SUBJ _{i+j} | each other | to help] |
| | 'I ordered him to help each other' | | | | | | |
| | | | | | | | |
| d. | *Ich _i | habe | ihm _j | erlaubt | [SUBJ _{i+j} | einander | zu helfen] |
| | I _i | have | him _j -DAT | allowed | [SUBJ _{i+j} | each other | to help] |
| | 'I allowed him to help each other' | | | | | | |
| | | | | | | | |
| e. | *Ich _i | habe | ihm _j | empfohlen | [SUBJ _{i+j} | einander | zu helfen] |
| | I _i | have | him _j -DAT | recommended | [SUBJ _{i+j} | each other | to help] |
| | 'I recommended to him to make music together' | | | | | | |

If *each other* is embedded under a peripheral RV, the result becomes ungrammatical. As is illustrated in (20)c-e, binding of the reciprocal is not possible anymore. Assuming that semantic control infinitives—i.e., potential RIs—do not involve a syntactic subject, this contrast is not surprising.

The determination of syntactic control is quite straightforward when the infinitive is the second argument of a verb, since it can be shown that the understood embedded subject is either associated with the matrix subject or the matrix DAT-argument. To show that the same distinction—syntactic vs. semantic control—is found with *single-object* infinitives (i.e., infinitives that are the only internal argument of a verb) is less straightforward since the matrix subject is the only argument that PRO can be associated with. However, I will show here that *single-object* infinitives also fall into two classes—a class of semantic control and a class of syntactic control. Most importantly, the distinction will again correlate with restructuring.

If we look at sentences involving verbs like *decide*, *try* etc. it seems at first less obvious how to show that the embedded subject can take different values. Looking at examples such as the ones in (21), the unmarked interpretation is with the embedded PRO controlled by the matrix subject.

- (21) a. John_i decided PRO_i to go to Alaska
 b. John_i planned PRO_i to go to Alaska

Despite the apparent semantic control effect in (21), I will argue that verbs like *decide*, *plan* etc. are syntactic control verbs; i.e., that the embedded subject can take different interpretations.

Consider first the pair of sentences in (22). While (22)a could receive an interpretation under which John's father had decided that he and his son (and maybe other people) would go to Alaska, no such interpretation is available in (22)b. The understood embedded subject in a complement to *try* can only be interpreted as coreferential with the matrix subject.

(22) **Split antecedents with single-object infinitives**

- a. Hans hat gesagt daß sein Vater **beschlossen** hat nach Alaska auszuwandern
 'John said that his father had decided to emigrate to Alaska'
 b. Hans hat gesagt daß sein Vater **versucht** hat nach Alaska auszuwandern
 'John said that his father had tried to emigrate to Alaska'

Similarly, if the subject of the clause dominating the infinitive is singular, collective adverbials like *together* can only appear in the complement of *decide* (cf. (23)a) but do not make sense in the complement of *try* (cf. (23)b).

(23) **Split antecedents with single-object infinitives—together**

- a. Hans hat gesagt daß sein Vater beschlossen hat gemeinsam zu musizieren
 'John said that his father had decided to make music together'
 b. *Hans hat gesagt daß sein Vater versucht hat gemeinsam zu musizieren
 *'John said that his father had tried to make music together'

Thus, infinitives selected by verbs like *try* (i.e., RIs) seem to involve semantic control, whereas the subject of an infinitive selected by a NRV like *decide* allows syntactic control. Before I will provide a further argument for this conclusion, I will first show how the difference between semantic and syntactic control can be instantiated in grammar.

One further piece of evidence for the assumption that the impossibility of syntactic control in (5) or split antecedents in (19)c,d,e is due to a semantic requirement of the matrix verb rather than a problem of the mechanism of control is provided by finite complements. As can be seen below, a syntactic control verb like *offer* does not impose restrictions on the embedded subject—i.e., it can be coreferent with either the matrix subject (cf. (24)a) or the matrix DAT-argument (cf. (24)b) or any other argument. The same is true for complements of *propose*.

(24) Finite clauses with syntactic control verbs

- | | | | | | | | | |
|----|-------------------------------------|------|---------|-----------|-------|-----|--------|------------|
| a. | Ich | habe | ihm | angeboten | [daß | ich | mich | erschieße] |
| | I | have | him-DAT | offered | [that | I | myself | shoot] |
| | 'I offered him that I shoot myself' | | | | | | | |
| | | | | | | | | |
| b. | Ich | habe | ihm | angeboten | [daß | er | mich | erschießt] |
| | I | have | him-DAT | offered | [that | he | me | shoots] |
| | 'I offered him that he shoot me' | | | | | | | |

The situation changes again drastically when we combine an *order*-type verb with a finite complement. Like in infinitival complements, the embedded subject has to be coreferent with the DAT-argument (cf. (25)a). Coreference with the matrix subject as in (25)b or arbitrary reference as in (25)c are prohibited. The only way examples like (25)c can be interpreted (marginally) is by coercing a reading of the sort *I ordered him to make Mary shoot me*; i.e., where the DAT-argument is in a position to implement the order.

(25) **Finite clauses with semantic control verbs**

- | | | | | | | | | |
|----|-------------------------------------|------|---------|----------|-------|-----|--------|------------|
| a. | Ich | habe | ihm | befohlen | [daß | er | mich | erschießt] |
| | I | have | him-DAT | ordered | [that | he | myself | shoots] |
| | 'I ordered him that he shoot me' | | | | | | | |
| | | | | | | | | |
| b. | *Ich | habe | ihm | befohlen | [daß | ich | mich | erschieße] |
| | I | have | him-DAT | ordered | [that | I | myself | shoot] |
| | 'I ordered him that I shoot myself' | | | | | | | |
| | | | | | | | | |
| c. | #Ich | habe | ihm | befohlen | [daß | sie | mich | erschießt] |
| | I | have | him-DAT | ordered | [that | she | me | shoots] |
| | 'I ordered him that she shoot me' | | | | | | | |

The same contrast shows up with split antecedents: while the embedded subject *we*—which refers conjointly to the matrix subject and matrix DAT-argument—is possible in the finite complement of a syntactic control verb like *offer* (as in (26)a), it is impossible in the complement of the semantic control verb *order* (cf. (26)b). The example in (26)c shows again that nothing is wrong with *we* as an embedded subject as long as it is strictly coreferent with (and only with) the specified argument in the matrix clause.

(26) **Split antecedent in finite clauses**

- | | | | | | | | | |
|----|---|------|-----------------------|-----------|-------|-----|-----------|----------------|
| a. | Ich _i | habe | ihm _j | angeboten | [daß | wir | gemeinsam | musizieren] |
| | I _i | have | him _j -DAT | offered | [that | we | together | make-music] |
| | 'I offered him that we make music together' | | | | | | | |
| | | | | | | | | |
| b. | *Ich _i | habe | ihm _j | befohlen | [daß | wir | gemeinsam | musizieren] |
| | I _i | have | him _j -DAT | ordered | [that | we | together | to make-music] |
| | 'I ordered him that we make music together' | | | | | | | |
| | | | | | | | | |
| c. | Er | hat | uns | befohlen | [daß | wir | gemeinsam | musizieren] |
| | He | has | us-DAT | ordered | [that | we | together | to make-music] |
| | 'He ordered us that we make music together' | | | | | | | |

I will thus conclude that certain verbs specify as part of their meaning which argument the understood subject of their complement is associated with referentially, while other verbs leave this association open. I further assumed that PRO-subjects are only projected in syntactic control configurations and that PRO is subject to a control principle as in (7). There are still questions that

I haven't answered—e.g., what exactly the semantic property of semantic control verbs is that drives the entailment relation. However, I will have to leave questions of this sort aside.

The final point I would like to mention in this subsection has to do with the first clause of the definition of syntactic control in (7). That the first clause of (7) seems unavoidable is shown by the following examples. In contrast to pronouns, controlled PRO cannot be completely free but has to be associated with an antecedent in the clause dominating the infinitive. Recall that the embedded subject of infinitives selected by verbs like *offer* and *propose* can be controlled either by the matrix subject or the matrix DAT-argument. If a syntactic control verb is embedded under another syntactic control verb, we get four interpretations (ignoring interpretations with split antecedents). What is important, however, is that there are two potential readings that are impossible. The two readings that are not found are readings in which the second PRO-subject is controlled by an argument of the highest clause which does not control the intermediate PRO-subject. Thus, we can conclude that PRO has to be associated with an argument of the verb that selects the infinitive that PRO is embedded in. An abstract representation of double syntactic control can be found in (27); actual examples are given in (28). In principle, all the examples in (28) are four-ways ambiguous; I have chosen different contexts to facilitate the reading indicated by the indices.

(27) Syntactic control—not free: abstract

- a. i proposed m [PRO₁ to offer t [PRO₂ to ...]]
- b. **PRO₁** **PRO₂**
- | | |
|----|---|
| m | t |
| m | m |
| i | i |
| i | t |
| *m | i |
| *i | m |

(28) Syntactic control—not free: examples

- a. Ich_i habe dem alten Mann_m vorgeschlagen [PRO_m seiner Tochter_i anzubieten]
 I_i have the old man_m-DAT proposed [PRO_m his daughter_i to-offer]
 [PRO_i sein Werkzeug zu benützen]
 [PRO_i his tools to use]
 'I suggested to the old man that he should offer his daughter to use his tools'
- b. Ich_i habe dem alten Mann_m vorgeschlagen [PRO_m seiner Tochter_i anzubieten]
 I_i have the old man_m-DAT proposed [PRO_m his daughter_i to-offer]
 [PRO_m ins Altersheim zu gehen]
 [PRO_m in-the old folks home to go]
 'I suggested to the old man that he should offer his daughter that he would go to an old folks home'
- c. Ich_i habe dem alten Mann_m vorgeschlagen [PRO_i seiner Tochter_i anzubieten]
 I_i have the old man_m-DAT proposed [PRO_i his daughter_i to-offer]
 [PRO_i ihr beim Holzhacken zu helfen]
 [PRO_i her with wood-chopping to go]
 'I suggested to the old man that I would offer his daughter that I would help her chopping wood'
- d. Ich_i habe dem alten Mann_m vorgeschlagen [PRO_i seiner Tochter_i anzubieten]
 I_i have the old man_m-DAT proposed [PRO_i his daughter_i to-offer]
 [PRO_i mein Werkzeug zu benützen]
 [PRO_i my tools to use]
 'I suggested to the old man that I would offer his daughter to use my tools'
- e. *Ich_i habe dem alten Mann_m vorgeschlagen [PRO_m seiner Tochter_i anzubieten]
 I_i have the old man_m-DAT proposed [PRO_m his daughter_i to-offer]
 [PRO_i ihr beim Holzhacken zu helfen]
 [PRO_i her with wood-chopping to go]
 'I suggested to the old man that he should offer his daughter that I would help her chopping wood'
- f. *Ich_i habe dem alten Mann_m vorgeschlagen [PRO_i seiner Tochter_i anzubieten]
 I_i have the old man_m-DAT proposed [PRO_i his daughter_i to-offer]
 [PRO_m ins Altersheim zu gehen]
 [PRO_m in-the old folks home to go]
 'I suggested to the old man that I would offer his daughter that he would go to an old folks home'

2.4.2 Imperfect control

An interesting property of syntactic vs. semantic control was mentioned by Williams (1980) following an observation by Debbie Nanni: syntactic control verbs (e.g., *decide*) that appear with a singular subject, can combine with infinitives involving the collective predicate *meet* which (in contrast to *meet with*) requires a plural subject. Semantic control verbs like *try* do not allow an embedded collective predicate when the matrix subject is singular (cf. (29)a vs. (29)b).

(29) a. *I will try to meet at 6

b. I decided to meet at 6

Thus, in (29)b, the controlling argument is not interpreted as identical with the understood infinitival subject, but rather as a subpart of the set of referents denoted by the embedded subject. I will refer to this interpretation as *imperfect control* and demonstrate that imperfect control is only possible in NRIs.

Collective predicates like *to gather* require plural subjects, the controlling argument in the examples in (30), however, is singular. The well-formedness of the sentences in (30) shows that the embedded subject does not have to be referentially identical to the controlling argument but that it is sufficient that it is included in the reference set of the embedded subject (i.e., the imperfectly controlled PRO in examples of this sort refers to a group of people that includes the mayor). This follows again from the control principle proposed in (7).⁴⁵

⁴⁵ It has to be noted that not all speakers accept imperfect control. For speakers who accept examples like the ones in (30), however, the contrasts that I will discuss in the text are very strong.

(30) Imperfect control with NRIs—ok

- a. weil der Bürgermeister_i **beschloß** [PRO_{i+k} sich im Schloß zu versammeln]
 since the mayor_i decided [PRO_{i+k} SELF in the castle to gather]
 'since the mayor decided to gather in the castle'
- b. weil der Bürgermeister_i **plante** [PRO_{i+k} sich im Schloß zu versammeln]
 since the mayor_i planned [PRO_{i+k} SELF in the castle to gather]
 'since the mayor had planned to gather in the castle'
- c. weil der Bürgermeister_i **ankündigte** [PRO_{i+k} sich im Schloß zu versammeln]
 since the mayor_i announced [PRO_{i+k} SELF in the castle to gather]
 'since the mayor announced that they would gather in the castle'

Since the controlling argument and the controlled argument have different values, it seems justified to assume that they are different arguments. Note at this point that imperfect control seems to argue against a purely semantic approach to control. That is, one could imagine an approach that assumes that control is never represented by an argument in syntax. The difference between semantic and syntactic control would then reduce to the following assumption: an semantic control verb specifies which of its arguments binds the slot for the external argument in the infinitive; whereas a syntactic control verb leaves this specification open. There seem to be various problems with this approach. First, it would have to be guaranteed in some way that at least one argument in the matrix clause binds the open argument variable of the infinitival subject (recall that syntactic control is also not completely free). Second, and this seems to be more serious, it is not clear how binding could be defined in cases of split antecedents or imperfect control, since the antecedent (an argument in the matrix clause) and the variable (the understood embedded subject) are referentially not identical. Note that the value for the embedded subject cannot be determined contextually either, since as I have shown above, syntactic control is not free but requires an antecedent in the immediately dominating clause. I will thus assume that in cases of syntactic control a syntactic subject is indeed present.

Imperfect control then provides a means to determine whether an infinitive involves an embedded subject: if—like in (30)—imperfect control is possible, the infinitives project a PRO-subject.

Let us now turn to the class of RIs. Recall that it is crucial for the analysis I have proposed for restructuring in this chapter that the infinitive does not involve an embedded PRO subject. Since imperfect control requires that an embedded subject that is not referentially identical to an argument in the matrix clause be present, imperfect control should be impossible in RIs. The following examples illustrate that this is indeed the case. As the examples in (31) show, the imperfect control interpretation is impossible in RIs.⁴⁶

(31) Imperfect control with RIs—*

- | | | | | | |
|----|---|----------------------|------------------|-----|-------------------------------|
| a. | *weil | der Bürgermeister | wagte | [Ø] | sich im Schloß zu versammeln] |
| | since | the mayor | dared | [Ø] | SELF in the castle to gather] |
| | 'since the mayor dared to gather in the castle' | | | | |
| b. | *weil | der Bürgermeister | vergaß | [Ø] | sich im Schloß zu versammeln] |
| | since | the mayor | forgot | [Ø] | SELF in the castle to gather] |
| | 'since the mayor forgot to gather in the castle' | | | | |
| c. | *weil | es dem Bürgermeister | gelang | [Ø] | sich im Schloß zu versammeln] |
| | since | it the mayor | managed | [Ø] | SELF in the castle to gather] |
| | 'since the mayor managed to gather in the castle' | | | | |
| d. | *weil | der Bürgermeister | versuchte | [Ø] | sich im Schloß zu versammeln] |
| | since | the mayor | tried | [Ø] | SELF in the castle to gather] |
| | 'since the mayor tried to gather in the castle' | | | | |
| e. | *weil | der Bürgermeister | begann | [Ø] | sich im Schloß zu versammeln] |
| | since | the mayor | began | [Ø] | SELF in the castle to gather] |
| | 'since the mayor began to gather in the castle' | | | | |

⁴⁶ It is worthwhile pointing out that the facts are the same in English for speakers who accept imperfect control.

One way to interpret the contrast between the examples in (30) vs. the examples in (31) is to assume that imperfect control is only possible with syntactic control verbs—i.e., verbs that allow different interpretations for their embedded subjects. The lack of imperfect control in (31) can be seen as an indication of the fact that syntactic control is impossible but that the verbs in (31) are semantic control verbs.

Let us see why imperfect control is impossible with semantic control; i.e., when the interpretation of the understood subject is assigned semantically. In semantic control constructions, the matrix verb determines as part of its meaning that the argument that binds the slot for the external argument in the matrix clause also binds the slot for the external argument in the embedded clause. The matrix subjects in (31) thus serve as the subjects for both the matrix and the embedded predicates. Since the matrix subjects are singular, but the embedded predicates require plural subjects, the sentences clash. For syntactic control constructions, this conflict does not arise, since in sentences like (30) there are two subjects—the overt matrix subject and the embedded PRO-subject; nothing should block different properties for the two arguments (as long as the matrix subject is part of the reference set of the embedded subject).

To conclude, the contrast observed in (30) vs. (31), which strikingly correlates with restructuring can be accounted for if it is assumed that imperfect control is only possible when the infinitive involves a syntactic subject.

Finally, to complete the paradigm, we find the same contrast with DAT-infinitives: syntactic control infinitives like the one in (32)a allow imperfect control; infinitives with semantic control as in (32)b, on the other hand, prohibit imperfect control.

(32) Imperfect control with DAT-infinitives

- a. weil _i er_i der Maria_j **vorschlug** [PRO_i sich im Schloß zu versammeln]
 since he_i the Mary-DAT_j proposed [PRO_i SELF in the castle to gather]
 'since he proposed to Mary to gather in the castle'
 PRO: i+j+k, i+k, j+k
- b. *weil _i er_i der Maria_j **befahl** [PRO_i sich im Schloß zu versammeln]
 since he_i the Mary-DAT_j ordered [PRO_i SELF in the castle to gather]
 'since he ordered Mary to gather in the castle'

It should not come as a surprise that imperfect control is possible in (32)a with either argument. The sentence has three readings: i) *he proposed to Mary that he and his buddies would gather in the castle* (...so that Mary and her friends could meet in the villa); ii) *he proposed to Mary that she and her buddies should gather in the castle*; and finally iii) *he proposed to Mary that he, she, and their buddies should gather in the castle*. A reading where the embedded subject involves only *him* and *Mary* is in principle possible, but the embedded predicate *to gather* seems to presuppose that the subject consists of more than two individuals.

2.4.3 "It" anaphors

A further similar phenomenon is found with *it*-anaphors. As Chierchia (1984a,b) observed, *it*-anaphors referring to certain gerunds or infinitives (the latter not in English) can be ambiguous between a *sloppy* or a *strict* reading. In a sentence like (33)a, the pronoun *it* can be interpreted in two ways: i) what Mimi doesn't like is when Ezio fools around (this is the strict reading); or ii) Mimi doesn't like fooling around (this is the sloppy reading). In other contexts, however, only a sloppy reading is possible. Thus, in (33)b, it can only be *Nando* who began playing the violin for lust (i.e., a sloppy reading); a reading where the *it* refers to Ezio's playing (i.e., a strict reading) is excluded.

(33) *it*-anaphors

- a. Ezio likes fooling around, but I would bet that his wife Mimi doesn't like *it* at all
it: Mimi fooling around *sloppy reading*
it: Ezio fooling around *strict reading*
- b. Ezio began playing the violin for fun and Nando began *it* for lust
it: Nando's playing *sloppy reading*
it: *Ezio's playing **strict reading*

Chierchia interprets the lack of a sloppy reading as evidence for the assumption that certain infinitives or gerunds do not involve an embedded subject—i.e., in a sentence like *Nando began playing/to play the violin* there is only one syntactic subject. Let me sketch his analysis which I will adopt by and large here. Certain predicates (e.g., *like*) combine with propositions (in Chierchia's terms, an infinitive that includes a subject) or properties (subjectless predicates). Other predicates (e.g., *begin*) only combine with properties. Thus, if an *it*-anaphor appears as the complement to a *begin*-type predicate, it can only range over properties (since *begin* is a function that applies solely to properties). On the other hand, *it*-anaphors that are complements of a *like*-type predicate, can range over propositions or properties. As for the interpretation of *it*-anaphors, Chierchia assumes that they are (like pronouns) interpreted as variables that can be bound by an antecedent or get their value from context. Let us see how the strict reading is achieved. Under a strict interpretation, the subject of the predicate selecting *it* (i.e., *Mimi* in (33)a) and the subject of the infinitive that functions as the antecedent of *it* (i.e., *Ezio* in (33)a) are different. The strict interpretation can thus only arise when the *it*-anaphor refers back to the proposition *Ezio fooling around*.

(34) **Strict reading**

- a. Ezio_i likes [PRO_i fooling around].... Mimi_j doesn't like *it* at all
- b. Ezio_i likes [PRO_i fooling around]_k.... Mimi_j doesn't like *it*_k at all
- c. Ezio_i likes [PRO_i fooling around]_k.... Mimi_j doesn't like [PRO_i fooling around]_k

For the sloppy reading on the other hand, the antecedent of the *it*-anaphor is simply the property *fooling around*. In this case, the understood subject of the property *it* refers to will then be different from the understood subject of the antecedent (I will come back to the sloppy reading and propose a slightly different approach).

(35) Sloppy reading

- a. Ezio_i likes [fooling around] Mimi_j doesn't like **it** at all
- b. Ezio_i likes [fooling around]_k Mimi_j doesn't like **it**_k at all
- c. Ezio_i likes [fooling around]_k Mimi_j doesn't like [fooling around]_i

Since *begin*-predicates can only combine with properties, a structure as in (34) would not be possible, and it follows that only a sloppy reading is available.

What Chierchia does not discuss and what interests us here is which verbs take properties and which verbs take properties and propositions. If the analysis proposed throughout this chapter is right, only NRVs should combine with propositions, whereas RVs should only combine with properties. I will thus examine the distribution of *it*-anaphors with respect to restructuring. In German, *it* can be used to refer to elided infinitives, which makes it quite easy to test whether *it* involves a strict or only a sloppy reading. The upshot of the following discussion is that as expected, a strict reading is only possible in NRIs.

Let us start with infinitives involving *decide*-type verbs. Sentences like the ones in (36) are ambiguous. In (36)a, what Peter announced is either that he—Peter—was planning to get married (sloppy) or that John was planning to get married (strict). Thus, the same ambiguity arises as with the overt pronoun in the English paraphrase. Similarly the sentence in (36)b could either mean that Little John's father had decided that his son would go to boarding school (strict), or that the

(obviously somewhat weird) father had decided that he himself would go to boarding school (sloppy).

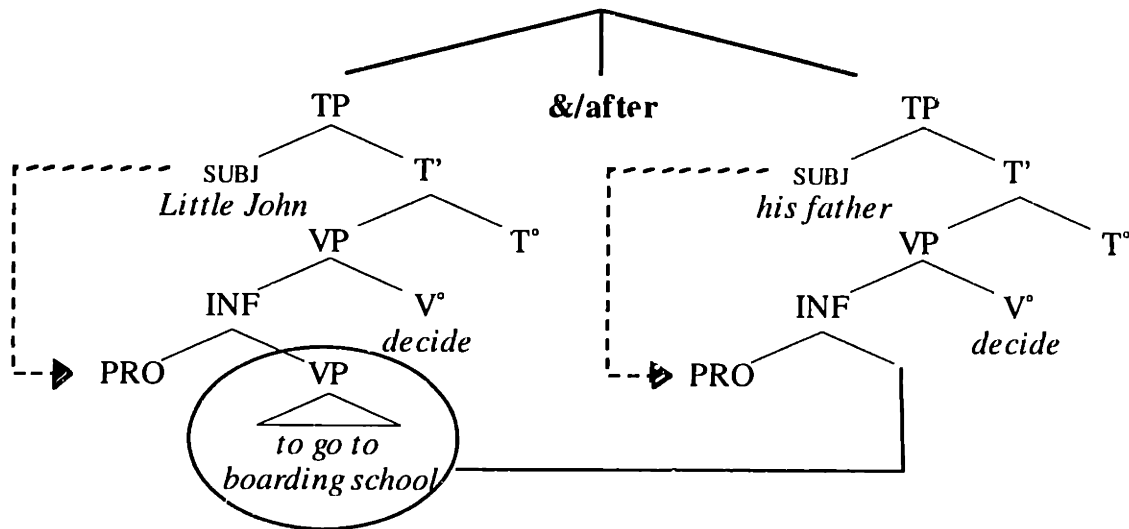
(36) *it*-anaphors—ambiguous with NRIs: strict/sloppy

- a. Hans kündigte an [PRO zu heiraten] [nachdem Peter es angekündigt hatte]
 John announced [PRO to get-married] [after Peter it announced had]
 ‘John_i announced that he_i would get married after Peter_j had announced that he_{i,j} would get married’
- b. Hänschen beschloß [PRO in ein Internat zu gehen] und sein Vater beschloß es auch
 Little-John decided [to a boarding-school to go] and his father decided it too
 ‘Little John_i decided that he_i would go to a boarding school and his father_j decided that he_{i,j} would go to a boarding school’

As for the structure of sentences involving *it*-anaphors, I will assume in contrast to Chierchia’s analysis, that *it*-anaphors (as in the examples above) are always associated with a preceding infinitival VP (i.e., a property rather than a proposition). Let me illustrate how this assumption accounts for the strict/sloppy ambiguity in examples like (36). The sloppy reading seems straightforward. In the diagram in (37), the infinitival VP of the first conjunct is associated with both conjuncts; nothing hinges on how this association works. Important here is that at some level the meaning of the first infinitival VP gets to the position of the *it*-anaphor. Since *decide* is a syntactic control verb, it combines with an infinitive involving a PRO-subject. Note however, that I do not assume that the subject is part of the elided material. Rather the embedded subject is projected as part of the infinitive in the second conjunct. The sloppy reading then arises when PRO is controlled by the subject of the dominating clause (cf. (37)).

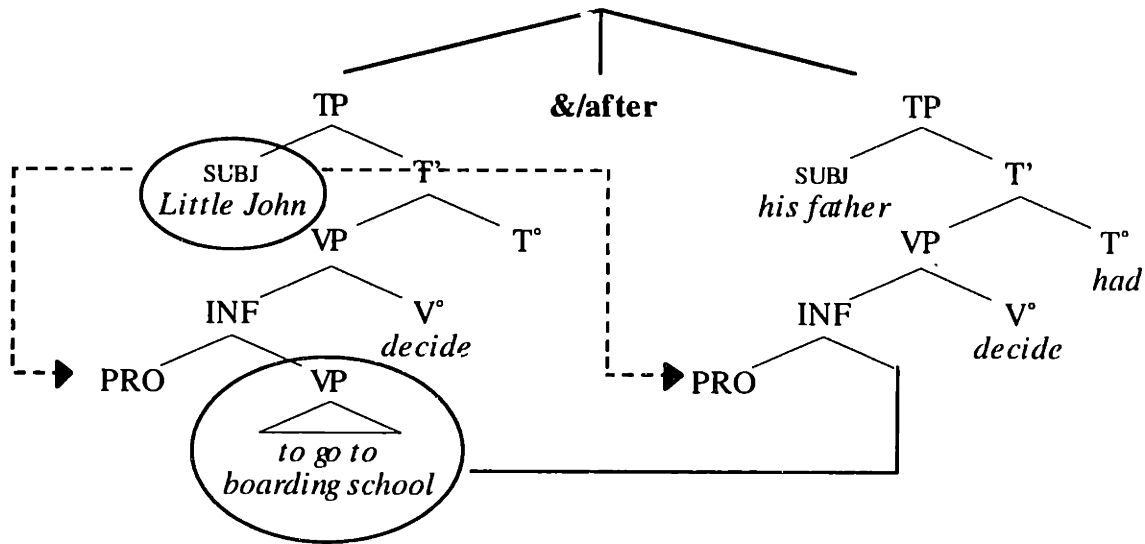
(37) Sloppy reading with NRIs

=(36)b



An obvious question now is how the strict reading can be achieved. To answer this question, recall how control is established in German. The control principle in (7) involves the condition that PRO has to be controlled by an argument of the verb selecting the infinitival predicate. In a structure like (37), the question which verb 'selects' the infinitive in the second conjunct can be answered in two ways. The infinitival VP-predicate is selected by the verb in the first conjunct, the infinitival vP and if present TP/CP are selected by the verb in the second conjunct. Assuming that in some sense both verbs 'select' (parts of) the infinitive, both subjects should be able to function as controllers for the PRO-subject in the second infinitive. The version where the second PRO is controlled by the first subject (i.e., the strict reading) is depicted in (38).

(38) Strict reading with NRIs



Let us now turn to *it*-anaphors in RIs. When *it* appears in a restructuring context—the ambiguity found in the examples in (36) disappears. The sentences in (39) allow only a sloppy interpretation for the infinitive associated with the *it*-anaphor. That is, the subject of the embedded predicate can only be associated with the subject of the clause the *it*-anaphor appears in (i.e., the subject of the adverbial clause, and not the subject of the main clause).

(39) *it*-anaphors—non-ambiguous with RIs: *strict reading

- a. Hans wagte [zu heiraten] [nachdem Peter **es** **gewagt** hatte]
 John dared [to get-married] [after Peter *it* dared had]
 'John dared to get married after Peter had dared to get married'
- b. Hans versuchte [zu heiraten] [nachdem Peter **es** **vergessen** hatte]
 John tried [to get-married] [after Peter *it* forgotten had]
 'John tried to get married after Peter had forgotten to get married'
- c. Hans beschloß [zu heiraten] [nachdem Peter **es** **versucht** hatte]
 John decided [to get-married] [after Peter *it* tried had]
 'John decided to get married after Peter had tried to get married'

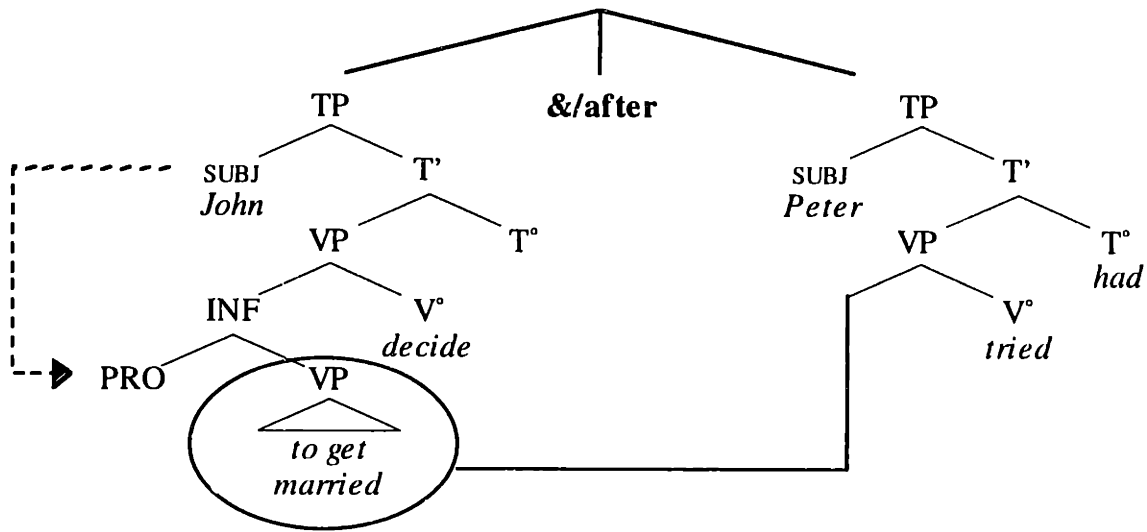
⇒ *strict/*sloppy

The examples in (39) show also that the strict reading is blocked whenever the *it*-anaphor appears in complement position to a RV. The status of the verb in the first conjunct is irrelevant. In (39)a,b the *it*-infinitives (i.e., the infinitives in the second conjunct) and the antecedents (i.e., the infinitives in the first conjuncts) are RIs. However, in (39)c, the antecedent is a NRI and the *it*-infinitive is a RI. Nevertheless, a strict reading is completely impossible.

Under the analysis here, these facts are not surprising. RVs like *try* combine with complements without an embedded subject. Rather, I have argued that the apparent control effect is the result of a semantic entailment relation imposed by the meaning of the verb *try* that determines that the argument that binds the slot for the external argument of the matrix predicate also binds the slot for the external argument of the embedded predicate. In other words, the interpretation of the understood subject in the second conjunct in (40) is subject to a semantic condition which is part of the meaning of the verb *try*. If the embedded subject slot would be associated with an argument other than the external argument of the verb *try*, the semantics of *try* would not be met. Thus, only a sloppy reading is possible.

(40) Sloppy reading with RIs

=(39)c



Since a strict reading requires a PRO-subject that can be bound by more than one argument, RIs, which—as I argue here—are semantic control verbs that do not project an embedded PRO-subject, never allow a strict reading.

To give a complete description of the facts, we have to look at the behavior of *it*-anaphors in sentences involving a RI in the first conjunct and a NRI in the second conjunct. The examples in (41) are ambiguous; i.e., what Peter announces in (41)a could be either his upcoming wedding or the wedding of John. Similarly, (41)b allows a reading where Peter had made a decision for John, namely that John should get married.

