

Relativization that you did...

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This is a revised version of my Harvard PhD thesis written in 2004 under the title "Relativization and Ellipsis".

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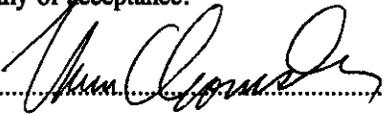
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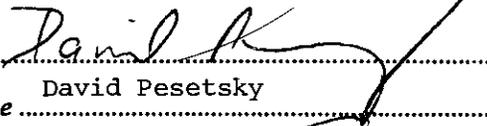
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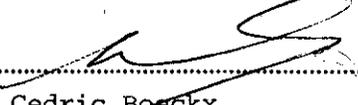
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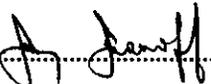
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Relativization that you did...

(Formerly known as Relativization and Ellipsis)

A thesis presented

by

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to

The Department of Linguistics

in partial fulfillment of the requirements

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Abstract

Adam Szczegielniak

Relativization that you did...

This work address the puzzle why VP ellipsis where the subject plus an auxiliary/modal /negation (non bare-VP ellipsis) is not possible in relatives derived via operator movement, whereas VP ellipsis where only the subject remains (bare-VP ellipsis) is possible in both relatives derived via operator movement as well as head noun movement. I will argue that Polish and Russian ellipsis data points to the generalization that VP-ellipsis is essentially deletion of a topic VP.

In the first part of the thesis, I show that Polish and Russian relative clauses divide into two types: (i) derived by head noun movement (*co/čto*-relatives), and (ii) derived by operator movement and adjunction of the relative to the head noun (*który/kotoryj*-relatives).

In the second part, I answer why bare-VP ellipsis is only possible in *co/čto*-relatives, and non bare-VP ellipsis is possible in both types of relatives. I will argue that de-stressing and subsequent ellipsis requires the establishment of Topic and Focus in overt syntax. The establishment of Topic/Focus interacts with relative clause formation giving rise to the asymmetry in the availability of both types of VP ellipsis in different kinds of relative clauses.

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Chapter 1

Introduction

This work investigates two puzzles concerning the behavior of VP ellipsis in relative clauses in Polish and Russian. The first puzzle can be exemplified by the contrast below:

1. a. Ja przeczytałem każdą książkę **co** ty
I read every book that you
'I read every book that you did'
- *b. Ja przeczytałem każdą książkę **która** ty
I read every book which you
'I read every book which you did'
2. a. Ja pročital každuju knigu **čto** ty
I read every book that you
'I read every book that you did'
- *b. Ja pročital každuju knigu **kotoruju** ty
I read every book which you
'I read every book which you did'

Relatives headed by *co/čto* can undergo bare-VP ellipsis, where only the subject is not elided, but relatives headed by *który/kotoryj* cannot.

The second puzzle is why this asymmetry disappears when ellipsis is accompanied by an auxiliary/modal/negation (what I will call non bare-VP ellipsis). Compare example (1b) with (3b) below, and example (2b) with (4b) below:

3. a. Ja będę czytać każdą książkę **co** ty **będziesz**
I will read every book that you will
'I will read every book that you will'
- b. Ja będę czytać każdą książkę **którą** ty **będziesz**
I will read every book which you will
'I will read every book that you will'
4. a. Ja budu čitat každuju knigu **čto** ty **budeš**
I will read every book that you will
'I will read every book that you will'
- b. Ja budu čitat každuju knigu **kotoruju** ty **budeš**
I will read every book which you will
'I will read every book that you will'

In the course of solving this puzzle, in Chapter 1 I account for the differences between both types of relative clauses in Polish and Russian by proposing that they are formed in two distinct ways. It will be shown that *co/čto*-relatives can only be derived via head noun raising from the relative clause. *Który/kotoruj*-relative clauses, on the other hand, will be argued to be derived via operator movement (*który/kotoruj* being the operator) and adjunction of the relative clause to the head noun. Support for such an analysis will come from the examination of syntactic and semantic properties of both relatives. It will be

shown that *co/ćto*-relatives behave as if the head noun may, and in some cases has to, be interpreted inside the relative clause (for example, the ability to have degree/amount readings, the ability to break up idioms, the inability to license appositive readings, the inability to escape Condition C violations). By contrast it will be shown that *który/kotoryj*-relatives behave as if the head noun cannot be interpreted inside the relative (for example, the inability to have degree/amount readings, the inability to break up idioms, the ability to license appositive readings, ability to escape condition C violations).

These two strategies of relative clause formation interact with both types of VP ellipsis. This interaction is discussed in Chapter 2, where I provide answers to both puzzles concerning VP ellipsis in relative clauses. In the process of answering both puzzles I adopt the proposal that two processes precede VP ellipsis. First, following Rooth (1992), I assume that Focus closure has to be established in the construction undergoing ellipsis. After Focus closure is established, material that is not contained in the Focus closure is de-stressed, (Tancredi 1992, Rooth 1992, Chomsky and Lasnik 1993), and only then can it be elided. I propose that Focus closure has to be established in the syntax, and later interpreted in the semantics with the help of mechanisms proposed in Rooth (1992).¹ Consequently, in order to establish Focus closure, Focus and Topic have to be determined in overt syntax. Constituents that are not part of Focus are potential input for de-stressing, which provides the input for ellipsis.

In my proposal, Polish and Russian allow two strategies for establishing Focus and Topic in the syntax: (i) VP topicalization via movement, and (ii) Focus of the subject and non-

¹ This is different from Rooth's original proposal.

deleted material. Focusing of the subject (strategy ii) is possible only if there is an overt polarity marker in $\bar{\square}$ (following Laka 1994) present in the numeration, which contains presentational Focus features. The subject is in Spec- $\bar{\square}$ and the auxiliary, modal, or negation in $\bar{\square}$. Focus of the subject gives rise to VP ellipsis with auxiliaries, modals and negation (see examples 1b and 2b). Ellipsis via VP topicalization (strategy i) leads to ellipsis where there is no auxiliary, modal or negation (see examples 1a and 2a). This kind of ellipsis (where only the subject is present) I call bare-VP ellipsis. I address the issue as to why Polish and Russian allow both bare-VP ellipsis and non bare-VP ellipsis, whereas English, for example, permits only non bare-VP ellipsis. I argue that bare-VP ellipsis is allowed only in languages where T is not an affix and does not require an overt phonological host. When T does not require a host, $\bar{\square}$ can be absent from the numeration and ellipsis can proceed without any auxiliary, modal or other marker. In languages like English, bare-VP ellipsis is not allowed since Tense needs phonological support (Stray Affix Filter, Lasnik 1995).²

5. Summary of proposals:

- a. *Co/ćto*-relative clauses are generated via head noun movement.
- b. *Który/kotoryj*-relative clauses are generated via operator movement to Spec-Topic in the Left Periphery (Rizzi 1997) and adjunction of the relative clause to the head noun.

² From an acquisition point of view this makes sense. The ability to undergo different types of ellipsis is tied to the morpho/phonological properties of the T head.

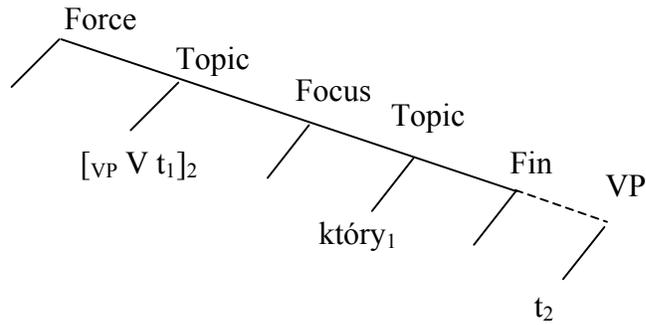
- c. VP ellipsis in relative clauses is carried out on de-stressed structures (Rooth 1992), (Tancredi 1992).
- d. De-stressing is licensed via Focus closure (Rooth 1992).
- e. Focus closure requires Focus, or Topicalization in the syntax.

Proposal (5d) leads me to postulate two mechanisms for VP ellipsis:

- 6. a. Bare VP ellipsis (1,2), where only the subject is not elided, is carried out via Topicalization of the VP to a Spec-Topic in the Left Periphery.
- b. Non-bare VP ellipsis (3,4) is carried out by Focus of non-elided material and is licensed by a \square head (Laka 1994).
- c. Bare-VP ellipsis is possible only in languages where T is not an affix.

The above proposals allow me to solve both puzzles involving the asymmetric behavior of VP ellipsis in Polish and Russian relative clauses. Thus, bare-VP ellipsis is possible in *co/čto*-relatives because VP Topicalization is possible and does not violate any constraints on movement. It is impossible in *który/kotoryj*-relatives because VP topicalization violates restrictions on remnant movement (Müller 1998). VP topicalization in *który/kotoryj*-relatives moves the trace/copy of the operator *który/kotoryj* above the position to which that operator has raised. Consider the following derivation:

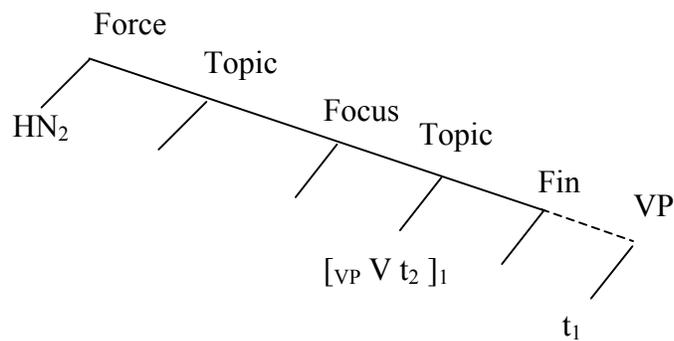
7. Ungrammatical output of bare-VP topicalization in *który/kotoryj*-relative clauses
(Left Periphery structure from Rizzi 1997)



On the other hand, in *co/čto*-relatives there is no operator movement and VP

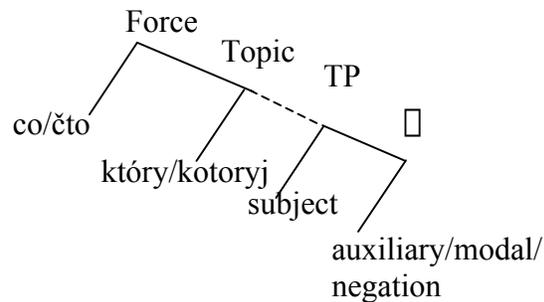
Topicalization can proceed:

8. Grammatical output of bare-VP topicalization in *co/čto*-relative clauses, no operator movement.



This will be my answer to puzzle number one. Puzzle number two is also solved if we assume that non-bare VP ellipsis does not require VP topicalization, and thus there is no violation on remnant movement. Focus is established by a polarity \square head.

9.



Consequently, non –bare-VP ellipsis is not sensitive to how a given relative clause has been formed.

Finally, I will also argue that ACD (Antecedent Contained Deletion) does not exist as an independent phenomenon, but is only a taxonomic artifact. It will be shown that ACD does not have the ellipsis site containing the antecedent. Rather, ellipsis in relative clauses is carried out on ‘afterthought’ constructions proposed in Chomsky (2001). For example, consider the pre-elided structure of (1a) (strikethrough indicates ellipsis):

10. Ja przeczytałem każdą książkę, mianowicie, ~~każdą książkę~~ co ty ~~przezytałeś~~
 I read every book ~~namely every book~~ that you read
 ‘I read every book, ~~namely every book~~ that you did read’

Compare that to a ‘classical’ pre-elided structure in Fiengo and May (1994):

11. Ja [_{VP} przeczytałem [_{DP} każdą książkę [_{CP} co ty e]]]
 I read every book that you
 ‘I read every book that you did’

In example (11) the antecedent of the ellipsis site ‘e’ is the whole VP, which contains ‘e’. Hence, the name: Antecedent Contained Deletion. In order to circumvent infinite regress in interpreting (11), Fiengo and May (1994) propose that the DP undergoes Quantifier Raising (QR) out of the VP. Note that if the underlying structure of (1a) is not (11) but (10), the antecedent does not contain the ellipsis site, and consequently there is no infinite regress. I will show that (10) is the correct representation of a pre-elided structure in both Polish and Russian.

My research indicates that approaches arguing that ACD requires QR for resolution of infinite regress are not required (Fiengo and May 1994, Kennedy 1997, Fox 2002, Pesetsky 2000). I do not, however, treat this as an argument against QR; Scope-QR, which von Stechow and Iatridou (2003) argue to be different from ACD-QR, might still be the best way to establish scope relations. Nor do I argue against LF movement, be it feature movement, or phrasal movement (Pesetsky 2000). This research simply shows that resolution of VP ellipsis in relative clauses is not an argument for the existence of LF operations like QR.

My work is carried out in the broad sense within the Minimalist Program in that I try to provide the most minimal and elegant solution to the problem of relativization and ellipsis.³ If my proposals are correct, ellipsis turns out to be a much simpler phenomenon

³ David Pesetsky (pc.) correctly points out that I adopt only the weakest and least controversial tenet of the Minimalist Program.

than many have thought. My work, however, also implies that relative clause formation in Polish and Russian is not a result of one single process, but at least two different ones. In that sense relativization is a much more complex process than some have proposed, for example, Kayne (1994).

One explanation for this ‘imperfection’ might come from the fact that the syntax makes use of lexical items that are available in a given language. Languages that have a relative pronoun in their inventory make use of that pronoun. Hence, one can argue that a default derivation of relative clauses is via head noun raising, unless relative pronouns are available in the language’s inventory. In the latter case, both derivations: head noun raising, as well as operator movement plus adjunction are available depending on what meaning the speaker intends to convey. In languages where relative pronouns are not available, other strategies to convey meanings associated with the lack of head noun reconstruction are employed, for example use of resumptive pronouns.⁴

In my proposal, VP ellipsis does not make use of any mechanisms that are not needed independently.⁵ This is a desired result. I feel however, that my work does not attain a satisfactory level of explanatory adequacy. There is an uncanny correlation between the ability of a relative clause to undergo bare-VP ellipsis and its ability to be derived via head noun raising. This leads me to suspect that there might be a more fundamental requirement of strict identity in ellipsis within relative clauses, and probably in other

⁴ It will be shown that languages like Russian and Polish allow all three derivations: head noun raising, operator movement and adjunction, resumptive pronouns. It is not clear why all three derivations would be available in a given language. One possibility is that the resumptive option is really a processing strategy.