(41) *it*-anaphors—ambiguous with NRI

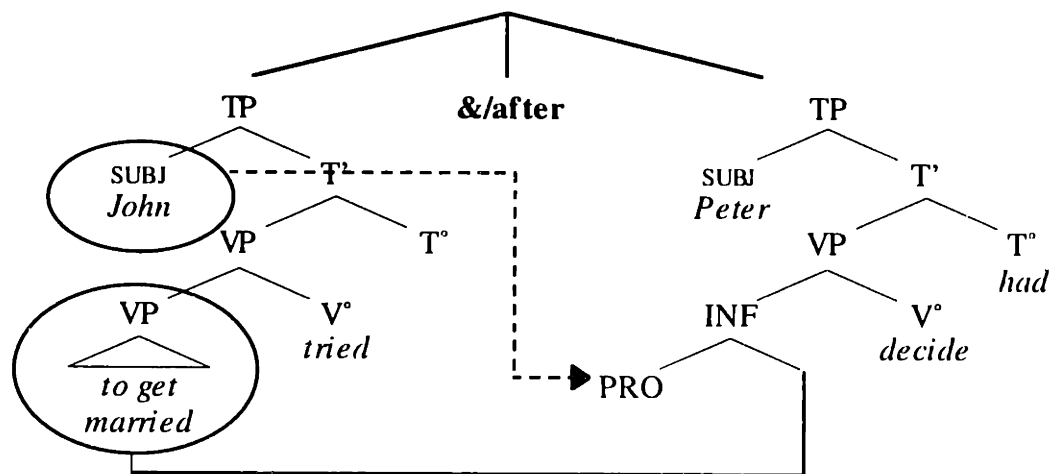
- a. Hans wagte [zu heiraten] [und Peter hat **es** auch **angündigt**]
 John dared [to get-married] [and Peter has *it* also announced]
 'John dared to get married and Peter had announced that he would get married as well'
 'John dared to get married and Peter had announced that John would get married'
- b. Hans versuchte [zu heiraten] [nachdem Peter **es** **beschlossen** hatte]
 John tried [to get-married] [after Peter *it* decided had]
 'John tried to get married after Peter had decided to get married'
 'John tried to get married after Peter had decided that John would get married'

⇒ ^{ok}strict/^{nk}sloppy

Under the analysis I have proposed here, the ambiguity is not unexpected. Since the second conjunct involves a NRV it combines with an infinitive that projects a PRO-subject. The restructuring/non-restructuring status of the first conjunct does not matter here since I assume that the category that the *it*-anaphor is associated with is always the infinitival VP. The strict reading again arises since PRO can be bound by both arguments, the subject of the first conjunct and the subject of the second conjunct.

(42) Strict reading with NRIs

=(41)b



Note that examples like the ones in (41) provide evidence for the assumption that in the strict readings, the PRO-subject of the infinitive in the second conjunct in (41)/(42) (and by analogy then

also in (36)) is not part of the antecedent but rather projected independently. Taking the impossibility of the strict reading in (39) to show that RIs do not involve an embedded subject, the first conjunct in (42) would be subject-less as well. If the strict reading were the result of associating the *it*-anaphor with the propositional infinitive in the first conjunct (as in Chierchia 1984a,b) the strict reading should be impossible in (42). The examples thus raise some questions for approaches that assume that the strict/sloppy ambiguity is the result of different antecedents of the *it*-anaphor. Since RIs are obligatorily properties (in Chierchia's sense), the antecedent of the *it*-anaphor in (41) could then only be a property, and the examples in (41) would be predicted to be unambiguous.

Finally, let us look at the two classes of DAT-infinitives. Again, although the examples are not so easy to construct, we find a strict reading in *it*-anaphora configurations only with syntactic control infinitives. In a sentence like in (43)a, the way *it* is interpreted is with a strict reading: what his mother (kindly) offered her friends is that her son John would chop their wood. Strict readings are completely impossible, on the other hand with semantic control DAT-infinitives (cf. (43)).

(43) **Strict/sloppy readings with DAT-infinitives**

- a. Peter hat sich geweigert [für die Freundinnen seiner Mutter Holz zu hacken]
 Peter has SELF refused [for the friends of-his mother wood to chop]
 obwohl sie es ihnen schon **angeboten** hatte
 although she it them already offered had
 'Peter refused to chop wood for the friends of his mother, although she had already offered them that he would chop wood for them'
- b. #Peter hat sich geweigert [für die Freundinnen seiner Mutter Holz zu hacken]
 Peter has SELF refused [for the friends of-his mother wood to chop]
 obwohl sie es ihnen schon **befohlen** hatte
 although she it them already ordered had
 #'Peter refused to chop wood for the friends of his mother, although she had already ordered them that he would chop wood for them'

Let me summarize. The properties of *it*-anaphors are summarized in Table 11.

Table 11: Strict/sloppy readings of *it*-anaphors

first conjunct	second conjunct	strict	sloppy	antecedent of <i>it</i>	explanation
NRI	NRI	+	+	VP	PRO allows syntactic control
NRI	RI	-	+	VP	semantic control
RI	RI	-	+	VP	semantic control
RI	NRI	+	+	VP	PRO allows syntactic control

I have shown that we can account for the distribution of the strict and sloppy readings in *it*-anaphora contexts by the following assumptions: i) *it*-anaphors associate with VP-predicates; ii) the subject of a RI is not present structurally but the slot for the external argument of the embedded predicate is associated with an argument in the matrix clause by a obligatory semantic condition which is part of the meaning of the infinitival-taking verb; and iii) NRIs involve syntactic control which is subject to the control principle in (7).

In the final section of this chapter, I will discuss briefly some properties of causatives and perception verb constructions that are relevant for the discussion of the subject in infinitival constructions.

3. CAUSATIVES

In the previous section, I have argued that only infinitives without a syntactic subject are RIs. Going back to the classification of infinitives suggested at the beginning of this chapter (repeated here in Table 12), the question arises how this generalization extends to infinitives with overt subjects and no-control infinitives (again, raising is ignored here).

Table 12: Subjects of infinitives (repeated)

Infinitives with overt subject	Infinitives without overt subject	
ECM causatives, perception verbs	<i>control</i>	<i>no control</i>
	syntactic semantic	causatives with non-overt subject

Although perception verb constructions and causative constructions are similar in that the embedded subject checks case in the matrix clause, they also differ in many respects. One difference is that only causatives can appear as no-control infinitives; perception verbs do not allow SUBJECT-less infinitives (I have nothing to contribute to this difference). The discussion in the next section, thus applies exclusively to causative constructions.

3.1 “No-control” infinitives

Causative constructions without an embedded subject belong to the core of restructuring. In this subsection, I will show that this is in accordance with the analysis proposed here, since sentences like (44) neither involve tense (i.e., the tense of the matrix predicate and the infinitive are interpreted as SIMULTANEOUS), nor an embedded subject.

(44) SUBJECT-less causatives

Maria ließ [den Gast abholen]
 Mary let [the guest pick-up]
 ‘Mary let/made somebody (=Ø) pick of the guest’

The crucial difference between control infinitives (e.g., *try*-infinitives) and no-control infinitives as in (44) is that SUBJECT-less causatives are interpreted with an implicit subject that is referentially distinct from the matrix subject. The implicit argument in SUBJECT-less causatives shows in many

respects the same behavior as implicit passive arguments (cf. Kayne 1975, Burzio 1986, Evers 1986 among many others). To give two examples, like implicit passive arguments, the implicit argument in a SUBJECT-less causative cannot bind anaphors (45)

(45) **Implicit argument in SUBJECT-less causatives**

- a. *Maria ließ [IMPL_i sich_i einen Fisch vorstellen]⁴⁷
 Mary let [IMPL_i SELF_i a fish imagine]
 'Mary let/made somebody (=Ø) imagine the picture of a fish'
- b. Maria_j ließ [IMPL_i sich_{i/*j} einen Turm bauen]
 Mary_j let [IMPL_i SELF_{i/*j} a tower build]
 *'Mary let/made somebody (=Ø) build a tower for himself'
 'Mary let/made somebody (=Ø) build a tower for herself'

Furthermore, the implicit argument can be introduced as a *by*-phrase. This is illustrated in (46) with examples from German (cf. (46)a), Italian (cf. (46)b; Burzio 1986:228), and French (cf. (46)c).

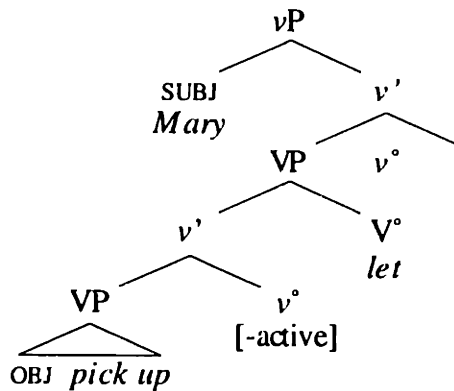
(46) **"Passive" causative infinitive**

- a. Maria ließ [den Gast von ihrem Sekretär abholen] *German*
 Mary let [the guest by her secretary pick-up]
 'Mary let/made her secretary pick of the guest'
- b. Maria ha fatto [riparare la macchina da Gianni] *Italian*
 Mary had made [repair the car by Gianni]
 'Mary made Gianni repair the car'
- c. Marie ha fait [photographier la voiture par Paul] *French*
 Mary had made [take-picture-of the car by Paul]
 'Mary made Paul take a picture of the car'

⁴⁷ This example is grammatical under a completely different (and somewhat strange) reading due to the ambiguity of *vorstellen* which could mean 'imagine' or 'introduce'. Thus (45)a could mean 'Mary let somebody introduce a fish to her'.

I will thus assume that SUBJECT-less causatives are like passive predicates and propose the following structure for the examples in (46).

(47) **“Passive” causative infinitive**



Following Kratzer (1994), I assume that passive structures involve a [-active] v° that associates the VP-predicate with an external theta-role. However, passive v° does not introduce a syntactic external argument. Since the open argument variable in a passive structure is not bound by a syntactic argument it is existentially closed.

Since SUBJECT-less causatives involve neither tense, nor an embedded subject, nor structural case in the infinitive, they fulfill all requirements for restructuring. In other words, a sentence with a SUBJECT-less causative forms a monoclausal structure; hence restructuring effects are expected (see (47)a for German involving scrambling, and (47)b,c for Italian and French involving clitic climbing).

(20) **SUBJECT-less causatives are RIs**

- a. weil [den Gast]_{SCR} Maria [t_{SCR} (von ihrem Sekretär) abholen] lassen hat
 since [the guest]_{SCR} Mary [t_{SCR} (by her secretary) pick-up] let has
 'Mary let/made her secretary pick of the guest'
- b. Maria l'ha fatto [riparare t_{CL} da Gianni]
 Mary it-CL+had made [repair t_{CL} by Gianni]
 'Mary made Gianni repair it'
- c. Jean nous a fait [photographier t_{CL} par Paul]
 John us-CL has made [photograph t_{CL} by Paul]
 'John made Paul photograph us'

To sum up, both control and no-control infinitives can be RIs. The difference between the understood subject in a control RI vs. a no-control infinitive is that in the former, the theta-role or argument variable of the embedded external argument is bound by an argument in the matrix clause, whereas in no-control RIs, the embedded external argument is existentially closed or bound by the discourse (or whatever turns out to be the correct analysis of passive). In the next section, I will show that the situation is different for causatives with an overt subject.

3.2 Infinitives with overt subjects

If the generalization that a sentence with a RIs has only one syntactic subject is correct, causatives and perception verb contexts that appear with an overt embedded subject should block restructuring. I will show in this section, that this claim is true.

It has been noticed by various authors (see for instance Grewendorf 1987, Haider 1989b), that scrambling of pronouns in German is impossible from infinitives with overt subjects (cf. the causative construction in (48)a and the perception verb construction in (48)c).⁴⁸

(48) Subject blocks scrambling

- a. *weil **ihr**_{SCR} der Peter [den Hans t_{SCR} helfen] ließ
 since **her**_{SCR} the Peter-NOM [the John-ACC t_{SCR} help] let
 'since Peter let John help her'
- b. weil **ihr**_{SCR} der Peter [(von Hans) t_{SCR} helfen] ließ
 since **her**_{SCR} the Peter-NOM [(by John) t_{SCR} help] let
 'since Peter let somebody/John help her'
- c. *weil **ihr**_{SCR} der Peter [den Hans t_{SCR} helfen] sah
 since **her**_{SCR} the Peter-NOM [the John-ACC t_{SCR} help] saw
 'since Peter saw John help her'

The ungrammaticality of (48)a contrasts sharply with examples such as (48)b which lack a structural external argument as the result of passive (I assume that *by*-phrases are adjuncts rather than arguments). Thus, only infinitives that lack a subject in SpecvP allow restructuring. This claim makes the prediction that unaccusative predicates that lack an agentive external argument should allow scrambling from the infinitive. The mismatch between transitive and unaccusative subject has been noticed already by Grewendorf (1987). Transitive subjects as in (48)a cannot be crossed by scrambling whereas unaccusative 'subjects' as in (49) permit scrambling.⁴⁹

⁴⁸ The situation is slightly different for some speakers when the scrambled phrase is a full noun-phrase rather than a pronoun. I will assume here that this form of scrambling is an instance of focus scrambling (see chapter five) which is possible for some speakers from NRIs as well.

⁴⁹ This test cannot be made for perception verbs since sentences like (49) are ungrammatical with and without scrambling. This seems to be due to a semantic restriction on the predicate embedded under a perception verb; i.e., individual level predicates are generally blocked under perception verbs.

(49) Unaccusative subjects do not block scrambling

weil **ihr**_{SCR} der Peter [einen Stein t_{SCR} auf die Zehen fallen] ließ
 since **her**_{SCR} [the Peter]-NOM [[a stone]-ACC t_{SCR} on the toes fall] let
 ‘since Peter let a stone fall on her toes’

I thus conclude, that as soon as an infinitive projects a structural external argument (i.e., a subject in SpecvP), the infinitive becomes an independent clausal domain and restructuring is therefore blocked.

4. CONCLUSION

The main claim of this chapter was that there are two forms of control—syntactic control and semantic control. The two forms of control are distinguished semantically: if the interpretation of the understood subject is variable, control is determined syntactically. If the interpretation of the understood subject is fixed, control is determined semantically. Semantic control configurations are represented by a syntactic PRO subject; semantic control configurations do not involve a syntactic subject.

I have further shown that the class of semantic control verbs correlates with the class of restructuring verbs. The properties that support the distinction between syntactic control (i.e., non-restructuring) vs. semantic control (i.e., restructuring) are summarized in Table 13.

Table 13: Subject properties of (non)-restructuring infinitives

Restructuring Properties	Non-restructuring Properties
no blocking effect for A-movement (ROM)	PRO blocks A-movement (ROM)
semantic control	syntactic control
no imperfect control	imperfect control possible
no strict reading with <i>it</i> -anaphors	strict reading with <i>it</i> -anaphors possible
no (binding) antecedent for anaphors	PRO can be antecedent for anaphors

I have argued that all of the above properties can be related to one difference between RIs and NRIs: NRIs involve an embedded PRO-subject, whereas RIs lack a syntactic subject. If RIs lack an embedded structural subject it follows that there are no blocking effects for A-movement and that there is no antecedent for anaphors. Furthermore, I have proposed that semantically, the infinitival predicate is associated with an external argument by a semantic entailment relation that is part of the meaning of the embedding verb. That is, it is specified as part of the meaning of a verb that a particular argument of the matrix predicate binds the slot of the external argument in the infinitive. Since one argument of the matrix clause binds two thematic slots (an argument position in the matrix clause and the slot for the embedded subject) it follows that the understood subject of a RI cannot have different properties from the argument it is associated with.

To conclude, the properties of RIs as discussed so far are summarized below:

Restructuring:	♦ RIs lack CP-properties	⇒	RIs lack CP
	♦ RIs lack TP-properties	⇒	RIs lack TP
	♦ RIs lack an ACC-position	⇒	RIs lack v° [+ACC]
	♦ RIs lack a syntactic subject	⇒	RIs lack SpecvP

Chapter Five:

Peripheral Issues

1. INTRODUCTION

In the previous chapters, I have argued against functional projections in RIs. In particular, I have demonstrated that RIs lack properties that are associated with CP, TP and ν P-projections, and are hence best analyzed as VP-complements. In this chapter, I will raise the question of whether the size or category of RIs (i.e., VP) is simply the result of c-selection or whether there are semantic properties of the matrix verb that determine the category of RIs.

The idea of characterizing the class of RVs semantically is not new; many authors share the intuition that the class of RVs forms a coherent semantic class. The first attempt to capture this intuition was provided by Napoli (1981). Napoli proposed that what distinguishes RVs from NRVs is that the former do not function as full lexical verbs but rather as *auxiliaries*. She claims further that restructuring constructions (i.e., sentences with RIs) denote only a single event with the embedded infinitive as the main predicate. (I will come back to Napoli's proposal in more detail below.)

Similarly, Rochette (1988) proposes that RVs are like auxiliaries in that they are underspecified with respect to their event structure. Rochette claims that RVs lack an *event position* in their theta-specification. Following Higginbotham (1985), Rochette assumes that event variables have to be bound by INFL. If the matrix verb does not have an event position that has to be bound, i.e., if it is a RV, the matrix INFL binds the event position of the embedded verb.

Underspecification also plays a crucial role in Rosen's (1989, 1990) account. Rosen suggests that the common property of RVs is that they are *light verbs*: similar to Napoli's or Rochette's approach, she assumes that RVs are characterized by an empty argument structure—i.e., by the lack of argument and event specifications. In order to obtain an argument and event

structure, RVs have to undergo *argument structure merger*: the empty argument/event structure of a RV is superimposed on the fully specified argument/event structure of the embedded verb.

What the approaches mentioned so far have in common is that restructuring constructions show some kind of ‘event unification’; or in other words, a sentence with a RI is characterized as involving only one event. All three accounts deny an independent event structure for RVs. Although I follow the main idea that is implicitly suggested in the semantic approaches mentioned above—namely that a sentence with a RI does not involve two full clauses, I will demonstrate in §2 that the assumption that restructuring involves ‘event unification’ cannot be maintained.

So far, we have seen that the size of RIs is determined by two semantic properties: RVs are incompatible with a [+tense] complement; and RVs require semantic control (i.e., obligatory control in traditional terms). In §3, I will offer an additional property of RIs, namely that semantically, RIs are unsaturated predicates or properties (cf. Chierchia 1984) rather than propositions. Finally in §4, I will discuss verbs from the periphery of restructuring since those verbs are often taken as evidence against a semantic characterization of RVs. I will show that certain factors obscure the distinction between restructuring and non-restructuring. After eliminating those factors, most peripheral contexts will fit in the general picture that I have drawn here.

2. HOW MANY EVENTS?

The semantic approaches proposed by Napoli (1981), Rochette (1988), Rosen (1989) are based on the assumption that RVs have a deficient argument structure or event structure. Napoli proposes that the relation between a RV and the infinitive is in many syntactic and semantic respects identical to the relation between an auxiliary and a participle. In this approach, auxiliaries

are characterized by the following interpretive rules: i) auxiliaries offer supplemental information about the action or state of the main verb, introducing no additional independent action or state; ii) auxiliaries add conceptually basic or simple information; and iii) a modifier of the auxiliary must be interpreted as a modifier of the main verb, as well (Napoli 1981:859).

Leaving aside the second rule, the first and the third rule basically state that RVs cannot have an independent event specification but that restructuring constructions (i.e., sentences with RIs) denote only a single event with the embedded infinitive as the main predicate. Assuming this is the case, Napoli claims that in restructuring contexts—like in auxiliary-participle constructions—modification of the matrix verb (the ‘auxiliary’) always results in modification of the embedded verb (the ‘main verb’).

This point is illustrated with the pair of sentences in (1). The sentence in (1)a which does not involve clitic climbing can describe two scenarios. First, the adverbial modifies the embedded verb, specifying that the act of imprisoning has happened before (saying nothing about previous desires of the speaker). Second, the adverbial modifies the matrix verb, i.e., the desire is not new but it is left unspecified whether ‘they’ have been imprisoned before or not.

(1) **RIs involve only one event (?)**

Napoli (1981:874)

- | | | | | |
|----|--|-----------------|------------------------------|------------------------|
| a. | Voglio | di nuovo | imprigionarli | |
| | I-want | once more | to-imprison+ <i>them</i> -CL | |
| | ‘I want to imprison them again’ | | | ⇒ previous imprisoning |
| | ‘I want again to imprison them’ | | | ⇒ previous desire |
| | | | | |
| b. | Li | voglio | di nuovo | imprigionare |
| | <i>them</i> -CL | I-want | once more | to-imprison |
| | ‘I want to imprison them again’ | | | ⇒ previous imprisoning |
| | (*)‘I want again to imprison them [but I have never imprisoned them before]’ | | | |

In a restructuring context as in (1)b with clitic climbing, however, the adverbial obligatorily modifies the embedded verb. According to Napoli, there is no reading where *di nuovo* 'again' modifies the matrix verb but not the embedded verb. Thus in a situation where the speaker in (1) had never imprisoned 'them' but had the desire to do so before, sentence (1)a could be uttered but (1)b would be false.

Since adverbs apparently cannot modify just the matrix predicate in a restructuring context, the authors above conclude that restructuring constructions denote a single event. Various problems arise that question this generalization. First, the position of the adverbial modifier to the right of the matrix verb in a restructuring configuration favors a narrow scope reading of the adverb over the infinitive for many speakers. Second, and more importantly for the discussion of the event structure of restructuring constructions, I will show that examples like (1) in fact provide evidence for the opposite assumption, namely that restructuring constructions consist of two separate events rather than a single event.

It has to be noted at this point, however, that this claim does not entail that a sentence with a RI involves two clauses. Following recent approaches on event structure that posit events within the VP (e.g., Travis 1994, forthcoming, Harley 1995 among others), I will assume that a simple sentence can involve more than one event. Restructuring contexts then provide an interesting area for the investigation of the relation between tense and event structure: since a restructuring configuration involves only one tense but two events, these constructions argue strongly for the assumption that 'events' cannot be reduced to tense.

The argument for two events is based on the assumption that modifiers like *again* presuppose the existence of a previous event which is identical to the event they modify. In a sentence like (2), the presence of *again* which modifies the marry-Liz event presupposes the existence of another

marry-Liz event in the past (see below for subjects and events). Since the second part of the sentence in (2) denies the existence of such an event, the sentence expresses a contradiction.

- (2) #Richard married Liz again, but she had never been married before

As Napoli (1981) (and following her also Rochette 1988 and Rosen 1989, 1990) note, adverbials like *again* only optionally modify the matrix verb(phrase) *want* in examples like (1). Thus, a sentence like *Richard wanted to marry Liz again*, could be true in the following situation: Richard had married Liz once, but he had done this against his desire (e.g., his family had forced him to marry her). They then get divorced but after the divorce he suddenly falls terribly in love with her. Under these circumstances, it would be appropriate to say that 'he wants to marry her again'. This shows that modification by *again* in this reading does not presuppose that there is a previous 'want-to-marry-Liz' event but only that there is a previous 'marry-Liz' event.

Since *want* is not part of the embedded event, the question is whether it is an independent event or simply some sort of modification of the embedded event (cf. Picallo 1985, 1990). We will see that there is in fact some reason to assume that the *want*-predicate denotes an independent event. I will show that—provided there is an appropriate context, the interpretation that Napoli claims is not available in fact becomes the preferred and only interpretation in restructuring constructions. That is, event modifiers that would be impossible as modifiers of the embedded event are licit if they can be construed with the matrix event. In English, for instance, it is certainly possible to assign a felicitous interpretation to examples like (3): Richard and Liz had planned to get married in the past, but then decided not to get married. However, after a while he changed his mind again and suddenly wants again to get married to Liz.

- (3) Richard wanted to marry Liz again, but they had never been married before.

To see whether the same situation holds under restructuring in Italian or German, we have to look at sentences like (3) involving a restructuring property. The two relevant contexts are given in (4) and (5). The sentences in (4) enforce a reading where the adverbial *once again* modifies the embedded verb. John and Mary were married once, got divorced, but now they want to get married again. The context in the sentences in (5), however, enforces exactly the reading where the adverbial modifies the matrix verb but not the embedded infinitive:⁵⁰

(4) **Embedded predicate denotes an event**

- a. Hans und Maria haben sich vor einem Jahr scheiden lassen. Aber seit kurzem wird erzählt ...
 'A year ago, John and Mary got divorced. But recently, people say ...'

daß die Maria der Hans aufs Neue heiraten will
 since the Mary-ACC the John-NOM once more marry wants
 'that John wants to marry Mary again'

- b. Un anno fa, Gianni e Maria hanno divorziato. Ma recentemente, si dice che...
 'A year ago John and Mary got divorced. But recently, people say that...'

lui la voglia sposare di nuovo
 he her-CL would-want to-marry once more
 'he wants to marry her again'

⁵⁰ In the German examples, the repetition of the names is somewhat unnatural in the given context; pronouns would be preferred. However, to make sure that scrambling takes place, full DPs have to be used since pronouns always have to appear in the underlying order in German.

(5) **Matrix predicate denotes an event**

- a. Hans hat vor einem Jahr die Verlobung mit der Maria gelöst. Aber seit kurzem wird erzählt ...
 ‘A year ago, John broke off his engagement with Mary. But recently, people say ...’

daß die Maria der Hans aufs Neue heiraten will
 since the Mary-ACC the John-NOM once more marry wants
 ‘that John wants to marry Mary again’

- b. Un anno fa, Gianni ha rotto il fidanzamento con Maria. Ma recentemente, si dice che
 ‘A year ago, John broke off his engagement with Mary. But recently, people say that...’

lui la voglia sposare di nuovo
 he her-CL would-want to-marry once more
 ‘he wants to marry her again’

The German example in (5)a involves scrambling of the embedded object to the left of the adverbial; the Italian example in (5)b involves clitic climbing to the left of the matrix verb—hence both sentences in (5) are RIs. What is crucial is that the examples in both languages are appropriate utterances in a situation where John and Mary are not and were never married (to each other) before. Thus, the examples show that the adverbial *once again* can be taken to only modify the matrix verb.

Similar contexts can be constructed with other RVs. Consider first other modal verb constructions. Imagine a context where John’s father forces him to marry Mary; John, however, refuses to do that and to get out of his obligation, he leaves the country for a few years; he comes back and after a few months, John’s father tries again to make him marry Mary. In this situation, a sentence like (6)a could be uttered perfectly:

(6) Modal constructions: two events

- a. weil die Maria der Hans aufs Neue heiraten muß
 since the Mary-ACC the John-NOM once more marry must
 'since John again has to marry Mary'
- b. weil die Maria der Hans aufs Neue heiraten darf
 since the Mary-ACC the John-NOM once more marry may
 'since John again is allowed to marry Mary'

Likewise, (6)b could refer to a context where John has never been married to Mary (e.g., he had the permission to marry her once; he lost the permission for whatever reason, and now he gained it back).

Turning to lexical RVs, we find an interesting split: certain restructuring constructions like the ones in (7) are ambiguous—i.e., *again* modifies either the embedded or the matrix event. The example in (7)a which again involves scrambling, hence restructuring, can certainly refer to a situation in which John and Mary have never been married to each other but had once made an attempt to do so. Examples like (7)b require a more elaborate context: suppose that John and Mary had planned once to get married, they had gone to church and started the ceremony. However, a few minutes into the ceremony, a big earthquake occurred and they had to interrupt the wedding. A few days later they try again, go to church and begin to get married again.

(7) Lexical RVs: two events

- a. weil die Maria der Hans aufs Neue zu heiraten versuchte
 since the Mary-ACC the John-NOM once more to marry tried
 'since John again tried to marry Mary'
- b. weil die Maria der Hans aufs Neue zu heiraten begann
 since the Mary-ACC the John-NOM once more to marry began
 'since John again began to marry Mary'

There is a subset of RVs, however, which does not seem to allow modification of the matrix event by a modifier like *again*. This can be illustrated with sentences involving the verb *manage* as in (8)a. It is impossible to utter (8)a in a situation in which John and Mary had never been married to

each other before. That is, #*John managed again to marry Sue but they have never been married before (to each other)* is an infelicitous statement (I will discuss (8)b below).

(8) Implicative RVs: number of events?

- | | | | | | | |
|----|--|--------------|--------------|-----------|-------------|---------|
| a. | weil | die Maria | dem Hans | aufs Neue | zu heiraten | gelang |
| | since | the Mary | the John-DAT | once more | to marry | managed |
| | 'since John again managed to marry Mary' | | | | | |
| | | | | | | |
| b. | weil | die Maria | der Hans | aufs Neue | zu heiraten | wagte |
| | since | the Mary-ACC | the John-NOM | once more | to marry | dared |
| | 'since John again dared to marry Mary' | | | | | |

The reason for the lack of ambiguity, however, is not related to restructuring but rather to an inherent property of verbs like *manage*. The verb *manage* is a so-called implicative verb (cf. Karttunen 1971)—i.e., the truth of the sentence implies the truth of the embedded infinitive (see also §3.1). Thus, whenever *John managed to p* is true, *p* has to be true as well. Now, if *manage* is modified by the event modifier *again*, the presupposition requirement of *again* and the entailment relations imposed by *manage* interact as follows: [*John managed to marry Sue*] entails [*John married Sue*]; [*John managed again to marry Sue*] presupposes a previous event [*John managed to marry Sue*]; [*John managed to marry Sue*] implies [*John married Sue*]. The implicative nature of verbs like *manage* thus makes it impossible to test whether the matrix predicate denotes an independent event, since there is no way to establish a context where the embedded event has never occurred. Whatever the correct structure of implicative constructions is, important for the discussion here is that the unambiguity of examples like (8)a is not caused by restructuring but rather by the implicative properties of the verb involved.

Finally, sentences involving the RV *dare* provide further support for the assumption that the matrix predicate in a restructuring context denotes an independent event. The verb *dare* is (marginally) ambiguous between an implicative and a non-implicative reading. The non-implicative reading can be paraphrased as 'get up the nerve to, risk, hazard, convince oneself to do etc.' and

does not impose any implications on the embedded predicate. We then expect that a sentence involving the verb *dare* and the event modifier *again* should be ambiguous under the non-implicative reading. This prediction is borne out as can be seen in (8)b which is only felicitous in a context where John and Mary have never been married to each other before when *dare* is interpreted as ‘John convinced himself...’ i.e., as non-implicative.

To sum up this section, it seems that an analysis that assumes a single event structure for restructuring constructions is too restrictive in that it does not allow certain modifications of the matrix event that are clearly possible in non-implicative restructuring configurations.

Restructuring: ♦ Matrix and embedded predicate can have distinct event structure properties

3. THE SEMANTIC CATEGORY OF RESTRUCTURING INFINITIVES

In this section, I will offer some speculations about the semantic category of RIs. I will first discuss some properties of the verb *forget* in German, since this verb shows an interesting ambiguity in German that will turn out to be a crucial for the determination of the semantic category of RIs. The verb *forget* is a RV (i.e., it allows scrambling and long passive). As such, it appears to contradict the generalizations made about the tense properties in RIs. As I will discuss momentarily, *forget* can combine with a finite complement and a simultaneous interpretation is not necessary. However, I will show in the next section, that there are in fact two versions of *forget*: factive *forget* which takes a tensed complement, and negative implicative *forget* which takes a tenseless complement. Again, supporting the generalizations made in chapter two, it will be shown that only the tenseless implicative version of this verb can function as a RV.

3.1 “*Forget*”: implicative vs. factive

Let us begin with an illustration of the two readings of *forget*. In the negative implicative reading, the truth of the sentence involving the *forget*-predicate implies the falsity of the embedded predicate; the falsehood of the sentence, on the other hand implies the truth of the embedded infinitive (cf. Karttunen 1971). Thus, *to forget p* implies $\neg p$, whereas *not to forget p* implies *p*. This is illustrated with the following example:⁵¹

(9) **Implicative *forget***

- a. weil Hans vergaß [die Blumen zu gießen]
 ‘since John forgot [to water the flowers]’
 ⇒ he didn’t water the flowers
- b. weil Hans nicht vergaß [die Blumen zu gießen]
 ‘since John didn’t forget [to water the flowers]’
 ⇒ he watered the flowers

It has been proposed that what implicative *forget* contributes to the meaning of the sentence is simply negation, and the presupposition that there is some obligation to perform the event denoted by the embedded predicate (cf. Karttunen 1971).

As will be discussed in more detail in §3.3, in the factive reading of *forget*, the truth of the complement is presupposed (cf. Kiparsky & Kiparsky 1970, 1971). The truth conditions of the embedded predicate do not change when the matrix verb is negated (in contrast to the implicative *forget* in (9)):

⁵¹ These facts hold when the negation in (53)b is interpreted as sentential negation. Constituent negation and contrastive focus change the implication relations.

(10) **Factive *forget***

- a. weil Hans vergaß [die Blumen schon gegossen zu haben]
 sinc John forgot [the flowers already watered to have]
 'since John forgot [that he had watered the flowers already]'
 ⇒ he watered the flowers
- b. weil Hans nicht vergaß [die Blumen schon gegossen zu haben]
 sinc John not forgot [the flowers already watered to have]
 'since John didn't forgot [that he had watered the flowers already]'
 ⇒ he watered the flowers

In the following discussion, I will show that the implicative version of *forget* behaves like a RV, whereas the factive version behaves like a NRV. Consider first the tense interpretations available in complements to *forget*. An implicative complement can only be interpreted as SIMULTANEOUS with the tense of the matrix verb (cf. (11)).

(11) **Implicative *forget*: ✓SIM, *PAST, *FUT**

- a. Marie-Hélène vergaß [die Kekse zu essen] SIM
 Marie-Hélène forgot [the cookies to eat]'
 'Marie-Hélène forgot to eat the cookies'
- b. *Marie-Hélène vergaß [die Kekse morgen zu essen] *FUT
 Marie-Hélène forgot [the cookies tomorrow to eat]'
 *'Marie-Hélène forgot to eat the cookies tomorrow'
- c. *Marie-Hélène vergaß [die Kekse vorgestern zu essen] *PAST
 Marie-Hélène forgot [the cookies the day before yesterday to eat]
 *'Marie-Hélène forgot to eat the cookies the day before yesterday'

Infinitives that appear as complements to factive *forget*, on the other hand, are compatible with a SIMULTANEOUS or PAST but not a FUTURE interpretation as is shown in (12):

(12) **Factive *forget*: ✓ SIM, ✓ PAST, ??FUT**

- | | | | | | | | |
|----|---|--------|-------------|-------------|-------------|------------|-------------|
| a. | Hans | vergaß | [gerade | eine Kerze | in der Hand | zu halten] | <i>SIM</i> |
| | John | forgot | [just | a candle | in the hand | to hold] | |
| | 'John forgot that he was holding a candle in his hand right then' | | | | | | |
| | | | | | | | |
| b. | Hans | vergaß | [eine Kerze | in der Hand | gehalten | zu haben] | <i>PAST</i> |
| | John | forgot | [a candle | in the hand | hold | to have] | |
| | 'John forgot that he had held a candle in his hand' | | | | | | |
| | | | | | | | |
| c. | ??Hans | vergaß | [morgen | eine Kerze | in der Hand | zu halten] | <i>*FUT</i> |
| | John | forgot | [tomorrow | a candle | in the hand | to hold] | |
| | 'John forgot that he will be holding a candle in his hand tomorrow' | | | | | | |

The natural interpretation of factive complements is a past interpretation. However, the *SIMULTANEOUS* interpretation is also available in factive infinitives, when *forget* can be interpreted as *not-being-aware-of*. A *FUTURE* interpretation is marginally possible, if the embedded event can be interpreted as a definite plan, general rule or fact.

What are the restructuring properties of the different infinitival complements of *forget*? If the infinitive is construed as a RI (i.e., it involves scrambling or passive), only the implicative reading of *forget* survives (cf. (13)b,c). Complements of *forget* that can only be factive—e.g., infinitives with a past interpretation—prohibit restructuring (cf. (13)a).

(13) **Restructuring properties of *forget***

- | | | | | | | |
|----|--|------|-----------------------------|--------|--|--------------------|
| a. | *weil | Hans | [die Blumen] _{SCR} | vergaß | [t _{SCR} erst gestern gegossen zu haben] | |
| | since | John | <i>the flowers</i> | forgot | [t _{SCR} only yesterday watered to have] | |
| | 'since John forgot that he had watered the flowers only yesterday' | | | | | |
| | | | | | | |
| b. | weil | Hans | [die Blumen] _{SCR} | vergaß | [t _{SCR} zu gießen] | <i>scrambling</i> |
| | since | John | <i>the flowers</i> | forgot | [t _{SCR} to water] | |
| | 'since John forgot to water the flowers' | | | | | |
| | | | | | | |
| ⇒ | he didn't water the flowers | | | | | <i>implicative</i> |
| ⇏ | he was watering the flowers | | | | | <i>*factive</i> |

- c. weil der Wagen t_i zu reparieren vergessen wurde *passive*
 since the car-NOM t_i to repair forgotten was
 'since somebody forgot to repair the car'
- \Rightarrow the car didn't get repaired *implicative*
 \nRightarrow the car is getting repaired **factive*

Thus, (13)b,c show that restructuring is generally blocked with factive complements of *forget*—even when the infinitive is interpreted as SIMULTANEOUS. To give a more natural example of the impossibility of restructuring with SIMULTANEOUS factive complements, consider the following contexts. The adverb *just* strongly favors a SIMULTANEOUS factive interpretation in (14)a; i.e., (14)a has the factive reading 'she wasn't aware that she was just calling her boss'. Under this reading, however, scrambling from the infinitive is impossible (cf. (14)b). If the same infinitive is construed as an implicative RI (i.e., without the adverb *just*), scrambling as in (14)c is fine.

(14) **Factive complements are NRIs, implicative complements are RIs**

- sie war so verwirrt...
 she was so confused...
- a. daß sie vergaß [gerade ihren Boß anzurufen]
 that she forgot [just her boss to-call]
 'that she forgot that she was just calling her boss'
- b. *daß sie [ihren Boß]_{SCR} vergaß [gerade t_{SCR} anzurufen] **factive*
 that she her boss forgot [just t_{SCR} to-call]
 'that she forgot that she was just calling her boss'
- c. daß sie [ihren Boß]_{SCR} vergaß [t_{SCR} anzurufen] *implicative*
 that she her boss forgot [t_{SCR} to-call]
 'that she forgot to call her boss'

It can thus be concluded that factive *forget* is a NRV, while implicative *forget* is a RV. This claim receives further support by the generalization discussed in chapter two, namely that RVs do not combine with finite complements. While finite complements are possible under the factive readings (cf. (15)a, b), an implicative interpretation (as intended in (15)a) is completely impossible for a finite complement to *forget* (even when SIMULTANEOUS). Finite complements with a FUTURE

interpretation are again quite restricted. Contexts that allow FUTURE complements are events that involve some certainty—i.e., events that refer to general facts, definite plans etc. (e.g., *I forgot that tomorrow is Sunday/Aunt Rosie will come tomorrow* etc.).

(15) Finite complements with *forget*

- | | | | | |
|----|--|---|---|--------------|
| a. | Hans | vergaß | [daß er gerade eine Kerze in der Hand hielt] | SIM |
| | John | forgot | [that he just a candle in the hand held] | |
| | 'John forgot that he was just holding a candle in his hand' | | | |
| | ⇒ | he was holding a candle in his hand | | factive |
| | ⇒ | he was not holding a candle in his hand | | *implicative |
| b. | Hans | vergaß | [daß er eine Kerze in der Hand gehalten hatte, als..] | PAST |
| | John | forgot | [that he a candle in the hand hold had, when...] | |
| | 'John forgot that he had been holding a candle in his hand, when...' | | | |
| c. | ?Hans | vergaß | [daß er morgen eine Kerze in der Hand halten wird] | ??FUT |
| | John | forgot | [that he tomorrow a candle in the hand hold will] | |
| | 'John forgot that he will be holding a candle in his hand tomorrow' | | | |

To summarize this subsection, the verb *forget* has two versions: a factive and an implicative version. Implicative *forget* behaves like a restructuring verb—i.e., it shows transparency effects, does not allow conflicting tense interpretations and cannot take finite complements. Factive *forget* is a NRV and shows none of the above properties.

3.2 Restructuring=tenselessness?

Let us look at the facts discussed so far with respect to the tense interpretation in infinitives and finite clauses. The following table summarizes the various possibilities (raising and modal contexts are ignored; see chapter six).

Table 14: Tense interpretation in infinitives and finite complements

VERB	RI	INFINITIVE			FINITE COMPLEMENTS
		SIM	PAST	FUT	
<i>try, easy</i>	+	+	-	-	-
aspectual verbs	+	+	-	-	-
implicative verbs	+	+	-	-	-
<i>decide, plan, #try</i>	-	-	-	+	+
factive verbs	-	+	+	±	+

The five rows in the table show three classes of verbs. The first class is formed by RVs like *try* etc., aspectual verbs (*begin, continue, finish*), and implicative verbs (*forget, fail, manage, dare*). These verbs trigger a SIMULTANEOUS interpretation in their infinitival complements (under an unmarked interpretation), and finite complementation is prohibited. Second, there is a large class of NRVs (e.g., *decide, plan* or the marked reading of *try* etc.) that select a future interpretation in the infinitival complement. These verbs can appear with finite complements. Finally, factive infinitival complements (and, as I will show later, propositional complements) can show up with various tense interpretations (though preferable a PAST for eventive factive complements). Finite complements are not only possible, but in certain cases and languages, the only way to realize a complement (e.g., *regret* which in English [vs. German] can only take a finite clause).

Thus, so far, the generalization that I have proposed in chapter two seems to be valid: whenever an infinitive shows restructuring effects, it has to be tenseless. I proposed that the lack of tense in RIs is the result of a semantic incompatibility of a RV with a [+tense] infinitival complement; i.e., the combination RV + infinitive_[+tense] would be uninterpretable and hence not pass the syntax/semantics interface. Under this approach, we can also understand the impossibility of finite complements with RVs. Assuming that the ‘tenselessness’ of RIs is in fact required by the meaning of the matrix verb, it is expected that finite clauses which are inherently [+tense] clauses are prohibited as complements to RVs.

A question that arises at this point is whether the relation between restructuring and the lack of tense is bi-directional. More specifically, one could ask whether tenselessness is sufficient to characterize the class of RVs or whether there are additional restrictions for restructuring. As I have already mentioned in various points, a stronger position—‘tenselessness also implies restructuring’—cannot be maintained. While it is true that restructuring is only found with matrix verbs that are incompatible with a [+tense] complement, it is not the case that all verbs that are incompatible with a [+tense] complement trigger restructuring.

One case where tenselessness does not entail restructuring has already been mentioned in chapter three. I have demonstrated that infinitives involving a structural object case position are NRIs. However, the presence of ACC in the infinitival complement has no effect on the tense interpretation in the infinitive. That is, NRIs that combine with a potential RV do not necessarily involve tense. Thus, the assumption that tense plays a role in the characterization and determination of restructuring allows us to separate RIs from NRIs. However, there are also contexts where the tenselessness requirement is insufficient and where additional (syntactic) factors (like the lack of structural case) have to be taken into account.

Another case where tenselessness does not entail restructuring are factive complements. Let us assume that a SIMULTANEOUS tense interpretation is the result of the lack of tense in the complement. Since certain factive and—as I will show—propositional infinitival complements can involve a SIMULTANEOUS interpretation, but they nevertheless do not show restructuring effects (see for instance the discussion of *forget* in §3.1), factive complements also show that the tenselessness requirement is insufficient to determine restructuring.

3.3 Factive infinitives

Recalling the behavior of the verb *forget*, we have seen that this verb comes in two versions: a factive NRV and an implicative RV. The properties of *forget* are repeated and summarized in Table 15:

Table 15: “*forget*”

Property	<i>forget</i> : implicative	<i>forget</i> : factive
simultaneous tense	+	+
[+tense] complement	-	+
finite complement	-	+
restructuring	+	-

The question one could ask is why the factive version of *forget* is always a NRV—i.e., even in cases with a SIMULTANEOUS tense interpretation. At this point it seems important to mention that across languages, restructuring is never found with factive complements. In this section, I will argue that in the approach taken here, this generalization can be accounted for without imposing selectional restrictions on the verbs taking transparent infinitives. Furthermore, we will see that the prohibition against RIs which is found with another class of complements, namely propositional complements, follows from the same factors.

Factive verbs like *regret* can combine with infinitival complements in German, but these infinitives never show transparency effects. This is illustrated again by the impossibility of scrambling in (16)b.

(16) **Factive infinitives are NRIs**

- a. Sie bedauerte zutiefst [ihrem Freund nicht geholfen zu haben]
 she regretted deepest [her friend not helped to have]
 'She regretted deeply that she hadn't helped her friend'
- b. *Sie bedauerte [ihrem Freund] zutiefst [_{SCR} nicht geholfen zu haben]
 she regretted [*her friend*]_{SCR} deepest [_{SCR} not helped to have]
 'She regretted deeply that she hadn't helped her friend'

To see why factive complements and restructuring cannot go together, a few remarks about the syntax and semantics of factive complements are necessary. As was first noted by Kiparsky & Kiparsky (1970, 1971), finite factive complements in English are special in that they show island effects for adjunct extraction but not for object extraction (cf. (17)a vs. (17)b).

- (17) a. ?Who_i do you regret [that John met t_i]?
 b. *Why_i do you regret [that John met Mary t_i]?

This property distinguishes factive complements from propositional complements—the latter do not show any island effects; thus both object and adjunct extraction are possible in (18).

- (18) a. Who_i do you think [that John met t_i]?
 b. Why_i do you think [that John met Mary t_i]?

Various solutions have been proposed to this puzzle. Kiparsky & Kiparsky (1970, 1971) argue that factive clauses are embedded in an NP of the form [*the fact that ...*]. As has been noted by various authors (cf. Cattell 1978, Hegarty 1991 and others), however, this raises the question of why object extraction shows only a mild deviance (in contrast to regular *complex NP constraint* violations). If factive complements were part of a complex NP, it would be expected that object extraction should result in a subjacency violation like in other cases of extraction from complex NPs. In more recent approaches, factive complements are thus considered as CPs.

To account for the island character of factive complements, various proposals about the structure of factive CPs have been made. I will not discuss any of these theories in detail but only mention the parts that are important to get a better understanding of how to approach the question of why factive complements cannot be RIs. Melvold (1986) assumes that factive complements involve a factive operator that is inserted in SpecCP at LF. The operator in SpecCP then competes with the intermediate adjunct trace that is necessary to γ -mark the original trace of the adjunct (following Lasnik & Saito 1984, Melvold assumes that γ -marking of objects takes place at S-structure, while γ -marking of adjunct traces can only take place at LF). Cinque (1990) suggests that factive complements are not selected *directly* by the verb but are generated in a higher position than direct objects are (direct selection is crucial in Cinque's extraction theory to license A'-extraction). Finally, Hegarty (1991) proposes that factive complements involve an obligatory complementizer that binds the event position of the embedded clause. The event position of propositional complements, on the other hand, is discharged by the matrix verb. He assumes further that adverbial wh-elements have an event theta-position that has to be construed with the event position of the modified clause by theta-identification. Since the event position of the embedded factive complement is discharged by the complementizer, the wh-adverbial cannot be construed with the embedded clause.

What the approaches have in common is that factive complements are syntactically and semantically opaque domains. What is important for the discussion here is not the actual mechanism that is employed to 'close off' or isolate factive clauses, but the assumption that factive complements do not enter into direct relations (selection, theta-binding etc.) with the matrix verb, but rather saturate or discharge all relations inside the complement.

Hegarty's approach leads us to another important property of factive complements, namely *factivity*. Semantically, factive complements are described as presupposing the truth of the

embedded complement, or as involving the presupposition that the embedded event in fact occurred. This is illustrated in (19): *regret that p* presupposes *p*. Importantly, the presupposition is kept under negation (cf. (19)b).

(19) Factivity: presupposition generation

- a. John regrets that he went to Turkestan
⇒ he went to Turkestan
- b. John doesn't regret that he went to Turkestan
⇒ he went to Turkestan

Following Hegarty, I will assume that a factive presupposition can only be generated when the complement does not involve unsaturated argument positions; hence some kind of operator is necessary in the infinitival complement (in his approach, a factive complementizer) to bind open argument positions.

Returning to the structure of RIs, I have argued so far in this thesis that RIs lack CP and TP-properties, and also do not involve an embedded subject. I have suggested that the projection of syntactic categories is not arbitrary, but to a large extent dependent on the availability of the relevant properties or features. The lack of tense, complementizer and subject properties in RIs can then be taken as a direct indication of the absence of the projections hosting these features. Thus, assuming that the absence of CP/TP and ν P-properties reflects the absence of the corresponding projections, RIs will end up as VP-complements. More explicitly, a RI is a projection including the verb and its internal arguments but no INFL or COMP, and no *external* argument (though an open slot for an external argument or an external theta-role depending on the framework).

This approach then opens a principled way to account for the prohibition against factive restructuring complements. As Hegarty has shown, factive complements have to be saturated

clauses in order to enable presupposition generation. Since RIs are VPs—i.e., unsaturated predicates (or properties to use Chierchia's 1984a,b terms) rather than propositions—it is now obvious why RIs cannot appear as complements to factive verbs. The factivity requirement clashes with the requirement that RIs be bare VPs: presupposition generation implies that the complement is a closed clause, restructuring implies that the complement is a predicate with an open argument position (the position for the external argument which is bound by an argument of the matrix clause; I will elaborate on these assumptions in chapter four). Obviously, both requirements cannot be met at once.⁵²

3.4 Propositional infinitives

The claim that RIs are unsaturated predicates rather than propositions makes certain predictions for *propositional* infinitives. Like factive complements, propositional complements cannot involve open (or unbound) argument variables (though they involve an open event variable). Following Pesetsky (1992:143), the possibility of truth/falsity predication can be used to distinguish between propositional and non-propositional complements: propositional complements allow predication of the truth or falsity of the complement (cf. (20)a), whereas non-propositional complements do not allow predication of the truth/falsity of the infinitival complement (cf. (20)b).

⁵² Note that the ban against factive RIs also follows from the other analyses of factivity. Assuming that RIs are bare VP-complements would exclude a factive operator in SpecCP in RIs (cf. Melvold's 1986 operator analysis). Furthermore, we will see in chapter six that RIs have to be in a local (sisterhood) relation with the matrix verb. Thus, under Cinque's (1990) approach, factive complements which have to be attached higher than in complement position to the verb cannot be RIs either. However, the advantage of Hegarty's approach is that it accounts for the syntactic as well as semantic properties of factive complements without stipulating structural differences between factive and propositional complements.

(20) **Propositional complements: truth can be predicate**

- a. Mary claimed to have read a book, which was true
 \Rightarrow it is true that Mary read a book
- b. *Mary wanted to read a book, which was true
 \Rightarrow it is true that Mary read a

The assumption that RIs are predicates with an open argument position then makes the prediction that purely propositional verbs (i.e., verbs that require a propositional complement) cannot combine with a transparent RI. As has been argued by Rochette (1988, 1990) or Cinque (1997a, p.c.), the prediction that propositional complements cannot be RIs seems to be borne out. Complements of propositional verbs like *claim*, *say* etc. never appear as RIs and scrambling is not available (cf. (21)b).

(21) **Propositional infinitives are NRIs**

- a. Sie hat behauptet [dem Hans nicht geholfen zu haben]
she has claimed [the John not helped to have]
'She claimed not to have helped John'
- b. *Sie hat [dem Hans] behauptet [t_{SCR} nicht geholfen zu haben]
she has [the John]_{SCR} deepest [t_{SCR} not helped to have]
'She claimed not to have helped John'

Again, a RI cannot combine with a verb that requires a propositional complement, since RIs are unsaturated predicates rather than propositions.

To summarize, assuming that the lack of CP/TP and *v*P-properties reflects a semantic property of RIs—namely that RIs are semantically also (unsaturated) VP-predicates rather than clauses or propositions—allows us to explain an otherwise mysterious and arbitrary property of restructuring, namely that RIs can never appear as the complement to propositional or factive matrix verbs.

3.5 Summary

The main properties of RIs that I have discussed in this section are: i) the lack of restructuring with propositional complements; and ii) the lack of restructuring with factive complements. A comparison of the assumptions necessary in the approach taken here, a head-movement approach and a topicalization + head-movement approach is given in Table 16.

Table 16: Semantic category of RIs

Approach	non-propositional	non-factive
VP-approach	RI is unsaturated VP-predicate	RI is unsaturated VP-predicate
Topicalization+V/T-raising	arbitrary selectional restriction	factive operator, HMC
V/T-raising	arbitrary selectional restriction	locality on head-movement

The first property in Table 16 was accounted for here by the assumption that RIs are bare VPs—i.e., unsaturated predicates that are incompatible as propositional complements. In a CP-approach, there seems to be no obvious way to derive this property other than by the postulation of a selectional restriction; e.g., RVs select non-propositional complements.

As for the second property of RIs, there is a variety of possibilities to exclude factive complements to RVs depending on the analysis of factivity. Cinque's (1990) approach provides the tools for both CP-approaches to restructuring. Both CP-approaches involve some sort of head-movement from the infinitive to the matrix clause. Since Cinque assumes that factive clauses are not in complement position, head-movement and hence restructuring would be blocked. If it is assumed that factive CPs involve a factive operator (cf. Melvold 1986), topicalization (necessary to license restructuring in the topicalization+head-raising approaches) would be blocked. Similarly, if factive clauses involve an obligatory factive complementizer (cf. Hegarty 1991), head-movement would be impossible.

While in CP-approaches, different principles or condition are necessary to account for the facts in Table 16, in the VP-approach pursued throughout this thesis both characteristics follow from one assumption—RIs are unsaturated VP-complements. A further advantage of the proposal here is, that we can dispense with certain (arbitrary) selectional properties of RVs. The assumption that RIs are semantically and syntactically ‘very small’ categories enables us to see why they cannot occur in contexts that require ‘bigger’ categories. And finally, there is no need for restructuring processes like head-movement. As I have shown in chapter two, verb raising in RIs is indeed not motivated empirically, but it simply serves as a means to express that a certain local relation holds between the infinitive and the matrix verb. I have argued that this relation comes for free if we try to understand what the properties of this relation are, and if we assume a simple VP-structure for RIs.

4. THE GERMAN PERIPHERY OF RESTRUCTURING

Up to this point, I have only discussed infinitives that belong to the core of restructuring. As mentioned at various points in this dissertation, the classification of verbs beyond the core of RVs is not a straightforward issue and we find quite a significant amount of variation (see the Appendix §1 for a literature review on the class of RVs). The verbs in (22)—which I have labeled the German *periphery* of restructuring—are verbs that are classified as RVs by some authors and as NRVs by others:

(22) **German periphery of restructuring**

versprechen (‘promise’), *entscheiden* (‘choose’), *beabsichtigen* (‘intend’), *empfehlen* (‘recommend’), *erlauben* (‘permit’), *befehlen* (‘order’)

Why is the distinction between RVs and NRVs subject to this much variation? In the next subsections, I will investigate the properties of (alleged) RIs involving verbs from the periphery. I

will single out some interfering factors that seem to obscure the judgments; taking these into account, we will see that the speaker variation disappears to a large extent.

I will start the discussion with the verb *promise*. I will argue that *promise* is ambiguous between a raising and a control verb, and that only the raising variant of *promise* is a RV. As will be demonstrated in chapter six, raising constructions form monoclausal structures in German (i.e., a raising constructions involves only one subject and one tense projection and are thus restructuring contexts). In the light of this analysis, the restructuring character of constructions involving the raising verb *promise* (in contrast to the non-restructuring character of constructions involving the control verb *promise*) will be an additional piece of support for the general analysis proposed here.

4.1 Two ways to *promise*

The verb *promise* is considered a RV by many authors (cf. Tappe 1982, Haider 1986, Sabel 1996, Hinterhölzl 1997). At first sight, this claim appears to be problematic for the analysis proposed here since *promise* is both a syntactic control verb (as witnessed for instance by the possibility of a split antecedent as in (23)a) and compatible with a [+tense] complement (cf. the possibility of a future oriented time adverbial in the infinitival complement in (23)b).

- (23) a. Ich_i versprach ihm_j [SUBJ_{i+j} zusammen zu musizieren]
 I_i promised him_j [SUBJ_{i+j} together to make-music]
 'I promised him to make music together'
- b. Ich versprach ihm [morgen zu kochen]
 I promised him [tomorrow to cook]
 'I promised him to cook tomorrow'

However, most authors also agree that *promise* only shows transparency effect when the DATIVE argument is absent. The contrast between (24)a and (24)b (which to my knowledge has been first

noticed by Tappe 1982) is quite sharp: scrambling is possible from a *promise*-infinitive only if no DAT-argument is present.

(24) ***promise*: scrambling only when no DAT-argument**

(Haider 1986:28)

- a. weil ihn_{SCR} der Mann t_{SCR} zu treffen verspricht
 since him_{SCR} the man t_{SCR} to meet promises
 'since the man promises to meet him'
- b. *weil ihn_{SCR} der Mann dem Paul t_{SCR} zu treffen verspricht
 since him_{SCR} the man the Paul t_{SCR} to meet promises
 'since the man promises Paul to meet him'

Although some of the motivation for the analysis that I will present here will have to be postponed until chapter six:§3.2, I would like to anticipate the conclusion that will be reached there. As I will lay out in detail, the verb *promise* is ambiguous between a control verb and a raising verb. However, most importantly, if a DAT-argument is present in the matrix clause, the ambiguity disappears and only the control version is available. Thus, examples like (23) or (24)b can only involve the control verb *promise*. Since the control verb *promise* combines with a [+tense] complement and an embedded subject (as is shown by the examples in (23)), the infinitives are NRIs that do not show transparency effects (cf. (24)b).

Raising constructions, on the other hand, form a monoclausal structure in German; i.e., as I will discuss in chapter six, raising configurations involve only one TP-projection and only one syntactic subject. Thus, the raising version of *promise*, like other raising constructions, combines with a RI, and scrambling like in (24)a is possible.

A further argument for this analysis comes from passives. It has been unnoticed so far that although *promise*-infinitives allow scrambling under certain circumstances (cf. (24)a), they never allow “long” passive (cf. (25)b). Under the assumption that *promise* is generally a RV, this fact would be surprising. Under the approach here—i.e., *promise* is only a RV if it can be construed

as a raising verb—the ungrammaticality of (25)b is expected. Since raising verbs cannot be passivized, passive is blocked independently for the raising verb *promise*. The control verb *promise* can be passivized (cf. the impersonal passive in (25)a). However, since it is a NRV, restructuring properties like long object movement are prohibited. (The presence or absence of the DAT-argument does not have any effect.)

(25) *promise*: passive

- a. weil (ihm) versprochen wurde [den Turm abzureißen]
 since (him) promised was [the tower-ACC to-tear-down]
 ‘since somebody promised him to tear down the tower’
- b. *weil (ihm) der Turm_i [t_i abzureißen] versprochen wurde
 since (him) [the tower]_i-NOM [t_i to-tear-down] promise was
 ‘since somebody promised him to tear down the tower’

To repeat, (25)b cannot be a well-formed raising structure since raising verbs block passive (chapter six); it also cannot be a control structure since control infinitives selected by *promise* are NRIs which do not allow long object movement.

I will thus conclude that the transparency effects found with *promise* in fact support the analysis here. The intermediate status of *promise* follows if we assume that *promise* has two variants, a restructuring raising variant and a non-restructuring control variant.

4.2 “Order, Permit, Recommend”

The two major restructuring properties (i.e., the properties of a monoclausal structure) are that the infinitive does not contribute independent tense information and the lack of an embedded syntactic subject in the infinitive. Infinitives that combine with verbs like *try* fulfill both of these criteria. A question one could ask is what the status of infinitival constructions is that show only one of the two restructuring properties. Infinitives that combine with verbs like *order*, *permit*

could be seen as such a case. As I have discussed in chapter four, verbs like *order* or *permit* do not allow syntactic control; i.e., the embedded subject can only be understood as coreferent with the DAT-argument in the matrix clause. However, the tense interpretation of infinitival complements that combine with *order* or *permit* is a quasi-future interpretation rather than a simultaneous interpretation. Thus, on the one hand, infinitives that combine with a verb like *order*, *recommend* qualify as NRIs. On the other hand, these infinitives qualify as RIs.

Going back to the discussion in §3.2, I have argued that it is not sufficient if an infinitival constructions fulfils one of the restructuring properties (i.e., lack of tense, case or subject) but not the others. The question that arises with respect to verbs like *order*, *permit*, *recommend* is why they show restructuring effects for some speakers. Although I will not have an absolute answer to this question, I will also show that the transparency effects are not productive and obscured by various interfering factors. Consider first the example in (26). Most speakers find the example degraded, however, not ungrammatical.

(26) ***Order*: RI or NRI?**

%weil	den Kuchen _{SCR}	der Mann	dem Paul	t _{SCR}	zu essen	befahl
since	the cake _{SCR}	the man	the Paul	t _{SCR}	to eat	ordered
'since the man ordered Paul to eat the cake'						

In the next subsection, I will show that scrambling in German cannot necessarily be accepted as an absolute criterion for restructuring. Thus, examples like the one in (26) could provide a potential challenge to the analysis of restructuring proposed here (in particular the claim that all conditions on restructuring have to be met). However, since the test criteria for restructuring are not clearly defined yet, examples that lack a clear judgement will have to be put aside for now.

The non-restructuring character of verbs from the periphery will become quite evident when we look at long object movement. In the rest of this section, I will examine the 'restructuring'

properties of the verb *recommend*. I will show that a number of factors that have been ignored so far are involved that seem to obscure the classification of verbs as RVs or NRVs.

The following example involving long passive is reported to be acceptable for some speakers (cf. Sabel 1996:205).

(27) *recommend*: long passive?

%weil	der Artikel	ihm	zu lesen	empfohlen	wurde
since	<i>the article</i> -NOM	him-DAT	to read	recommended	was
'since somebody recommended to him to read the article'					

Since Super Passive seems to be legitimate from the complement of the verb *recommend*, Sabel (1996) concludes that it should count as a RV. According to the generalization proposed here, on the other hand, *recommend* should not function as a RV since it selects a complement with an quasi-future interpretation. A closer look at the properties of the sentence, however, shows that the example in (27) does not seem to be representative. The infinitive is subject to a number of severe restrictions that will cast doubt at its status as a RI.

First it can be observed that while future oriented time adverbials like *tomorrow* are licit when long passive does not apply (cf. (28)a), the sentence in (27) becomes clearly ungrammatical when the infinitive involves an adverbial that is inconsistent with the tense of the matrix clause (cf. (28)b).

(28) *recommend*: FUTURE adverbials

- | | | | | | | | |
|----|--|-------------------------|-----------|-----------------|-----------|-------------|-------|
| a. | weil | ihm | [morgen | den Artikel | zu lesen] | empfohlen | wurde |
| | since | him-DAT | [tomorrow | the article-ACC | to read] | recommended | was |
| | 'Somebody recommended to him to read the article tomorrow' | | | | | | |
| | | | | | | | |
| b. | *weil | der Artikel | ihm | morgen | zu lesen | empfohlen | wurde |
| | since | <i>the article</i> -NOM | him-DAT | morgen | to read | recommended | was |
| | 'since somebody recommended to him to read the article tomorrow' | | | | | | |

One might think that examples of this sort show again that restructuring is blocked when the infinitive and the matrix clause involve a tense clash as discussed in §3.2. The problem with an analysis of this sort is that it wouldn't allow us to explain why examples like (27) are acceptable for some speakers when no time adverbials are present. In order to keep the generalization that RIs are tenseless, it would have to be assumed that the infinitive in (27) does not involve a future interpretation. Although there might be ways to elaborate this idea it is not obvious how.

Let us therefore turn to another restriction found with sentences like in (27). If the embedded predicate *read the article* is changed to *call John*, speakers who accept (27) find a clear contrast between a 'real' restructuring context as in (29)b and the 'peripheral' restructuring context in (29)a.

(29) **recommend: nature of embedded predicate**

- | | | | | | | |
|----|--|----------------------|------------------------|------------|-------------|-------|
| a. | ?*weil | der Hans | ihm | anzurufen | empfohlen | wurde |
| | since | <i>the John</i> -NOM | him-DAT | to call | recommended | was |
| | 'since somebody recommended to him to call John' | | | | | |
| | | | | | | |
| b. | weil | der Hans | anzurufen | versucht | wurde | |
| | since | <i>the John</i> -NOM | to call | tried | was | |
| | 'since somebody tried to call John' | | | | | |
| | | | | | | |
| c. | weil | ihm | [den Hans | anzurufen] | empfohlen | wurde |
| | since | him-DAT | [<i>the John</i> -ACC | to call] | recommended | was |
| | 'since somebody recommended to him to call John' | | | | | |

What distinguishes (27) from (29)b? To give an answer to this question, I would like to present some speculations about the structure of (27) first. Suppose that examples like (27) do not involve a process of long passive at all, but are rather a case of matrix passive (as in *the article was recommended to John*). This obviously raises the question what the structure of the infinitive *to read* in (27) is. What I would like to propose here is that the infinitive is an adverbial (purpose) phrase rather than the complement of the verb *recommend*. If this is the only way to interpret (27), we then expect that the acceptability of (27) decreases when the infinitive is altered in a way that makes a purpose reading implausible. That is, assuming that the interpretation of (27) is indeed

something like *The article was recommended to him (for reading)*, the impossibility of (29)b is not surprising: the meaning would be something like *John was recommended to him for calling* which seems to be a nonsensical statement.

To give another example, if *to read* in (27) is replaced with *to burn*, the sentence becomes pragmatically odd (cf. (30)a), since under normal circumstances, articles are recommended for reading but not for burning. The impossibility of (30)a then has to be contrasted with the fully acceptable sentence in (30)b: i.e., long passive is perfectly acceptable when the matrix verb is a clear RV like *try*. Furthermore, (30)c shows that in principle the verb *recommend* is compatible with a *burn-the-article* infinitive as long as the embedded object shows up with ACC case. The crucial difference, however, is that in (30)b,c, the infinitives are arguments of the verb *recommend* that do not require a purpose reading. The fact that the infinitive in (30)a can only be interpreted as a purpose phrase (which is pragmatically marked in this example) argues that it has a different structure from (30)b,c. To be more explicit, if an infinitive selected by *recommend* were a RI, long passive should be possible—that is, we would expect the structures in (30)a or (29)a to be grammatical as are the structures in (30)b or (29)b, respectively. However, since (30)a cannot get the same interpretation as (30)c, it can be concluded that (30)a—and by analogy (29)a and (27)—are not represented by structures involving a RI and long passive.