⁵ This is in contrast to proposals where a special type of QR, specific for resolving ACD, is required.

environments as well. One could venture a formulation where head noun movement is required in relative clause ellipsis because there needs to be an identical copy of the head noun inside the relative. This would be a much more elegant account of the VP ellipsis. Unfortunately, non bare-VP ellipsis breaks this correlation between head noun raising and ellipsis. Formulating a condition on ellipsis simply in terms of identity in a way that would account for both types of ellipsis has eluded me. This is mainly because of data involving VP ellipsis with auxiliaries, modals and/or negation present.⁶

The thesis has two chapters. In chapter 1, I discuss the structure of relative clauses in Polish, Russian. The discussion in Chapter 1 is crucial for the discussion in Chapter 2, where I analyze different types of VP ellipsis and how they interact with relative clause formation.

⁶ Surprisingly this form of ellipsis seems predominant. Furthermore, I do not know of a language where bare-VP ellipsis is possible but non-bare VP ellipsis is not.

Chapter 2

Two Types of Relative Clauses

2.1 Introduction

In this chapter I show that there are two distinct types of relative clauses in Polish and Russian. These two types have been correlated in the literature with two distinct ways of relative clause generation: (i) via head noun raising, and/or (ii) operator raising and relative clause adjunction to the head noun (the differences between both types of relatives have been extensively discussed in Lees (1964), Kuroda (1965), Brame (1968), Stockwell et al. (1973), Vergnaud (1974, 1975), Montague (1974), Carlson (1977), Chomsky and Lasnik (1977), McCawley (1982), Safir (1986), Heim (1988), Grosu and Landman (1998), Sauerland (1998), Kayne (1994), Bianchi (1999, 2000), Aoun and Li (2003), just to name a few). In classical accounts, head noun (HN) raising out of the relative clause (RC) leaves a trace/copy in the RC and thus, opens a door for interpretation of the HN inside the RC.⁷ On the other hand, HN adjunction to the RC does not leave a trace/copy of the HN inside the relative, and thus blocks HN interpretation inside the RC. Relative clauses derived via HN adjunction involve an overt operator moving inside the relative (and in English maybe even a covert operator, but see Aoun & Li, 2003). I will assume that the ability to interpret the head noun inside the relative

⁷ I will use the term trace and copy interchangeably, however; I assume the copy theory of traces (Chomsky 1995). Note, that the head noun is never fully interpreted inside the relative clause (David Pesetsky p.c.)

clause is indicative of whether the head noun has raised from the relative clause, or adjoined to it.

12. Raising Analysis (Stockwell et al. 1973, Vergnaud 1975, Sauerland 1998)

┌──────────────────┐
HN₁ [RC *co/čto* [VP V [DP HN₁]]]

13. Adjunction/Matching Analysis (Chomsky and Lasnik 1977, Sauerland 1998)

┌──────────────────┐
HN₁ [RC (*co/čto*) *który/kotoryj*₁ [VP V [DP *który/kotoryj*₁]]]
└──┬──┘
adjunction

Arguments for the two distinct analyses come from a standard battery of tests used in research aimed at establishing HN interpretation inside the RC: the ability to break up idiom chunks, the ability to have degree/amount readings, Condition C and A effects, the availability of scope ambiguity, and the availability to have appositive/restrictive readings.

I show that in Polish and Russian HN interpretation can take place only in specific and identifiable contexts. Head noun reconstruction is obligatory in cases when the relative clause is headed by an uninflected complementizer-like relative marker (*co* in Polish, and *čto* in Russian, as shown in 12). Relative clauses headed by *który/kotoryj* will be argued to involve operator movement and adjunction to the head noun (*który/kotoryj* being the operator).

In the second part of this chapter, I address potential counterexamples to the hypothesis that *co/čto*-relative clauses are derived only via head noun movement and *który/kotoryj*-relatives are derived via operator movement and adjunction to the head noun. Although it might seem like a digression from answering both puzzles involving ellipsis, a discussion of potential counterexamples to my analysis of relative clause formation is necessary for my analysis of VP ellipsis. For example, head noun interpretation inside the relative clause is also possible when the operator is an adjunct inside the RC. However, I will argue that in such cases head noun interpretation inside the relative clause is not a result of head noun movement. Instead, I propose that the head noun can be interpreted inside the relative because it can undergo Late Insertion (Lebaux 1988) inside the relative. I will also discuss relative clauses containing resumptive pronouns. It will be shown that there are two types of resumptive constructions in Polish. One of them will be argued to involve phonological reduction of the overt operator *który/kotoryj*, the other will be a ‘classical’ resumptive construction found in other languages such as Hebrew. Finally, I discuss extraposed relative clauses. I will argue that although extraposed *co/čto*-relatives behave as if they had not been derived via head noun movement, they in fact are, and that reconstruction is blocked for independent reasons.

The chapter is organized as follows. First, I discuss two types of relative clauses in Russian and Polish. Polish and Russian relative clauses can be formed with two distinct relative markers: *co/čto* and *który/kotoryj*. I show that *co/čto*-relative clauses behave differently from *który/kotoryj*-relatives in both Polish and Russian. Second, I discuss potential counterexamples to my analysis. I examine the behavior of relative clauses

where the operator is an adjunct inside the relative clause, which makes the relative behave as if it was generated via head noun raising. I also examine cases where relative clauses that have been argued to be derived via head noun raising behave as if they were not. The first case that will be discussed is relative clauses with resumptive pronouns; the second will involve extraposed relative clauses.

2.2 Types of relative clauses

Polish and Russian relative clauses can be constructed with two types of relative markers: *który/kotoryj* type and *co/čto* type.⁸ The *który/kotoryj* type is inflected for gender, number and case. The *co/čto* type is uninflected (Borsley 1981, 1997, Giejgo 1981, Kardela 1986, Mykowiecka 2000, Spencer 1994).⁹ Note, that Polish and Russian punctuation conventions require a comma before the relative marker. However, this does not indicate an appositive reading.¹⁰

⁸ *Co/čto* is a homonym of the wh-word ‘what’, *który/kotoryj* is a homonym of ‘which/what’. Polish has also an indicative complementizer *że*, which is used in complement relative clauses and subordinate clauses. Russian uses the same marker, *čto*, for both relative and complement clauses. As the examples show, the Russian forms of these markers are slightly different. For now, I will use the theory neutral term ‘relative marker’ for all types of relative marking elements thus replacing terms such as ‘complementizer’, ‘relative pronoun’, and ‘operator’.

⁹ According to Giejgo (1981), Kardela (1986), Mykowiecka (2000), Polish relative clauses with *co* prefer a resumptive pronoun. However, my informants’ judgments as well as my own indicate that the resumptive is optional. I will return to the issue of resumptives in later sections.

¹⁰ I gloss *co/čto* as ‘that’ and *który/kotoryj* as ‘which/who’ but this should not be considered as an assumption that these markers are the same as their English equivalents. I will mark the relative markers in bold wherever it is relevant.

14. a. Marysia zna chłopców, **których** Ania lubi
Mary knows boys who Anne likes
'Mary knows some boys who Ann likes'
- b. Marysia zna chłopców, **co** Ania lubi
Mary knows boys that Ann likes
'Mary knows some boys that Ann likes'
15. a. Maša znajet mal'čikov, **kotoryx** Anna ljubit
Mary knows boys who Ann loves
'Mary knows some boys who Ann loves'
- b. Maša znajet mal'čikov, **čto** Anna ljubit
Mary knows boys that Ann loves
'Mary knows some boys who Ann loves'

Polish permits both markers to be present, but Russian does not.¹¹

16. a. Marysia zna chłopców, **co których** Ania lubi
Mary knows boys that who Ann likes
'Mary knows some boys who Ann likes'
- *b. Maša znajet mal'čikov, **čto kotoryx** Anna ljubit
Mary knows boys that who Ann loves
'Mary knows some boys who Ann loves'

¹¹ These constructions are not restricted to any particular dialect or register.

The order of markers in Polish is fixed. The order of markers when both are present, and the reason why Russian does not permit both to be present simultaneously, will be discussed later. In this section I will investigate the properties of the three types of relatives. I will argue that *co/čto*-relatives are derived via HN raising, while *który/kotoryj*-relatives are derived via operator movement and adjunction to the HN. Relative clauses with both markers present will be shown to behave like *który*-relatives (with *co* being an optional complementizer).

17. Two types of relatives¹²

- *Co/čto*-relatives: head noun interpretation inside the relative clause - derived via Head Noun raising (as shown in 12). The *co/čto* marker will be argued to be a complementizer occupying Force (Rizzi 1997). There are no phonologically null operators.
- *Który/kotoryj*-relatives and *co+który*-relatives: no head noun interpretation inside the relative¹³ - derived via adjunction of the Head Noun to the relative clause (as shown in 13). The *który/kotoryj* relative marker will be argued to be an operator that undergoes wh-movement to Spec-Topic in the Left Periphery (Rizzi 1997, Aoun & Li 2003).

¹² For a similar proposal for English see Aoun and Li (2003).

¹³ Exceptions involving operators that are adjuncts will be discussed later.

In the sections below, I will show first that *co/čto*-relatives can be derived via head noun raising, whereas *który/kotoryj*-relatives cannot. Later, I will show that *co/čto*-relatives must be derived via head noun raising.

2.3 Reconstruction tests: amount/degree vs. restrictive readings

In this section I will show that *co/čto*-relatives can receive a degree/amount reading, whereas *który/kotoryj*-relatives cannot. I will argue that this supports the claim that only the former can be derived via head noun raising, and the latter cannot.

Carlson (1977) was the first to observe that relatives can have degree/amount readings in addition to restrictive ones. Degree/amount relative clauses behave differently from regular restrictive relative clauses. Degree relatives indicate the degree of quantity, not identity of substance. For example in English, we have the following contrast (Grosu and Landman 1998, following Heim 1997):

18. a. It will take us the rest of our long lives to drink the champagne
that/Ø they spilled that evening
- b. It will take us the rest of our long lives to drink the champagne **which**
they spilled that evening

Example (18a) can be a restrictive relative or a degree/amount relative. In the latter case, we get identity of quantity and not of substance. Authors like Carson (1977), Sauerland (1998), Heim (1997), Grosu and Landman (1998) have argued that in order to have a degree/amount reading the part of the DP ‘champagne’ that depicts the amount of champagne has to be in some way interpreted inside the RC. I assume that in order to

arrive at a degree reading, the head noun has to be interpreted inside the relative clause. Hence, amount/degree relatives are impossible with wh-relative pronouns (example (18b) can only have a restrictive reading), as are Idiom interpretations:

19. The headway *which/that John made was enormous

Furthermore, Carlson (1977) points out that degree/amount readings are possible with the same types of determiners that allow the breaking up of idiom chunks.

20. a. The/all/that/what headway that John made was impressive
*b. Some/much/most/little/this headway that John made was impressive.

The ability to break up idiom chunks is a good indicator of movement that permits reconstruction.¹⁴ For example, wh-movement licenses idioms:

21. [What amount of headway]₁ did John make t₁ ?

Assuming that displacement of part of an idiom is only possible if there is reconstruction, it can be argued that Idiom Chunks are a good indicator of whether a head noun can be interpreted inside the relative clause or not. This in turn, is a good indicator of whether we have a head noun raising analysis, or an adjunction one.

¹⁴ I will show that the same holds for Polish and Russian in later sections. I am not going to discuss issues involving what types of movement allow reconstruction since I will be concentrating on cases where reconstruction is clearly visible.

Consider now the same determiners used in obtaining amount/degree readings:

22. a. It will take us the rest of our long lives to drink the/all/that
champagne that/Ø they spilled that evening
- b. It will take us the rest of our long lives to drink some/much/most/little/this
champagne that/Ø they spilled that evening

Example (22b) cannot be interpreted to have an amount/degree reading, as opposed to example (22a) where an amount/degree reading is possible. This patterns with the idiom chunk data and strongly suggests that amount/degree relatives are derived via head noun raising.

I will assume that in order to achieve a degree/amount interpretation the head noun has to have the option of being interpreted inside the relative clause (Carlson 1977), to be more precise the degree/amount part/reading of the noun has to have that option. Movement opens the door for reconstruction, which in turn allows for the interpretation of the amount part of the reconstructed DP.

There are issues regarding what the semantics of degree/amount relatives are compared to restrictive relative clauses, which can also be derived via head noun raising. However, they are not center stage here. What is crucial is the assumption that the head noun is raised from within the relative clause in cases when we have a degree/amount reading.¹⁵

The English data predicts that relative clauses in Polish and Russian should behave like

¹⁵ For instance, Grosu and Landman (1998) assume that the head noun raising operation is semantically vacuous, with the noun being interpreted in-situ, and the amount reading being derived via a semantic operation on a null degree operator raised to Spec-CP.

their English counterparts. This turns out to be correct: *który/kotoryj*-relatives (examples 23b, 24b below), as well as *co plus który*-relatives (example 23a), can only have a restrictive meaning (I mark as ungrammatical the non-amount/degree interpretation) since both involve movement of an overt wh-operator (*który/kotoryj*).¹⁶ *Co/čto* relative clauses, on the other hand (examples 23c, 24a), are not derived via operator movement, but via head noun raising, and thus allow degree/amount readings.¹⁷ Consider the following examples:

23. ?? a. Całe życie nam zajmie wypić ten szampan, **co który** oni rozlali dziś
 whole life us take drink this champagne that which they spilled today
 ‘It will take us our whole life to drink all the champagne that they spilled today’
- ??b. Całe życie nam zajmie wypić ten szampan, **który** oni rozlali dziś
 whole life us take drink this champagne which they spilled today
 ‘It will take us our whole life to drink all the champagne that they spilled today’
- c. Całe życie nam zajmie wypić ten szampan, **co** oni rozlali dziś
 whole life us take drink this champagne that they spilled today
 ‘It will take us our whole life to drink all the champagne that they spilled today’

The same holds for Russian:

¹⁶ The head and variable are still identical in cases of *który/kotoryj*-relatives.

¹⁷ As I will show in later sections, just like in English, this parallels the ability to break up idiomatic expressions.

24. a. Nam potrebujetsja celaja žizn', čtoby vypit' to šampanskoe, **čto** oni
 Us take whole life that drink that champagne that they
 razlili etim večerom.
 spilled this evening
 'It will take us our whole life to drink all the champagne that they spilled
 this evening'
- *b. Nam potrebujetsja celaja žizn', čtoby vypit' to šampanskoe, **kotoroe** oni
 Us take whole life that drink that champagne which they
 razlili etim večerom.
 spilled this evening
 'It will take us our whole life to drink all the champagne that they spilled
 this evening'

The asymmetry in allowing degree/amount readings only in *co/čto*-relatives is consistent with hypothesis (17). The head noun raises in *co/čto*-relatives, the copy/trace is used for semantic interpretation.¹⁸ *Który/kotoryj*-relatives cannot be derived via head noun raising (hence there is no copy/trace of the head noun inside the relative clause), the copy of the operator is insufficient to obtain a degree/amount reading, just like in English.

We also can establish that movement and subsequent reconstruction of the HN inside the RC is a prerequisite for a degree/amount reading. Polish allows resumptives inside the

¹⁸ To be precise only part of the noun information is interpreted inside the relative clause – the part that is necessary to obtain a degree/amount reading. Note that this approach makes more sense if we assume that movement leaves a copy and not a trace.

RC. When a resumptive is present, HN reconstruction is not possible. This correctly predicts that amount/degree readings with resumptives are not possible.¹⁹

25. ??a. Całe życie nam zajmie wypić ten szampan, **co** ja wiem że **go** oni
whole life us take drink this champagne that I know that it they
rozlali dziś.
spilled today
'It will take us our whole life to drink all the champagne that I know that
they spilled today'

??b. Nam potrzebujetsja celaja žizn', čtoby vypit' to šampanskoe, **čto** oni
Us take whole life that drink that champagne that they
razlili **ego** etim večerom.
spilled it this evening
'It will take us our whole life to drink all the champagne that they spilled
this evening'

The examples in (25) above can only be interpreted as non-amount/degree relative clauses. I will show in later sections that resumptive pronouns not only block degree/amount readings, they also block idiom readings, and Condition C violations. Furthermore, as will be shown below, resumptive pronouns also allow *co/čto*-relatives to have appositive readings, which cannot be construed via head noun raising.

At this stage, I have shown that the classification of Polish and Russian relative clauses into *co/čto*-relatives and *który/kotoryj*-relatives is exemplified by their ability to have amount/degree readings. I argue that this ability is a reflection of *co/čto*-relatives being

¹⁹ Polish resumptive pronouns in *co*-relatives do not have to be embedded. In Russian they do. I will return to resumptive pronouns in later sections.

derived via head noun raising and thus allowing degree/amount readings. Note, that the goal here is to provide support for the hypothesis in (17). This in turn, will provide an analysis of relative clauses in Polish and Russian that will help to solve the puzzle of why only *co/ćto*-relatives allow both bare and non bare-VP ellipsis. In the next section I will show that, as far as idiom chunks are concerned, *co/ćto*-relatives and *który/kotoryj*-relatives behave as predicted in hypothesis (17). The former, because they are derived via head noun raising, can break up idiom chunks, while the latter cannot.

2.4 Idioms

The ability to break up idiomatic expressions has been considered as a test for movement and the need to have a copy theory of traces. Consider the following example below:

26. It was the tabs that he kept ~~the tabs~~ on everyone that made him powerful.

In order for there to be an idiomatic reading the DP ‘the tabs’ has to be interpreted inside the relative clause. In Polish and Russian only *co/ćto*-relatives allow the breaking up of idioms. Consider an idiom *rzucać słowa na wiatr* in Polish (literally ‘throw words onto the wind’, and corresponding to the English idiom ‘make empty promises’). The examples below show that part of the idiom can be moved:

27. a. On rzuca słowa na wiatr
 he throws words on wind
 ‘He is making empty promises’

- b. Słów₁ on nie rzuca t₁ na wiatr
 words he not throw on wind
 ‘Empty promises, he does not make’

When we examine relativization of the same noun as part of the idiom we obtain the expected split between *co/čto*-relatives and *który/kotoryj*-relatives. Only the former can participate in the relativization of idioms.

28. a. Słów **co** on nie rzucił na wiatr
 words that he not throw on wind
 ‘Empty promises that he did not make’
- ??b. Słów **których** on nie rzucił na wiatr
 words which he not throw on wind
 ‘Empty promises that he did not make’
- ??c. Słów **co których** on nie rzucił na wiatr
 words that which he not throw on wind
 ‘Empty promises that he did not make’

The same holds for Russian (which seems to have the same kind of idiom as Polish):

29. a. Slovo **čto** on ne brosal na veter
 words that he not throw on wind
 ‘Empty promises that he did not make’

- ?b. Slovo **kotoryx** on ne brosal na veter
 words which he not throw on wind
 ‘Empty promises that he did not make’

This is in line with hypothesis (17). *Co/čto*-relatives can participate in the relativization of idioms since the HN is generated inside the RC and can reconstruct. In the case of *który/kotoryj*-relatives reconstruction is impossible because there is no HN movement.

2.5 Scope

Relative clauses that have HN reconstruction should also be sensitive to scope effects (Williams 1977). If the head noun were prohibited from interpretation within the relative clause then we could predict that narrow scope of a quantifier in the head noun will not be possible. Quantifiers in Polish and Russian have scope ambiguity. Consider the following examples:

30. a. Jakiś chłopiec pocałował każdą dziewczynkę
 some boy kissed each girl
 ‘Some boy kissed every girl’
- b. Kakoj-to mal’čik poceloval každuju devočku
 some boy kissed each girl
 ‘Some boy kissed every girl’

In the above example both wide and narrow scope readings are possible. The situation is different in relative clause constructions. Narrow scope is very hard in *który/kotoryj*-relatives, but easier to obtain in *co/čto*-relatives.

31. a. Każdy chłopiec **którego** ty wiesz że jakaś dziewczynka pocałowała
 each boy who you know that some girl kissed
 ‘Each boy who you know that some girl kissed’
- b. Każdy chłopiec **co którego** ty wiesz że jakaś dziewczynka pocałowała
 each boy that who you know that some girl kissed
 ‘Each boy who you know that some girl kissed’
- c. Każdy chłopiec **co** ty wiesz że jakaś dziewczynka pocałowała
 each boy that you know that some girl kissed
 ‘Each boy that you know that some girl kissed’

The same holds for Russian:

32. a. Každýj malčik **kotorogo** ty znaješ čto kakaja-to devočka pocelovala
 each boy who you know that some girl kissed
 ‘Each boy who you know that some girl kissed’
- b. Každýj malčik **čto** ty znaješ čto kakaja-to devočka pocelovala
 each boy that you know that some girl kissed
 ‘Each boy who you know that some girl kissed’

In both the Polish and Russian examples it is only in *co/čto*-relatives (31c, 32b) that one can obtain a reading where *some girl* < *each boy*. This is predictable if we assume that narrow scope is only possible if ‘each boy’ reconstructs into the relative clause. Note that QR of ‘some girl’ is not possible across the tensed clause. Consequently, narrow scope of ‘each boy’ cannot be obtained by raising ‘some girl’. These facts suggest that

reconstruction of the head noun is possible in *co/čto*-relative clauses, but not in *który/kotoryj*-relatives.

The asymmetries in the ability to have degree/amount readings, to split idiom chunks, and in the ability to have different scope readings support the claim in (17). Specifically, these asymmetries demonstrate that there are two types of relative clauses in Russian and Polish, one derived via head noun movement and the other derived via operator movement. We can also see that, when we block head noun movement by inserting a resumptive pronoun, *co/čto*-relatives behave like *który/kotoryj*-relatives, or *co plus który*-relatives.

Until now I have shown that *który/kotoryj*-relatives cannot have the head noun interpreted inside the relative clause. In the following sections I will provide evidence that in the case of *co/čto*-relatives head noun reconstruction is *obligatory*. This will have profound implications for our analysis of relative clauses in Polish and Russian and their ability to undergo VP ellipsis.

2.6 Appositive vs. restrictive readings

Appositive readings of relative clauses have been considered to be another diagnostic for the absence of head noun interpretation inside the relative. Appositive relatives do not permit interpretation of the head noun inside the relative. In English, for example, appositive relatives are only possible with *wh*-relative pronouns, and are not possible

with the complementizer ‘that’ (I use proper names in the examples below to force an appositive interpretation).²⁰

33. a. Mary, **who** you know, came to the party
*b. Mary, **that** you know, came to the party

In this respect, the ability to have degree/amount readings patterns with the ability to have an appositive reading. Chierchia and McConnell-Ginet (1990) argue that appositive relative clauses are background assertions, and authors such as Emonds (1979), Sells (1985), Demirdache (1991), Del Gobbo (2003) have shown that appositive relative clauses are independent sentences. For example, Safir (1986) has shown that a quantifier head noun in the matrix clause cannot have scope over a pronoun in the appositive clause, but can in the restrictive one.

34. *a. [Every boy]₁ saw Roger, who hates him₁
b. [Every boy]₁ saw a man who/that hates him₁

Assuming that appositive relative clauses have the status of independent clauses, then it possible to assume that the head noun that they modify did not raise out of that relative clause. This is further supported by the fact that appositive relative clauses are impossible with ‘that’ relative markers but possible with wh-relative markers – exactly the opposite to relative clauses that require head noun raising, namely degree/amount relatives, and

²⁰ Romance languages behave differently.

relative clauses splitting idiom chunks. Polish and Russian appositive relative clauses behave identically to English ones. Appositive readings are possible with *który/kotoryj* relative markers, but not with *co/čto*.²¹ Consider the examples below:

35. *a. Maria, **co** Marek pocałował poszła do domu
 Mary that Mark kissed went to home
 ‘Mary, who Mark kissed, went home’
- b. Maria, **która** Marek pocałował, poszła do domu
 Mary who Mark kissed went to home
 ‘Mary, who Mark kissed, went home’
- c. Maria, **co która** Marek pocałował, poszła do domu
 Mary that who Mark kissed went to home
 ‘Mary, who Mark kissed, went home’

The same contrast holds for Russian:

36. *a. Maša, **čto** kupila radio, pošla domoj
 Mary that bought radio went home
 ‘Mary, who bought a radio, went home’
- b. Maša, **kotoraja** kupila radio, pošla domoj
 Mary who bought radio went home
 ‘Mary, who bought a radio, went home’

²¹ As will be shown, *co plus który*-relatives pattern with *który*-relatives in all tests.

I assume appositive readings are only possible when the HN does not reconstruct.

Który/kotoryj-relatives are not derived via head noun movement and reconstruction is not possible. This correctly predicts that *który/kotoryj*-relatives allow appositive readings in both Polish and Russian. *Co/čto*-relatives, which are argued to have HN movement that allows reconstruction, cannot have an appositive reading. This indicates that head noun reconstruction in *co/čto*-relatives is not optional, but obligatory. It also predicts that if head noun movement were to be blocked in *co/čto*-relatives then appositive readings should be possible. As before, we can test if movement/reconstruction is the determining factor by examining constructions with resumptive pronouns. Consider the following examples:

37. a. Maria, **co** ja wiem że **ja** Marek pocałował, poszła do domu
Mary that I know that her Mark kissed went to home
'Mary, who I know that Mark kissed, went home'
- b. Maša, **čto** ja znaju čto **ona** kupila radio, pošla domoj
Mary that I know that she bought radio went home
'Mary, who know that she bought a radio, went home'

Predictably, when there is no possibility of reconstruction, an appositive reading is possible, as shown in (37).

Another test for the whether head noun reconstruction is obligatory involves Binding Condition violations. The prediction is that if head noun reconstruction is obligatory in *co/čto*-relatives then the head noun cannot 'escape' binding condition violations. I examine these in the following section.

2.7 Binding Conditions - *Condition C*

In previous sections it was shown that relative clauses in Polish and Russian fall into two types: those that behave as if the HN was inside the RC and those that do not. Actual tests of this behavior involved the ability, or inability, to have degree/amount and appositive readings. In this section I show that there is also evidence from an interaction of reconstruction effects and binding condition violations that points to the validity of hypothesis (17).

A-bar movement has been known to reconstruct and cause Condition C violations.

Consider the following Condition C violations in Polish and Russian resulting from reconstruction of the wh-phrase:

38. *a. [Którą koleżankę Janka]_i Maria chce by on_i poznał t₁
Which friend John's_i Mary wants that+subj he_i meet
'Which friend of John's Mary wants him to meet?'
- *b. [Kakovo druga Vani]_i Maria xočet čtoby on_i uvidel' t₁
Which friend Vani-gen Maria wants that he see?
'Which friend of Vania's Mary wants him to see?'

Co/čto-relatives behave as if the HN were inside the RC, whereas *który/kotoryj*-relatives, and relatives with both markers behave in Polish as if the HN did not reconstruct.²²

²² For some speakers of Polish and Russian these contrasts do not hold and there is no Condition C violation in either type of relative clause. I can only speculate that the grammar of some speakers allows them to block reconstruction in *co/čto*-relatives.

39. ??a. Znam koleżankę *Janka*₁ **co** *on*₁ powiedział że chce polubić
 Know friend(fem) John₁ that he₁ said that wants like
 ‘I know a friend of John that he said that he wants to like’
- ?b. Znam koleżankę *Janka*₁ **która** *on*₁ powiedział że chce polubić
 Know friend(fem) John₁ who he₁ said that wants like
 ‘I know a friend of John that he said that he wants to like’
- ?c. Znam koleżankę *Janka*₁ **co która** *on*₁ powiedział że chce polubić
 Know friend(fem) John₁ that who he₁ said that wants like
 ‘I know a friend of John that he said that he wants to like’

The ungrammaticality of (39a) can be attributed to the HN reconstructing into the relative and triggering a Condition-C violation. The same facts seem to hold for Russian:

40. ??a. Ja znaju podругu Ivana₁ **čto** *on*₁ skazał čto xočet priglasit’
 I know friend(fem) Ivan₁ that he₁ said that wants invite
 ‘I know a friend of Ivan that he said he wants to invite’
- b. Ja znaju podругu Ivana₁ **kotoruju** *on*₁ skazał, čto xočet priglasit’
 I know friend-fem Ivan₁ who he₁ said that wants invite
 ‘I know a friend of Ivan who he said he wants to invite’

The difference between *co/čto*-relatives and *który/kotoryj*-relatives regarding violations of Condition C follows the pattern with respect to their ability to have degree/amount readings, break up idiom chunks, and the ability to license narrow and wide scope. Furthermore, Condition C violations show that *co/čto*-relatives require head noun reconstruction, whereas *który/kotoryj*-relatives do not. This is in line with data

concerning the ability of Polish and Russian relative clauses to have appositive versus restrictive readings.