(30) ***recommend*: salient infinitive**

- | | | | | | | |
|--------|---|-------------------------|------------------|----------------|-------------|-------|
| a. #/* | weil | der Artikel | ihm | zu verbrennen | empfohlen | wurde |
| | since | <i>the article</i> -NOM | him-DAT | to burn | recommended | was |
| | 'Somebody recommended to him to burn the article' | | | | | |
| | | | | | | |
| b. | weil | der Artikel | zu verbrennen | versucht | wurde | |
| | since | <i>the article</i> -NOM | to burn | tried | was | |
| | 'Somebody tried to burn the article' | | | | | |
| | | | | | | |
| c. | weil | ihm | [den Artikel | zu verbrennen] | empfohlen | wurde |
| | since | him-DAT | [the article-ACC | to burn] | recommended | was |
| | 'Somebody recommended to him to burn the article' | | | | | |

Coming back to the question what the structure of the infinitive in (27) is, the following facts have to be considered: the infinitive cannot involve time adverbials (cf. the ungrammaticality of (28)b), and it has to have a purpose reading. Moreover, these sorts of infinitives are only possible if they do not involve any kind of modification. As is illustrated below, manner adverbs (cf. (31)a) and PP-modifiers (cf. (31)b) modifying the infinitive are prohibited with ‘fake’ long passive,⁵³ whereas they are fine in a real case of long passive as in (31)a’,b’ (of course, both of the examples in (31)a and (31)b would be grammatical again when the embedded object shows up with ACC inside the infinitive).

(31) *recommend*: no modification of infinitive

- a. #weil der Artikel ihm langsam zu lesen empfohlen wurde
 since *the article*-NOM him-DAT slowly to read recommended was
 ‘since somebody recommended to him to read the article slowly’
- a’. weil der Artikel langsam zu lesen versucht wurde
 since *the article*-NOM slowly to read tried was
 ‘since somebody tried to read the article slowly’
- b. #weil der Artikel ihm mit der Brille zu lesen empfohlen wurde
 since *the article*-NOM him-DAT with the glasses to read recommended was
 ‘since somebody recommended to him to read the article with glasses’
- b’. weil der Artikel mit der Brille zu lesen versucht wurde
 since *the article*-NOM with the glasses to read tried was
 ‘since somebody tried to read the article with glasses’

Without going into detail of what the exact structure of these kind of infinitives is, I will simply suggest that what looks like an infinitive is in fact a prepositional phrase modifying the matrix verb. What is crucial, however, is that examples such as the ones in (27) are clearly not instances of long passive. If we make sure that long passive applies, it turns out that complements of the

⁵³ The examples in (31)a,c are grammatical (though pragmatically odd) when the adverb or PP are taken to modify the matrix predicate.

verb *recommend* are not transparent for passive, hence *recommend* does not qualify as a RV for this property.

4.3 “Decide”—not a solution

In this final section on the German periphery of restructuring, I will look closer at some of the mechanism used to determine whether a construction involves restructuring. One problem that I have mentioned before is that the criteria that test whether a verb is a RV or a NRV are not clearly defined. To take scrambling in German, I will show in this section that there are two forms of scrambling from infinitives: *focus scrambling* and *non-focus scrambling* (see below). We will see that the distinction is crucial for the determination of restructuring since for some speakers, focus scrambling is possible (marginally) from NRIs. Thus, only non-focus scrambling clearly shows that a construction involves restructuring.

Since phrases cannot scramble out of finite clauses in German (vs. e.g., Japanese), it is generally assumed that the domain for scrambling in German is a clause. More specifically, it has been claimed that scrambling cannot cross CP-projections in German. Thus, if scrambling is blocked from an infinitive (and all interfering factors are excluded), there is reason to assume that the infinitive is a CP—i.e., a NRI. If scrambling is possible, on the other hand, the infinitive is not a CP (or it has a CP-boundary that has become ineffective by some restructuring mechanism)—i.e., it is a RI. Scrambling is thus one of the tests that is used to distinguish between RIs and NRIs. However, as we will see momentarily, the situation is in fact more complicated and some caution is necessary when scrambling is used as a criterion for restructuring.

Let us start with the transparency of RIs for scrambling which is clearly attested with core RVs as in (32).

(32) Scrambling from RIs

- | | | | | | |
|----|---------------------------------------|---------------------------|----------|-------------------------------|------------------|
| a. | weil | [dem Jörg] _{SCR} | der Hans | [t _{SCR} zuzuhören] | versuchte |
| | since | to Jörg | the John | [t _{SCR} to listen] | tried |
| | 'since John tried to listen to Jörg' | | | | |
| | | | | | |
| b. | weil | [dem Jörg] _{SCR} | der Hans | [t _{SCR} zuzuhören] | wagte |
| | since | to Jörg | the John | [t _{SCR} to listen] | dared |
| | 'since John dared to listen to Jörg' | | | | |
| | | | | | |
| c. | weil | [dem Jörg] _{SCR} | der Hans | [t _{SCR} zuzuhören] | vergaß |
| | since | to Jörg | the John | [t _{SCR} to listen] | forgot |
| | 'since John forgot to listen to Jörg' | | | | |
| | | | | | |
| d. | weil | [dem Jörg] _{SCR} | der Hans | [t _{SCR} zuzuhören] | begann |
| | since | to Jörg | the John | [t _{SCR} to listen] | began |
| | 'since John began to listen to Jörg' | | | | |

The sentences above contrast clearly with examples involving NRVs like *regret* or *announce* (cf. (33)a and (33)b which are ungrammatical for the majority of speakers; both examples are well-formed when scrambling does not apply). However, if we look at infinitival constructions involving verbs like *decide* or *plan*, the judgements vary. For most speakers, (33)c and (33)d are degraded compared to the examples in (32), however they are not as bad as (33)a or (33)b. For a large number of the informants (who speak various German and Austrian dialects), the examples in (33)c,d improve when the scrambled phrases are focused.

(33) Scrambling from NRIs

- | | | | | | |
|----|--|---------------------------|----------|-------------------------------|-------------------|
| a. | *weil | [dem Jörg] _{SCR} | der Hans | [t _{SCR} zuzuhören] | ankündigte |
| | since | to Jörg | the John | [t _{SCR} to listen] | announced |
| | 'since John announce that he would listen to Jörg' | | | | |
| | | | | | |
| b. | *weil | [dem Jörg] _{SCR} | der Hans | [t _{SCR} zuzuhören] | bedauerte |
| | since | to Jörg | the John | [t _{SCR} to listen] | regretted |
| | 'since John regretted that he was listening to Jörg' | | | | |

- | | | | | | | |
|----|--|---------------------------|----------|-------------------------------|-----------------|--------|
| c. | %weil | [dem Jörg] _{SCR} | der Hans | [t _{SCR} zuzuhören] | beschloß | %: ?-* |
| | since | to Jörg | the John | [t _{SCR} to listen] | decided | |
| | 'since John decided to listen to Jörg' | | | | | |
| | | | | | | |
| d. | %weil | [dem Jörg] _{SCR} | der Hans | [t _{SCR} zuzuhören] | plante | %: ?-* |
| | since | to Jörg | the John | [t _{SCR} to listen] | planned | |
| | 'since John planned to listen to Jörg' | | | | | |

Many authors conclude from that fact that (33)c,d are marginally possible that verbs like *decide* are RVs (cf. Sabel 1996). I will argue here that there is some reason to doubt this conclusion.

A property that has been ignored so far in the literature is that scrambling from infinitives to the left of the matrix subject has the properties of clause-internal topicalization. I will call this form of scrambling *focus scrambling*. What is important here is that focus scrambling is less restrictive than regular scrambling; i.e., it can apply from configurations where regular scrambling is blocked. Since focus scrambling is possible from RIs as well as certain NRIs, “scrambling” can only be taken as a criterion to distinguish between RIs and NRIs in German, if we make sure that the examples involve regular scrambling and focus scrambling is excluded.

To illustrate the variation found among speakers and the relevance of focus scrambling, consider the examples in (34) (see also the Appendix §3: (1) and (2) for a summary of the results from a survey conducted with 13 native speakers of German). The example in (34)a involves scrambling to the left of the matrix subject which can quite easily be interpreted as a form of focus scrambling. The example in (34)b involves scrambling to the middle field of the matrix clause. In this position, the scrambled phrase is generally unfocused (in the unmarked case), however, it could also be interpreted as focus scrambling when the scrambled phrase is focused. Comparing the judgements, we see that the second example is graded worse than the first example.

(34) *decide*: two forms of scrambling

- a. %weil [seine Freunde]_{SCR} der Hans gestern beschlossen hat
 since his friends the John yesterday decided has
 [der Maria t_{SCR} vorzustellen]
 [to Mary t_{SCR} to-introduce]
 'since John decided yesterday to introduce his friends to Mary'

∗: 3 ??: 6 ?: 3 ✓: 1

- b. %weil der Hans gestern [seine Freunde]_{SCR} beschlossen hat
 since the John yesterday his friends decided has
 [der Maria t_{SCR} vorzustellen]
 [to Mary t_{SCR} to-introduce]
 'since John decided yesterday to introduce his friends to Mary'

∗: 6 ??: 3 ?: 2 ✓: 2

Although there is still a significant amount of variation, the change in grammaticality shows that the availability of focus scrambling influences scrambling (and hence restructuring).

Another fact to notice is that restructuring degrades significantly (even for speakers who accept restructuring with verbs in (22)), when the infinitive contains an adverbial modifying the embedded tense. This is illustrated in (35): while scrambling is marginally available for some speakers in (35)b, it is blocked in examples like (35)c,d which involve the adverb *tomorrow* in the infinitive. As is shown in (35)a, nothing blocks the adverb *tomorrow* when scrambling does not take place. Furthermore, non-temporal adverbs do not show the same effect—if the infinitive involves an adverb like *quickly* (cf. (35)e) scrambling is again possible for some speakers.

(35) *decide*: RV or NRV?

- a. Gestern hat Hans beschlossen [morgen den Kuchen zu essen]
 Yesterday has John decided [tomorrow the cake to eat]
 'Yesterday, John decided to eat the cake tomorrow'
- b. %Gestern hat Hans [den Kuchen]_{SCR} beschlossen [t_{SCR} zu essen]
 Yesterday has John the cake_{SCR} decided [t_{SCR} to eat]
 'Yesterday, John decided to eat the cake tomorrow'

- c. *Gestern hat Hans [den Kuchen]_{SCR} beschlossen [morgen t_{SCR} zu essen]
 Yesterday has John *the cake*_{SCR} decided [tomorrow t_{SCR} to eat]
 'Yesterday, John decided to eat the cake tomorrow'
- d. *Hans hat [den Kuchen]_{SCR} beschlossen [morgen t_{SCR} zu essen]
 John has *the cake*_{SCR} decided [tomorrow t_{SCR} to eat]
 'John decided to eat the cake tomorrow'
- e. %Hans hat [den Kuchen]_{SCR} beschlossen [schnell t_{SCR} zu essen]
 John has *the cake*_{SCR} decided [quickly t_{SCR} to eat]
 'John decided to eat the cake quickly'

Although examples such as the ones in (35) support the analysis here, there is still a question of why certain speakers accept scrambling in (35)b,e when the infinitive does not involve (overt) tense modifiers that conflict with the tense of the matrix clause. Although a SIMULTANEOUS interpretation is conceivable in (35)b, it does not seem to be required (i.e., the temporal orientation of the infinitive can still express a quasi-future relation to the tense of the matrix clause). I will not have anything to offer as an answer here and simply assume that the verbs *decide* and *intend* can be reanalyzed as RVs (i.e., as TP-less infinitives) when no overt tense modifiers are present.⁵⁴ Obviously, the puzzle that remains is how the tense interpretation is computed in examples like (35)b,e.

To sum up this section on the periphery of restructuring, I have shown that verbs from the periphery of restructuring turn out to lose their transparency properties to a large extent when i) the

⁵⁴ The verb *intend* might in fact be even less problematic since it seems to have an intermediate status with respect to its tense interpretation as well: on the one hand, the meaning of the embedded predicate appears to express a quasi-future relation to the tense of the matrix predicate. On the other hand, finite complements are quite marginal with this verb (which is a property that is found with RVs rather than with NRVs).

- i. ?*Hans beabsichtigte [daß er die Maria treffen werde]
 ?*John intended [that he will meet Mary]

I have no explanation for this behavior at the moment, except that it seems that the quasi-future interpretation in the complement of *intend* is somewhat hybrid.

infinitives are construed as control infinitives (i.e., *promise*); ii) we make sure that interfering factors like focus scrambling are excluded (i.e., *decide* etc.); and iii) when it is ensured that the infinitives are true infinitival complements rather than certain other constructions (i.e., *recommend*).

5. CONCLUSION

To conclude, the properties of restructuring contexts I have discussed in chapter two to five are as follows:

Restructuring:	♦ RIs lack CP-properties	⇒	RIs lack CP
	♦ RIs lack TP-properties	⇒	RIs lack TP
	♦ RIs lack an ACC-position	⇒	RIs lack v° [+ACC]
	♦ RIs lack a syntactic subject	⇒	RIs lack SpecvP
	♦ RIs are non-propositional	⇒	RIs are VPs (semantically)
	♦ Matrix and embedded predicate can have distinct event structure properties		

We have seen that restructuring cannot be characterized in terms of event unification, since non-implicative matrix predicates have distinct event structure properties from the infinitive. I have argued, however, that the prohibition against factive and propositional complements (as RIs) provides some indication of the semantic category of RIs—namely, that RVs combine with properties rather than with propositions.

Chapter Six:

Modals & Raising

1. INTRODUCTION

Let us recall the class of RVs in German which is repeated here in Table 17. In the previous four chapters, I have concentrated on the properties of *lexical* RVs (i.e., the verbs/adjectives in the left column in Table 17. The verbs in the right column in Table 17 are central to this chapter.

Table 17: Restructuring predicates in German: “lexical” vs. “functional” verbs (repeated)

“lexical”	RV	“functional”	RV
<i>easy</i> -adjectives	+	<i>want, can, must...</i>	+
<i>begin, continue, finish</i>	+	<i>come, go</i>	+
<i>try, know how</i>	+	<i>used to</i>	+
<i>manage, fail</i>	+	<i>seem</i>	+
<i>dare, forget</i> (implicative)	+	<i>promise, threaten</i>	±
<i>order, permit</i>	±		

As is indicated in the table, the class of functional RVs in German includes modal verbs such as *want, can, must*, the motion verbs *come* and *go*, and the verbs *pflegen* ‘used to’ and *scheinen* ‘seem’ which are both raising verbs in German. The verbs *promise* and *threaten* have an intermediate status.

The main aim of this chapter is to investigate the restructuring properties of the verbs in the right column in Table 17 and to show that the analysis for restructuring proposed so far also extends to modal and raising configurations. In the previous chapters, two basic claims were made: i) RIs are tenseless and complementizer-less; and ii) RIs do not involve an embedded subject. While these claims allow us to account for various properties found with RIs in a simple and principled way, they raise serious questions for constructions involving functional RVs (i.e., modals and raising verbs).

First, the tense interpretation in modal verb constructions seems to contradict our generalization. Taking a basic modal verb in Romance or Germanic such as *want* or *must*, the unmarked tense interpretation of the complement seems to involve a quasi-future orientation; i.e., the time of wanting is different from (prior to) the time referred to by the complements of *want*, *must*. I will argue in §2 that this fact does not refute the generalizations made in chapter two, but that it follows from the structure and function of modal verbs, which is different from the structure of lexical verbs. Second, the assumption that restructuring constructions do not involve an embedded subject obviously raises questions concerning raising configurations. Raising is thus the topic of §3.

The analysis I will propose will built on the idea that verbs can be generated or inserted in different head positions of the clause. I will argue that modal verbs and raising verbs in German appear in a functional head position that is higher than *vP*. At this stage of the dissertation, I do not have an answer to the question of why certain verbs are functional and others are lexical. The only common property that I can attribute to functional verbs at the moment is that they are ambiguous between a control and a raising version (though see below for certain qualifications of this assumption). However, unfortunately, these verbs show the behavior that I will attribute to their functional status also when they appear in the non-raising version.

What I will show here is that the classification of functional vs. lexical is not completely arbitrary but correlates with a range of properties. Thus, although the following chapter is quite tentative in many respects, I believe that it expresses true generalizations that will also shed some light on some long-standing puzzles found in restructuring contexts (e.g., the prohibition against extraposition of infinitives involving raising), and might ultimately lead to a better understanding of clause structure as well as the characterization of various verb classes.

2. MODAL VERBS

The syntax and semantics of modal verbs has caused continuous debate in both the syntax/morphology literature as well as the semantics/philosophy literature. The aim of the discussion in this section is not to solve any deep issues arising with respect to the distribution of modals or the semantics of modality here, but rather to propose a (syntactic) structure for modal constructions that will allow us to account for the restructuring behavior of these categories.

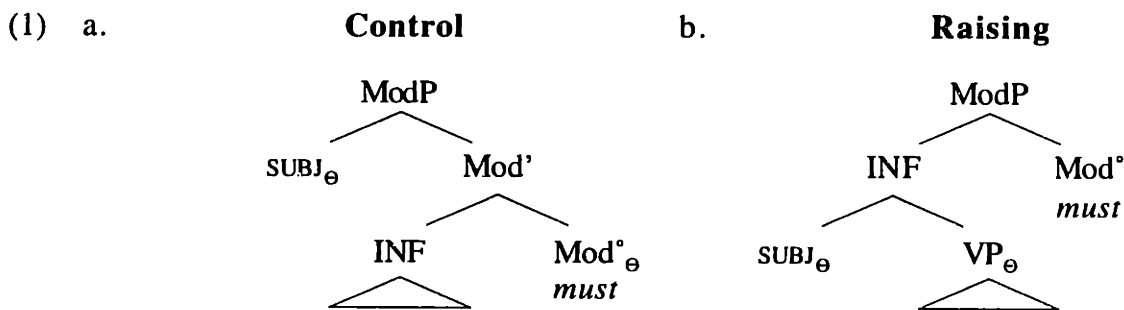
Although the class of RVs shows variation across languages, we find one universal property: if a language has ‘modal’ verbs, modal verbs are *always* RVs. In this thesis, I will not provide an explanation why a certain verb is a modal verb or not. But what I will attempt to capture is the universality of modals as RVs.

This section is organized as follows. In §2.1, I will discuss some of the main characteristics of modals in German. I will conclude that there is no category ‘modal’, but that there are various morphological and semantic modal properties. Different verbs display different subsets of those properties. In §2.2, a structure will be proposed for modal statements that is based on the idea that modals are functional heads rather than full lexical verbs. Finally, in §2.3, I will investigate modal constructions in the light of restructuring.

2.1 What are modals?

In this section, I will discuss some of the basic properties of modals. There are three sets of properties that are attributed to modals. We will see that these three sets do not necessarily yield the same classes of verbs.

The core semantic property of modals is their intensional character. In terms of propositional (intensional) logic, modals are considered as sentential operators that quantify over possible worlds—i.e., modality is expressed by a *possibility* operator “ \Diamond ” and a *necessity* operator “ \Box ”. Following this philosophical tradition, many semantic approaches assume that modals are (restricted) quantifiers rather than lexical predicates. A further semantic property is that modals do not have to be predicated of an external argument; the external argument can be part of the proposition the modal ranges over. In contrast to intensional verbs like *try* which always assign a theta role to an external argument (unless argument structure alterations like passive apply), modal verbs can but do not have to assign an external theta role. Syntactically, this property is usually expressed as an ambiguity between a raising and a control version of modals.



In many languages, the morphosyntactic behavior of modals also sets them aside from lexical verbs. In English for instance, modal verbs do not occur with any inflectional affixes (e.g., forms like *musts*, *musted* are impossible). In German and Dutch, certain modal verbs can involve tense and agreement markers, but they do not show up with the participle marker *ge-* in certain contexts. The (partial) lack of inflectional material has often been seen as a reflex of the fact that modals are auxiliaries that occupy the position of inflectional heads (and hence compete with inflectional affixes) rather than main verbs.

Finally, the infinitival complements of modal verbs are also different from infinitival complements to lexical verbs like *try*, *decide* etc. In the Romance and Germanic languages for instance, modals always combine with bare infinitives (i.e., infinitives without the infinitival markers *zu*, *to*, *a/à*, *di/de* etc.).

The main point that I will make in this subsection is that there is no uniquely determined category ‘modal’, but rather that each (modal or semi-modal) verb has certain syntactic, semantic, and morphological specifications that interact in specific ways with syntactic, semantic and morphological processes. The question of what exactly makes out a modal is thus dependent on which criteria are employed. Although the three criteria mentioned above overlap to a large extent and yield classes that consist of the same verbs, there are also verbs that only count as modals according to a subpart of the criteria in a particular language. In the next two subsections, I will give an overview of the verbs in German that show one or more modal properties. Section 2.1.1 discusses morphosyntactic properties; section 2.1.2 looks at the basic syntactic/semantic properties of modals.

2.1.1 Morphosyntactic ‘Modal’ properties in German

I will assume that morphosyntactically, a modal is determined by two properties in German: it combines with a bare infinitive; and it shows some morphological deficiency. In the following two subsections, I will show how these two properties interact.

Verbs that are typically considered as modals are *können* ‘can’, *müssen* ‘must’, *dürfen* ‘may, be allowed to’, *sollen* ‘should’, *dürften* ‘might’, *werden* ‘will, become’ and (though less clearly) the verbs of desire *wollen* ‘want’, and *möchten* ‘would like to’. These verbs all combine with bare infinitives and disallow the infinitival marker *zu* ‘to’ (cf. (2)).

(2) Bare infinitives

a.	weil	er	ein Lied	(*zu)	singen	will	<i>want</i>
b.	weil	er	ein Lied	(*zu)	singen	möchte	<i>would like to</i>
c.	weil	er	ein Lied	(*zu)	singen	kann	<i>can</i>
d.	weil	er	ein Lied	(*zu)	singen	muß	<i>must</i>
e.	weil	er	ein Lied	(*zu)	singen	darf	<i>may</i>
f.	weil	er	ein Lied	(*zu)	singen	soll	<i>should</i>
g.	weil	er	ein Lied	(*zu)	singen	dürfte	<i>might</i>
h.	weil	er	ein Lied	(*zu)	singen	wird	<i>will</i>
	since	he	a song	(*to)	sing	MODAL	

Furthermore, the modals in (2) show certain morphological peculiarities. Modals that allow complex tenses all exhibit the so-called *Infinitive for Participle* (IPP) phenomenon. If a modal (which combines with an infinitival complement) appears in the present or past perfect tense, it can only take the infinitival form; the participle form is illicit (cf. (3)).

(3) Infinitive for participle: IPP

a.	weil	er	ein Lied	singen	wollen / *gewollt	hat	<i>want</i>
b.	weil	er	ein Lied	singen	können / *gekonnt	hat	<i>can</i>
c.	weil	er	ein Lied	singen	müssen / *gemußt	hat	<i>must</i>
d.	weil	er	ein Lied	singen	dürfen / *gedurft	hat	<i>may</i>
e.	weil	er	ein Lied	singen	sollen / *gesollt	hat	<i>should</i>
	since	he	a song	sing	MODAL-IPP *MODAL-PART	has	

The verb *werden* is the FUTURE auxiliary in German. As such it is incompatible with the present/past perfect tense. However, *werden* also functions as the passive auxiliary. In this use, we can see again that the modal cannot show up in its participle form *geworden* (cf. (4)b). The only way to use *werden* in the present perfect tense is as in (4)a—namely as *worden*. Since this form corresponds neither to the participle nor to the infinitive it seems hard to determine what the

features of *worden* are. I will assume here for now that it is a special form of the IPP-INFINITIVE.⁵⁵ Important for the discussion here is that *werden* also displays some morphological deficiency.

(4) *werden*: IPP

- | | | | | | |
|----|------------------------------|----------|----------|--------------------------|-----|
| a. | weil | ein Lied | gesungen | worden | ist |
| | since | a song | sung | become- [?] IPP | is |
| | 'since a song has been sung' | | | | |
| | | | | | |
| b. | *weil | ein Lied | gesungen | geworden | ist |
| | since | a song | sung | become-PART | is |
| | 'since a song has been sung' | | | | |

Finally, the conditional modals *möchten* 'would like to' and *dürften* 'might' show the strongest morphological deficiency: they cannot appear in any other tense or mood. These modals cannot appear in the infinitive (cf. (5)a) or the participle (cf. (5)b,c).⁵⁶ We will see in §2.2.2 that the lack of infinitive and participle can be seen as the result of certain semantic restrictions on those conditional modals.

⁵⁵ Note that the ungrammaticality of (4)b cannot be reduced to some kind of "double *ge*-filter" since the example in i. is only possible when both participles show up with *ge*-

i. Sie hat die Koffer schon gepackt gehab/*haben
 She had the suitcases already packed had-PART/*INF
 'She had had her suitcases already packed'

A special IPP-form (i.e., a form that is neither a participle nor an infinitive) is also reported for the verb *be* in Dutch. The infinitive is *zijn*, the participle is *ge-wezen*, and the IPP-form is *wezen* (cf. Postma 1993). These forms seem to indicate that the IPP is a participle (without the participle marker) rather than a true infinitive (though see chapter seven).

⁵⁶ The sentence in (5)b would be ok with the form *dürfen* 'may-IPP'. However, as the translation shows, this would be a different modal. I assume that the two forms *dürfen* 'may' and *dürfte* 'might' are two distinct modals although they are obviously related morphologically (the latter is the subjunctive form the former).

(5) **Morphological deficiency of *möchte*, *dürfte***

- a. *Er wird wieder singen **möchten/dürften**
 He will again sing would-like/might
 'It will be the case that he would like to/might sing again'
- b. *Er hat ein Lied singen **gedurft/dürften**
 He has a song sing might-PART/IPP
 'It might have been the case that he sang the song'
- c. *Er hat ein Lied singen **gemocht/möchten**
 He has a song sing would-like-PART/IPP
 'He has wanted to sing a song'

Thus, the core modals in (2) form a coherent class with respect to the two morphosyntactic properties (morphological deficiency and the kind of infinitival complement modals combine with).

Another class of verbs that combine with bare infinitives and show the IPP effect has to be mentioned for completeness (although these set of verbs are not modals semantically). Verbs in causatives as in (6)a and in perception verb contexts as in (6)b cannot appear with the infinitival marker. As for IPP, in most varieties of German, IPP is obligatory with causatives and perception verbs (cf. (6)a,b). However sentences like the ones in (6)c,d that do not involve IPP are acceptable in some Southern German dialects as well.

(6) **Causatives, perception verbs: bare infinitives, IPP**

- a. Maria hat [den Gast (*zu) singen] lassen
 Mary has [the guest (*to) sing] let-IPP
 'Mary has let/made the guest sing'
- b. Maria hat [den Gast (*zu) singen] hören
 Mary has [the guest (*to) sing] hear-IPP
 'Mary has heard the guest sing'
- c. %Maria hat [den Gast (*zu) singen] gelassen
 Mary has [the guest (*to) sing] let-PART
 'Mary has let/made the guest sing'
- d. %Maria hat [den Gast (*zu) singen] gehört
 Mary has [the guest (*to) sing] hear-PART
 'Mary has heard the guest sing'

So far, bare infinitives seem to correlate with a morphological deficiency of the modal verbs (IPP or lack of inflection). There are, however, modal verbs where the correlation between bare infinitives and morphological deficiency is less perfect. One such verb is the verb *brauchen* 'need'. What is special about *need* is that the infinitival complement can appear without the infinitival marker *zu* (cf. (7)a) or with the infinitival marker (cf. (7)b). If *need* combines with a bare infinitive, the IPP effect is obligatory (cf. (7)a vs. (7)c).⁵⁷ If the infinitival complement appears with the infinitival marker, the situation is less clear. The sentence is certainly fine when no IPP occurs (cf. (7)b). However, the judgments vary for examples as in (7)c—some speakers find the sentence OK, others find it quite bad (see the Appendix §3: (4) for the evaluation of sentences like the ones in (7) by 6 native speakers of German).

(7) *brauchen* 'need'

- | | | | | | | | |
|----|---|----|----------|-------|------------------|------------------|-----|
| a. | weil | er | das Lied | nicht | singen | brauchen | hat |
| | since | he | the song | not | sing | need-IPP | has |
| | 'since he didn't have to sing the song' | | | | | | |
| b. | weil | er | das Lied | nicht | zu singen | gebraucht | hat |
| | since | he | the song | not | to sing | needed | has |
| | 'since he didn't have to sing the song' | | | | | | |
| c. | *weil | er | das Lied | nicht | singen | gebraucht | hat |
| | since | he | the song | not | sing | needed | has |
| | 'since he didn't have to sing the song' | | | | | | |
| d. | %weil | er | das Lied | nicht | zu singen | brauchen | hat |
| | since | he | the song | not | to sing | need-IPP | has |
| | 'since he didn't have to sing the song' | | | | | | |

I will assume that the verb *need* is ambiguous between a modal and a lexical verb. In the lack of a clear judgment for sentences like (7)d, however, I will leave aside here the intermediate status of

⁵⁷ The verb *need* is special for another reason in German: it is a negative polarity verb; i.e., the negation in the examples in (7) is obligatory.

need as a full verb. But I will conclude that the verb *need* does fit the correlation between bare infinitives and IPP in that, when it is used as a modal, it takes a bare infinitive and shows the IPP effect.

A class of verbs where the correlation between bare infinitives and IPP does not hold are motion verbs. Motion verbs cannot combine with an infinitival complement that involves the infinitival marker *zu* 'to' (cf. (8)a). IPP, however, is strictly impossible with these verbs (cf. (8)b).⁵⁸

(8) Motion verbs: bare infinitives, no IPP

- a. Maria ist [den Peter (*zu) besuchen] gegangen
 Mary is [the Peter (*to) visit] gone
 'Mary went to visit Peter'
- b. *Maria ist [den Peter (*zu) besuchen] gehen
 Mary is [the Peter (*to) visit] go-IPP
 'Mary went to visit Peter'

Since the use of motion verbs in German is quite restricted and motion verbs are preferably found in fixed forms like *go shopping* etc. in German, I will put these constructions aside.

The last verb that I would like to discuss briefly in this context is the verb *help*, which exhibits one of the modal properties. Similar to the verb *need*, *help* can combine with a bare

⁵⁸ There is an interesting fact, however, from a Southern Austrian dialect. In this dialect, the participle marker *ge-* is obligatory with participles and in contrast to other Austrian dialects cannot be dropped (i.e., forms like * \emptyset -*grinst*, 'grinned' or * \emptyset -*kocht* 'cooked' are ungrammatical). However, with the verbs *come* and *go*, the participle marker disappears. Thus, like in case of *werden-worden*, we get a morphologically deficient form that is neither a participle nor an infinitive.

i. %Maria ist [den Peter (*zu) besuchen] gangen/kommen
 Mary is [the Peter (*to) visit] go-[%]IPP/come-[%]IPP
 'Mary visited Peter'

infinitive (cf. (9)a) or with a *zu*-infinitive as in (9)b. However, in contrast to *need*, *help* strictly prohibits IPP (cf. (9)c).⁵⁹

(9) *help*

- | | | | | | | | | |
|----|-------------------------------------|-----|-----|------------------|------|-------|-----------|------|
| a. | weil | ich | ihm | einen Schneemann | | bauen | geholffen | habe |
| | since | I | him | a snowman | | build | helped | have |
| | 'since I helped him make a snowman' | | | | | | | |
| | | | | | | | | |
| b. | ?weil | ich | ihm | einen Schneemann | zu | bauen | geholffen | habe |
| | since | I | him | a snowman | to | build | helped | have |
| | 'since I helped him make a snowman' | | | | | | | |
| | | | | | | | | |
| c. | *weil | ich | ihm | einen Schneemann | (zu) | bauen | helfen | habe |
| | since | I | him | a snowman | (to) | build | help-IPP | have |
| | 'since I helped him make a snowman' | | | | | | | |

Like causatives and perception verbs, the verb *help* will not fit the semantic description for modals.

To sum up, as is shown in Table 18, although bare infinitives correlate to a large extent with the IPP effect (i.e., IPP is obligatory with bare infinitives and blocked with *zu*-infinitives), there are cases where the correlation breaks down. Thus, certain verbs will not be considered as truly (morphological) modals.

⁵⁹ In some Southern dialects of German the verbs *lernen* 'learn, teach' and *trauen* 'dare' behave similarly. Furthermore, in Dutch, the verbs *learn*, *teach*, *help* and *dare* also occur with bare infinitival complements (in contrast to German, IPP is also possible with these verbs in Dutch; however, since the IPP-effect is not restricted to modals in Dutch but found with all verbs involving verb-raising, this difference is in fact expected).