Again, we can test the idea that reconstruction is tied to movement by using constructions containing resumptive pronouns. When we block head noun reconstruction with the help of resumptive pronouns, violations of Condition C disappear:

41. a. Znam koleżankę *Janka*₁ **co** ja wiem że **ja** *on*₁ powiedział że chce polubić
Know friend(fem) John₁ that I know that her he₁ said that wants like
'I know a friend of John that I know that he said that he wants to like'
- c. Ja znaju podругę Ivana₁ **čto** Vania znajet čto **jej** *on*₁ skazal čtoby prišla
I know friend-fem Ivan₁ that Vania knows that her he said that come
'I know a friend of Ivan that Vania knows that he told her to come'

When there is a resumptive, *co/čto*-relatives behave like *który/kotoryj*-relatives as far as Condition C violations are concerned. This supports the claim that the difference between the two types of relatives stems from the ability to have head noun interpretation inside the relative clause.

2.8 Binding Conditions - *Condition A*

Condition A effects are much more tricky. Relative clauses in Polish or Russian behave as if the reflexive was never interpreted inside the RC. This appears to contradict hypothesis (17).

42. a. Janek_i zobaczył zdjęcie siebie*_{i/j} **co** ty_j kupiłeś
 Janek saw picture self that you bought
 ‘Janek saw a picture of himself/*yourself which you bought’
- b. Janek_i zobaczył zdjęcie siebie*_{i/j} **które** ty_j kupiłeś
 Janek saw picture self that you bought
 ‘Janek saw a picture of himself/*yourself which you bought’
43. a. Ivan_i uvidel fotografiju sebia*_{i/j} **čto** ty_j kupil
 Ivan saw picture self*_{i/j} that you_j bought
 ‘Ivan saw a picture of himself/*yourself that you bought’
- b. Ivan_i uvidel fotografiju sebia*_{i/j} **kotoruju** ty_j kupil
 Ivan saw picture self*_{i/j} which you_j bought
 ‘Ivan saw a picture of himself/*yourself which you bought’

Polish and Russian pattern with other languages such as Swedish (Platzack 2000):

- *44. Var la du brevet fran sin larare som Sara fick igar
 where put you letter-the from her-REFL teacher that Sara got yesterday
 ‘Where did you put the letter from her teacher that Sara got yesterday’

It has to be noted, however, that Polish and Russian reflexives can only be subject oriented.

45. a. Maria_i dała Markowi_j książkę o sobie _{i/*j}
 Mary gave Marc book about self
 ‘Mary gave Marc a book about herself’

- b. Maša_i dala Ivanu_j knigu o sebe_{i/*j}
 Mary gave Ivan book about self
 ‘Mary gave Ivan a book about herself’
- c. Mary gave John a book about himself/herself

This would explain the behavior of Condition A violations: a local subject before reconstruction binds the reflexive.²³ The problem is that in cases when the reflexive is in subject position we also get lack of reconstruction.

- 46. a. Maria_i wie [że zdjęcie siebie_{i/?j} [**które** Jan_j kupił] leży na stole]
 Mary_i knows that picture self_{*i/j} which Jan_j bought lies on table
 ‘Mary knows that the picture of himself which John bought is lying on the table’
- b. Maria_i wie [że zdjęcie siebie_{i/j} [**co** Jan_j kupił] leży na stole]
 Mary_i knows that picture self_{*i/j} that Jan_j bought lies on table
 ‘Mary knows that the picture of himself that John bought is lying on the table’
- 47. a. Maria_i znajet [čto fotografija sebja_{i/?j} [**kotoruju** Vania_j kupil] ležit na stole]
 Maria knows that picture self-gen which Vania bought lies on table.
 ‘Mary knows that the picture of himself that Vania bought is lying on the table’

²³ This requires the assumption that Condition A applies to surface forms.

- b. Maria_i znajet [čto fotografija sebja_i [čto Vania_j kupil] ležit na stole]
 Maria knows that picture self-gen which Vania bought lies on table.
 ‘Mary knows that the picture of himself that Vania bought is lying on the table’

For reasons that are beyond the scope of this work, the reflexive in subject position behaves as we have predicted – it is being interpreted inside the relative clause in *co/čto*-relatives and being interpreted outside in *który/kotoryj*-relatives.²⁴

2.9 Adjunct vs. complement status of relative clauses

Setting aside the problem of Condition A effects, we see that Polish and Russian relative clauses exhibit an interesting asymmetry as far as head noun reconstruction is concerned. *Co/čto*-relatives have been shown not only to have head noun reconstruction (ability to have degree/amount readings, ability to break up idiom chunks, scope effects), but also have been shown to actually require it (inability to have appositive readings, inability to escape Condition C violation). *Który/kotoryj*-relatives, on the other hand, have been shown to not allow head noun reconstruction. I have argued that this supports the hypothesis in (17) where *co/čto*-relatives are derived via head noun raising out of the relative clause, and *który/kotoryj*-relatives are derived via operator movement and

²⁴ The fact that still we do not get a clear division between *co/čto*-relatives and *który/kotoryj*-relatives in the case of reflexives can be due to the nature of Polish and Russian reflexives in that they are ambiguous between reflexive and pronoun forms. For example, the form ‘self’ below is in subject position and has no c-commanding antecedent. It behaves like a pronoun in that its antecedent is *Jan* – the subject in the main clause.

- (i) Jan wie że zdjęcie siebie będzie miał zrobione
 Jan knows that picture himself will have taken
 ‘*Jan knows that a picture of himself will be taken’

adjunction of the relative clause to the head noun. The hypothesis in (17) makes an interesting prediction. Namely, *który/kotoryj*-relatives should be adjuncts of the head noun, whereas in *co/čto*-relatives the relative cannot be an adjunct of the head noun. One way to test this prediction is to examine the status of the relative clause. Lebaux (1988) has proposed that adjuncts undergo Late Insertion. This is needed to account for examples of argument vs. adjunct reconstruction (see example below following Chomsky 2001).

48. [Which picture of Bill_i that John_j liked]₁ did he_{*i/j} buy t₁

The idea is that the string ‘that John liked’ is Late Inserted as an adjunct and therefore is not present in the trace position and thus, in turn, does not force a Condition C violation. The analysis of Polish and Russian relative clauses gives us a clear prediction:

który/kotoryj-relatives should show a contrast between binding ‘Bill’ and ‘John’ with ‘he’, since the relative clause is derived via operator movement and its status is that of an adjunct of the head noun; on the other hand *co/čto*-relatives should not exhibit the types of effects shown in English. The data is, indeed, consistent with these predictions, as shown in (49) and (50):

49. a. [[Który obraz Janka_i] **co** Marek_j lubi]₁ Jola chce by on_{*i/*j} kupił t₁
 which picture John’s that Mark likes Jola wants that he buy
 ‘Which picture of John that Mark likes does Jola want him to buy’

- b. [Który obraz Janka_i]₁ **który** Marek_j lubi] Jola chce by on_{??i/j} kupił t₁
 which picture John's which Mark likes Jola wants that he buy
 'Which picture of John that Mark likes does Jola want him to buy'
- c. [Który obraz Janka_i]₁ **co** **który** Marek_j lubi] Jola chce by on_{??i/j} kupił t₁
 which picture John's that which Mark likes Jola wants that he buy
 'Which picture of John that Mark likes does Jola want him to buy'
50. a. [Kakuju fotografiu Ivana_i] **čto** Mark_j lubit]₁ Yulia xočet čtoby on_{*i/*j}
 which picture Ivan's that Mark likes Julie wants that he
 kupil t₁
 buy
 'Which picture of John that Mark likes does Julie want him to buy'
- b. [Kakuju fotografiu Ivana_i] **kotoruju** Mark_j lubit]₁ Yulia xočet čtoby on_{*i/j}
 which picture John's which Mark likes Julie wants that he
 kupil
 bought
 'Which picture of John that Mark likes does Julie want him to buy'

The examples above show that the string [which photograph of X] has to reconstruct to the trace position. Only in *co/čto*-relatives did reconstruction obligatorily pied pipe the relative clause. This, together with Condition-C effects mentioned before, provides strong support for the claim that *co/čto*-relatives do not have the option of a phonologically null *wh*-operator, as English seems to have. Consequently, *co/čto*-relatives can only be derived via Head Noun raising out of the relative. On the other hand, the fact that *który/kotoryj*-relatives do not have to be reconstructed together with the head noun

indicates that they behave like adjuncts. This supports the hypothesis in (17) where *który/kotoryj*-relatives are derived via operator movement, and the relative is an adjunct to the head noun.

2.10 Summary of the facts so far

We have seen evidence that *co/čto*-relatives are formed via HN raising out of the RC. This process leaves a copy allowing the HN to reconstruct. We have also seen evidence that *co/čto*-relatives have to be formed via head noun raising, which excludes the possibility that Polish and Russian have null relative operators. *Który/kotoryj*-relatives, on the other hand, do not reconstruct the HN into the RC, but are derived by raising the operator *który/kotoryj* within the relative, and by adjunction of that relative to the head noun.

51. Results so far

Type/ Behavior	<i>Appositive</i> <i>readings</i>	<i>Degree</i> <i>readings</i>	<i>Idioms</i> <i>inside</i> <i>the RC</i>	<i>Condition-</i> <i>C violation</i>	<i>Reflexive</i> <i>interpretation</i> <i>inside relative</i>	<i>Wide and</i> <i>narrow</i> <i>Scope</i>	<i>Relative</i> <i>behaves</i> <i>as an</i> <i>adjunct</i>
<i>Co/čto</i>	✗	✓	✓	✓	✓	✓	✗
<i>Który/ kotoryj</i>	✓	✗	✗	✗	✗	✗	✓

I argue that the data presented supports the hypothesis in (17).

This distinction between two types of relative clauses will turn out to be crucial for my analysis of VP ellipsis. Both types of VP ellipsis (one where only the subject is retained,

bare-VP ellipsis, and one where the subject is accompanied by an auxiliary/negation /modal, non bare-VP ellipsis) are only possible in relative clauses that are derived via head noun raising (*co/čto*-relatives). On the other hand, VP ellipsis in relative clauses derived via operator movement (*który/kotoryj*-relatives) can only be of the type where the subject is accompanied by an auxiliary/negation/modal (non bare-VP ellipsis). I will argue that this is because operator movement blocks VP topicalization required for the licensing of bare-VP ellipsis.

Before discussing VP ellipsis in detail (see Chapter 2), I will first examine cases where *co/čto*-relatives are forced to behave like *który/kotoryj*-relatives, and cases when *który/kotoryj*-relatives are allowed to behave like *co/čto*-relatives.

2.11 Reconstruction of adjunct head nouns

In this section, I explore relative clauses where the relative operator is an adjunct inside the relative. I show that such relatives behave differently from ones where the operator is an argument inside the relative. Thus, it will be shown that the distinction between *co/čto*-relatives and *który/kotoryj*-relatives is lost in cases when the operator is an adjunct. In Chapter 2 it will be shown that VP ellipsis behaves differently in *który/kotoryj*-relatives when the operator is an adjunct. Hence, it is important to establish the properties of *który/kotoryj*-relatives whose operator is an adjunct in order to provide a basis for discussion on VP ellipsis in these constructions.²⁵

²⁵ In fact I will show in Chapter 2 that the ability to have head noun reconstruction in adjunct *który/kotoryj*-relatives is not responsible for the ability to have bare-VP ellipsis in these constructions. The crucial factor will be the adjunct status of the operator and not reconstruction due to Late Insertion.

For example, degree/amount readings are possible in *który/kotoryj*-relatives when the operator is an adjunct inside the relative clause:²⁶

52. a. Całe życie nam zajmię wypić tę wódkę, **obok której** ty zasneleś
 whole life us take drink this vodka next which you slept
 ‘It will take us our whole life to drink all the vodka next to which you slept.’
- b. Całe życie nam zajmię wypić tę wódkę, **co obok której** ty zasneleś
 whole life us take drink this vodka that next which you slept
 ‘It will take us our whole life to drink all the vodka next to which you slept.’
- c. Nam potrebujetsja celaja žizn’, čtoby vypit’ tu vodku, **voze kotoroj** ty
 Us will take whole life that drink that vodka next which you
 spal
 slept
 ‘It will take us our whole life to drink all the vodka next to which you slept.’

All three examples above allow for a degree/amount reading, unlike the cases discussed in previous sections, and unlike those below, where the operator originates as an argument inside the relative:

53. ??a. Całe życie nam zajmię wypić ten szampan, **co który** oni rozlali dziś
 whole life us take drink this champagne that which they spilled today
 ‘It will take us our whole life to drink all the champagne that they spilled today’

²⁶ The judgments are delicate, but most speakers seem to have the contrast.

- ??b. Całe życie nam zajmię wypić ten szampan, **który** oni rozlali dziś
 whole life us take drink this champagne which they spilled today
 ‘It will take us our whole life to drink all the champagne that they spilled today’
- c. Całe życie nam zajmię wypić ten szampan, **co** oni rozlali dziś
 whole life us take drink this champagne that they spilled today
 ‘It will take us our whole life to drink all the champagne that they spilled today’

The same contrasts exist in Russian. Adjunct relatives allow a degree/amount reading regardless of the type of relative marker. Compare the examples where the operator is an adjunct (54a) with examples where the operator is an argument (54b) (I mark as ungrammatical the lack of an amount/degree reading):

54. a. Nam potrebujetsja tselaja žizn’, čtoby vypit’ to šampanskoe, **čto** oni
 Us will take whole life that drink that champagne that they
 razlili etim večerom.
 spilled this evening
 ‘It will take us our whole life to drink all the champagne that they spilled
 this evening’
- *b. Nam potrebujetsja celaja žizn’, čtoby vypit’ to šampanskoe, **kotoroe**
 Us will take whole life that drink that champagne which
 oni razlili etim večerom.
 they spilled this evening
 ‘It will take us our whole life to drink all the champagne that they spilled
 this evening’

Note that the crucial condition is that the Head Noun is an adjunct inside the relative.

Hence, *który/kotoryj*-relative clauses with the operator as a PP object inside the relative do not behave like *co/čto*-relatives, and cannot license a degree/amount reading:

55. ?a. Całe życie zajmie nas wypić tę wódkę **do ktorej** ty biegleś.
Whole life take us drink that vodka to which you ran
'It will take us all our life to drink the vodka to which you ran'
- ?b. U nas zajmjot tseluju žizn' vypit' tu wódku, **k kotoroj** ty beżał.
Us will-take whole life drink the vodka to which you ran
'It will take us all our life to drink the vodka to which you ran'

The above can only have a restrictive meaning. This shows that it is not pied piping of the operator that is the relevant condition.

Furthermore, it is crucial that the head noun is an adjunct inside the relative; the role of the head noun in the matrix clause does not play a role. Thus, in cases when the operator is an adjunct in the main clause and an argument inside the relative reconstruction in *który/kotoryj*-relatives is not possible:

56. Całe życie zajmję nam spać obok tej wódki **która** ty wypileś
Whole life take us sleep next that vodka which you drank
'It will take us our whole life to sleep next to the vodka that you drank'

The above example has the bizarre interpretation of identity; we are sleeping next to vodka that has been already drunk. The same holds for Russian, as shown in the example below:

57. U nas zajmjot tseluju žizn' spat' vozle toj vodki, **kotoruju** ty vypil
Us will take whole life sleep next that vodka which you drank
'It will take us our whole life to sleep next to the vodka that you drank'

Finally, there are adjuncts that do not require a PP, at least not an overt one. The ability to have degree readings in *który/kotoryj*-relatives shows that being part of PP is not what is important for reconstruction. Below, I show cases of HN reconstruction where the HN is an adjunct in the instrumental case that does not have a preposition in Polish or Russian.

58. On narysował obrazek kredką
he drew picture crayon(INS)
'He drew a picture with a crayon'

59. On narisoval kartinku karandašom
he drew picture crayon(INS)
'He drew a picture with a crayon'

The non-PP instrumental adjunct can license a degree/amount reading.

60. Całe życie nam zajęmie kupić te kredki **którymi** ty narysowałeś obrazek.
Whole life us take buy the crayons which you drew picture
'It will take us all our life to buy the crayons that you used to draw a picture'

61. U nas zajmjot celuju žizn' kupit' te karandaši **kotorymi** ty narisoval kartinku.
In us take whole life buy the crayons which you drew picture
'It will take us all our life to buy the crayons that you used to draw a picture'.

The above discussion indicates that in Polish and Russian relative clauses operators that originate as adjuncts inside the relative always allow the HN to be interpreted inside that relative.

A possible explanation of why the head noun can be interpreted inside a relative clause that has an adjunct operator is to claim that the HN is not generated inside the RC but can always be interpreted inside it via Late Insertion cf. Lebaux (1988), Merchant (2000).

The problem with this account is that we do not observe reconstruction effects in English adjunct relatives with a wh-relative marker. Adjunct relatives headed by a wh-operator behave just like non-adjunct relatives. For example, degree readings of adjunct wh-relatives in English are just as bad as in the case of non-adjunct relatives:

62. a. It will take us all year to drink the vodka **next to which** you slept
b. It will take us all year to drink the vodka **which** you slept next to

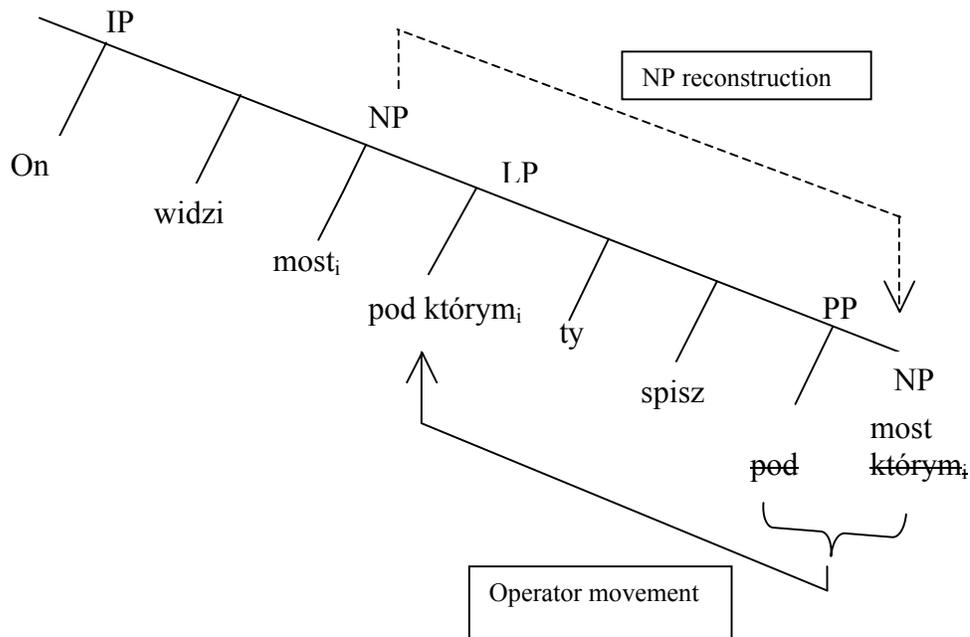
The above examples can only have a restrictive meaning, in contrast to the Polish and Russian data.

I will argue that the difference between Polish and Russian on one hand, and English on the other lies in the nature of the relative operator. In Polish and Russian the operator *który/kotoryj* is marked for case, gender, number and person. In other words, it spells out NP features (as well as DP ones, if there are any). The English operator *who/which* spells

out mainly DP features. I propose that in Polish and Russian the operator is a lexicalization of the whole phrase that absorbs case and theta roles, whereas in English the operator is basically a determiner that has to have an NP complement. English operators are complex phrases consisting of an overtly spelled-out wh-determiner and a phonologically null NP. Polish and Russian operators are phonologically spelled out NP's. I propose that adjuncts, by virtue of being able to undergo Late Insertion, can be re-interpreted in the position of the trace of the operator. This operation is possible because of two factors: (i) the operator is co-indexed with the head noun; (ii) the head noun is an adjunct and can undergo Late Insertion. Why does English not allow head nouns to be interpreted inside the relative clause in place of a trace of an adjunct operator? I suggest that this is due to the fact that English operators are morpho-semantically complex. The relative operator has two components: a wh-element occupying the DP, and a phonologically null NP. Thus there is a mismatch between the head noun (which has its own determiner) and the operator DP plus NP complex. Polish and Russian do not have determiners, and there is a one to one mapping of the head noun and operator. Thus in Polish and Russian reconstruction of the head noun into an adjunct position inside the relative clause is possible.

63. Derivation of an adjunct HN:

On widzi most pod którym ty śpisz
 he sees bridge under which you sleep
 'He sees the bridge under which you sleep'



In the above derivation, the operator (pied piped with the PP; Polish does not allow PP stranding) raises to a position within the Left Periphery. The relative clause is adjoined to the head noun. The head noun is co-indexed with the operator. This allows reconstruction of the head noun to the adjunct position via Late Insertion.²⁷

²⁷ I am deliberately fuzzy on the details; I will return to the structure of the Left Periphery of Polish relative clauses. Note also that the operation of reconstruction via Late Insertion is optional, unlike reconstruction due to movement.

Crucially, in *który/kotoryj*-relatives there is still operator movement. The difference is that in Polish and Russian the head noun can reconstruct instead of the operator, provided the operator has moved from an adjunct position.

2.12 Summary so far

It has been shown that Polish and Russian relative clauses sometimes allow the head noun to be interpreted inside the relative clause, and sometimes do not. The head noun is always interpreted inside the relative clause in *co/čto*-relatives. This I attribute to the fact that *co/čto*-relatives lack an operator, and the head noun has to be generated inside the relative clause. In *który/kotoryj*-relatives the HN cannot be interpreted inside the relative, since *który/kotoryj* is an operator. Note that this analysis implies that Polish and Russian cannot be analyzed along the lines of Kayne (1994) or Bianchi (1999). The asymmetry between *co/čto*-relatives and *który/kotoryj*-relatives is problematic for an analysis à la Kayne. A further complication is posed by the fact that when the head noun is an adjunct inside the relative it has the option of being interpreted inside the relative clause, regardless of the marker used (and thus definitely rules out an analysis of Polish and Russian relatives à la Kayne). The proposal that I put forth is that Polish and Russian *co/čto*-relatives have to be derived via head noun raising, and that *który/kotoryj*-relatives have to be derived via adjunction of the relative clause to the HN and operator movement inside the RC (*który/kotoryj*-relatives).

English behaves differently from Polish and Russian (but see Aoun & Li 2003). There is a difference between *that*-relatives and *wh*-relatives, but it is limited to contrasts involving appositive readings (only *wh*-relatives), and the ability to have amount/degree

readings (only that-relatives). Other contrasts are problematic and seem to vary strongly from speaker to speaker. However, it is clear that English *wh*-relatives with an adjunct operator do not behave like that-relatives, as is the case in Polish and Russian. This I attribute to the difference between the nature of *wh*-relative markers and *który/kotoryj*-relative markers.

In the next section I will discuss blocking reconstruction in *co/čto*-relatives. In essence this is a mirror image of the cases just discussed, where the *który/kotoryj*-relative clauses with adjunct operators behave like *co/čto*-relatives.

2.13 Blocking reconstruction – resumptive pronouns

In this section I will discuss cases where we should see effects of head noun raising but we do not. Two phenomena will be discussed: *co/čto*-relatives with resumptive pronouns, and (in a later section) extraposed *co/čto*-relatives. Up to this point, I have established a pattern of two types of relative clause formation in both Polish and Russian. I have shown that each type of relative clause formation yields different results in a set of defined tests aimed at establishing head noun movement. This is important since in Chapter 2 I will show that the difference between a head noun raising derivation and an operator plus adjunction derivation has important consequences for VP ellipsis. However, before discussing VP ellipsis in relative clauses, I need to address potential counterexamples to the hypothesis in (17) in order to be able to show in Chapter 2 that they do not pose a problem for my analysis of VP ellipsis.

Polish and Russian allow resumptive pronouns in both *co/ćto*-relatives and *który/kotoryj*-relatives. This has been shown in previous sections in discussions of the blocking effects of resumptive pronouns in *co/ćto*-relatives. Polish *co*-relatives however, have the unusual property of allowing what looks like a resumptive pronoun adjacent to the relative marker. The resumptive immediately following *co* will be argued to be a cliticized/reduced version of the relative operator *który*, with the *wh*-element missing and the pronominal part remaining.²⁸ Resumptives resulting from cliticization of *który* will be called *adjacent* resumptives in order to distinguish them from *regular* resumptive pronouns that, like their English counterparts, prefer to be more embedded within a clause.

It is important for me to show that adjacent resumptive constructions are derived from *co plus który* relative clauses (where *który* loses the *wh*-element), since then I will be able to account for why VP ellipsis in constructions with adjacent resumptives behaves no differently than VP ellipsis in *który-relatives* and *co plus który-relatives*. I will return to ellipsis in Chapter 2. For now let us examine the following adjacent resumptive constructions. Polish can have a resumptive pronoun adjacent to the relative marker *co* or embedded within a subordinate clause (in which case the marker can be either *co* or *który*):

64. a. Marysia zna chłopców, **których** (**ich*) Ania lubi
 Mary knows boys whom (**them*) Anne likes
 ‘Mary knows some boys who Ann likes’

²⁸ I use the term cliticization loosely to refer to the process where the relative operator has its *wh* element truncated leaving the pronominal part behind.

- b. Marysia zna chłopców, **co** (*ich*) Ania lubi
 Mary knows boys that (them) Anne likes
 ‘Mary knows some boys that Ann likes’
- c. Marysia zna chłopców, **których** ja wiem że (*ich*) Ania lubi
 Mary knows boys whom I know that (them) Anne likes
 ‘Mary knows some boys who I know Ann likes’
- d. Marysia zna chłopców, **co** ja wiem że (*ich*) Ania lubi
 Mary knows boys that I know that (them) Anne likes
 ‘Mary knows some boys that I know that Ann likes’

The examples above highlight that in relative clauses with *co*, the resumptive *ich* does not have to be embedded, unlike in *który*-relatives. In fact, there is a preference for having the resumptive adjacent to *co* (example 64d), and for some speakers an object relative clause with *co* requires an adjacent resumptive (example 64b).²⁹ Regular, embedded resumptives, as it was shown in previous sections, block head noun reconstruction. Polish and Russian regular resumptives behave like resumptive pronouns in other languages in that embedding is essential.

Non-adjacent resumptive constructions are the ‘normal’ pattern for resumptives cross-linguistically. Languages like English, Hebrew, Russian and Polish have resumptive pronouns that can surface provided that they are embedded deeply enough (Hebrew examples from Erteschik-Shir (1992)).³⁰ The difference between the (a) and (b) examples

²⁹ Judgments in previous sections where *co*-relatives have a regular resumptive that blocks head noun reconstruction are attributed to speakers who permit such constructions (see Mykowiecka 2000).

³⁰ See Borer (1984).

below is just that of embedding, and yet only in cases when the resumptive is embedded deeply enough are they acceptable.

65. a. Here is a boy_i that Mary said that John thinks that yesterday his mother had given some candy to him_i
- *b. Here is a boy_i that Mary liked him

(Hebrew)

66. a. Šošana_i hi ha-iša še-dani šiper še-moše rixel
Shoshana is the-woman that Danny said that Moshe gossiped
še-nili ohevet ota_i
that Nilly loves her
- ?b. Šošana_i hi ha-iša še-nili ohevet ota_i
Shoshana is the-woman that Nilly loves her

(Russian)

67. a. Sobaka, **čto/kotoruju** ja videl kak oni eě našli včera, byla golodnaja.
The dog, that/which I saw how they her found yesterday, was hungry
'The dog that I saw how they found her yesterday was hungry'
- *b. Sobaka, **čto/kotoruju eě** my našli včera, byla golodnaja.
The dog, that/which her we found yesterday, was hungry
'The dog that we found yesterday was hungry'

In Polish, both *co* and *który* relatives allow embedded resumptive pronouns, both in subject and object relative clauses (the slash between *co* and *który* indicates 'either or').