Table 18: Morphological modal properties in German

Verbs	bare INF	morph. deficient	morphological <i>modal</i>
<i>can</i>	+	+	+
<i>must</i>	+	+	+
<i>may, be allowed to</i>	+	+	+
<i>should</i>	+	+	+
<i>need 1</i>	+	+	+
<i>need 2</i>	-	% -	% -
<i>want</i>	+	+	+
<i>would like to</i>	+	+	+
<i>might</i>	+	+	+
<i>become, will</i>	+	+	+
<i>come</i>	+	-	±
<i>go</i>	+	-	±
<i>let, see, hear</i>	+	% +	+
<i>help (teach, learn, dare)</i>	±	-	±

2.1.2 Semantic properties of modal verbs in German

Semantically, I will assume that modals involve quantification over possible worlds. As was mentioned in passing, the implicative verbs (e.g., *help*), as well as the causative *let* or the perception verbs do not fulfill this criterion. These verbs are also obligatory theta-signers (it does not matter whether the subject is a transitive or unaccusative subject); hence, they cannot be analyzed as raising verbs. I will thus assume that verbs of these categories are lexical verbs rather than modals, leaving open the question of why the infinitival complements appear without the

infinitival marker. Since *help* shows the same behavior in English and Dutch, an explanation would ultimately be important.⁶⁰

In this section, some basic properties of the raising/control distinction will be discussed. I will concentrate on the core modal verbs in (2) which can all be seen as modal operators. A standard test that is used to determine whether a verb selects for an external argument or whether the construction involves raising is to combine the verb with arguments with different thematic properties and to see whether the verb imposes selectional or thematic restrictions on the surface subject. If a construction involves raising (i.e., there is no thematic relation between the surface matrix subject and the matrix predicate), no selectional and thematic restrictions should be imposed on the surface subject by the matrix predicate.

Two constructions are usually employed to determine whether a sentence involves raising: i) subjects that are quasi-arguments like *weather-it*, ii) non-agentive passive subjects. As can be seen in (10)a-f, most modals can appear with an embedded predicate like *rain* which does not take a full thematic subject but a pleonastic *it*. Since *weather-it* cannot be the underlying subject of the modals in (10)a-f, but it can nevertheless appear as the surface matrix subject, the constructions can only be raising configurations.⁶¹ For completeness, the verb *help*, which I assume is a lexical verb that obligatorily assigns a theta-role to its subject, as expected, cannot appear with a quasi-argument in subject position (cf. (10)g).

⁶⁰ All of the verbs mentioned in footnote 59 are implicative verbs. If the proposal made in chapter two (following Travis's work) is right, namely that the infinitival marker appears as the head of an event phrase, the lack of infinitival markers in implicative infinitives might not be surprising. It has been proposed by many authors that implicative constructions involve a single event which could be seen as the lack of an event phrase in the infinitive.

⁶¹ The verb *might* in (10)e is in fact an obligatory raising verb (see §2.2.2).

(10) Modals & weather-*it*: ok

a.	Morgen	kann	es	regnen	<i>can</i>
b.	Morgen	muß	es	regnen	<i>must</i>
c.	Morgen	darf	es	regnen	<i>may</i>
d.	Morgen	soll	es	regnen	<i>should</i>
e.	Morgen	dürfte	es	regnen	<i>might</i>
f.	Morgen	wird	es	regnen	<i>will</i>
g.	*Morgen	hilft	es	regnen	<i>help</i>

Tomorrow MODAL it rain

'It can, must, ... rain tomorrow'

There is a small class of modals, however, that do not allow weather-*it* subjects in sentences such as the ones in (10) above. Examples such as (11)a,b involving the modals *want* and *would like to* (i.e., desiderative modals) are ill-formed. However, what is important to note is that the sentence in (11)a is perfectly grammatical when it appears in a context such as in (11)c. As for the modal *would like to*, there does not seem to be any appropriate context to use this modal with a quasi-argument (cf. (11)d).

(11) Modals & weather-*it*: ?

- a. #Morgen **will** es regnen
 Tomorrow wants it rain
 #'It wants to rain tomorrow'
- b. #Morgen **möchte** es regnen
 Tomorrow would-like it rain
 #'It would like to rain tomorrow'
- c. Heute **will** es einfach nicht regnen
 Today wants it simply not rain
 'Today, it simply doesn't want to rain'
- d. #Heute **möchte** es einfach nicht regnen
 Today would-like it simply not rain
 #'Today, it simply wouldn't like to rain'

The second test for raising is illustrated in (12). Non-agentive, inanimate subjects (like the passive subjects in (12)) are perfectly acceptable with modals like *must*, *may*, *can*. Since modal forces like obligation or ability cannot be imposed on inanimate subjects, the sentences in (12)a-f can only be

raising configurations (i.e., the surface subjects are thematically related to only the embedded predicate). If inanimate subjects combine with modal verbs of desire, on the other hand, the sentences are pragmatically ill-formed (cf. (12)g,h).

(12) **Modals & non-agentive/inanimate subjects: ok**

a.	Unfälle	können	vermieden	werden	<i>can</i>
b.	Unfälle	müssen	vermieden	werden	<i>must</i>
c.	Unfälle	dürfen	vermieden	werden	<i>may</i>
d.	Unfälle	sollen	vermieden	werden	<i>should</i>
e.	Unfälle	dürften	vermieden	werden	<i>might</i>
f.	Unfälle	werden	vermieden	werden	<i>will</i>
g.	*Unfälle	wollen	vermieden	werden	<i>want</i>
h.	*Unfälle	möchten	vermieden	werden	<i>would like to</i>
	Accidents	MODAL	avoided	become	
	'Accidents must, can... be avoided'				

However, again, contexts can be found in which sentences like (12)g,h are acceptable. The sentence in (13)a would be an appropriate statement by a grade school teacher telling the children that (s)he would appreciate it if they don't get into any accident. The sentence in (13)b is somewhat stilted and old-fashioned. An appropriate context would be the following: a butler has the order to bring his boss's shoes to a shoe repair place to have them repaired. One way to tell the shoe maker to repair his boss's shoes would be as in (13)b. Finally, sentences like (13)c show that the verb *want* also allows inanimate subjects that are not in a thematic relation with the modal but only with the embedded verb.

(13) *möchten* 'would like to'

- a. Unfälle **möchten** doch bitte vermieden werden
accidents would-like but please avoided become
'Could one please try to avoid accidents'
- b. Diese Schuhe **möchten** doch bitte repariert werden
theses shoes would-like but please repaired become
'I was told to ask you to repair those shoes'
- c. weil ihm der dreifache Salto einfach nicht gelingen **will**
since him-DAT the triple flip-NOM simply not manage wants
'since it just doesn't want to happen that he manages to do the triple flip'

Thus, although the modals *want* and *would like to* involve an external argument in their unmarked usage, there are a few cases that can only be analyzed as cases in which there is no thematic relation between the surface subject and the matrix modal (i.e., as raising configurations). The question that arises then is whether those marked examples are to be considered as true raising variants of the verbs *want* and *would like to* or whether they are metaphorical or idiomatic utterances. Since examples such as the ones in (13) are quite marked, and usually only found in very specific (fixed) contexts, I conclude that the verbs *want* and *would like to* are in principle obligatory theta-assigners, but that this requirement can be overruled in certain contexts.

In conclusion, (potential) modal verbs do not show a uniform behavior with respect to the two semantic/thematic properties proposed here either. There is a class of core modals (*must*, *may* etc.) that shows all the modal properties (semantic and morphosyntactic). On the other hand, certain verbs that would qualify as modals morphologically are clearly not modals semantically (*help*, *let* etc.). Finally, there is a small set of modals (*want*, *would like to*) that are clearly modals morphologically in German, however they have an intermediate status as semantic modals—they

are modal operators, but they also seem to be obligatory theta-assigners (i.e., they do not appear in a raising configuration).⁶²

The semantic/thematic properties are summarized in Table 19.

Table 19: Semantic modal properties in German

Verbs	modal/tense OP	subject Θ -role	semantic <i>modal</i>
<i>can</i>	+	\pm	+
<i>must</i>	+	\pm	+
<i>may, be allowed to</i>	+	\pm	+
<i>should</i>	+	\pm	+
<i>need 1</i>	+	\pm	+
<i>need 2</i>	+	\pm	+
<i>want</i>	+	+	\pm
<i>would like to</i>	+	+	\pm
<i>might</i>	+	-	+
<i>become, will</i>	+	\pm	+
<i>let, see, hear</i>	-	+	-
<i>help (teach, learn, dare)</i>	-	+	-

As was mentioned at the beginning of this section, I will not assume that there is a category 'modal' but rather that each verb comes with certain syntactic, semantic, and morphological specifications (the properties in Table 19) that interact in specific ways with properties or

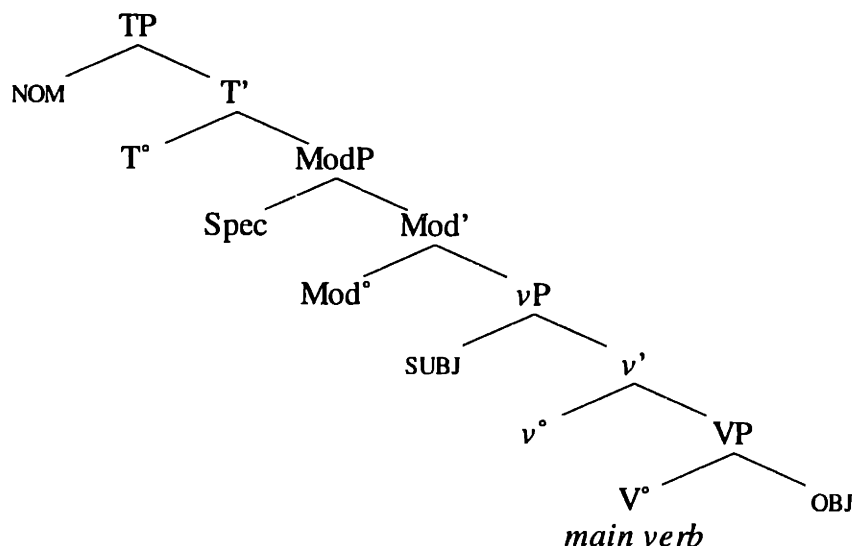
⁶² Moreover, the class of motion verbs has been ignored throughout the last section, since the semantics of motion verbs in sentences like (8) is somewhat controversial. Motion verbs are to a large degree deprived of their original meanings. The main function of *go* in (8) seems to be to express that the action of the infinitive involves a change of location that is achieved by whatever motion is necessary to get from one point to the other (see also the discussion in Jaeggli & Hyams 1993). For many speakers, the examples in (8) could for instance also be uttered if Mary in fact drove to wherever Peter lives (or if—in case Mary and Peter live in Venice—she took a gondola). I will assume here that motion verbs are some kind of auxiliaries in German (which generally do not show the IPP effect). Though obviously, some more refined analysis is required.

operations like IPP, raising etc. In the next section, I will suggest a basic structure for modal constructions.

2.2 The structure of modal constructions: T-modals vs. M-modals

The analysis I would like to propose here is based on an assumption that goes back to very early ideas of clause structure (cf. Chomsky 1957, Jackendoff 1972, 1977, Fiengo 1974, Akmajian et al. 1979 among many others): modals are auxiliary-like elements rather than lexical verbs that appear outside the VP. I will assume the structure in (14) with a modal phrase above the projection hosting the external argument.

(14) Basic clause structure



I assume that in a simple clause, there are three types of categories that can host verbs: V°, Mod°, and T°, and that each of these categories is associated with specific features. I will further assume the following “attract or die” condition on checking: verbs are attracted by (the features of)

functional heads (i.e., verbs can move up the tree), but attractors cannot move to satisfy their features (i.e., functional heads without a lexical verb do not move).

2.2.1 Epistemic vs. root interpretations—basic distinction

Most modal statements are (multiply) ambiguous. Barbiers (1995:142) for instance gives the interpretations for modals like *must* in (15). The first and second readings are also called *root* interpretations in the literature on modal verbs (cf. Lyons 1977, Palmer 1986 among many others). The third interpretation, which Barbiers labeled *probability*, has also been referred to as *epistemic* interpretation.⁶³

(15) *must*

	Hans	muß	eislaufen	
	John	must	skate	
i.	'John has the obligation to skate'			<i>directed deontic</i>
ii.	'It is required that John skates'			<i>non-(subject)directed deontic</i>
iii.	'It must be the case that John is skating'			<i>probability</i>

Root readings express modal forces like permission, obligation, ability etc. In the directed interpretation, the subject is (directly) associated with a certain modal force (obligation in case of *must*) which is assigned by an outside source (i.e., somebody gave John the order to skate). Under the non-directed interpretation, the modal force is assigned to the whole proposition (i.e., somebody made a rule that says that John has to skate). In this sense, the non-directed root reading is similar to the epistemic reading, since in both the non-directed root and the epistemic readings,

⁶³ Barbiers gives another interpretation which he calls *dispositional* (following Klooser 1986). The meaning is 'John definitely wants to skate'. Since the properties of modal constructions with a dispositional reading are the same as of directed modals, the dispositional reading will be considered as a special case of a directed deontic interpretation.

the modal does not establish a thematic relation between the subject and the proposition but rather the subject is interpreted as part of the proposition (i.e., the subject is in the scope of the modal). The difference between a non-directed interpretation vs. an epistemic interpretation is that the latter does not express any modal force like permission, obligation etc., but is simply a qualification of the likelihood of the proposition.

The main idea I will present in more detail below is that epistemic modals and root modals occupy different positions in the clause: epistemic modals are in T° , root modals are in Mod° (cf. the basic structure in (14). I will assume that T° is the least thematic head in the clause and that only verbs that do not enter into any thematic relations with the external argument can be generated in T° . That is, T-verbs are case assigners and tense operators but no theta-assigners. The Mod° head, on the other hand, hosts verbs that do have the capacity to assign a theta-role. Thus, verbs that typically appear in Mod° are root modals. The difference between the directed and non-directed deontic readings will be attributed to different positions the subject occurs in at LF. However, crucially, I will follow Barbiers and assume that both readings are instances of root interpretations (cf. §2.2.3).⁶⁴

In the next section, I will discuss a few basic properties of modal statements in German and give some evidence for two different positions for modal verbs.

⁶⁴ Newmeyer (1975) noted already that root modality is not always applied to the syntactic subject (e.g., in sentences like *An opening hand must contain thirteen points*).

2.2.2 Ordering restrictions among modals, auxiliaries, and affixes

Apart from the semantic (and thematic) differences we also find a syntactic difference between root and epistemic readings. As was noticed by Picallo (1985, 1990) for Catalan, epistemic modals cannot appear in a perfective construction. Sentences like (16)b do not allow an epistemic interpretation. However, they can have both root readings. (The same sentence shows all three interpretations when the modal is not embedded under *have* as in (16)a).

(16) **Perfective: *^kroot modals, *epistemic modals**

- a. Sue **muß** zu Hause arbeiten
Sue must at home work
'Sue has the obligation to work at home'
'It is required that Sue work at home'
'It must be the case that Sue works at home'
- b. Sue **hat** zu Hause arbeiten **müssen**
Sue has at home work must-IPP
'Sue had the obligation to work at home'
'It was required that Sue worked at home'
* 'It must have been the case that Sue (had) worked at home'

This phenomenon seems to be part of a more general prohibition against epistemic modals: epistemic modals—in contrast to root modals—cannot be embedded under other modals or auxiliaries. Thus, although the modal *must* can appear embedded under the future auxiliary or the modal *might*, it only has the two root interpretations. An epistemic reading for the sentences in (17) is clearly unavailable.

(17) Modals under auxiliaries/modals: only root interpretation

- a. Morgen **wird** er Kartoffel schälen müssen
 Tomorrow will he potatoes peel must
 'Tomorrow, he will have the obligation to peel potatoes'
 'Tomorrow, it will be required that he peels potatoes'
 *'Tomorrow, it will have to be the case that he will peel potatoes'
- b. Morgen **dürfte** er Kartoffel schälen müssen
 Tomorrow might he potatoes peel must
 'Tomorrow, he might have to peel potatoes'
 *'It might be the case that it must be the case that he peels potatoes'

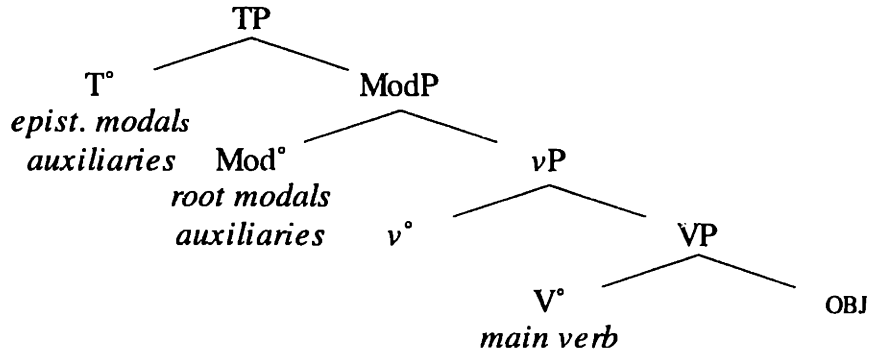
I will assume that these restrictions on the epistemic interpretations are due to the structural position of epistemic modals. As was proposed by Picallo (1985), epistemic modals do not appear inside the VP but occupy a higher functional position in the clause (in her account INFL). I will adopt this idea and assume that epistemic modals appear as the head of TP, whereas root modals occupy a functional head that is lower than T° but higher than the VP. The auxiliaries *be*, *have*, and *will* can show up in either position.⁶⁵

⁶⁵ Modal phrases are recursive in German; i.e., modals and auxiliaries can be stacked (provided the result is semantically well-formed). Sequences like i. and ii. are both possible modal statements.

- i. weil er essen **müssen haben** wird *have >> must*
 since he eat must-IPP have will
 'since he will have had to eat'
- ii. weil er gegessen **haben müssen** wird *must >> have*
 since he eaten have-IPP must will
 'since he will have to have eaten (by then)'

I will not distinguish here between aspect phrases, modal phrases etc., but subsume aspectual auxiliaries etc. under the ModP.

(18) Epistemic modals, root modals, & auxiliaries



The structure in (18) predicts that epistemic modals can embed root modals, but can neither be embedded under a root modal nor under an auxiliary. If auxiliaries, on the other hand take lower scope than the modal, we expect that the epistemic reading should be possible again. This is indeed the case, as the examples in (19) show. The auxiliaries *have* and *be* in (19) can only take scope over the main verbs (*eat* and *go*); and they obligatorily appear in the scope of the epistemic modal.

(19) Auxiliaries under modals

- a. Moel **muß** die Oliven gegessen **haben**
 Moel must the olives eaten have
 'Moel must have eaten the olives'
- b. Moel **muß** nach Hause gegangen **sein**
 Moel must to home gone be
 'Moel must have gone home'

Furthermore, pure epistemic modals like *might* can only appear in T° (the highest functional head apart from C°) and can never be embedded under any other modal or auxiliary. The sentences in (5) (repeated here as (20)) illustrate this point.

(20) Epistemic *might*

- a. *Er wird wieder singen **dürften**
 He will again sing might
 'It will be the case that he might sing again'
- b. *Er hat ein Lied singen **dürften**
 He has a song sing might-IPP
 'It might have been the case that he sang the song'
- c. *Er muß wieder singen **dürften**
 He must again sing might
 'It must be the case that he might sing again'

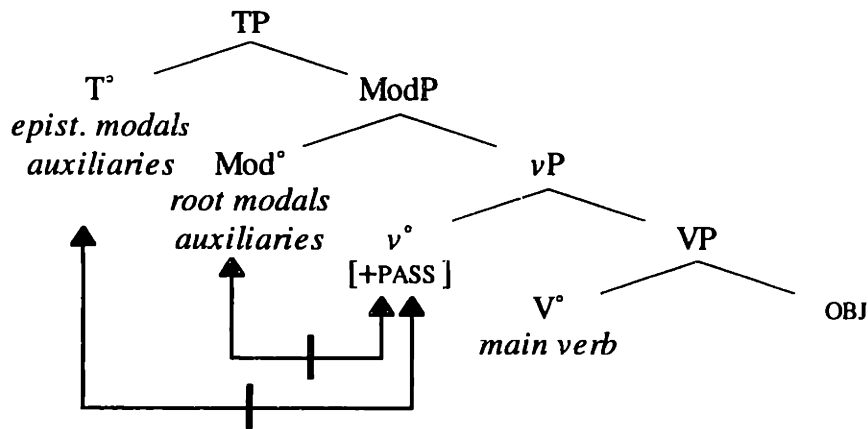
Finally, the structure in (18) provides a way to account for a well-known restriction for modals, namely their lack of passive. As the sentences in (21)a,b show, modal verbs cannot be passivized in English or German. In contrast, the verb *help*, which I assume is not a modal verb (despite the option of combining with a bare infinitive), allows passive (cf. (21)c).

(21) No passive with modals

- a. *weil der Kaviar (zu) essen **gewollt/wollen** wurde
 since [the caviar]-NOM (to) eat wanted/want-IPP was
 *'since the caviar was wanted to eat'
- b. *weil der Kaviar (zu) essen **gemußt/müssen** wurde
 since [the caviar]-NOM (to) eat must-PART/IPP was
 *'since the caviar was must to eat' 'since it was required that somebody eat the caviar'
- c. weil ihm ein Schneeman (zu) bauen **geholffen** wurde
 since him a snow-man (zu) build helped was
 'since somebody helped him build a snow-man'

Following Kratzer (1994), I assume that the v° -head encodes voice properties and that a verb has to move to or through v° to check voice properties. Since modals are in a position higher than v° , modal verbs cannot move to v° (see also Cinque 1997a,b) and passive would not be licensed.

(22) **Passive & modals**



In contrast to (21), again nothing blocks passive of the lower predicate. Both root and epistemic modals can embed a passive complement (cf. (23)a,b for root readings, and (23)c for an epistemic reading).

(23) **Passive of main predicate: ok**

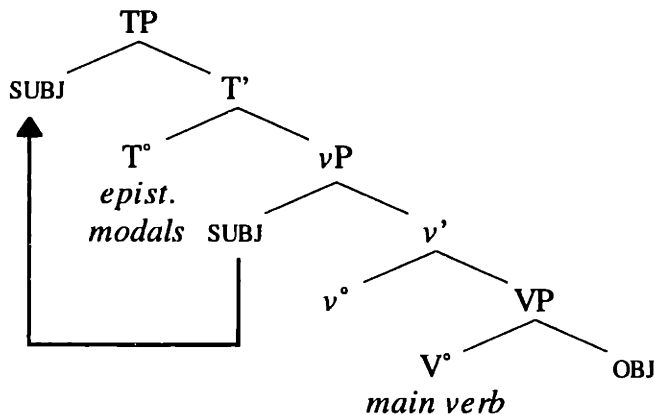
- | | | | | | | |
|----|---|---------------------------|----------|---------------|--------------|------------|
| a. | weil | der Kaviar | gegessen | werden | mußte | |
| | since | [<i>the caviar</i>]-NOM | eaten | become | must-PAST | |
| | 'since the caviar had to be eaten' | | | | | |
| b. | weil | der Kaviar | gegessen | werden | darf | |
| | since | [<i>the caviar</i>]-NOM | eaten | become | may | |
| | 'since the caviar may be eaten' | | | | | |
| c. | weil | der Kaviar | gegessen | worden | sein | muß |
| | since | [<i>the caviar</i>]-NOM | eaten | become | be | must |
| | 'since the caviar must have been eaten' | | | | | |

To sum up, the assumption that epistemic modals are in a position which is higher than the position of root modals, which in turn are in a higher position than the voice head, allows us to account for various ordering restrictions among those elements. So far, I have ignored the position of the subject in modal constructions. This is the topic of the next subsection.

2.2.3 The subject in modal constructions

Let me start with epistemic modals. Recall that epistemic modal constructions are usually analyzed as raising verbs—i.e., as verbs that do not assign an external theta-role and that involve raising of the subject from a position that is below the base-position of the epistemic modal. Under the basic structure I have proposed for epistemic modals in (24) (= (18) supplemented with subject positions), both properties follow from the position of epistemic modals in T (which I assume to be a non-thematic position).

(24) Epistemic modals & subjects



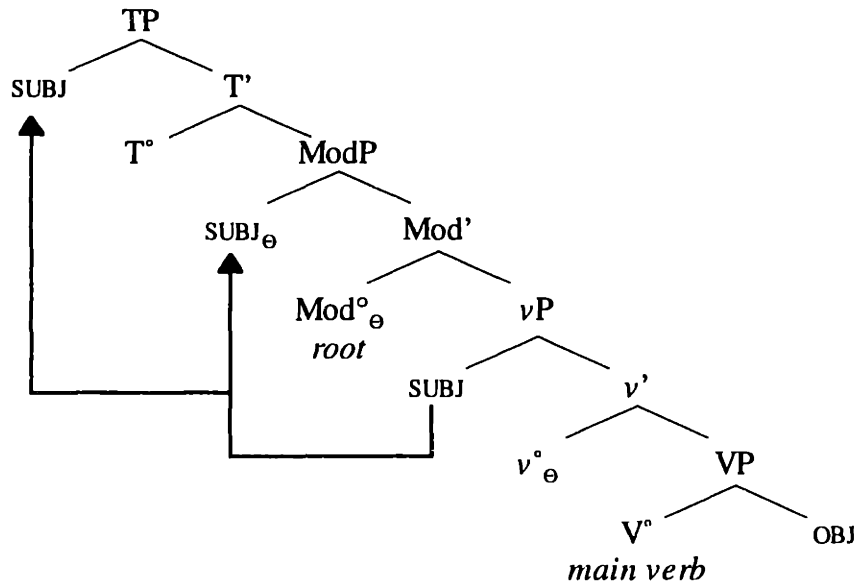
What is crucial is that a sentence with an epistemic modal has a monoclausal structure and that raising is the result of standard subject movement to SpecTP. Thematically, the subject is only related to the ‘embedded’ predicate (which is in fact the main predicate of the clause). In terms of scope, the subject can be interpreted either in its surface position (where it would take scope over the modal) or in its base-position (where it would take scope under the modal). This well-known ambiguity (cf. May 1977, Lebeaux 1994, Fox 1997 among many others) is illustrated in (25). For the discussion here, the actual mechanism behind the reading where the modal takes scope over the subject (i.e., reconstruction, lowering, movement leaves a copy etc.) does not matter.

(25) **Scope ambiguity**

- a. Jemand von New York muß in der Lotterie gewonnen haben
'Somebody from New York must have won in the lottery'
- i. *must* >> *somebody*:
It must be the case that somebody from N.Y. won the lottery
- ii. *somebody* >> *must*:
There is somebody from N.Y. and it must be the case that (s)he won the lottery

Turning now to root modal constructions, I will assume a very similar structure—the only difference being that root modals appear in a functional projection lower than TP, since they do establish a thematic relation with the subject. The proposal that I would like to make is that the subject of the main predicate in (26) raises to SpecModP where it gets the theta-role (or fills the argument slot) of the modal.⁶⁶

(26) **Root modals & subjects**



⁶⁶ The assumption that one argument binds two theta-roles is reminiscent of Zubizarreta's (1982) analysis of modals and restructuring.

Thus, assuming that one argument can be associated with two argument slots, we can maintain the idea that a sentence with a root modal is one clause and involves only one subject. The two root readings—the directed deontic and the non-directed deontic interpretations—can now be derived in a straightforward way. If the subject is interpreted in SpecTP (or SpecModP), we get the directed root interpretation. If the subject is interpreted in its base position (in terms of scope), it is part of the complement of the modal verb and we get the non-directed root interpretation.

2.3 Modals and restructuring

Recapitulating what I have proposed in chapter two to five, restructuring infinitives selected by lexical verbs (e.g., *try*, *dare* etc.) have the following properties: i) RIs cannot contain CP-material (i.e., wh-elements and complementizers); ii) RVs cannot combine with finite complements; iii) RIs are tenseless; iv) RIs do not allow syntactic control; v) RIs do not allow imperfect control; vi) *it*-anaphors that represent a RI do not allow a strict reading; and vii) RIs do not involve a structural object case position. These properties are summarized in Table 20.

Table 20: Restructuring properties

Restructuring Properties	
i)	no complementizer, wh-elements in the infinitive
ii)	infinitive cannot appear as finite clause
iii)	no independent tense interpretation of the infinitive
vi)	no syntactic control
v)	no imperfect control
vi)	no strict reading for <i>it</i> -anaphors
vii)	no ACC in infinitive

In the next two subsections, I will examine *must*-type modal structures with respect to the properties in Table 20 (the desiderative modals *want* and *would like to* will be set aside for now).

We will see that an apparent difference in the tense interpretation follows from the semantics of modal operators.

2.3.1 Finiteness and tense

The first property—the lack of complementizer material—is straightforward. Infinitives that combine with a modal never allow complementizers or *wh*-elements. An example is given in (27) from Dutch.

(27) **Dutch: overt complementizers: ***

- a. dat Jan (***om**) morgen niet kan komen
 that Jan (*COMP) tomorrow not can come
 ‘that Jan cannot come tomorrow’
- b. dat Jan (***om**) morgen niet komen kan
 that Jan (*COMP) tomorrow not come can
 ‘that Jan cannot come tomorrow’

Modal verbs in Dutch allow but do not require verb raising (cf. (27)a which involves VR vs. (27)b which does not involve re-ordering of the verbs; see Rutten 1991:37). In both cases, however, an overt complementizer is prohibited.

Considering the second restructuring property—the impossibility of finite complements—the examples in (28) illustrate that *must*-type modals like other RVs prohibit finite complements (*must*-type modals are all modals except *want* and *would like to*).

(28) *must*: finite clauses—*

- a. *Auguste **muß** [daß sie/er die Kohlen in den Keller schaufelt]
 Auguste must [that she/he the coals in the basement shovels]
 *‘Auguste must that she shovels the coals into the basement’
- b. *Auguste **kann** [daß sie/er die Kohlen in den Keller schaufelt]
 Auguste can [that she/he the coals in the basement shovels]
 *‘Auguste can that she shovels the coals into the basement’
- c. *Auguste **darf** [daß sie/er die Kohlen in den Keller schaufelt]
 Auguste may [that she/he the coals in the basement shovels]
 *‘Auguste may that she shovels the coals into the basement’
- d. *Auguste **soll** [daß sie/er die Kohlen in den Keller schaufelt]
 Auguste should [that she/he the coals in the basement shovels]
 *‘Auguste should that she shovels the coals into the basement’

The third property concerns the tense interpretation in the infinitive. We will see that RIs combining with modal verbs at first sight differ crucially from lexically RVs since an independent tense interpretation is available in the infinitive selected by a modal verb. To determine that the construction involves restructuring is slightly more complicated with modal constructions than with lexical RIs. First, modals do not passivize (see §2.2.2)—hence “long passive” cannot be used. Second, as was discussed in chapter two (§3.4.2), modal contexts do not allow extraposition of the infinitival complement. Thus, remnant extraposition, which is the easiest way to force scrambling from the infinitive, also cannot be used. To make sure that scrambling applies, a phrase has to be moved to the left of the subject as in (29). Since this form of scrambling could also be focus scrambling, we can in fact not ensure that the examples in (29) involve regular scrambling (hence are instances of restructuring).

(29) What kind of scrambling?

?weil [den Peter]_{SCR} nur der Josef morgen t_{SCR} besuchen **dürfen** hat
 since *the Peter* only the Josef tomorrow t_{SCR} visit may has
 ‘Only Joseph was allowed to visit Peter tomorrow’

However, recall that another way to test scrambling is by remnant topicalization. If the topicalized constituent contains the higher verb (the modal) and the infinitive, phrases from the embedded

infinitive that are not taken along with the topicalized phrase are outside the matrix VP—and hence have to have undergone scrambling. This is illustrated in (30): since the examples are grammatical, they show that scrambling (hence restructuring) is possible. Moreover, the examples show that RIs selected by a modal (can) involve a tense specification that is different from the tense in the matrix predicate. The matrix predicate is interpreted as PAST in (30), but the embedded predicate involves a FUTURE interpretation, as can be seen by the presence of the adverb *tomorrow*.

(30) **Modal RIs: FUTURE interpretation**

- a. $[t_{SCR} \text{ besuchen } \textbf{sollen}]_{VP}$ hat nur der Josef $[\text{den Peter}]_{SCR} t_{VP}$ morgen
 $[t_{SCR} \text{ visit } \textbf{shall-IPP}]_{VP}$ has only the Josef *the Peter* t_{VP} tomorrow
 ‘Only Joseph had to visit Peter tomorrow’
- b. $[t_{SCR} \text{ besuchen } \textbf{müssen}]_{VP}$ hat nur der Josef $[\text{den Peter}]_{SCR} t_{VP}$ morgen
 $[t_{SCR} \text{ visit } \textbf{must-IPP}]_{VP}$ has only the Josef *the Peter* t_{VP} tomorrow
 ‘Only Joseph had to visit Peter tomorrow’
- c. $[t_{SCR} \text{ besuchen } \textbf{dürfen}]_{VP}$ hat nur der Josef $[\text{den Peter}]_{SCR} t_{VP}$ morgen
 $[t_{SCR} \text{ visit } \textbf{may-IPP}]_{VP}$ has only the Josef *the Peter* t_{VP} tomorrow
 ‘Only Joseph was allowed to visit Peter tomorrow’

Furthermore, modal contexts in Italian allow different tense specifications for the infinitive and the matrix predicate. Although the Italian speakers consulted find the examples in (31) somewhat marked (see below), they do not recognize any contrast between the non-restructuring case (i.e., the sentence in (31)a which does not involve clitic-climbing) and the restructuring case in (31)b (the examples involve the modal *want*, however, for the discussion of tense, *want*- and *must*-type modals behave alike).

(31) **Italian: FUTURE complements to modal RVs**

- a. Gianni ha voluto visitarla domani
 John has wanted to-visit+*her*-CL tomorrow
 ‘John wanted to visit her’
- b. Gianni l’ha voluta visitare domani
 John *her*-CL+has wanted to-visit tomorrow
 ‘John wanted to visit her’

The meaning of examples such as the ones in (31) is that at some point in the past, John had the desire to visit her, but that it is not clear anymore now if he still has the desire to do so. In other words, sentences such as (30) and (31) are only uttered if the speaker can imagine that John has changed his mind (though leaving it open whether he did or not). Thus, sentences involving a past *want*-predicate require contexts that express a potential change of attitude or change of state. This reading is marked for speakers who consider verbs like *want* as pure stative verbs (i.e., predicates denoting events without an endpoint). The markedness of the stative contexts in (30) and (31) is thus similar to examples like *Yesterday, John had green hair* which also involve a potential change of state.

What is important here, is that these kind of marked readings have to be distinguished from the marked tense readings in *try*-infinitives as discussed in chapter two. Restructuring predicates like *try* can appear with any (matrix) tense specification as long as their complements are interpreted as simultaneous. In stative contexts involving modal RVs, on the other hand, the marked readings are not caused by an incompatibility of the matrix predicate with an independent tense interpretation in the complement; rather markedness arises when the stative predicate itself involves tense specifications that entail a (potential) delimitation (i.e., beginning or endpoint) of the stative event.

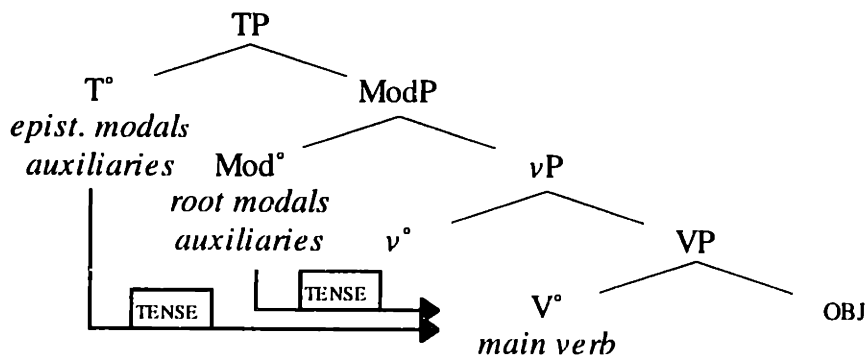
To sum up the tense properties of modal constructions: although some of the examples above are slightly marked and require specific contexts, they are clearly different from lexical restructuring contexts discussed so far. Lexical RVs do not tolerate a tensed infinitival complement; whereas modal verbs are compatible with an independent tense interpretation in the infinitival complement.

2.3.2 Tense in modal constructions

In this section, I will show that the mismatch between lexical RIs and modal RIs is only an apparent one. Looking at the semantics of modal statements, this apparent conflict disappears. I will argue that certain tense specifications are part of the meaning of modal verbs and not represented structurally.

Let us go back to the structure of modal verbs as proposed in §2.2. As is illustrated in (32) (= (18)), modal verbs—as part of their meanings—assign a certain tense interpretation to the complement (in some sense a clause with a modal verb can be seen as involving two operators that convey tense information). What is crucial, however, is that the tense information comes with the meaning of the modal and is not represented structurally by a TP.

(32) Modal & tense operators



How is the information about tense encoded in the semantics of modal constructions? Recall that semantically, modals are (restricted) quantifiers over possible worlds. Following Kratzer (1991), modals have an internally complex structure. One 'ingredient' of a modal statement is the *modal relation* or *modal force*; i.e., whether the modal involves universal (necessity) or existential (possibility) quantification over possible worlds. The second part of a modal statement is the so-

called *conversational background*, a function that determines which set of worlds is accessible from the evaluation world under certain conditions. Kratzer refers to this set of worlds as the *modal base*. The two parts of a modal statement are then combined as follows. The modal quantifier relates the modal base to the set of worlds in which the proposition the quantifier ranges over is true (i.e., the modal base functions as the restrictor of the universal or existential modal quantifier).

Looking closer at the conversational backgrounds, conversational backgrounds involve information such as *deontic*, *epistemic* etc. and thus, the resulting modal bases are different depending on which worlds are accessible deontically, epistemically etc. An epistemic conversational background for instance determines which set of worlds is available *in view of the available evidence* (Kratzer 1991:639, 644); a deontic conversational background determines which set of worlds is available *in view of what the law provides*. Thus, in epistemic contexts, only worlds will be selected that are compatible with what we know; in deontic contexts, only worlds will be selected that are compatible with the relevant law. If a world is incompatible with a conversational background, it will not make it into the modal base. Since times are parts of worlds, one can see that the conversational background has an influence on the tense orientation of modal statements. A semantic analysis, however, cannot be provided here.

I thus conclude, that the semantics of modals that have scope over a proposition impose certain restrictions on the temporal orientation of their complements that can be described in Kratzer's terms of conversational backgrounds.

As the last property of restructuring, I will now turn to the 'control' properties of modal statements.

2.3.3 Control

In chapter four, I have argued that control constructions fall into two subgroups: infinitives with syntactic control (i.e., infinitives with an embedded syntactic PRO-subject) and infinitives with semantic control (i.e., infinitives without an embedded syntactic subject). The first group is formed by NRIs, the second group is formed by RIs. Since modal constructions are restructuring contexts, we would expect that they do not involve syntactic control. In this section, I will show that this is indeed the case for *must*-type modals.

Since in modal constructions the infinitive is the only internal argument, the question of whether the (understood) embedded subject involves syntactic control requires certain contexts as for instance multiple embedding. A potential context for syntactic control is given in (33). The examples, however, have only one interpretation—a syntactic control reading is impossible; i.e., there is no interpretation under which the embedded subject can refer to anybody other than John's father.

(33) *must*: syntactic control—*

- a. Hans hat gesagt daß sein Vater nach Island auswandern **darf**
'John said that his father may emigrate to Iceland'
- b. Hans hat gesagt daß sein Vater nach Island auswandern **muß**
'John said that his father must emigrate to Iceland'

As with lexical *single-argument* infinitives, we can also test whether modal constructions allow imperfect control and strict readings for *it*-anaphors. Employing these tests to modal constructions, it can be observed again that *must*-type modals behave like RIs, in that they do not allow imperfect control interpretations. The examples in (34) are ungrammatical (or can only have a nonsensical reading in which John thinks he is more than one person).

(34) *must*: imperfect control—*

- a. *weil Hans Ø sich im Schloß versammeln **muß**
 since John Ø SELF in-the castle gather must
 *‘since John must gather in the castle’
- b. *weil Hans Ø sich im Schloß versammeln **soll**
 since John Ø SELF in-the castle gather should
 *‘since John should gather in the castle’
- c. *weil Hans Ø sich im Schloß versammeln **darf**
 since John Ø SELF in-the castle gather may
 *‘since John may gather in the castle’

The second property—the readings that *it*-anaphors are associated with—shows the same inconsistency typical for semantic control contexts. As is illustrated in (35), only a sloppy interpretation is available for *it*-anaphors that combine with this class of modals; strict interpretations are completely impossible.

(35) *must:it*-anaphors—*strict, ^{ok}sloppy

- a. Hans darf [die Rosi einladen] [und seine Mutter **darf** es auch]
 Fred may [the Rosi invite] [and seine Mutter may *it* also]
 ‘Fred may invite Rosie and his mother may too’
 *‘Fred may invite Rosie and his mother also has the permission that Fred invites Rosi’
- b. Hans muß [die Rosi einladen] [und seine Mutter **muß** es auch]
 Fred must [the Rosi invite] [and seine Mutter must *it* also]
 ‘Fred must invite Rosie and his mother must too’
 *‘Fred must invite Rosie and his mother also has the obligation that Fred invites Rosi’

The properties of imperfect control and the lack of strict readings with *must*-type modals thus point to the conclusion that these modal constructions—like RIs—involve syntactic control.

2.3.4 Summary

The properties of *must*-type modals are summarized in Table 21. The lack of structural case is left out, since—due to the impossibility of passivizing the modal verb—this property is untestable in modal constructions.

Table 21: Restructuring properties of *must*

Restructuring Properties	<i>must</i>
no complementizer, wh-elements in infinitive	✓
infinitive cannot appear as finite clause	✓
no independent tense interpretation of the infinitive	(✓)
no syntactic control	✓
no imperfect control	✓
no strict reading for pronominal anaphors	✓

To summarize, *must*-type modals behave like lexical RVs with one exception—they are compatible with a [+TENSE] interpretation in the embedded predicate. However, I have argued that this tense orientation follows from the semantics of modal verbs and does not involve a tense projection in the infinitive (i.e., the main predicate).

2.3.5 *Want*—speculation

So far, I have ignored the modals *want* and *would like to* in the discussion of the restructuring properties of modal statements. This negligence was not an accident but, as we will see momentarily, these verbs display an intermediate status with respect to most properties associated with modals and restructuring.

First, in contrast to other modals and RVs, finite complements are possible with the modals *wollen* ‘want’ and *möchten* ‘would like’ (cf. (36)).⁶⁷

⁶⁷ Finite clauses are, however, restricted. For one, in Romance finite complements of *want* always have to appear in subjunctive mood (which is often analyzed as tenseless; cf. Progovac 1993). The other property of finite complements to *want* is that the subject has to be disjoint from the subject of the matrix clause.

(36) *want*: finite clauses—ok

- a. Auguste **will** [daß der Josef die Kohlen in den Keller schaufelt]
 Auguste wants [that the Josef the coals in the basement shovels]
 ‘Auguste wants that Josef shovel the coal into the basement’
- b. Auguste **möchte** [daß der Josef die Kohlen in den Keller schaufelt]
 Auguste would-like [that the Josef the coals in the basement shovels]
 ?‘Auguste would like that Josef shovel the coal into the basement’

Furthermore, and more seriously seems to be the fact that desiderative modals allow syntactic control. Although the marked interpretation for sentences like (37)a is a reading under which John’s father wants to emigrate, (37)a can also mean that John’s father has the desire that he and John (and maybe other members of the family) move to Iceland.

(37) *want*: syntactic control—ok

Hans hat gesagt daß sein Vater nach Island auswandern **will**
 ‘John said that his father wants to emigrate to Iceland’

The modals *want* and *would-like* also allow imperfect control; i.e., as is shown in (38), the understood subject of the infinitive and its controller (the matrix subject) can have different properties. While the matrix subject is singular, the embedded subject in (38) has to be plural, since a collective predicate like *to gather* is only licensed when the subject it is predicated of is plural.

(38) *want*: imperfect control—ok

- a. ?weil Hans PRO sich im Schloß versammeln **will**
 since John PRO SELF in-the castle gather wants
 ‘since John wants to gather in the castle’
- b. weil Hans PRO sich im Schloß versammeln **möchte**
 since John PRO SELF in-the castle gather would-like
 ‘since John would like to gather in the castle’

Finally, *it*-anaphors that combine with a *want*-type modal are ambiguous. Sentences such as (39) have two interpretations—a strict and a sloppy reading. Under a sloppy reading, John’s mother

has the desire to invite Rosie; under a strict reading John's mother has the desire that John invites Rosie. Thus, the two readings differ as to which matrix subject the PRO-subject of the understood infinitive (i.e., the infinitive that the *it*-anaphor stands for) is associated with.

(39) *want: it-anaphors—strict and sloppy*

- a. Fred will [die Rosi einladen] [und seine Mutter **will** es auch]
 Fred wants [the Rosi invite] [and seine Mutter wants *it* also]
 'Fred wants to invite Rosie and his mother wants it/to too'
- b. Hans möchte [die Rosi einladen] [und seine Mutter **möchte** es auch]
 Fred would-like [the Rosi invite] [and seine Mutter would-like *it* also]
 'Fred would like to invite Rosie and his mother would like it/to too'

Thus, all the facts seem to point to the assumption that *want* is a NRV in (37) through (39). The problem we are faced with here is that it seems quite intricate to test whether the examples involving syntactic control also involve restructuring or not. Recall that the clearest criteria for restructuring are passive and remnant extraposition—both of these test are independently prohibited in modal constructions: modals do not passivize (cf. §2.2.2) and modals do not allow extraposition (cf. chapter six §3.4.2). Furthermore, in (39), the infinitive is elided; thus, scrambling etc. cannot apply. In (38), we could scramble the PP, however, this would constitute a form of focus scrambling rather than short scrambling (recall that only the latter seems to distinguish between restructuring and non-restructuring). Finally, (37) could be construed involving remnant topicalization, which requires scrambling as in (40). However, the judgments on these examples are not very clear. (Topicalization requires a specific focus structure that makes the syntactic control interpretation much harder to get.)

(40) *want: syntactic control??*

- [t_{SCR} besuchen **wollen**]_{VP} hat sein Vater [den Peter]_{SCR} t_{VP}
 [t_{SCR} visit want-IPP]_{VP} has his father *the Peter* t_{VP}
 'His father wanted to visit Peter'

Let me summarize where we are at the moment:

Table 22: Restructuring properties of *want*

Restructuring Properties	<i>want</i>	<i>must</i>
no complementizer, wh-elements in infinitive	✓	✓
infinitive cannot appear as finite clause	*	✓
no independent tense interpretation of the infinitive	(✓)	(✓)
no syntactic control	*	✓
no imperfect control	?	✓
no strict reading for pronominal anaphors	?	✓

The tense interpretation of *want* does not pose a problem here since it can be assumed (like in the case of *must*) that the tense is assigned as part of the meaning of the modal verb. *Must*-modal constructions, however, differ from *want*-modal constructions in that the former cannot combine with finite clauses. One way to interpret this difference is by assuming that *want* is in fact a lexical verb whereas *must* is a functional head that cannot take a CP-complement.

The assumption that *want* is a lexical verb is appealing for another reason. Recall, that semantically, *want* is not a clear case of a modal either.⁶⁸ It is an intensional verb, however, in all but some quite marked cases, *want* assigns an external theta-role—a property that is found with lexical verbs rather than with modal verbs (recall that semantically, modals are verbs that do not necessarily establish a thematic relation with the subject). The ‘*want* is a lexical verb’ approach would put *want* in the same morphosyntactic category as causatives and perception verbs which are all clearly modals morphologically in German (i.e., they combine with a bare infinitive and show the IPP-effect).

⁶⁸ The verb *want* appears to be special in many languages. Taking English, *want* is not a modal; however, it is ambiguous between an ECM-verb and a control verb.

Thus, assuming that *want* is a lexical verb that takes a ν P-complement (i.e., a NRV) would explain the syntactic control behavior and the possibility of finite complements. The problem of *want* then reduces to the question of whether *want*-constructions really do allow restructuring when they involve syntactic control (i.e., the status of examples such as (40) becomes crucial). Unfortunately, the data are not clear yet and I will have to leave this issue aside here.

2.4 Summary

To summarize, modal constructions in German show the properties listed in Table 23.

Table 23: Modal properties in German

Properties of modals	epistemic	root
theta assigner	no	yes
SUBJECT >> MODAL	yes	yes
MODAL >> SUBJECT	yes	yes
passivize	no	no
have participle, infinitive forms	no	yes
can appear under modals, auxiliaries	no	yes
embed passive, auxiliaries, modals	yes	yes

Assuming the structure in (18) (i.e., epistemic modals show up in T° , whereas root modals show up in a lower Mod°), the properties in Table 23 are accounted for as follows. T° is a non-thematic position—hence, T-modals are no theta-assigner. The subject of the clause can be interpreted either in the surface (SpecTP) or base position (SpecvP)—hence it can take scope over or under a modal. Modals appear in a higher position than the voice features—hence modals are outside the scope of voice and cannot passivize (however, modals can embed passives). Finally, epistemic modals are in the highest functional head position (ignoring C°)—hence epistemic modals can take scope over root modals, auxiliaries etc., but epistemic modals cannot appear in the scope of other modals or auxiliaries.

3. RAISING

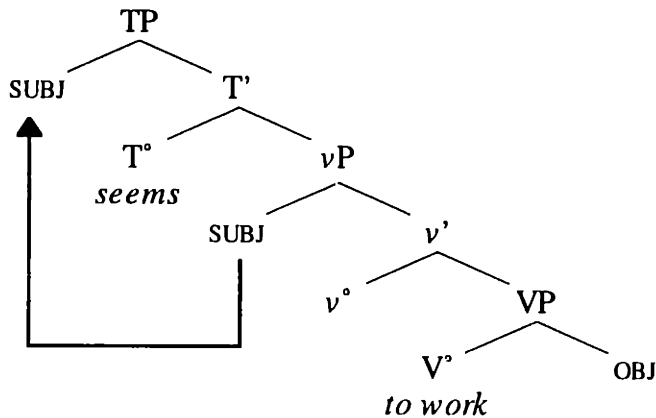
The structure of raising configurations poses an interesting question for one of the major claims in this dissertation—namely that RIs do not involve an embedded subject. Phrased this way, raising infinitives should not be RIs (contrary to fact in German), since raising infinitives by definition involve an embedded subject. However, recall that the analysis of restructuring I have been arguing for is based on the idea that a sentence with a RI is a simple clause; i.e., a clause that involves only one subject and only one tense projection.

I have argued that there are two kinds of monoclausal structures: i) a structure formed by a lexical RV + a bare VP (cf. chapter two-five); and ii) a structure formed by a functional RV + a *v*P. Obviously, the first structure cannot be the correct one for raising constructions. If the analysis here is correct, the only way the restructuring behavior of raising constructions can be accounted for is if raising verbs—like modal verbs—appear in the functional domain of the clause. In this section, I will show that raising verbs in German are indeed best analyzed as a functional head.⁶⁹

The analysis I will present is straightforward. I will assume that raising verbs in German are epistemic modals—i.e., they are modal operators with epistemic meaning (they qualify the likelihood of the ‘embedded’ proposition or event), and they never assign a theta-role to the external argument. I thus propose the structure in (41) which is essentially the structure of epistemic modals in (24).

⁶⁹ Note that at this point, the analysis is not intended to capture raising verbs cross-linguistically. Like in the case of *want*, for instance, the analogue to German *seem* does not seem to be a modal in English. Further investigation of the cross-linguistic behavior of modals and raising verbs is obviously necessary.

(41) Raising structure



As in the case of epistemic modals, the subject can be interpreted in either position: if it is interpreted in its base position, it takes lower scope than the raising verb; if it is interpreted in the surface position it takes higher scope than the raising verb.

In the following section, I will review the properties of the German *seem*-construction and we will see that the structure in (41) allows us to account for various morphological and syntactic properties that are otherwise unexpected and would require additional assumptions. One issue that I will leave aside again is the question of why *seem* takes an infinitival complement with the infinitival marker *zu*, whereas epistemic modals combine with bare infinitives. As was mentioned at various points in this dissertation, the distribution of the infinitival marker does not seem to show any regularities that would allow us to determine the function or meaning of *zu* 'to'. I thus, concluded that the presence vs. absence of the infinitival marker is determined by the verb it combines with (see especially chapter two:§4.1).

3.1 "Seem"

An often mentioned peculiarity of the German *seem*-construction is that *seem* can only appear in the PRESENT or PAST, and cannot be part of a complex tense. In other words, *seem* does not occur as infinitive (cf. (42)a) or as participle (cf. (42)b; in the latter case, it is in fact not even clear what the form of the participle would be; i.e., whether it shows weak or strong agreement).

(42) *seem*: no complex tenses

- a. *Morgen **wird** er Kartoffel zu schälen **scheinen**
 Tomorrow will he potatoes to peel seem
 'Tomorrow, he will seem to be peeling potatoes'
- b. *Sue **hat** zu Hause zu arbeiten **gescheint/geschienen**
 Sue has at home to work seem-PART (weak/strong)
 'Sue has seemed to work at home'

The prohibition against embedding an epistemic modal under another modal is found with *seem* as well. The examples in (43) show that *seem* can neither appear under an epistemic modal (cf. *might* in (43)a) nor under a root modal (cf. (43)b). The opposite situation, however, is fine: auxiliaries or modals can appear in the scope of *seem* (cf. (43)c,d).

(43) *seem*: no higher modals, auxiliaries

- a. *Morgen **dürfte** er Kartoffel zu schälen **scheinen**
 Tomorrow might he potatoes to peel seem
 'Tomorrow, he might seem to peel potatoes'
- b. *Morgen **muß** er Kartoffel zu schälen **scheinen**
 Tomorrow must he potatoes to peel seem
 'Tomorrow, he must seem to peel potatoes'
- c. Sue **schien** zu Hause gearbeitet **zu haben**
 Sue seemed at home worked to have
 'Sue seemed to have worked at home'
- d. Sue **schien** zu Hause arbeiten **zu müssen**
 Sue seemed at home to work to must
 'Sue seemed to have to work at home'

Finally, like modals in general, *seem* does not passivize but it can embed a passivized predicate. This is illustrated in (44).

(44) *seem*: *passive; *^kembedded passive

- a. *weil der Kaviar zu essen **gescheint/geschienen** wurde
 since [the caviar]-NOM to eat seem-PART (weak/strong) was
 *‘since the caviar was seemed to eat’ ‘since it seemed that somebody ate the caviar’
- b. weil der Kaviar gegessen **worden** zu sein **schien**
 since [the caviar]-NOM eaten become to be seemed
 ‘since the caviar seemed to have been eaten’

To sum up, Table 24 shows that *seem* shares all the properties of epistemic modals in German. Again, these properties can be accounted for naturally under the structure in (41): *seem* is inserted in T°—i.e., in the highest auxiliary/modal position (besides C°). Since *seem* appears in a higher position than modals, the voice, and the participle head, it follows that these categories can be embedded under *seem*, but crucially, *seem* cannot be in the scope of other modals, passive or the participle.

Table 24: Properties of *scheinen* ‘seem’

Properties of modals	epistemic modals	<i>seem</i>
theta assigner	no	no
SUBJECT >> MODAL	yes	yes
MODAL >> SUBJECT	yes	yes
passivize	no	no
have participle, infinitive forms	no	no
can appear under modals, auxiliaries	no	no
embed passive, auxiliaries, modals	yes	yes

3.2 “Promise”, “threaten”

The assumption that raising verbs appear higher up in the tree in German receives some interesting support from the verbs *promise* and *threaten*. These two verbs are ambiguous between a raising and a control construction. Let me illustrate the two readings with the sentences in (45). Under the control readings, Uli makes an actual promise ((45)a) or he utters a threat ((45)b); under the raising readings, somebody thinks (*promise*) or fears (*threaten*) that Uli might become a good father. The raising interpretations are thus again instances of epistemic interpretations.

(45) *promise, threaten*: raising vs. control

- | | | | | |
|----|--|------------------|-----------------|-----------|
| a. | Uli | versprach | ein guter Vater | zu werden |
| | Uli | promised | a good father | to become |
| | 'Uli promised to become a good father' | | | |
| | | | | |
| b. | Uli | drohte | ein guter Vater | zu werden |
| | Uli | threatened | a good father | to become |
| | 'Uli threatened to become a good father' | | | |

What is important to note is that in certain configurations only the control readings are possible. If the sentences involve a present perfect tense for instance, the epistemic readings disappear (cf. (46)).⁷⁰

(46) *promise, threaten*: *raising vs. ^{ok}control under perfective

- | | | | | | |
|----|--|------------|-----------------|-----------|--------------------|
| a. | Uli | hat | ein guter Vater | zu werden | versprochen |
| | Uli | hat | a good father | to become | promised |
| | 'Uli has promised to become a good father' | | | | |
| | | | | | |
| b. | Uli | hat | ein guter Vater | zu werden | gedroht |
| | Uli | has | a good father | to become | threatened |
| | 'Uli has threatened to become a good father' | | | | |

⁷⁰ See Rutten (1991) for the same effect in Dutch.

The same contrast can be replicated again when *promise* or *threaten* are embedded under another modal (cf. (47)).

(47) *promise, threaten: *raising vs. ^{ok}control under modals*

- a. Uli **dürfte** ein guter Vater zu werden **versprechen**
 Uli might a good father to become promise
 'Uli might promise to become a good father'
- b. Uli **muß** ein guter Vater zu werden **drohen**
 Uli must a good father to become threaten
 'Uli must threaten to become a good father'

Furthermore, as was pointed out in chapter two (§4.1), *promise* can only be passivized in its control reading (cf. (48)a), however, as such, it strictly prohibits long object movement (cf. (48)b).

(48) *promise: passive*

=(0)

- a. weil (ihm) versprochen wurde [den Turm abzureißen]
 since (him) promised was [the tower-ACC to-tear-down]
 'since somebody promised him to tear down the tower'
- b. *weil (ihm) der Turm_i [t_i abzureißen] versprochen wurde
 since (him) [the tower]_i-NOM [t_i to-tear-down] promise was
 'since somebody promised him to tear down the tower'

The impossibility of (48)b is of specific interest to the discussion of restructuring. As I have already indicated in chapter two, only the raising version of *promise* shows restructuring effects. Since *promise* as a raising verb appears in T° (like epistemic modals or *seem*), it forms a monoclausal structure with the infinitive. Thus, transparency effects are expected. Furthermore, the apparent FUTURE tense in the complement of *promise* comes as part of the meaning of the epistemic modal *promise* and does not involve a syntactic tense projection (see the discussion in §2.3.2). Thus, again the restructuring behavior of raising *promise* is not surprising.

Finally, note again that the restructuring behavior of *promise* changes drastically when a matrix DATIVE-argument is present. Since no such blocking effect of a DAT-argument is found with lexical RVs like *manage*, it cannot simply be assumed that DATIVES block restructuring. The relevant examples are repeated below in (49). While scrambling is fine in (49)a, it is prohibited if a matrix DAT-argument is present (cf. (49)b).

(49) *promise: scrambling only when no DAT-argument* = (24)

- a. weil ihn_{SCR} der Mann t_{SCR} zu treffen verspricht
 since him_{SCR} the man t_{SCR} to meet promises
 'since the man promises to meet him'
- b. *weil ihn_{SCR} der Mann dem Paul t_{SCR} zu treffen verspricht
 since him_{SCR} the man the Paul t_{SCR} to meet promises
 'since the man promises Paul to meet him'

This behavior is expected under the approach here since DAT-arguments can only show up with control *promise*, but not with raising *promise*. Recall that one of the crucial property of verbs that appear in T° (i.e., raising verbs and epistemic modals) is that they are pure functional categories. That is, T-verbs are case assigners and tense or modal operators but do not enter any thematic relations with an argument of the clause. The presence of a DAT-arguments thus shows that the verb is not a T-verb but rather a lexical verb. The lexical verb *promise*, however, combines with a NRIs which blocks scrambling.⁷¹

⁷¹ This account of the 'blocking' effect of DAT-arguments in raising constructions might provide a solution to the often mentioned puzzle that DAT-arguments block subject raising in certain languages (e.g., French, Italian). That is, assuming that the presence of a DAT-argument excludes a raising structure but forces a control structure (i.e., a complement with an embedded PRO subject) would explain why these constructions cannot involve raising. Interestingly, *seem* in Italian is ambiguous between a raising and a control verb. However, I have not been able to investigate the lexical/functional properties of modals, raising verbs vs. lexical verbs in those languages which would be necessary to draw the same conclusion as for German.

Let me point out another context that again shows the difference between raising and control *promise*. Recall that I assume that raising verbs are non-thematic. Thus, if we construe *promise* as obligatorily involving an agentive subject, the control reading would be forced and scrambling should be impossible. Examples such as (50)b, which involve a subject oriented adverb modifying *promise* (which implies that *promise* has its own subject and hence is a control verb rather than a raising verb), make this point. While scrambling is possible in the raising structure in (50)a, it is clearly prohibited in (50)b which can only be a control structure.

(50) ***promise*: thematic vs. non-thematic**

- a. weil den Peter_{SCR} der Mann t_{SCR} zu treffen versprach
 since the Peter the man t to meet promised
 'since the man promised to meet Peter'
- b. *Hoch und heilig hat den Peter_{SCR} der Mann t_{SCR} zu treffen versprochen
 high and holy has the Peter the man t to meet promised
 'The man promised "cross my heart and hope to die" to meet Peter'

I thus conclude that the assumption *promise* is ambiguous between a lexical (control) verb and a functional (raising) verb, allows us to account for certain ordering restrictions (e.g., the lack of the raising interpretation in the present perfect tense etc.), as well as the restructuring vs. non-restructuring properties in different contexts.

The final section in this chapter investigates aspectual verbs. I will show that aspectual verbs are lexical verbs rather than functional verbs in German.

3.3 Aspectuals

Going back to the distinction between functional and lexical RVs, I have been assuming that aspectual verbs like *begin* are lexical verbs rather than functional verbs.⁷² This assumption is not uncontroversial (see for instance Cinque 1997a,b, 1998 for the opposite assumption). First, it is often claimed that aspectual verbs are ambiguous between a raising and control reading—i.e., aspectual verbs do not necessarily assign a theta-role to the subject (cf. for instance Perlmutter 1970). Second, aspectual verbs seem to convey ‘functional’ meaning—i.e., they are less thematic and represent basic temporal information.

In the previous sections, I have shown that raising verbs and modals share a set of properties that are not found with lexical verbs. In this section, I will examine aspectual verbs and we will see that both the control and the apparent raising structures of *begin* pattern with lexical verbs rather than with modals or raising verbs. I will conclude that both versions of *begin* are in fact lexical verbs, and that moreover, they are both control verbs, and that the raising effect simply arises because *begin* imposes minimal theta-requirements on the external argument.

Let me start with some morphosyntactic properties. Aspectual verbs in both Italian and German appear with infinitival markers that cannot be omitted (cf. (51)a,b). Furthermore, IPP is prohibited in German (cf. (51)c). However, as we have seen in this chapter, these morphosyntactic

⁷² In German, aspectual verbs other than *begin* are somewhat marked when they appear with an infinitive. This might have to do with their internal structure, since *continue*, *stop* are particle-verbs. In Dutch, particle verbs block verb raising, hence restructuring. In German, scrambling etc. is not perfect with those verbs, however, it is also not ungrammatical. I will leave this problem aside, and concentrate on the behavior of *begin*, where the judgments are clear.

properties do not allow us to draw firm conclusions about the status of a verb as a functional or a lexical verb.

(51) *begin*: obligatory infinitival marker

- | | | | | | | | |
|----|-----------------------------------|--------|------------------|-------|-----------|-----------|------|
| a. | weil | ich | einen Schneemann | *(zu) | bauen | begonnen | habe |
| | since | I | a snowman | *(to) | build | begun | have |
| | 'since I began to make a snowman' | | | | | | |
| | | | | | | | |
| b. | che | ho | cominciato | *(a) | costruire | una casa | |
| | that | I-have | begun | *(to) | build | a house | |
| | 'that I began to make a snowman' | | | | | | |
| | | | | | | | |
| c. | weil | ich | einen Schneemann | *(zu) | bauen | beginnen | habe |
| | since | I | a snowman | *(to) | build | begin-IPP | have |
| | 'since I began to make a snowman' | | | | | | |

More important, however, is that aspectuals—in contrast to epistemic modals and raising verbs—can be embedded under an auxiliary (cf. (52)a) or a modal verb (cf. (52)b). Moreover, in contrast to modals and raising verbs, aspectual verbs can be passivized which is illustrated in (52)c.

(52) *begin*: perfective & passive

- | | | | | | | |
|----|-----------------------------------|-----------------|----|--------|-----------------|------------|
| a. | weil | es | zu | regnen | begonnen | hat |
| | since | it | to | rain | begun | has |
| | 'since it began to rain' | | | | | |
| | | | | | | |
| b. | weil | es | zu | regnen | beginnen | muß |
| | since | it | to | rain | begun | must |
| | 'since it must begin to rain' | | | | | |
| | | | | | | |
| c. | weil | ein Schneemann | zu | bauen | begonnen | wurde |
| | since | [a snowman]-NOM | to | build | begun | was |
| | 'since I began to make a snowman' | | | | | |

Note that the sentences in (52)a,b involve a weather-predicate with a quasi-argument. As was pointed out in §2.1.2, this is usually seen as evidence for a raising structure rather than a control structure, since weather-*it* is not a possible subject for control verbs. Thus, complex predicates with a weather-*it* subject have been considered as raising predicates. This conclusion, however, seems to overlook an important detail. While it is true that in most cases control verbs require an

agentive animate subject, it is not necessarily the case that all control verbs have this thematic property. If we look at a simple sentence like (53), we see that *begin* does indeed not require an agentive subject.

(53) *begin*: no agentive/animate subject

Der Regen begann um Mitternacht
'The rain began/started at midnight'

Going back to (52), assuming that *it* is a possible subject for *begin* (as it is for *rain*), nothing seems to exclude a control structure for (52) (i.e., a structure as I have proposed for *try* rather than a raising structure). Note moreover, that *begin*-constructions lack the ambiguity usually found in raising constructions. As was shown in §2.2.3, the subject of a raising construction can be interpreted either in the surface or the base position. The example in (54) shows, on the other hand, that the subject in a *begin*-construction cannot take scope under the aspectual verb.