68. a. Chłopiec; **co/który** Marysia powiedziała, że **on_i** wyszedł jest przystojny
 Boy that/which Mary said that he left is handsome
 ‘A boy that Mary said left is handsome’
- b. Chłopiec; **co/którego** Marysia powiedziała, że ja znam **go_i dobrze** jest
 Boy that/which Mary said that I know him well is
 przystojny
 handsome
 ‘A boy that Mary said that I know him is handsome’

Resumptives in Polish are not limited to relative clauses. They can occur in A-bar movement constructions like wh-movement or Topicalization. Consider examples below:

69. a. [Który komputer]₁ Marek podejrzewał że Maria wie że Jan chce **go₁**
 Which computer Mark suspected that Mary knows that Jan wants it
 kupić?
 buy
 ‘Which computer did Mark suspect that Mary knows that John wants to
 buy’
- b. [Ten komputer]₁ Marek podejrzewał że Maria wie że Jan chce **go₁** kupić
 This computer Mark suspected that Mary knows that Jan wants it buy
 ‘This computer Mark suspected that Mary knows that John wants to buy’

Resumptives can also alleviate Island Constraints. Consider the following CED violations (Huang 1982):

70. ?a. [Jakiego obrazu]₁ ja zadzwoniłem do Marii po *jego*₁ namalowaniu?
 Which painting I called to Mary after it painting
 ‘*Which painting I called to Mary after painting it’
- *b. [Jakiego obrazu]₁ ja zadzwoniłem do Marii po namalowaniu t₁?
 Which painting I called to Mary after painting
 ‘*Which painting I called to Mary after painting’

Embedding is crucial in resumptive constructions involving A-bar movement like wh-movement and Topicalization.

71. *a. [Który komputer]₁ Marek *go*₁ kupił?
 Which computer Mark it bought
 ‘Which computer Mark bought’
- *b. [Ten komputer]₁ Marek *go*₁ kupił
 Which computer Mark it bought
 ‘This computer Mark bought’

The question is why *co*-relative adjacent resumptive pronouns differ from the normal resumptive pronouns found in other types of A-bar movement like wh-movement, Topicalization or relative clause operator raising. One clue comes from the fact that only object resumptives can be formed as adjacent resumptives, whereas embedded resumptives can be both subject and object pronouns (as has been shown earlier; see also McCloskey 1978 for similar data in Irish).

72. a. Marysia zna chłopców₁, **co** *ich*₁ ja lubie
 Mary knows boys that them I like
 ‘Mary knows some boys that I like’

??b. Marysia zna chłopców₁, **co** *oni*₁ mnie lubia
 Mary knows boys that they me like
 ‘Mary knows some boys that like me’

The above data strongly suggests that resumptive pronouns adjacent to *co* are not the same pronouns that we find in embedded resumptive constructions. I propose that adjacent resumptives are clitic/truncated forms of the relative marker *który*. Thus, I propose that adjacent pronoun constructions are in fact underlyingly *co plus który* constructions.

An alternative hypothesis accounting for adjacent resumptives might involve resumptive pronoun climbing. Aside from the issue of explaining why resumptive climbing would be only possible in object *co*-relatives (especially considering (73a,b) with *który*), one would have to also account for the fact that resumptives cannot climb in non-relative clause contexts. Hence, resumptive climbing in wh or Topicalization constructions is not possible. Consider the examples below:

73. *a. Który komputer **go**_i Marek myśli że Maria wie że Jan chce t_i kupić t_i?
 Which computer Mark thinks that Mary knows that Jan wants it buy
 ‘Which computer does Mark think that Mary knows that John wants to buy’

- *b. Ten komputer **go**; Marek myśli że Maria wie że Jan chce t_i kupić t_i
 This computer Mark thinks that Mary knows that Jan wants it buy
 ‘This computer Mark thinks that Mary knows that John wants to buy’

Another piece of evidence supporting the claim that adjacent and embedded resumptives are different comes from the restrictions on cliticization, which can be shown to apply to adjacent resumptive pronouns. Polish relative clauses with prepositions have the PP fronted. In cases when an inflected relative marker heads the relative clause, the PP is before it. When an uninflected relative marker heads the relative clause, the PP requires a resumptive complement – but still prefers to be fronted (although it can remain in situ). In constructions where the relative is introduced by both *co* and *który*, the PP is sandwiched between them.

74. a. Ja widze chłopca **do którego** ty przemowileś
 I see boy to whom you spoke
 ‘I see a boy to whom you spoke’
- b. Ja widze chłopca **co do niego** ty przemowileś
 I see boy that to him you spoke
 ‘I see a boy to whom you spoke’
- c. Ja widze chłopca **co** ty przemowileś **do niego**
 I see boy that you spoke to him
 ‘I see a boy to whom you spoke’

- d. Ja widze chłopca **co do ktorego** ty przemowiłeś
 I see boy that to whom you spoke
 ‘I see a boy to whom you spoke’

However, in cases where the resumptive is part of the PP, it has to take its full form and not a clitic one.

- *75. Ja widze chłopca **co do niego** ty przemowiłeś
 I see boy that to him you spoke
 ‘I see a boy to whom you spoke’

Furthermore, there is no resumptive doubling. Hence, in ‘*co plus który*’ relatives an embedded resumptive and adjacent one are not possible if they have to be part of a PP.

However, their co-occurrence is less marginal in non PP contexts.

76. *a. Ja widze chłopca **co do niego** Maria wiedziała że on chciał byś ty **do niego**
 I see boy that to him Mary knew that he wanted that you to him
 przemowił
 spoke
 ‘I see a boy to whom Mary knew that he wanted you to speak’
- ?b. Ja widze chłopca **co go** Maria powiedziała że tyś chciał by **go** poznać
 I see boy that him Mary said that you wanted to meet him
 ‘I see a boy whom Mary said that you wanted to meet’

I will argue that since cliticization is not possible in PP complements, resumptives that follow a PP are regular resumptives that can raise to the highest clause via XP movement. Since there are no adjacent resumptives in PP constructions, doubling is not possible. Thus the predictions that the cliticization hypothesis makes are twofold. First, adjacent resumptives should not be possible in *co plus który* relatives. This turns out to be correct:

- *77. Chłopiec_i **co którego** *go*_i ja znam jest przystojny
 Boy that which him I know is handsome
 ‘A boy that I know him is handsome’

However, embedded resumptives should be possible in *co plus który* relatives. This turns out to be correct:

78. Chłopiec_i **co którego** Marysia chce bym ja *go*_i poznał jest przystojny
 Boy that which Mary wants that I him meet is handsome
 ‘A boy that Mary wants me to meet is handsome’

This can be easily accounted for if the adjacent resumptive is a clitic/truncated form of the relative pronoun *który*.

Secondly, the hypothesis predicts that adjacent resumptives and embedded resumptives can be both present in a single clause (this is basically example (76b) repeated below as (79)).³¹

³¹ The embedded pronoun is inverted with the verb and the embedded subject is deleted here in order to make a difficult construction more acceptable. Polish is a pro-drop language and clitic pronouns do not ‘like’ to follow verbs. Until now, I kept them in their canonical order for exposition purposes.

79. Chłopiec; **co go** Marysia chce bym ja **go** poznał jest przystojny
 Boy that which Mary wants that I him meet is handsome
 ‘A boy that Mary wants me to meet is handsome’

It would be hard to explain examples where we have multiple instances of the same resumptive. However, if we assume that the above example is actually derived from (78) then the re-occurrence of the resumptive is no longer a mystery. Note that if multiple relatives are in fact instances of two different kinds of relatives, which would imply that multiple resumption is not possible, then cases where there are more than two resumptives, one embedded and one adjacent, should be unacceptable. This turns out to be correct:

80. Chłopiec; **co go** ja wiem że **go** Marysia powiedziała, że **go** znam jest przystojny
 Boy that him I know that him Mary said that him know is handsome
 ‘A boy that I know that Mary said that I know him is handsome’

I have shown that *co plus który* relatives behave in a way that indicates that the head noun is not interpreted inside the relative clause. Hence, we observe: (i) the ability of head nouns to ‘escape’ Condition C effects, (ii) the ability of a given relative clause to license a restrictive meaning, and (iii) the inability to license a degree reading. In the following sections it will be shown that constructions with adjacent resumptives and *co plus który* relatives behave identically as far as the interpretation of the head noun is concerned. I will explore the ability to license appositive readings, the ability to escape Condition C effects, and the inability to license degree readings of *co plus który* and

adjacent resumptive pronoun constructions. As was already argued, these properties can be a good testing ground for establishing whether the head noun is inside the relative clause or generated outside it .

As has been shown in previous sections, *co plus który* constructions allow both a restrictive and appositive reading. The example below shows that this is also the case in adjacent pronoun constructions. A relative clause with *co* and an adjacent pronoun can license an appositive reading as well as a restrictive one. This can be contrasted with the bare *co* relative in example (b) where a non-restrictive reading is not possible.

81. a. Maria, **co którą** Janek poznał, poszła do domu
Maria that which Janek met went to home
'Mary, who Janek met, went home'
- b. Maria, **co ją** Janek poznał, poszła do domu
Maria that her Janek met went to home
'Mary, who Janek met, went home'
- *c. Maria, **co** Janek poznał, poszła do domu
Maria that her Janek met went to home
'Mary, who Janek met, went home'

Appositive relatives are usually argued not to have head noun reconstruction. Hence, the above examples indicate that adjacent pronouns block head noun reconstruction.

Constructions involving Condition C violations are another good indicator of whether head noun reconstruction had taken place or not. In the previous chapter it was shown that the R-expression ‘John’ can ‘escape’ a Condition C violation in *co plus który* constructions. This is also true for adjacent resumptive constructions, but not for bare *co* relatives (i.e. relatives without any kind of resumptive pronoun).

82. a. Znam koleżankę *Janka*₁ **co którą** *on*₁ powiedział że chce polubić
 Know friend (fem) John₁ that which he₁ said that wants like
 ‘I know a friend of John that he said that he wants to like’
- b. Znam koleżankę *Janka*₁ **co ją** *on*₁ powiedział że chce polubić
 Know friend (fem) John₁ that her he₁ said that wants like
 ‘I know a friend of John that he said that he wants to like’
- ??c. Znam koleżankę *Janka*₁ **co** *on*₁ powiedział że chce polubić
 Know friend (fem) John₁ that he₁ said that wants like
 ‘I know a friend of John that he said that he wants to like’

Condition C effects provide support to the claim that the head noun in *co plus który* and adjacent resumptive relatives can be interpreted outside the RC, whereas relative clauses containing just *co* seem to force head noun reconstruction.

A third example where we see head noun reconstruction not taking place is in cases where a degree reading is not possible. In the previous section it was shown that Polish relative clauses containing *co plus który* allow for an identity reading only. This seems to

be also true for relative clauses containing adjacent resumptives, but not for relative clauses headed just by *co*:

83. ??a. Całe życie nam zajmię wypić tyle szampana, **co który** oni rozlali
whole life us take drink this much champagne that which they spilled
tego wieczoru
this evening
'It will take us our whole life to drink all the champagne that they spilled
this evening'
- ??b. Całe życie nam zajmię wypić tyle szampana₁, **co go₁** oni rozlali
whole life us take drink this much champagne that it they spilled
tego wieczoru
this evening
'It will take us our whole life to drink all the champagne that they spilled
this evening'
- c. Całe życie nam zajmię wypić tyle szampana, **co** oni rozlali
whole life us take drink this much champagne that they spilled
tego wieczoru
this evening
'It will take us our whole life to drink all the champagne that they spilled
this evening'

The degree reading data clearly indicates that head noun reconstruction is not only optional, but probably impossible in both *co plus który* and adjacent resumptive constructions. Note that non-adjacent resumptive pronoun constructions behave

identically to adjacent resumptive constructions and *co plus który* relatives in that they: (i) do not allow degree readings; (ii) permit the escape of Condition C effects; and (iii) license appositive meanings. Consider the following examples:

84. a. Maria₁ **co** Janek wie że **ja**₁ poznał wczoraj poszła do domu
 Maria that Janek knows that her met yesterday went to home
 ‘Mary, who Janek knows that he met her, went home’
- b. Znam [koleżankę *Janka*₁]₂ **co** on₁ powiedział że chce **ja**₂ polubić
 Know friend(fem) John₁ that he₁ said that wants her like
 ‘I know a friend of John that he said that he wants to like’
- ??c. Całe życie nam zajmie wypić tyle szampana₁, **co** Jan widział jak **go**₁
 whole life us take drink this much champagne that Jan saw how it
 oni rozlali tego wieczoru
 they spilled this evening
 ‘It will take us our whole life to drink all the champagne that they spilled
 this evening’

However, as I have shown in previous sections, adjacent resumptives cannot be considered identical to regular resumptives. Evidence that adjacent resumptives are different from other resumptives comes from: (i) differences between adjacent and embedded resumptives (adjacent resumptives only are possible only in object *co* relatives, whereas embedded resumptives and are possible in *co*, *który* and *co and który* subject and object relative clauses), and (ii) *co*-existence of adjacent and embedded resumptives. Instead, I argue that adjacent resumptives are clitic/truncated forms of the relative operators.