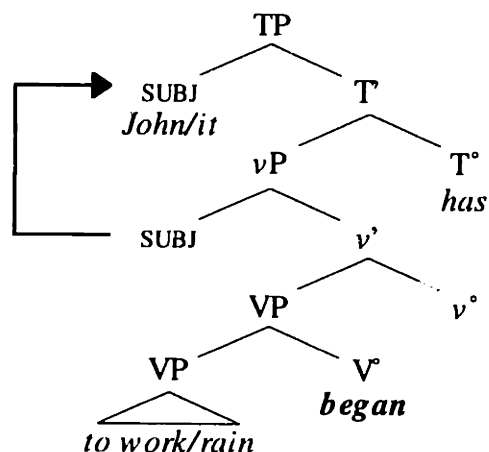
(54) *begin*: no ambiguity for subject

Jemand von New York begann ein Lied zu singen
'Somebody from New York began to sing a song'

- i. There is somebody from N.Y. and he started singing a song
- ii. *The following thing (suddenly) began: somebody from N.Y. sang a song

Thus, assuming that aspectual *begin* is compatible with non-thematic (or semi-thematic) subjects, we can conclude that *begin* behaves in all respects like a lexical verb: it appears lower than modal verbs, the participle head, and the voice head, and the subject position is higher than the matrix verb.

I will thus assume that *begin*-infinitives have the same structure as *try*-infinitives: as is depicted in (55), *begin* is a lexical verb like *try* that combines with a bare VP-complement (hence allowing restructuring). Since the aspectual verb appears lower than v° it can be passivized.

(55) *begin*: lexical verb

At the end of this section, I would like to discuss briefly an alternative approach that assumes that aspectual verbs are functional verbs. Cinque (1997b; following an observation by Aissen & Perlmutter 1983 about Spanish) notices that only a very small subset of the class of RVs allows passive. Like in German, modal verbs do not passivize (cf. (56)a,b; see also Burzio 1986), but aspectual verbs allow (long) passive (cf. (56)c,d).

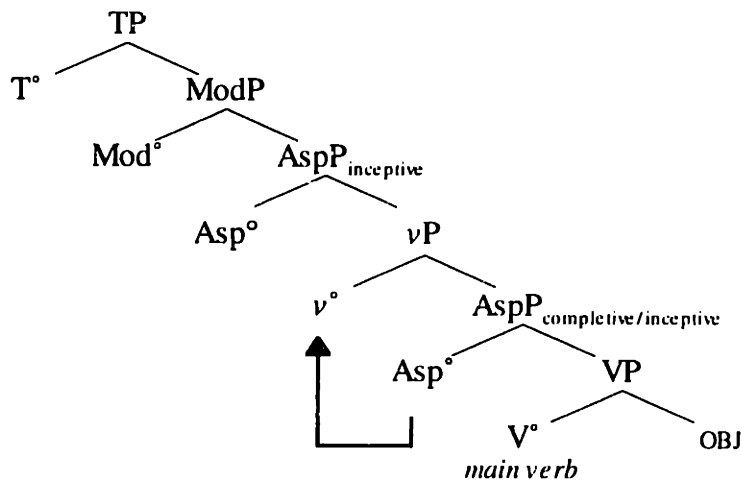
(56) Italian: passive in restructuring contexts

Cinque (1997b:2f.)

- a. * È stata **dovuta** riscrivere
 pro it-is been musted to-rewrite
 'Somebody had to rewrite it'
- b. * Mi è stato **voluto** dare
 pro me it-is been wanted to-give
 'Somebody wanted to give it to me'
- c. La casa fu **finita** di costruire il mese scorso
 the house was finished to build the month last
 'They finished building the house last month'
- d. Quelle case furono **iniziate** a costruire negli anni '20
 these houses were started to build in-the years 20
 'They started building these houses in the 20's'

Cinque proposes that the (im)possibility of passive with different verb categories follows from his assumptions about clause structure. That is, a clause consists of numerous (functional) aspectual projections that are ordered according to a universal hierarchy. To account for the distribution in (56), he assumes that modals are higher than *voice* which in turn is higher than completive aspect. Inceptive aspect can be realized in two different heads, one higher, one lower than voice. Thus, we get the following structure:

(57) Clause structure: Cinque (1997a,b)



Since passive is only possible when a verb moves to or through the passive v° head, only verbs that start out lower than voice can appear in a passive structure (Cinque also would have to assume some notion of *attract or die*).

An important difference between Italian and German arises for verbs like *try* etc. As Cinque notes, clitic climbing is marginally possible in examples such as (58)a (i.e., it is one of the peripheral RVs in Italian). However, even for speakers who accept (58)a, long passive as in (58)b is impossible with this peripheral RV in Italian.

(58) Italian: *passive of *try*

- a. #Lo_{CL} provò ad aggiustare t_{CL} Gianni
 it-CL tried to mend t_{CL} Gianni
 'Gianni tried to mend it'
- b. *Fu provato ad aggiustare (da Gianni)
 It-was tried to mend (by Gianni)
 'Gianni tried to mend it'

The conclusion that Cinque draws from (58) vs. (56) is that *conative* aspect—i.e., the projection hosting verbs like *try*—is higher than voice. The logical consequence for German (where examples like (58)b are grammatical) would then be that conative aspect is lower than voice in German. The question that arises at this point is how unique or universal the aspect hierarchy really is (this question arises also internally to Italian since inceptive aspect is represented in two different positions).

Furthermore, this approach does not seem to provide a way to distinguish between the full vs. marked restructuring status of verbs like *try*. Since verbs like *try* appear quite high in Italian according to Cinque (i.e., at least higher than voice), one would expect that infinitives selected by these verbs should always show transparency effects. However, this is not the case; *try*-verbs are in fact quite controversial as RVs in Italian. Thus, it is not clear why they are only marginally RVs (and even NRVs for some speakers). Finally, the structure in (57) with conative aspect higher than voice would have the effect that *try*-infinitives are raising infinitives in Italian, since the subject starts out lower than the matrix verb. Semantically, this assumption seems problematic.

I will thus not pursue an approach that considers aspectual verbs like *begin* as functional verbs, but assume as outlined above that these verbs are indeed lexical verbs. Note that semantically, aspectual verbs are also different from modal verbs or epistemic verbs in that they are not intensional verbs (recall that one of the semantic criteria for 'modal' verbs was that modals are

modal operators which does not apply to aspectual verbs). Aspectual verbs could be seen as some kind of auxiliary, however, I will not pursue this idea here further.

In the final section of this chapter, I will discuss some properties of remnant movement structures. Assuming the structures for raising verbs and modals as proposed in this chapter, we can make certain generalization that will have interesting implications on the architecture of a clause.

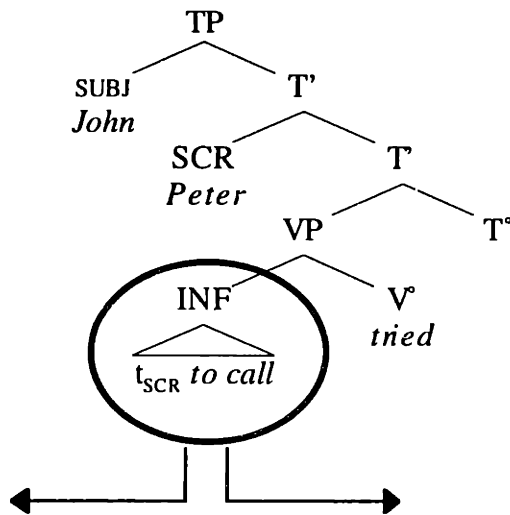
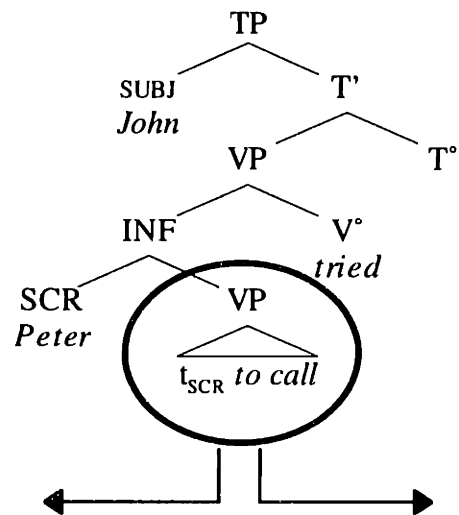
3.4 Excursus: remnant movement of infinitives

Recall basic remnant movement structures in German as in (repeated here from chapter two).

(59) **Remnant movement in RIs** =chapter two: (0)

- a. $[t_{SCR} \text{ Anzurufen}]_{INF}$ hat der Hans $[\text{den Peter}]_{SCR}$ t_{INF} **versucht**
 $[t_{SCR} \text{ to-call}]_{INF}$ has the John $[\text{the Peter}]_{SCR}$ t_{INF} tried
 'John tried to call Peter'
- b. weil der Hans $[\text{den Peter}]_{SCR}$ t_{INF} **versucht** hat $[t_{SCR} \text{ anzurufen}]_{INF}$
 since the John $[\text{the Peter}]_{SCR}$ t_{INF} tried has $[t_{SCR} \text{ to-call}]_{INF}$
 'John tried to call Peter'

One question that arises in remnant movement structures is what the category of the extraposed or topicalized phrase is. Taking the examples in (59), there are two basic options. Simplified structures are depicted in (60).

(60) a. **Remnant infinitive**b. **Remnant verbal projection**

First, the constituents labeled INF in (59) could be the complete (remnant) infinitival complements (i.e., the highest projection of the infinitival complement). As a consequence, the scrambled phrase (which is not taken along with the infinitive) would be outside the infinitive—i.e., it could only be in the matrix clause (cf. (60)a). Second, one could assume that the constituents labeled INF in (59) are a substructure of the infinitival complements (e.g., ν P, AspP, VP etc.). Under this assumption, the scrambled phrase could be in some scrambled position inside the infinitival complement (cf. (60)b). I will argue here that the first option is correct.

If the remnant constituents in (59) have the structure in (60)a, we would expect that remnant movement of infinitives should only be possible when the infinitive is a RI. The structure in (60)a requires scrambling to the matrix clause, which is not possible from NRIs. Hence, this form of remnant movement should not be available for NRIs. If the remnant could have the structure in (60)b, remnant movement should be possible from RIs and NRIs (since topicalization is not subject to clause-boundedness in German; see below). Surprisingly, remnant movement of an infinitive is indeed impossible when the infinitive is the complement of a NRV. As is illustrated in (61), both topicalization and extraposition of the infinitive are blocked when the embedded object is

not taken along with the infinitive (both examples are fine when the object is not stranded but part of the constituent labeled INF).

(61) **Remnant Movement in NRIs**

- a. * $[t_{SCR} \text{ Anzurufen}]_{INF}$ hat der Hans $[\text{den Peter}]_{SCR}$ t_{INF} **geplant**
 $[t_{SCR} \text{ to-call}]_{INF}$ has the John $[\text{the Peter}]_{SCR}$ t_{INF} planned
 ‘John planned to call Peter’
- b. *weil der Hans $[\text{den Peter}]_{SCR}$ t_{INF} **geplant** hat $[t_{SCR} \text{ anzurufen}]_{INF}$
 since the John $[\text{the Peter}]_{SCR}$ t_{INF} planned has $[t_{SCR} \text{ to-call}]_{INF}$
 ‘John planned to call Peter’

Let us assume for the moment that a structure such as (60)b is not available for remnant infinitives and the examples in (61) can only have the structure in (60)a; i.e., the categories labeled INF are the full infinitival CP-complements. The ungrammaticality of (61) can then be reduced to the impossibility of scrambling from NRIs: the only way to move the remnant infinitival CPs in (61) is by prior scrambling of the object to the matrix clause. Since this form of scrambling is blocked from NRIs, remnant topicalization and extraposition are prohibited. (Thus, remnant topicalization and extraposition are indirectly dependent on restructuring.)

For this analysis to hold, it is important to ensure that topicalization per se does not cause a problem when it extracts a constituent from a NRI (i.e., across a clause boundary). As is illustrated in (62)a, the embedded object can move out of a NRI; hence, this form of movement is not subject to clause-boundedness. Moreover, (62)b—which involves extraposition of the infinitive—is only minimally different from (61)b in that it contains a topicalization trace in the remnant, whereas (61)b involves a scrambling trace. Thus, the example in (62)b shows that extraposition of a remnant NRI is in principle possible.

(62) **Topicalization from NRIs**

- a. [Den Peter]_{TOP} hat der Hans t_{TOP} anzurufen geplant
 [The Peter]_{TOP-ACC} has the John t_{TOP} to-call planned
 ‘John planned to call Peter’
- b. [Den Peter]_{TOP} hat der Hans t_{INF} geplant [t_{TOP} anzurufen]_{INF}
 [The Peter]_{TOP-ACC} has the John t_{INF} planned [t_{TOP} to-call]_{INF}
 ‘John planned to call Peter’

The contrast between (61)b and (62)b seems to suggest that what cause the problem in (61) is scrambling rather than extraposition (similar though more complex examples can be construed for topicalization). Going back to the two structures in (60), however, a scrambling violation would only arise under the structure in (60)a. If remnant infinitives could have the structure in (60)b, it would not be clear how to account for the difference between (59) and (61) on the one hand, and between (61)b and (62)b on the other hand. Thus, in order to account for the contrasts mentioned above, an answer to the question of why (60)b is not available has to be found.

Note at this point that this puzzle also arises in a R-VR approach. Although R-VR could be seen as a requirement for scrambling from an infinitive, R-VR does not provide an answer to the question of why the sentences in (61) cannot be represented by a structure as in (60)b. In other words, a R-VR account would provide a way to block a structure as in (60)a when the matrix verb is a NRV, but it would also require additional assumptions to block the structure in (60)b.

To quickly sum up, we have seen that RIs do not have to be adjacent to the matrix verb but can be topicalized, extraposed or scrambled (modulo Müller’s Generalization). I have further conjectured that the assumption that remnant movement as illustrated in (60)b is impossible allows us to account for the difference between RIs and NRIs with respect to remnant movement. At this point, however, the question of why (60)b is not available for NRIs seems to urgently call for an answer.

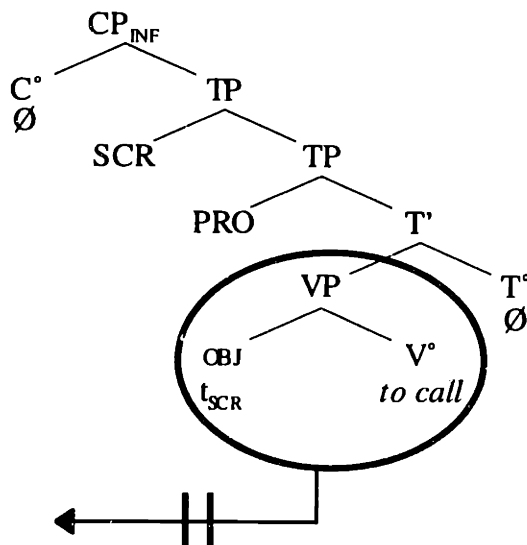
In the next subsections, I will thus investigate the properties of topicalization (§3.4.1) and extraposition (§3.4.2) in more detail.

3.4.1 Topicalization

The main aim of this section is to provide an account for the impossibility of “VP”-fronting (i.e., fronting of a projection smaller than the infinitival CP/TP) in (60)b.⁷³ In order to determine why certain “VP”s cannot undergo topicalization, I will first investigate various types of constructions and we will see that VP-fronting is blocked in a number of other contexts as well.

Looking closer at the structure of (61)a (= (63)), it can be observed that topicalization of the embedded infinitival “VP” would leave behind the (empty) infinitival T°.

(63) Illicit remnant topicalization



⁷³ I use “VP” to refer to the sum of VP-layers (including vP) and VP-internal aspectual projections

Interestingly, the same prohibition against “VP” topicalization is also found with overt auxiliaries. The examples in (64) show that stranding of the auxiliaries *be*, *will* and *have* is illicit.⁷⁴ In order to make sure that these verbs appear in T° and not in C° (i.e., not in V2 position), the clause has to be an embedded clause and hence topicalization has to take place to the higher clause (the sentences are of course all grammatical when the topicalized phrases appear in their base positions).⁷⁵

(64) **Stranded auxiliaries: ***

- a. *[Ins Kino gegangen]_{VP} hat Hans gesagt [daß nur der Kai t_{VP} **ist/sei**]
 [In-the theatre gone]_{VP} has Hans said [that nur the Kai t_{VP} is/were]
 ‘John said that only Kai went to the theatre’
- b. ?*[Im Juli den Turm restauriert]_{VP} sagt Kai [daß nur der Hans t_{VP} **habe**]
 [In July the tower restored]_{VP} said Kai [that only the John t_{VP} had]
 ‘Kai said that only John restored the tower in July’
- c. *[Ins Kino gegangen sein]_{VP} hat Hans gesagt [daß nur der Kai t_{VP} **wird**]
 [In-the theatre gone be]_{VP} has Hans said [that nur the Kai t_{VP} will]
 ‘John said that only Kai will have gone to the theatre’
- b. *[Den Turm restauriert haben]_{VP} sagt Kai [daß nur der Hans t_{VP} **wird**]
 [the tower restored have]_{VP} said Kai [that only the John t_{VP} will]
 ‘Kai said that only John will have restored the tower’

Thus, so far, the generalization seems to be that the complement of T° cannot undergo topicalization. I will now show that this generalization is only part of the conditions determining whether an XP can undergo topicalization or not. More specifically, I will argue that only XPs that are selected by a head that is a theta-role assigner are free to move to topic positions. Since the tense head T° does not assign a thematic role (it assigns case and binds tense or event variables), its

⁷⁴ Though see below for a discussion of *have*.

⁷⁵ The reader should be advised that there is a split among German speakers as to whether they allow A'-movement across a *that* complementizer. Many varieties of Northern German prohibit extraction from a *that*-clause. The judgements in the text thus refer to speakers of Southern German varieties; i.e., speakers who in principle allow extraction from a *that*-clause.

complement cannot move away. Thus, I assume that topicalization is subject to the *Head Stranding Constraint* in (65).⁷⁶

(65) Head Stranding Constraint (HSC)

An X^0 that is not a theta-assigner cannot appear without a complement

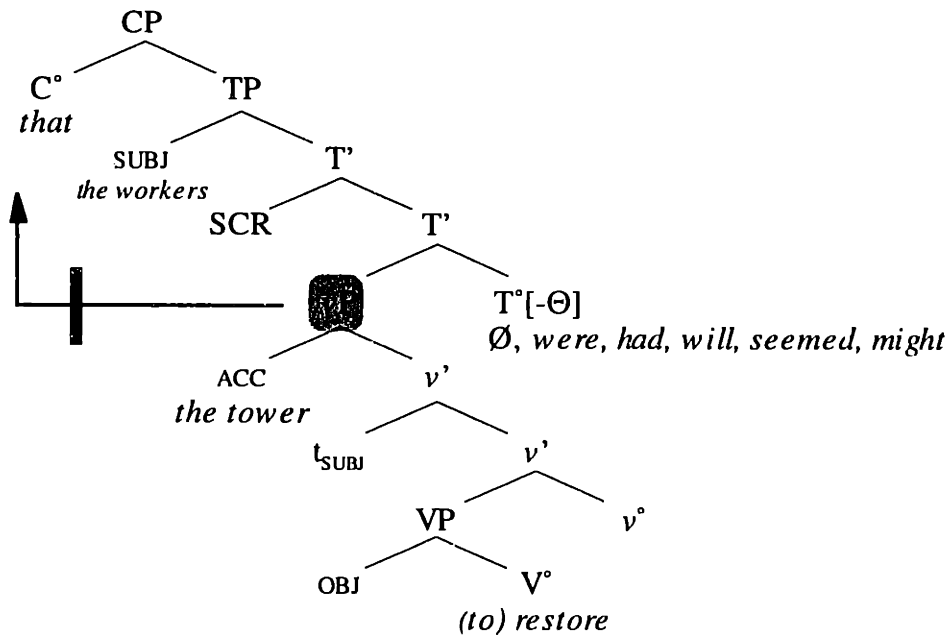
In the rest of this section, I will illustrate and motivate the constraint in (65). Although I will not offer an answer to the question of why there should be a constraint like (65), I will show that it allows us to relate and account for a number of puzzles that have been around in the literature on restructuring in German.

The first set of examples are raising verbs and epistemic modals. Since these categories do not assign a theta-role (recall that I have argued in chapter four that these verbs occupy the T-position in German), (65) predicts that the complement of a raising verb or a modal in situ cannot be moved and strand the raising verb or modal. The examples in (66) illustrate that the raising verb *seem* cannot be left behind; the examples in (67) show that the epistemic modal *dürfte* ‘might’ cannot be stranded by topicalization. Note that these examples also show that the ban against topicalization has nothing to do with scrambling—both fronting of a remnant “VP” involving a scrambling trace (cf. in (66)a, (67)a) as well as fronting of a “VP” without a scrambling trace (cf. in (66)b, (67)b) are impossible.

⁷⁶ In addition, it has of course also to be assumed that the regular constraints on A'-movement hold for topicalization (e.g., intervening wh-specifiers etc. block topicalization). For the discussion here, this aspect of topicalization is irrelevant. All the cases in the text involve topicalization that does not violate any conditions on A'-movement (modulo the dialect variation with respect to *that*-clauses mentioned in fn. 75).

(68) Topicalization of complements of T°

=(61)a, (64), (66), (67)



Consider now the examples in (69). If the non-theta assigning auxiliaries or functional verbs raise to C° (i.e., as part of a V2 configuration), topicalization of the ν P would not violate the HSC anymore, since the verbs are not stranded in T. All the examples in (64) through (67) become grammatical when the verbs raise to C° (cf. (69)) which involve 'short' topicalization; topicalization to a higher clause would also be fine).

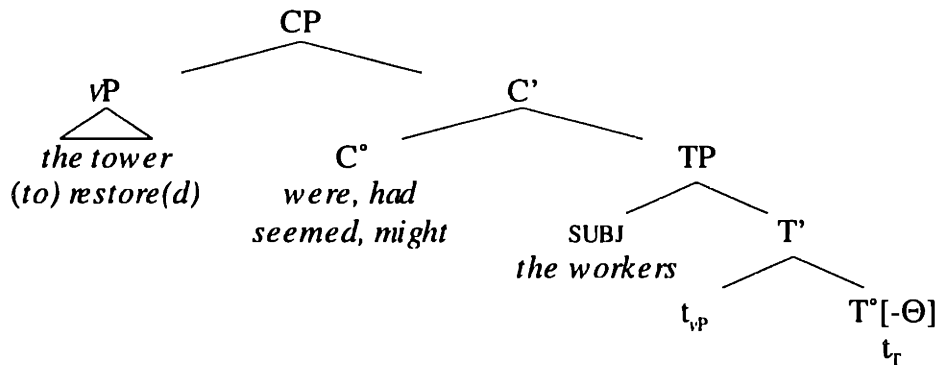
(69) Topicalization & V2

- a. [Ins Kino gegangen]_{vP} **ist** nur der Hans _{t_{vP}}
 [In-the theatre gone]_{vP} is only the Hans _{t_{vP}}
 'Only John went to the theatre'
- b. [Im Juli den Turm restauriert]_{vP} **hat** nur der Sepp _{t_{vP}}
 [In July the tower restored]_{vP} has only the Sepp _{t_{vP}}
 'Only Joseph restored the tower in July'
- c. [Den Turm zu restaurieren]_{vP} **schienen** nur die Arbeiter _{t_{vP}}
 [The Tower to restore]_{vP} seemed only the workers _{t_{vP}}
 'Only the workers seemed to restore the tower'
- d. [Den Turm restaurieren]_{vP} **dürften** die Arbeiter _{t_{vP}}
 [The Tower restore]_{vP} might the workers _{t_{vP}}
 'The workers might restore the tower'

The structure below illustrates the sentences: auxiliaries, modals and raising verbs in C° position are not stranded without a complement and the underlying vP-complement is thus free to move from its base position.⁷⁷

(70) Topicalization of complements of T°

=(69)



⁷⁷ The T° in trace position is technically stranded; however assuming that the HSC applies to chains this problem disappears.

One interesting effect of the constraint in (65) is that the TP can never undergo topicalization. Since C° is not a theta-assigner it always has to appear with a complement. Topicalization of TP would deprive C° from its complement and hence violate the HSC. A well-known constraint on topicalization in German is that the topicalized constituent in German cannot include the subject. Assuming that the subject appears in SpecTP, the prohibition against topicalization of the phrase containing the subject can be seen as a consequence of the HSC.

Since the HSC is tied to the theta-assigning properties of a head, it predicts correctly that X° -categories that do assign a theta-role are exempt from the HSC and can be stranded. There are two major set of cases that show that this prediction is true: i) main verbs and ii) root modals. The first point is quite straightforward: we have already seen many examples involving topicalization of infinitival complements standing lexical verbs (e.g., movement of the infinitival complement of *try* in (59) or of the NRV *plan* in (62)b).

The second case seems to be more interesting. Recall that one difference between root modals and epistemic modals is that the subject in a root modal construction enters into a thematic relation with the modal. The examples in (71) and (72) illustrate that the HSC in (65) makes the correct prediction for topicalization: assuming that root modals are theta-assigners, it follows that a root modal can survive without a complement and that topicalization of the vP—i.e., the complement of the modal—is well-formed.

(71) Stranding *wollen* 'want': ok

- a. $[t_{SCR} \text{ Restaurieren}]_{v,p}$ hat Hans gesagt
 $[t_{SCR} \text{ restore}]_{v,p}$ has Hans said
 [daß die Gemeinde [den Turm] $_{SCR}$ $t_{v,p}$ **wollte**]
 [that the city [the tower] $_{SCR}$ $t_{v,p}$ wanted]
 'John said that the city wanted to restore the tower'
- b. [Den Turm restaurieren] $_{v,p}$ hat Hans gesagt [daß die Gemeinde $t_{v,p}$ **wollte**]
 [The Tower restore] $_{v,p}$ has Hans said [that the city $t_{v,p}$ wanted]
 'John said that the city wanted to restore the tower'

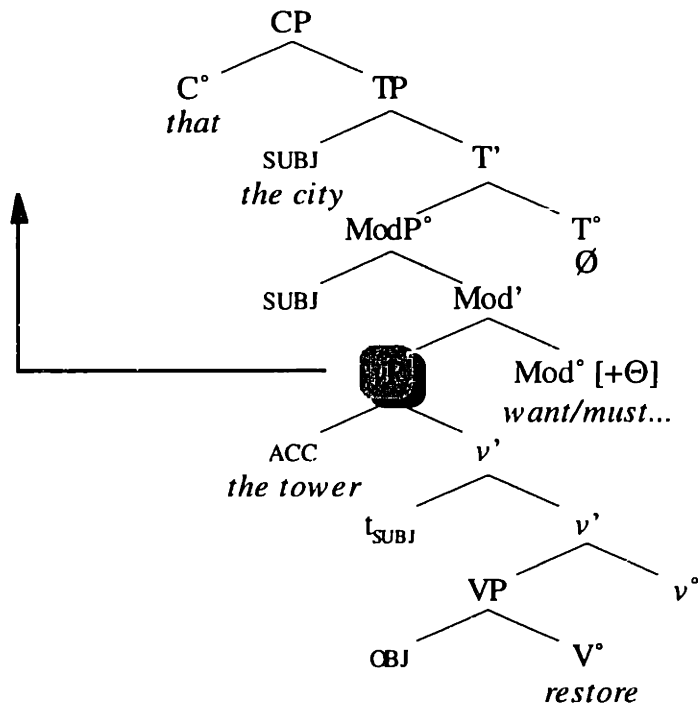
(72) Stranding *müssen* 'must': ok

- a. $[t_{SCR} \text{ Restaurieren}]_{v,p}$ hat Hans gesagt
 $[t_{SCR} \text{ restore}]_{v,p}$ has Hans said
 [daß die Gemeinde [den Turm] $_{SCR}$ $t_{v,p}$ **muß**]
 [that the city [the tower] $_{SCR}$ $t_{v,p}$ must]
 'John said that the city has to restore the tower'
- b. ?[Den Turm restaurieren] $_{v,p}$ hat Hans gesagt [daß die Gemeinde $t_{v,p}$ **muß**]
 [The Tower restore] $_{v,p}$ has Hans said [that the city $t_{v,p}$ must]
 'John said that the city must restore the tower'

The examples in (71) and (72) contrast sharply with the examples in (66) and (67). What is crucial is that in all the examples in (71) and (72) only a root interpretation is possible. If we try to interpret the sentences with an epistemic reading, the constructions are ungrammatical. The structure of the examples in (71), (72) is depicted below.

(73) Topicalization & root modal complements

= (71), (72)



To give one more set of examples, if a modal verb and an auxiliary are present, only the complement of the modal can be topicalized (cf. (74)a), the complement of the auxiliary—i.e., the ModP—has to stay next to the auxiliary (cf. (74)b). If, however, the auxiliary appears in C°, topicalization of the ModP becomes possible (cf. (74)c).

(74) Topicalization & Modal & Auxiliary

- a. [Auf den Everest klettern]_{VP} hat Hans gesagt
 [on the Everest climb]_{VP} has Hans said

[daß nur der Martin t_{VP} **wollen hat**]
 [that only the Martin t_{VP} want has]

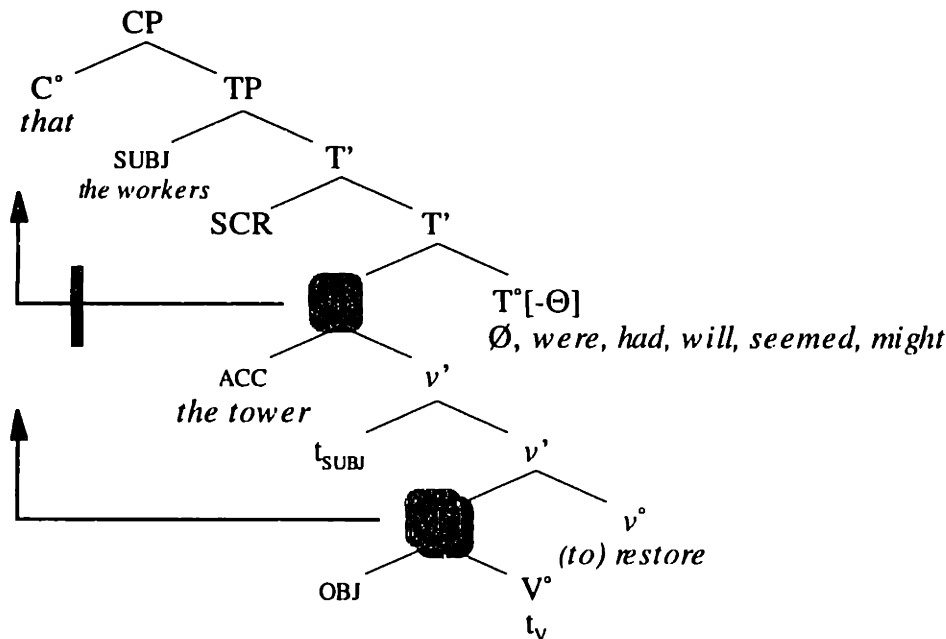
‘John said that only Martin wanted to climb Everest’

- b. *[Auf den Everest klettern wollen]_{VP} hat Hans gesagt
 [on the Everest climb want]_{VP} has Hans said
- [daß nur der Martin t_{VP} **hat**]
 [that only the Martin t_{VP} has]
- ‘John said that only Martin wanted to climb Everest’
- c. [Auf den Everest klettern wollen]_{VP} hat nur der Martin t_{VP}
 [on the Everest climb want]_{VP} has only the Martin t_{VP}
 ‘Only Martin wanted to climb Everest’

So far, I have only discussed stranding of modals or verbs in T. One question that arises is whether the HSC allows stranding of v° . Since v° is a theta-assigner, it should not be subject to the HSC. This assumption would cause a problem in structures like (68), repeated here as (75). Topicalization of vP is blocked since T° is not a theta-assigner. However, nothing seems to block topicalization of the VP; hence, we should get structures where the infinitive or participle is topicalized, leaving behind the v° .

(75) Topicalization of complements of T°

=(61)a, (64), (66), (67)



The explanation that I would like to offer here is that the main verb in German has to raise at least out of the VP and attach to v^0 . As is indicated in the diagram in (68), we could then assume that VP-fronting is possible (since it does not violate the HSC), however it would not contain the main verb anymore. Evidence for VP-fronting without the main verb is provided by examples involving two XPs in topic position. Since SpecCP is not recursive in German but can host only one XP, the fronted material in (76) has to form one constituent.

(76) Topicalization of VP without verb

- a. [Der Maria eine Rose]_{VP} hat der Hans erst gestern t_{VP} gegeben
 [to Mary a rose]_{VP} has the John only yesterday t_{VP} given
 ‘Just yesterday, John gave a rose to Mary’
- b. [die Tür auf]_{VP} hat nur der Hans t_{VP} gemacht
 [the door open]_{VP} has only the John t_{VP} made
 ‘Only John opened the door’

The assumption that the main verb raises out of VP in German is supported by preverbal affixes. German has a small class of prefixes (*be-*, *ent-*, *er-*, *ge-*, *miß-*, *ver-*, *zer-*) that appear attached to the verb. I assume that prefixes (including the participle marker *ge-*, and the infinitival marker *zu*) are generated in a verbal projection higher than the main VP (see Wurmbrand 1998c). For the verb to appear to the right of the prefix, the verb has to raise out of VP (cf. (77)).

(77) Prefixes

- a. Sie hat einen Bären t_v **ge-** sehen
 She has a bear t_v PARTICIPLE seen
 ‘She has seen a bear’
- b. Sie hat einen Bären t_v **be-** kommen
 She has a bear t_v PREFIX got
 ‘She has got a bear’

The final set of constructions that I will discuss here are sentences involving the verb *have*. I will show that this verb comes in two forms: a perfective auxiliary and a possessive verb. The

auxiliary version of *have* is non-thematic—i.e., *have* does not enter into a thematic relation with an argument; the possessive version is like a root modal—i.e., *have* assigns a (possessive) theta-role to the subject. Again supporting the analysis here, only the latter can be stranded in topicalization structures.

Most *have*-participle constructions are multiply ambiguous. The two readings of a sentence such as (78)a that I will concentrate on here are the *perfective* reading and the *possessive* reading. In the perfective reading, *have* functions as an auxiliary and the temporal *by*-phrase modifies the participle. In the possessive reading, *have* is a theta-assigner and the *by*-phrase modifies *have*. The paraphrases are given under (78)a. What is important for the discussion here, is that if the participle phrase is topicalized, only the possessive reading survives (cf. (78)b). If the fronted phrase also includes the modifier *by tomorrow* as in (78)c, the result is ungrammatical: in the possessive reading, the *by*-phrase modifies *have* rather than the participle; if the modifier is embedded in the topicalized constituent, this modification becomes unavailable.⁷⁸

⁷⁸ It is generally known that topicalized phrases exhibit a scope freezing effect in German (cf. Frey 1989, Sauerland 1997).

(78) *have*: auxiliary vs. possessive

- a. Hans will den Turm bis morgen restauriert **haben**
 John wants the tower by tomorrow restored have
 'John wishes that he will have restored the tower by tomorrow' *perfective*
 'John wants to have (=possess) the tower in a restored form by tomorrow' *possessive*
- b. [_{SCR} restauriert]_{VP} will der Hans [den Turm]_{SCR} bis morgen t_{VP} haben
 [_{SCR} restored]_{VP} wants the John [the tower]_{SCR} by tomorrow t_{VP} have
 *'John wishes that he will have restored the tower by tomorrow' *perfective*
 'John wants to have (=possess) the tower in a restored form by tomorrow' *possessive*
- c. *[Bis morgen t_{SCR} restauriert]_{VP} will der Hans [den Turm]_{SCR} t_{VP} haben
 [By tomorrow t_{SCR} restored]_{VP} wants the John [the tower]_{SCR} t_{VP} have
 *'John wishes that he will have restored the tower by tomorrow' *perfective*
 'John wants to have (=possess) the tower in a restored form by tomorrow' *possessive*

In conclusion, the verb *have* can only be stranded when it is interpreted as a theta-assigner. If it is a pure perfective auxiliary, the complement cannot be moved away.

The topicalization properties of complements to different verb and auxiliary classes are summarized in Table 25. As can be read from the table, complements to X°-heads that assign a theta-role can undergo topicalization, complements to X°-heads that do not assign a theta-role have to stay in their base-position (unless the X°-element undergoes movement). This generalization has been expressed in (65) as a constraint on stranding X° categories.

Table 25: Topicalization

Verb class	TOP	Explanation	EXX
lexical verb	+	theta-assigner	(59)a
root modal	+	theta-assigner	(71), (72)
possessive <i>have</i>	+	theta-assigner	(78)b
auxiliary <i>be, have, will</i>	-	no theta-assigner	(64)
<i>seem</i>	-	no theta-assigner	(66)
epistemic modals	-	no theta-assigner	(67)
T-features	-	no theta-assigner	(61)
X° [-Θ] in COMP	+	no empty complement	(69)

Although the restrictions on stranding are similar for topicalization and extraposition, there are certain differences that will be discussed in the next section.

3.4.2 Extraposition

Like topicalization, extraposition of XPs that are combined with an X° that is not a theta-assigner is blocked. Thus, auxiliaries (cf. (79)), raising verbs (cf. (80)a), epistemic modals (cf. (80)b), and infinitival T°-heads (cf. (61), repeated as (80)c) cannot be stranded under extraposition. [Again, all the examples are well-formed if extraposition does not occur].

(79) Auxiliaries: *extraposition

- a. *weil die Daniela t_{VP} ist [um den Turm gelaufen]_{VP}
 since the Daniela t_{VP} is [around the tower run]_{VP}
 'since Daniela has run around the tower'
- b. *weil der Kai t_{VP} hat [den Turm umgeworfen]_{VP}
 since the Kai t_{VP} has [the tower thrown-over]_{VP}
 'since Kai has thrown over the tower'
- c. *weil der Kai t_{VP} wird [den Turm umwerfen]_{VP}
 since the Kai t_{VP} will [the tower throw-over]_{VP}
 'since Kai will throw over the tower'

(80) Raising verbs, epistemic modals: *extraposition

- a. *weil der Hans t_{VP} scheint [den Turm zu restaurieren]_{VP}
 since the John t_{VP} seems [the tower to restore]_{VP}
 'since John seems to restore the tower'
- b. *weil der Hans t_{VP} dürfte [den Turm restaurieren]_{VP}
 since the John t_{VP} might [the tower restore]_{VP}
 'since John might restore the tower'
- c. *weil der Hans [den Peter]_{SCR} t_{INF} geplant hat [t_{SCR} anzurufen]_{INF}
 since the John [the Peter]_{SCR} t_{INF} planned has [t_{SCR} to-call]_{INF}
 'John planned to call Peter'

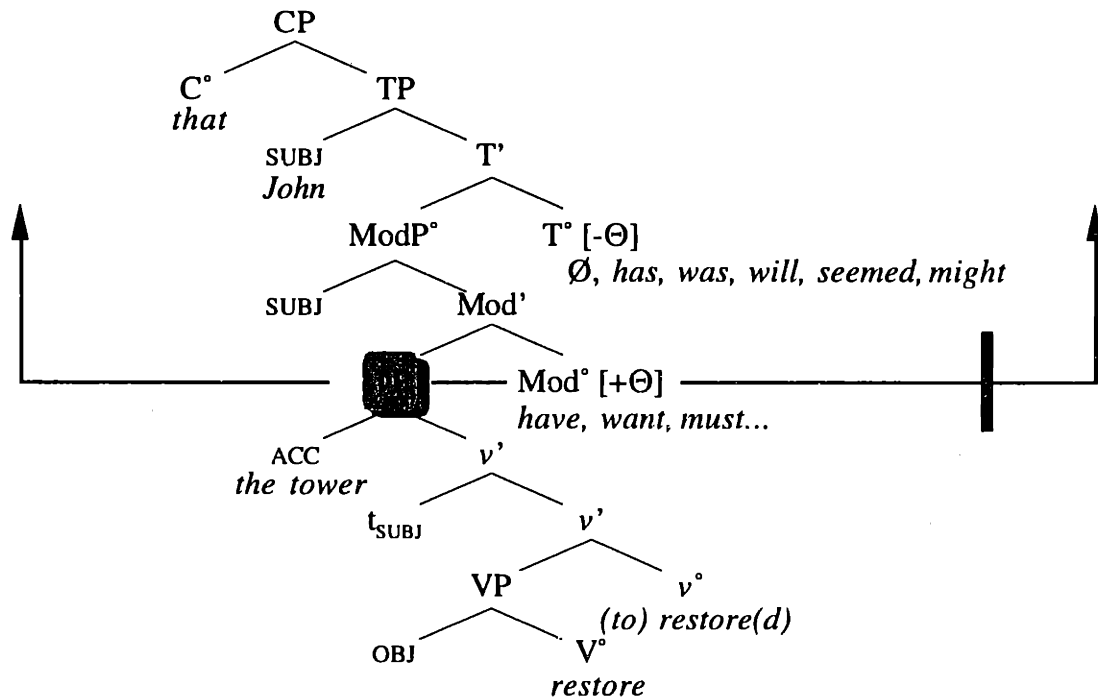
Where extraposition differs crucially from topicalization, however, is with modal verb constructions and possessive *have*. Recall that topicalization of the complement of root modals was fine, since their theta-assigning property exempts them from the HSC. Since the examples in (81) are clearly ungrammatical under all interpretations, they seem to indicate that extraposition is subject to an additional constraint that is not active for topicalization.

(81) **Modals: *extraposition**

- a. *weil der Hans t_{VP} **will** [den Turm restaurieren]_{VP}
 since the John t_{VP} wants [the tower restore]_{VP}
 'since John wants to restore the tower'
- b. *weil der Hans t_{VP} **muß** [den Turm restaurieren]_{VP}
 since the John t_{VP} must [the tower restore]_{VP}
 'since John must restore the tower'
- c. *weil der Hans t_{VP} **hat** [den Turm bis morgen restauriert]_{VP}
 since the John t_{VP} has [the tower by tomorrow restored]_{VP}
 'since John will have the tower in a restored form by tomorrow'

Let us visualize again the structure of modals and auxiliaries proposed for German.

(82) Topicalization vs. extraposition



Although, I will not present an account for the prohibition of extraposition in (82), I will offer some speculations about what might be going on. The approach that comes to mind is based on a prosodic account of extraposition. Truckenbrodt (1995) argues that extraposition in German is subject to prosodic conditions rather than syntactic conditions. He argues that modals, auxiliaries etc. when they appear in situ (i.e., do not raise to C), form one prosodic phrase which cannot be interrupted. That is, extraposition cannot target a position between two auxiliaries, but the extraposed (prosodic) phrase has to attach after the highest verbal element. Suppose now, that extraposition can only affect prosodic phrases (in contrast to topicalization which is possible for any syntactic XP that does not violate the HSC). Since there is no prosodic phrase boundary between the main verb and the modal in (82), or in other words, since *vP* is not a prosodic phrase, the sequence VERB-MOD-AUX-TENSE cannot be split up, and the *vP* cannot be extraposed.

This approach accounts for most of the cases presented so far. What still has to be shown is that the complement of a main verb like *try* forms an independent prosodic phrase. Recall that RIs can be extraposed—this would predict that a lexical RI and the matrix RV do not form a single prosodic phrase but are separated by a prosodic phrase boundary.

A further problem is posed by complements of passivized RIs involving ROM. As the sentence in (83)a shows, extraposition of the infinitival complement is marginal or ungrammatical for certain speakers. Unfortunately, the data are not clear and speaker judgments vary quite significantly (see the Appendix §3: (3) for the judgments of 6 native speakers of German; note especially speaker 2 and 4 who not only have the opposite judgments from each other for the examples (3)a vs. (3)b, but also judge the two sentences with the opposite judgments).

(83) “Long” passive & extraposition

- a. %weil [der Turm]-NOM versucht wurde [t_i zu restaurieren]
since [the tower]-NOM tried was [t_i to restore]
'since somebody had tried to restore the tower'
- b. ok: 1 ? : 2 ?? : 1 * : 2

Since the data are not clear at this point, I will leave the issue aside.

To conclude, in most cases, extraposition and topicalization follow the same restrictions in German. However, they differ with respect to dislocation of the complement to root modals—topicalization is fine, extraposition is impossible. I have sketched a prosodic account for extraposition, however, many of the details will still have to be worked out.

Table 26: Extraposition

Verb class	EXTR	Explanation	EXX
lexical verb	+	theta-assigner, PPh	(62)b
passivized main verb	%	theta-assigner, ??	(83)
root modal	-	no PPh	(81)a,b
possessive <i>have</i>	-	no PPh	(81)c
auxiliary <i>be, have, will</i>	-	no theta-assigner, no PPh	(79)
<i>seem</i>	-	no theta-assigner, no PPh	(80)a
epistemic modals	-	no theta-assigner, no PPh	(80)b
T-features	-	no theta-assigner, no PPh	(80)c
X° [-Θ] in COMP	not testable	∅	∅

4. CONCLUSION AND OUTSTANDING PROBLEMS

In this chapter, I have presented a basic analysis of modal and raising structures in German. The general idea is that these categories are functional heads (modal operators) that appear in specific functional head positions. Verbs that are non-thematic—i.e., verbs that do not establish thematic relations with an argument in the clause—are inserted in T° (which is a case assigner and tense operator but not a theta-assigner). Modals that do assign a theta-role appear as the head of ModP. A number of ordering restrictions have been discussed that provide evidence for these assumptions.

Since modal verbs and raising verbs are functional heads (and the infinitive is the main predicate of the clause), modal and raising configurations are inherent monoclausal structures. Thus, it follows that modal verbs are among the core cases of restructuring. Furthermore, I have argued that modal operators specify as part of the conversational background aspects of the temporal orientation of their complements, accounting this way for the apparent mismatch between lexical RVs and modal RVs.

In this chapter, many issues have been raised, however, in many cases no worked out analysis has been provided. This chapter should thus be seen as a jumping board for further research and investigation. One issue that I have not discussed here is the question of why a certain verb is a modal in one language but not the other. I have shown that there are four main 'modal' criteria in German. Verbs that fulfill all four criteria are clear cases of modals morphologically and semantically. But there is also a range of verbs that show an intermediate status (e.g., the verb *want*). It does not come as a surprise that these verbs show special behavior in many respects. However, a deep explanation for this behavior is still required.

Furthermore, the question of what property or properties determine the distribution of the infinitival marker has been set aside. Among the unsolved things is also the question of how exactly the periphery of restructuring is composed in a particular language. I believe that this dissertation has provided an important step towards an answer. However, certain mysteries still remain.

Consider the following table which summarizes the restructuring/non-restructuring properties of various verb classes in five languages. The table is a summary of table 1 in the Appendix §1, which lists the verbs of each class separately. The "+" refers to predicates that clearly trigger restructuring (i.e., there is no speaker variation), the "-" refers to predicates that never trigger restructuring (again only if there is no speaker variation), and the \pm refers to predicates that trigger restructuring for some speakers but not for others.

Table 27: Restructuring categories in German, Dutch, Italian, Spanish, Japanese

Verb	German	Dutch	Italian	Spanish	Japanese
modals	+	+	+	+	+
motion verbs	+	+	+	+	+
aspectual verbs	+	+	+	+	+
SUBJECT-less causatives	+	+	+	+	+
<i>try, easy</i> -adjectives	+	+	±	±	+
implicatives	+	+	±	±	+
causatives with SUBJECT	±	+	-	-	+
<i>permit, order</i>	±	-	-	±	-
<i>plan, announce</i>	-	-	-	-	-
syntactic control verbs	-	-	-	-	-
propositional verbs	-	-	-	-	-
factive verbs	-	-	-	-	-

Comparing the plusses and minuses in Table 27, we can make out three areas: i) predicates that crosslinguistically clearly trigger restructuring (higher non-shaded area), ii) predicates that show language and/or speaker variation w.r.t. restructuring (shaded area), and iii) predicates that crosslinguistically clearly do not trigger restructuring (lower non-shaded area).

The clear cases of restructuring are formed by modal constructions, motion verbs, aspectual verbs and SUBJECT-less causatives. I have argued that all of these constructions have a monoclausal structure; i.e., they either involve functional verbs (auxiliaries) or bare VP-complements that do not involve tense and a subject.

As we have seen in chapter five, the lack of restructuring with factive and propositional complements can be derived from a conflict between the requirement imposed by factivity/propositionality—factive/propositional complements are clauses—and the requirement imposed by restructuring—RIs are properties and not propositions. In chapter four, I have argued

that syntactic control verbs block restructuring syntactically, since these control structures involve a syntactic subject. Thus, the clear cases of non-restructuring also have been taken care of.

This leaves us with the gray area. In order to find an explanation for the variation in the gray area in Table 27, language specific properties have to be taken into consideration and the various constructions have to be investigated in more detail.

The list of open questions could be continued of course, and hopefully, at some point answers will be found. However, at this point in the dissertation they will have to wait.

Appendix

1. THE CLASS OF RESTRUCTURING PREDICATES

1.1 A literature review

Table 28 gives a summary of restructuring predicates. The following properties are used to distinguish between restructuring and non-restructuring contexts:

Restructuring Properties:

German:	scrambling, passive
Dutch:	verb-raising
Italian:	clitic climbing, object preposing, auxiliary selection
Spanish:	clitic climbing, object preposing
Japanese:	no tense-marker

The judgements are mostly from the authors listed in section A.1.3 and some independent research (all data are available from the author). The following symbols are used:

- +**: restructuring properties are found in the relevant contexts
- : no restructuring properties
- ±**: there is at least one speaker who allows restructuring and at least one speaker who rejects restructuring with the verb under consideration
- Ø**: verb does not qualify for independent reasons (see A.0)

Table 28: Restructuring predicates

VERB	GERMAN	DUTCH	ITALIAN	SPANISH	JAPANESE
<i>want</i>	+	+	+	+	+
<i>can, may</i>	+	+	+	+	+
<i>must, have to, need</i>	+	+	+	+	+
<i>know-how</i>	+	+	+	+	Ø
<i>easy-adjectives</i>	+	+	+	+	+
<i>come, go</i>	+	+	+	+	+
<i>return</i>	Ø	Ø	±	+	±
<i>begin/start</i>	+	+	+	+	+
<i>continue, keep on</i>	+	Ø	+	+	+
<i>finish/stop</i>	+	Ø	+	+	+
<i>used to</i>	+	+	+	+	Ø
<i>be about to</i>	Ø	Ø	+	+	+
<i>re-do</i>	Ø	Ø	Ø	+	+
<i>try</i>	+	+	±	±	-
<i>manage/succeed</i>	+	+	±	±	+
<i>dare</i>	+	+	±	-	Ø
<i>fail</i>	+	Ø	Ø	Ø	+
<i>mean to, intend</i>	+	+	±	±	Ø
<i>forget (implicative)</i>	+	+	±	±	+
<i>seem</i>	+	+	±	-	-
<i>appear</i>	Ø	+	-	-	-
<i>promise, threaten</i>	+	+	-	-	-
SUBJECT-less causatives	+	+	+	+	+
causatives with SUBJECT	±	+	-	-	+
<i>permit, order</i>	±	-	-	±	-
<i>recommend</i>	±	-	-	-	-
<i>refuse</i>	Ø	+	-	-	-
<i>choose, decide, intend</i>	±	-	-	-	-
<i>plan, announce</i>	-	-	-	-	-
<i>avoid</i>	-	-	-	-	-
double object verbs	-	-	-	-	-
propositional verbs	-	-	-	-	-
factive verbs	-	-	-	-	-

1.2 Non-qualifying verbs

1.2.1 German

(1) **be about, return:** *infinitives are adjuncts*

- a. Hans war dabei [den Apfel zu essen]
 John was about [the apple to eat]
 'John was about to eat the apple'
- b. Hans kam zurück [um die Maria zu treffen]
 John came back [in-order the Mary to meet]
 'John came back in order to meet Mary'

(2) **refuse:** *inherent reflexive*

- Hans hat sich geweigert [den Apfel zu essen]
 John has SELF refused [the apple to eat]
 'John refused to eat the apple'

(3) **re-do, finish:** *not expressed by verb + infinitive*

- a. Hans hat den Brief noch einmal geschrieben
 John has the letter once more written
 'John rewrote the letter'
- b. Hans beendete das Briefschreiben
 Jan finished the letter-writing
 'Jan finished the letter-writing'

(4) **appear:** *no corresponding verb (only seem exists)*

1.2.2 Dutch

- (5) **stop:** *particle verb*

Jan	hield	op	de taart	te eten
Jan	hold	PART	the cake	to eat

'Jan stopped eating the cake'

- (6) **continue,finish:** *no infinitive, combines with PPs (nominalized infinitives)*

a. Jan ging maar door met het eten van de taart
 Jan went along through with the eat-INF of the cake
 'Jan continued eating the cake'

Jan	bleef	maar	van	de taart	eten
Jan	stayed	along	of	the cake	eat-INF

'Jan stuck to eating the cake' 'Jan continued eating the cake'

b. Jan had de taart opgegeten
 Jan had the cake up-eaten
 'John ate up the cake' 'John finished the cake'

- (7) **fail:** *expressed as 'not succeed'*

a. Jan slaagde er niet in de race te winnen
 b. Het lukte Jan niet de race te winnen

- (8) **be about, re-do:** *no infinitival complements*

a. Jan stond op het punt de taart te eten
 Jan stood on the point the cake to eat
 'Jan was about to eat the cake'

b. Jan **herschreef** zijn dissertatie
 Jan re-wrote his dissertation
 'Jan rewrote his dissertation'

1.2.3 Spanish, Italian

(9) *fail:* *expressed as 'not succeed'*

- | | | | | | | |
|----|------------------------------------|-----|-----------|---------------|-----------|----------------|
| a. | Juan | no | consiguió | enviarla | a Francia | <i>Spanish</i> |
| | Juan | not | managed | to-send+it-CL | to France | |
| | 'Juan failed to send it to France' | | | | | |
| | | | | | | |
| b. | Maria | non | riusciva | a convincere | Gianni | <i>Italian</i> |
| | Maria | not | managed | to convince | Gianni | |
| | 'Juan failed to convince Gianni' | | | | | |

1.2.4 Japanese

(10) *use to, know-how:* *not expressed by INFINITIVES*

- | | | | | | |
|----|-------------------------------|-----------|----------------|------------------|--|
| a. | Kai-ga | ringo-no | tabeta | monoda | |
| | Kai-NOM | apple-GEN | ate | happened | |
| | 'Kai used to eat apples' | | | | |
| | | | | | |
| b. | Kai-ga | ringo-no | tabe-kata-o | sitteiru | |
| | Kai-NOM | apple-GEN | eat-method-ACC | know-progressive | |
| | 'Kai knows how to eat apples' | | | | |

(11) *dare:* *no corresponding verb*

- | | | | |
|---------------------------|------------|-----------|--------|
| Emi-ga | yuukan-ni | ring-o | tabeta |
| Emi-NOM | bravely-NI | apple-acc | ate |
| 'Emi dared to eat apples' | | | |

1.3 Verb classifications by different authors

1.3.1 Rizzi (1976, 1982)

- | | |
|--|----------------|
| I. Restructuring Verbs | <i>Italian</i> |
| a. modals
want, must, can | |
| b. aspectuals
start, finish, be about to, continue | |
| c. motion verbs
come, go, return | |
| d. others
know how, <i>easy</i> -adjectives | |
| II. Variation | <i>Italian</i> |
| try, seem | |
| III. Non-Restructuring Verbs | <i>Italian</i> |
| all others | |

1.3.2 Napoli (1981)

- | | |
|--|----------------|
| I. Restructuring Verbs | <i>Italian</i> |
| a. modals
want, must, can, have to | |
| b. aspectuals
start, be about to, continue | |
| c. motion verbs
come, go, return, send | |
| d. others
know how, succeed | |
| II. Variation | <i>Italian</i> |
| dare, intend, learn, use to, finish, seem, forget, try | |
| III. Non-Restructuring Verbs | <i>Italian</i> |
| all others | |

1.3.3 Zagana (1982), Aissen & Perlmutter (1976, 1983)

- | | |
|--|----------------|
| I. Restructuring Verbs | <i>Spanish</i> |
| a. modals
want, ought/should, can, have just | |
| b. aspectuals
start, finish, stop, keep on, continue, re-do | |
| c. motion verbs
come, go, return | |
| d. others
tend, try, <i>easy</i> -adjectives | |
| II. Variation | <i>Spanish</i> |
| permit, order | |
| III. Non-Restructuring Verbs | <i>Spanish</i> |
| seem, must (epist.), insist, dream, decide, avoid, suggest, ask, say, affirm | |

1.3.4 Picallo (1985)

- | | |
|--|----------------|
| I. Restructuring Verbs | <i>Catalan</i> |
| a. modals
want, must, can/may, have to | |
| b. aspectuals
start, finish, use to | |
| c. motion verbs
come, go, return | |
| II. Non-Restructuring Verbs | <i>Catalan</i> |
| seem | |

1.3.5 Burzio (1986)

I. Restructuring Verbs

Italian

- a. **modals**
want, must, can
- b. **aspectuals**
start, be about to, continue, finish⁷⁹
- c. **motion verbs**
come, go
- d. **others**
know how, *easy*-adjectives
- e. **raising**
seem

II. Non-Restructuring Verbs

Italian

return, all others

1.3.6 Fanselow (1989)

I. Restructuring Verbs

German

- a. **modals**
want, must, can, should, be allowed to, ...
- b. **others**
try, dare, promise, let
- c. **subject raising verbs**
seem

II. Non-Restructuring Verbs

German

ask, regret, force, tell, claim

⁷⁹ Burzio excludes the verb *finire* 'finish' from the list of RVs since it does not show *all* restructuring properties (Burzio 1986:385, fn. 4 and 5). While clitic climbing and object preposing are possible, auxiliary switch is not found with this verb. However, since this is due to some independent factor (namely, the obligatory presence of the infinitival marker *di*), I include the verb *finish* here.

1.3.7 Rutten (1991)

- I. **Restructuring Verbs (Verb-Raising Verbs)**
- a. **modals**
want, must, can, have to, need, be, will, ...
 - b. **aspectuals**
begin, stay, use to
 - c. **motion verbs**
come, go, walk, sit, stand
 - d. **others**
dare, help, learn, think, try, refuse, know how
 - e. **subject raising verbs**
seem, appear, threaten, promise

Dutch

- II. **Non-Restructuring Verbs**
- all others

Dutch

1.3.8 Haider (1993)

- I. **Restructuring Verbs**
- a. **modals**
want, must, can, should, be allowed to, ...
 - b. **aspectuals**
start, continue
 - d. **others**
know how, *easy*-adjectives, try
 - e. **subject raising verbs**
seem, threaten, promise

German

1.3.9 Sabel (1996)

- | | |
|---|---------------|
| I. Restructuring Verbs | <i>German</i> |
| a. modals
want, must, can, ... | |
| b. aspectuals
start | |
| c. others
try, forget, dare, hope, help, permit, promise, choose, intend, recommend | |
| II. Non-Restructuring Verbs | <i>German</i> |
| claim, refuse, fear, hesitate, accuse, assure, encourage, teach | |

1.3.10 Cinque (1997)

- | | |
|---|----------------|
| I. Restructuring Verbs | <i>Italian</i> |
| a. modals
want, must, can | |
| b. aspectuals
start, finish, be about to, continue, | |
| c. motion verbs
come, go, return, send | |
| d. others
know how, try, dare, tend, manage, resume | |
| II. Non-restructuring Verbs | <i>Italian</i> |
| all others | |

2. RESTRUCTURING—WHO SAID WHAT WHEN?

The following tables summarize the major assumptions that have been made with respect to restructuring and various restructuring phenomena in the literature. Many of the works cited do not intend to make universal claims about restructuring but should be seen as analyses of specific phenomena (this applies especially to the verb-raising literature in Dutch which is rarely put in the context of restructuring).

Table 29: The class of restructuring predicates

Restructuring Verbs are...	REFERENCES
lexically determined	Aissen & Perlmutter (1983), Fanselow (1989), Kayne (1989, 1991), Sternefeld (1990), Rutten (1991), Roberts (1993, 1997), Grewendorf & Sabel (1994), Sabel (1996)
semantically determined	Luján (1980), Napoli (1981), Rochette (1988, 1990), Rosen (1989, 1990), Cinque (1997a,b)
(semi-)auxiliaries, or light verbs	Napoli (1981), Strozer (1981), Zagona (1982), Rosen (1989, 1990), Rutten (1991), Rochette (1988, 1990), Cinque (1997a,b)
verbal modifiers	Picallo (1985, 1990)

Table 30: The size of restructuring infinitives

Restructuring Infinitives are...	REFERENCES
base-generated VPs	Strozer (1976, 1981), Zagona (1982), Moore (1990, 1994), Picallo (1985, 1990), Rochette (1988, 1990), Rosen (1989, 1990), Haider (1986a,b,c, 1992, 1993), Cinque (1997a,b)
base-generated VPs or TPs	Rutten (1991)
base-generated IPs, AgrSP	Tappe (1984), Fanselow (1989), Li (1990)
base-generated IPs or CPs	Rooryck (1994)
base-generated clauses (CP or S)	Burzio (1986), Kayne (1989, 1991), Sternefeld (1990), Roberts (1993, 1997), Watanabe (1993), Bok-Bennema & Kampers-Manhe (1994), Grewendorf & Sabel (1994), Rooryck (1994), Sabel (1996), Terzi (1996)
clauses that lose clause boundaries	Evers (1975a,b, 1988, 1990), Rizzi (1978, 1982), Aissen & Perlmutter (1983), Grewendorf (1987), von Stechow (1990) ⁸⁰
reanalyzed clauses, parallel structures	Manzini (1983a), Haegeman & van Riemsdijk (1986), DiSciullo & Williams (1987), Goodall (1987, 1991)

Table 31: Deriving clause-union

Restructuring involves ...	REFERENCES
overt verb-raising to the matrix clause; or formation of a complex V	Evers (1975a,b), Rizzi (1978, 1982), Sternefeld (1990), Rutten (1991), Haider (1986a,b,c, 1992, 1993)
covert verb-raising to the matrix clause	Grewendorf & Sabel (1994), Gonçalves (1998)
overt verb-raising + pronunciation of lower copy	Roberts (1997)
overt raising of embedded T/INFL to the matrix clause (leaving behind the infinitive)	Kayne (1989, 1991), Roberts (1993), Bok-Bennema & Kampers-Manhe (1994), Terzi (1996)
AgrS+T raising to the matrix clause	Rooryck (1994)
covert AgrO-raising to the matrix clause	Sabel (1996)
overt VP-movement to the matrix clause	Burzio (1986)
VP-movement to the embedded SpecCP	Sternefeld (1990)
AgrOP-movement to embedded SpecCP	Sabel (1996)
TP-movement to the embedded SpecCP	Grewendorf & Sabel (1994)

⁸⁰ Von Stechow (1990) leaves it open whether a VP-structure for RIs is base-generated or derived by deletion of the IP and CP nodes.

Table 32: Other properties of restructuring

Other properties of restructuring	REFERENCES
RIs lack tense (features)	Guéron & Hoekstra (1988), Rochette (1988, 1990), Rutten (1991), Bok-Bennema & Kampers-Manhe (1994), Rooryck (1994), Gonçalves (1998)
restructuring involves argument or event structure unification	Napoli (1981), Rochette (1988, 1990), Rosen (1989, 1990), Haider (1993)
RIs contain PRO	Burzio (1986), Fanselow (1989), Kayne (1989, 1991), Sternefeld (1990), Rutten (1991), Roberts (1993, 1997), Grewendorf & Sabel (1994), Sabel (1996), Terzi (1996)
RIs do not contain PRO	Rizzi (1978, 1982), Picallo (1985, 1990), Rochette (1988, 1990), Rosen (1989, 1990), von Stechow (1990), Haider (1986a, 1993)
Restructuring Parameter	Kayne (1989, 1991), Roberts (1993, 1997), Grewendorf & Sabel (1994), Sabel (1996)
No Restructuring Parameter	Rochette (1988, 1990), Bok-Bennema & Kampers-Manhe (1994), Cinque (1997a,b)

3. CONTROVERSIAL DATA

Codes used

- a. *ungrammatical (speakers agree)
- b. *ungrammatical (speakers agree, one exception)
- c. %systematic variation (e.g., dialects, personal preferences)
- d. %variation that shows no systemacy
- e. #grammatical, but pragmatically ill-formed

- (1) *weil seine Freunde der Hans gestern beschlossen hat der Maria vorzustellen * : 3 ?? : 6 ? : 3 ✓ : 1
 since *his friends* the John yesterday decided has to Mary to-introduce
- (2) *weil der Hans gestern seine Freunde beschlossen hat der Maria vorzustellen * : 6 ?? : 3 ? : 2 ✓ : 2
 since the John yesterday *his friends* decided has to Mary to-introduce

Speakers	1	4	5	6	7	8	9	10	11	12	13	14	15
(1)	??	??	*	??	??	?*	?	*	?	*	✓	*?	?
(2)	✓	?	*	*	??	??	?	*	*	*	✓	*?	*

Speakers:

- (3) a. *weil der Brief versucht wurde einem Gefängenen zu übermitteln * 1 2 3 4 5 6
 since the letter tried was a prisoner to send ?? ok ok ?? ?
- b. *weil der Wagen erst gestern versucht wurde zu reparieren * ok ? * ?? ?
 since [the car]-NOM only yesterday tried was to repair
- c. *weil den Wagen erst gestern versucht wurde zu reparieren * * * * *
 since [the car]-ACC only yesterday tried was to repair

Speakers:

	1	2	3	4	5	6
(4) a. weil das Lied der Hans nicht singen brauchen hat since the song the John not sing need-1PP has	ok	ok	?	ok	ok	ok
b. *weil das Lied der Hans nicht singen gebraucht hat since the song the John not sing needed has	*	?	*	*	*	*
c. *weil das Lied der Hans nicht singen zu brauchen hat since the song the John not sing to need has	*	ok	*	*	?	*
d. *weil das Lied der Hans nicht zu singen brauchen hat since the song the John not sing need-1PP has	??	ok	*	ok	ok	?*
e. weil das Lied der Hans nicht zu singen gebraucht hat since the song the John not sing to sing needed has	ok	ok	ok	ok	ok	ok

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