In order to establish a more comprehensive picture of how adjacent resumptives are formed, I will permit myself a digression and explore the morpho-phonological relationship between the resumptive pronoun form and the *który* relative pronoun. As can be seen, there is a strong relationship between the two as far as form is concerned. In most cases, a straightforward elimination of the [+wh] element *któr* is sufficient to arrive at the form of the resumptive pronoun. The form of both adjacent and embedded resumptives is identical. Only in [+nom] forms do they differ in that there are no nominative adjacent resumptive pronouns. Coincidentally, the nominative forms are the only ones that cannot be directly derived from the form of the relative pronoun.³²

85. The form of resumptive pronouns and of the relative pronoun *który*

a. Singular Masc

Case	rel pronoun	resumptive
NOM	<i>który</i>	on/zero in adjacent resumptives
ACC	<i>którego</i>	<i>go</i>
GEN	<i>którego</i>	<i>go</i>
DAT	<i>któremu</i>	<i>mu</i>
INST	<i>którym</i>	<i>nim</i>
LOC	<i>którym</i>	<i>nim</i>

³² The addition of /n/ or /j/ to a pronoun is a frequent process in Slavic languages. The alternation between /i/ and /y/ is also very common in Polish (see Rubach 1984).

b. Singular Fem

Case	rel pronoun	resumptive
NOM	która	ona/ zero in adjacent resumptives
ACC	która	ja
GEN	której	jej
DAT	której	jej/niej
INST	która	nia
LOC	której	jej/niej

c. Plural Masc/Fem

case	rel pron	resumptive
NOM	którzy/które(f)oni/one(f)/	zero in adjacent resumptives
ACC	których	(n)ich
GEN	których	(n)ich
DAT	którym	nim
INST	którymi	nimi
LOC	których	nich

The above examples indicate that in many cases we can clearly derive the form of the resumptive pronoun from the relative pronoun.³³ Crucially, we can now account for the

³³ Unfortunately, there are examples where there is no clear correlation between the form of the resumptive and the relative pronoun. For example, the second person singular head noun 'you':

fact that there are no subject-adjacent resumptives. This is because Nominative case marked on *który* has no overt pronominal part, and after deleting the *wh* part there is nothing left.

Note that this correctly predicts that Dative subjects will have an adjacent resumptive:

86. a. Znam dziewczynę₁ **co jej₁** się Marek podoba
 know girl that her(DAT) refl Mark (ACC) likes
 ‘I know a girl that likes Mark’

??b. Dziewczyna₁ **co ona₁** poszła do domu jest piękna
 girl that she went to home is beautiful
 ‘A girl that went home is beautiful’

I assume that cliticization of *który* takes place after the relative pronoun has raised out of its base position. This can be seen in examples where the relative pronoun is in-situ and is in its full form.

’87. Kobietę [RC mężczyzna rozpoznał **którą** wczoraj] Janek zna od lat
 woman(acc) man (nom) recognized which yesterday Janek knows for years
 ‘A woman who a man recognized yesterday Janek knows for years’

(i) Ty **którego ja** widziałem
 you(nom) whom I saw

(ii) Ty₁ **co ciębie₁** ja widziałem
 you(nom) that you(acc) I saw

The transformation from *którego* to *ciębie* is obviously not a transparent morphological process.

In fact, cliticization has to take place after *który* raising since it will be argued that the element *któr* triggers obligatory raising of the relative pronoun in *co plus który* relatives, and optional raising in *który* relatives. This would account for the contrast between (88a) and (88b), where it seems that in *co plus który* relatives the cliticized form can stay in situ, but not the full form.³⁴

88. a. Kobiетę [co mężczyzna rozpoznał *ja*₁ wczoraj] Janek zna od
 woman(acc) that man(nom) recognized her yesterday Janek knows for
 lat
 years
 ‘A woman who a man recognized yesterday Janek knows for years’
- *b. Kobiетę [co mężczyzna rozpoznał *która* wczoraj] Janek zna
 woman(acc) that man (nom) recognized whose yesterday Janek knows
 od lat
 for years
 ‘A woman who a man recognized yesterday Janek knows for years’

I argue therefore that adjacent resumptives are clitic forms of the *który* relative pronoun in *co plus który* constructions, and cliticization takes place after the relative pronoun has raised out of its base position. There is a prediction that in languages where there are two ways of introducing a relative clause but no possibility of combining them, there should be no adjacent resumptive pronouns. This arguably could be the case in English, but Russian offers a more persuasive example. As already mentioned, Russian has *čto*

³⁴ The (b) example improves if the material between *co* and *który* is focused. However, this would then imply a derivation where there is movement into the space between the two relative markers and not *który* remaining in situ. Obviously, this also leaves the question why the operator when not accompanied by *co* can remain in-situ as in (87).

relatives (equivalent of *co* relatives) and has *kotoryj* relatives (the equivalent of *który* relatives):

89. a. Sobaka, **čto** guljala vo dvore, byla golodnaja.
Dog that walked in yard was hungry
'The dog that walked in the yard was hungry'
- b. Sobaka, **čto** my našli včera, byla golodnaja.
Dog that we found yesterday was hungry
'The dog we found yesterday was hungry'
90. a. Sobaka, **kotoraja** guljala vo dvore, byla golodnaja.
Dog which walked in yard was hungry
'The dog that walked in the yard was hungry'
- b. Sobaka, **kotoruju** my našli včera, byla golodnaja.
Dog which we found yesterday was hungry
'The dog we found yesterday was hungry'

Russian also has embedded subject and object resumptive pronouns with both *čto* and with *kotoryj* relatives. However, there are no adjacent pronouns.

91. a. Sobaka₁, **čto /kotoraja** on skazal čto my dumali čto **ona**₁ byla golodnaja,
Dog that/which he said that we thought that she was hungry
guljala vo dvore
walking in yard
'The dog that he said that we thought that she was hungry was walking in the yard'

- *b. Sobaka₁ **čto/kotoraja ona**₁ on skazal čto byla golodnaja, guljala vo dvore.
 Dog that/which she he said that was hungry walking in yard
 ‘The dog that he said was hungry was walking in the yard’
- c. Sobaka₁, **čto/kotoruju** on skazal čto my dumali čto my **eě**₁ nakormili,
 Dog that/which he said that we thought that we it fed
 byla snova golodnaja.
 was again hungry.
 ‘The dog that he said that we thought we had fed it was hungry again’
- *d Sobaka₁, **čto/kotoruju eě**₁ on skazal čto my nakormili, byla snova
 Dog that/which it he said that we fed was again
 golodnaja.
 hungry
 ‘The dog he said that we fed was hungry again’

This correlates with the fact that in Russian there are no *čto plus kotoryj* relative pronouns:

92. *a. Sobaka, **čto kotoraja** guljala vo dvore, byla golodnaja.
 Dog that which walked in yard was hungry
 ‘The dog that walked in the yard was hungry’
- *b. Sobaka, **čto kotoruju** my našli včera, byla golodnaja.
 Dog that which we found yesterday was hungry
 ‘The dog we found yesterday was hungry’

It will be argued that in Russian because there are no *čto plus kotoryj* relative clauses then there are no adjacent relative pronouns since there is nothing to cliticize next to *čto* .

The discussion about adjacent resumptives allows us to reduce adjacent resumptive constructions to *co plus który*-relatives. As I said at the beginning of this section, this will become important when I discuss the mechanism of VP ellipsis in relative clauses with adjacent resumptive pronouns and show that it can be reduced to VP ellipsis in *co plus który*-relatives. In the next section, I will discuss extraposition in relative clauses. Again, this is necessary to establish the properties of extraposed relative clauses in Polish and Russian in order for me to provide an account of VP ellipsis in these constructions.

2.14 Blocking reconstruction - extraposition

Resumption is not the only way to block HN reconstruction. Fox and Nissenbaum (1999) point out that there is a tension between scope and reconstruction facts. When they are extraposed, relative clauses block HN reconstruction, as opposed to when they are not extraposed. For example, under such conditions Condition C violations seem to disappear, as well as the availability for degree/amount readings. This obviously raises the issues of obligatory versus forced reconstruction.³⁵

This discussion is important not just for establishing how relative clauses are derived.

The proposed derivation of relative clauses in Fox & Nissenbaum (1999) serves as a basis for the analysis of a type of VP ellipsis called ACD, which I will discuss in Chapter 2.

Fox (2002) claims that ACD takes place in relative clauses derived by adjunction of the

³⁵ David Pesetsky (p.c.)

relative clause to the head noun. One piece of evidence that Fox (2002) puts forward is that ACD is possible in extraposed relative clauses. I will dispute Fox's claim that VP ellipsis takes place only in relative clauses derived via adjunction. In order to address the issue, I need to examine the process of extraposition in Polish and Russian in relative clauses, and show that the proposals in Fox & Nissenbaum (1999), which form the basis of Fox's (2002) proposal, are not the only way to account for extraposition in relatives. Consider the following extraposed constructions and their ability to license amount/degree readings:

93. a. It will take us all year to drink the champagne in France that he spilled at the party
- b. It will take us all year to drink the champagne that he spilled at the party in France

The (b) example is the only one that can have a degree/amount reading. In Polish and Russian, extraposition also blocks degree/amount readings:

94. ??a. Całe życie nam zajmie wypić ten szampan we Francji co oni rozlali
 whole life us take drink the champagne in France that they spilled
tego wieczoru
 this evening
- ??b. U nas zajmjot celuju žizn' vypit' to shampanskoe vo Fracii čto
 in us take whole life drink the champagne in France that
oni razlili v tot večer.
 they spilled this evening

Note, that I have used amount/degree readings as one of the tests for head noun reconstruction. Thus, it might look like extraposed relative clauses cannot undergo head noun reconstruction. However, unlike Fox & Nissenbaum (1999), I will argue that lack of reconstruction does not always require that the relative is not derived via head noun movement. I will show that reconstruction is blocked because of the nature of extraposed relatives, specifically because they are islands. Thus, in the case of extraposed relative clauses the correlation between a head noun raising derivation and head noun reconstruction breaks down. Consider another test have I used to establish head noun reconstruction, namely, Condition C effects. Extraposed relative clauses when compared to non-extraposed relatives, behave differently as far as Condition C violations are concerned:

95. *a. I gave him_i an argument that supports John's_i theory yesterday
 b. I gave him_i an argument yesterday that supports John's_i theory

In Polish and Russian extraposition definitely alleviates Condition C violations in relative clauses that would result from head noun reconstruction into the relative clause. Consider the following examples:

96. ?a. Znałem koleżankę Janka₁ rok temu co on₁ powiedział że chce polubić
 Knew friend(fem) John₁ year ago that he₁ said that wants like
 'I knew a friend of John that he said that he wants to like a year ago'

??b. Znałem koleżankę Janka₁ co on₁ powiedział że chce polubić rok temu
 Knew friend(fem) John₁ that he₁ said that wants like year ago
 ‘I knew a friend of John that he said that he wants to like a year ago’

97. ?a. Ja znał podругu Ivana₁ god tomu nazad čto on₁ skazal čto
 I knew friend(fem) Ivan₁ year that ago that he₁ said that
xočet poliubit’
 wants like
 ‘I knew a friend of Ivan that he said that he wants to like a year ago’

??b. Ja znał podругu Ivana₁ čto to on₁ skazal čto xočet poliubit’ god tomu
 I knew friend(fem) Ivan₁ that he₁ said that wants like year that
 nazad
 ago
 ‘I knew a friend of Ivan that he said that he wants to like a year ago’

It is interesting to note however, that extraposition, unlike resumptive pronoun insertion, does not allow a *co/čto*-relative to be come an appositive. This is true for English, Polish and Russian.

98. *a. Maria, wczoraj co Marek pocałował, poszła do domu
 Mary yesterday that Mark kissed went to home
 ‘Mary, who Mark kissed, went home yesterday’

*b. Maša, včera čto kupila radio, pošla domoj
 Mary yesterday that bought radio went home
 ‘Mary, who bought a radio, went home’

*c. I saw Mary yesterday that went home

Setting aside the issue of why appositeness behaves differently,³⁶ extraposition is a problem for our analysis of Polish relatives if it can be shown that lack of reconstruction always implies that there is no HN movement out of the RC. Note that this is a slightly different claim from what I have been making, namely that reconstruction always implies HN raising out of the RC. Nonetheless, it is important to show that lack of reconstruction effects in extraposed relatives does not exclude the possibility that they have been derived via HN raising. The lack of amount/degree readings and Condition C effects in extraposed *co/čto*-relatives will be argued to result from the fact that extraposed relative clauses block reconstruction because they are islands.³⁷ Note that this implies that obligatory reconstruction in *co/čto*-relatives is impossible into islands, but not in cases when Binding conditions are violated.³⁸ Consequently, I will argue that lack of

³⁶ Note that if appositive relative clauses are analyzed as separate clauses attached later during the derivation, then the fact that extraposition cannot permit an appositive reading of *co/čto*-relative would be surprising in the analysis of Fox (2002). An extraposed relative clause, according to Fox, is an adjunct to the head noun and thus should be amenable to an appositive reading. Conversely, if *co/čto* extraposed relative clauses are derived via head noun raising but head noun reconstruction is blocked because of their island properties, then their inability to have an appositive reading is not surprising. The head noun in extraposed *co/čto* relatives still raises out of the relative and thus the relative clause cannot be an independent from the head noun clause.

³⁷ This has been pointed out to me by Cedric Boeckx (p.c.).

³⁸ It is beyond the scope of this work to examine this asymmetry where ungrammaticality resulting from Island violations blocks reconstruction, but ungrammaticality resulting from violations of Binding Conditions does not. Note that Island constraints are constraints on movement, whereas Binding conditions are not. It is possible that only the former can block reconstruction since reconstruction can be argued to be considered an integral part of movement operation(s).

reconstruction effects in extraposed *co/čto*-relatives is not a result of lack of head noun movement, as is the case in *który/kotoryj*-relatives.

English extraposed relative clauses behave as if there was no head noun reconstruction in other constructions as well. For example, Hulseley (2001) has noted that extraposition blocks Idiom interpretation:

99. a. Mary praised the headway that John made last year
?b. Mary praised the headway last year that John made

Furthermore, as pointed out by Hulseley and Sauerland (2002), Condition A reconstruction is also blocked.³⁹

100. a. I saw a picture of himself_i that John_i saw yesterday
*b. I saw a picture of himself_i yesterday that John_i saw

Superficially there seems to be a strong argument for assuming that extraposed relatives involve a derivation where HN movement is impossible. The behavior of extraposed relative clauses has led Fox and Nissenbaum (1999) to propose an analysis of extraposition that involves rightward QR of the head noun and subsequent adjunction of the relative clause to the unpronounced trace/copy of the head noun.

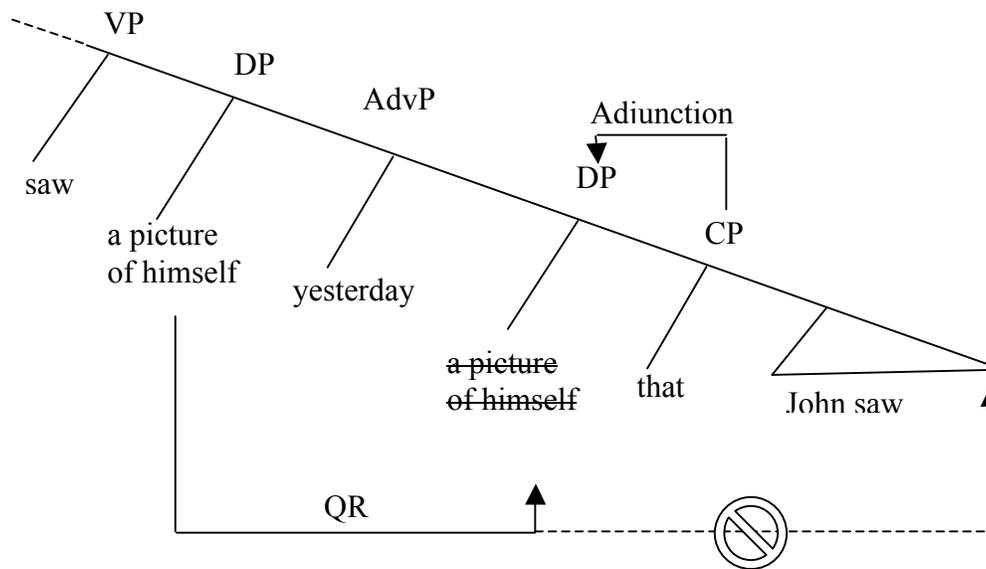
³⁹ David Pesetsky (p.c.) points out that the construction below is grammatical:

- (i) I saw a picture of himself_i yesterday that John_i also saw

I have no account of this contrast.

101. Derivation of an extraposed relative clause according to Fox & Nissenbaum.

‘*I saw a picture of himself yesterday that John saw’



In this model, extraposition is only possible if the head noun undergoes rightward QR.

This is followed by adjunction of the relative clause to the unpronounced copy of the head noun. This excludes the possibility that the HN originates from within the relative clause.⁴⁰

⁴⁰ One problem for Fox and Nissenbaum’s proposal is why there is no adjunction to a LF moved wh-phrases, for example:

*(i) [_{Spec-CP} that Mary likes] who saw which book

In this example the phrase ‘which book’ moves at LF above ‘who’ and leaves a copy. In the system proposed by Fox and Nissenbaum we should be able to adjoin the RC ‘that Mary likes’ to the tail of the wh-movement chain.

In Polish and Russian we saw that extraposed *co/čto*-relatives, just like English relative clauses, also exhibit a lack of reconstruction effects. Does this mean that there has to be another derivation available for *co/čto*-relatives aside from HN raising? This would imply that there are null operators in both Polish and Russian. This in itself is not that problematic. The problematic question is why do null operators only appear in extraposed *co/čto*-relatives? Why cannot we have a derivation that will allow *co/čto*-relatives (or that-relatives for that matter) not to have Condition C violations?

I argue that a more elegant account assumes that cases where *co/čto*-relatives do not exhibit head noun reconstruction are a result of reconstruction being blocked by independent factors and not because there is no head noun movement. For example, reconstruction is blocked into islands (extraposed relatives are islands), and reconstruction is blocked also because of nature of resumptive pronouns and their impact on movement.⁴¹

Recall that in Polish and Russian *co/čto*-relatives exhibit Condition C violations due to HN reconstruction into the relative clause. I am repeating below the relevant contrasts:

102. ??a. Znam koleżankę *Janka*₁ **co** *on*₁ powiedział że chce polubić
 Know friend(fem) John₁ that he₁ said that wants like
 ‘I know a friend of John that he said that he wants to like’
- ?b. Znam koleżankę *Janka*₁ **która** *on*₁ powiedział że chce polubić
 Know friend(fem) John₁ who he₁ said that wants like
 ‘I know a friend of John that he said that he wants to like’

⁴¹ Note that these constraints apply not only to head noun movement, but also to other types of A-bar movement.

- ?c. Znam koleżankę *Janka*₁ **co która** *on*₁ powiedział że chce polubić
 Know friend(fem) John₁ that who he₁ said that wants like
 ‘I know a friend of John that he said that he wants to like’

The ungrammaticality of (102a, 103a) can be attributed to the HN reconstructing into the relative and triggering a Condition C violation. The same facts seem to hold for Russian:

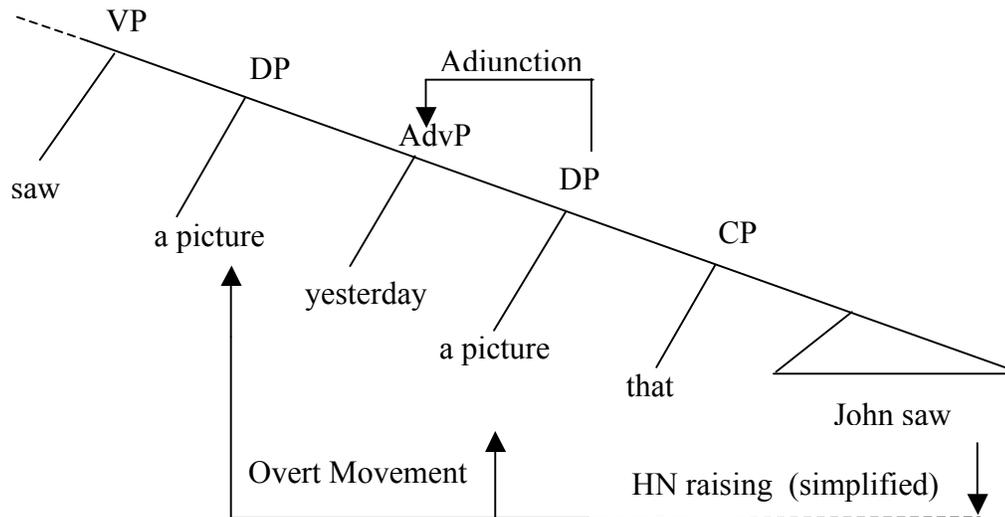
103. ??a. Ja znaju podругu Ivana₁ **čto** *on*₁ skazał čto xočet priglasit’.
 I know friend(fem) John that he said that wants invite
 ‘I know a friend of John that he said he wants to invite’
- b. Ja znaju podругu Ivana₁ **kotoruju** *on*₁ skazał, čto xočet priglasit’.
 I know friend-fem John who he said that wants invite
 ‘I know a friend of John that he said he wants to invite’

If there is a possible derivation involving a null operator then why can’t we have a grammatical derivation of the (a) examples parallel to the one involving an overt operator *który/kotoryj*?

I propose that extraposed relatives prohibit reconstruction because in the process of their formation they become islands. I adopt a derivation of extraposed relatives in Kayne (1994):

104. Derivation of an extraposed relative clause according to Kayne (1994).

‘I saw a picture yesterday that John saw’



The head noun undergoes raising from the relative clause. It can reconstruct into the relative clause as long as it does not undergo further movement out of the adjunct DP.⁴²

Head noun movement above the AdvP makes the relative clause an island and blocks head noun reconstruction. Note that this analysis allows *co/ĉto*-relatives to be derived via head noun movement. In principle, the head noun should be allowed to reconstruct.

However, subsequent raising of the head noun out of the adjoined relative clause and above the adjunct phrase makes the relative clause inaccessible for reconstruction.⁴³

⁴² This is impossible in English, but possible in Polish and Russian where an adjunct can separate the verb from its argument.

⁴³ Certain details of extraposition in relative clauses in a Kayne (1994) model have to be worked out. For example, Williams (1997) observed that the scope of a head noun is as high as the extraposed relative clause, provided it is an adjunct. In Fox and Nissenbaum (1999) scope facts are derived automatically from the scope of rightward QR. The fact

Consequently, facts from extraposition of relative clauses need not point to an analysis where an extraposed relative clause cannot be derived via head noun movement. This is important since VP ellipsis in extraposed relative clauses does not behave differently from VP ellipsis in non-extraposed relative clauses. Since I will argue that the different mechanisms of relative clause formation interact with the mechanisms responsible for VP ellipsis, it would be problematic for my account if extraposed *co/čto*-relatives were derived in a manner similar to *który/kotoryj*-relatives but did not behave like them as far as VP ellipsis is concerned.

In this chapter I have shown that Polish and Russian relative clauses are derived either by (i) head noun movement in cases when there is only a complementizer type marker *co/čto*, or (ii) operator movement and adjunction of the RC to the HN when there is an overt operator *który/kotoryj*.

In the next chapter I will explore the interaction of VP ellipsis and relative clause formation.

that these scope restrictions apply only to adjuncts is also captured in Fox and Nissenbaum's analysis.

Chapter 3

VP Ellipsis in Relative Clauses

3.1 Introduction

In this chapter I explore two types of VP Ellipsis in relative clauses. Bare-VP ellipsis where everything is deleted except the subject (examples (105) and (106) below), is possible in Russian and Polish.⁴⁴ Non bare-VP ellipsis (examples (107) and (108)), found also in English, requires that material in addition to the subject not be deleted. Usually, this additional material is either a modal, an auxiliary or negation. I will account for the puzzle as to why bare-VP ellipsis is possible only in *co/čto*-relatives (examples (105a) and (106a)), whereas non bare-VP ellipsis is possible in both *co/čto*-relatives and *który/kotoryj*-relatives. Consider examples (1-4), repeated here below as (105-108):

105. a. Ja przeczytałem każdą książkę **co** ty
I read every book that you
'I read every book that you did'
- *b. Ja przeczytałem każdą książkę **która** ty
I read every book that you
'I read every book that you did'
106. a. Ja pročital každuju knigu **čto** ty
I read every book that you
'I read every book that you did'

⁴⁴ I will discuss bare VP ellipsis in subordinate clauses in later sections.

- *b. Ja pročitai každyju knigu **kotoruju** ty
 I read every book which you
 ‘I read every book that you did’
107. a. Ja będę czytać každy książkę **co** ty **będziesz**
 I will read every book that you will
 ‘I will read every book that you will’
- b. Ja będę czytać každy książkę **ktorą** ty **będziesz**
 I will read every book which you will
 ‘I will read every book that you will’
108. a. Ja budu čitat’ každyju knigu **čto** ty **budeš**
 I will read every book that you will
 ‘I will read every book that you will’
- b. Ja budu čitat’ každyju knigu **kotoruju** ty **budeš**
 I will read every book which you will
 ‘I will read every book that you will’

I will assume that VP ellipsis in relative clauses is preceded by de-stressing of the elided VP (Rooth 1992, Tancredi 1992, Chomsky and Lasnik 1993). However, I will also argue that in Polish and Russian de-stressing is preceded by establishing Focus and Topic in overt syntax.⁴⁵ This can be carried out in two ways: (i) by topicalizing the VP, which yields bare-VP ellipsis (ellipsis without any auxiliary, modal, negation, but just the

⁴⁵ At this stage I use the term Focus to mean presentational Focus and Topic to be non-contrastive topic.

subject)⁴⁶; (ii) by focusing elements that are not elided in Spec- \bar{C} (see Laka 1994), which yields non bare-VP ellipsis where there is an auxiliary, modal, negation or some other marker in \bar{C} that licenses ellipsis (is found in English).⁴⁷ Both these operations achieve the same goal. They establish the set of phrases suitable for de-stressing and subsequent deletion, and the set of phrases that are not de-stressed and thus not deleted. I assume that the establishment of Focus and Topic takes place in overt syntax since the process will be shown to interact with operator movement in relative clause formation.⁴⁸ I will argue that, when \bar{C} is present in the numeration, topicalization is not required since we can establish the Focus of the clause and everything that is not part of the Focus phrase can be de-stressed and elided. When \bar{C} is not present, then in order to establish what is Topic and what is Focus we have to topicalize material that is to be de-stressed and subsequently elided. Topicalization and Focus interact in an interesting way with the types of relative clause formation outlined in Chapter 1. Relative clauses where there is operator movement do not allow bare-VP ellipsis, which is derived via VP topicalization. This will be argued to result from restrictions on Remnant Movement (Müller, 1998, 2000). This is because the operator *który/kotoryj* has to raise to the lower Spec-Topic of Rizzi's (1997) Left Periphery (for arguments that this movement is to a Topic position see: Bianchi 2000 and Aoun and Li 2003). Subsequent VP topicalization will place the

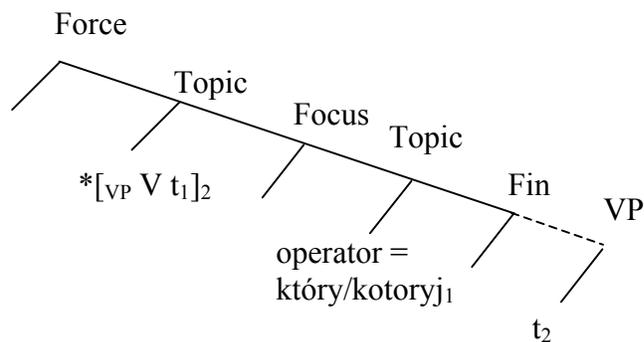
⁴⁶ For a similar proposal for English see (Johnson 2001) I will, however, argue that VP topicalization does not license ellipsis in English.

⁴⁷ Noam Chomsky (p.c.) has pointed out that the auxiliary/modal/neg in \bar{C} are not focused and thus should be deleted. However, I will argue later that this not the case since \bar{C} contains the [+focus] feature, in addition, elements occupying its head are part of the focus intonational phrase. I return to this issue in the Conclusion chapter.

⁴⁸ As Noam Chomsky (p.c.) has correctly pointed out, this is different from the approach in Rooth (1992).

VP containing the copy of the operator in a position c-commanding the moved operator. This violates restrictions on Remnant Movement and hence bare-VP ellipsis is not possible in relative clauses derived via operator movement. Consider below examples of bare VP-ellipsis in *który/kotoryj*-relatives and *co/čto*-relatives:

110. Ungrammatical output of bare-VP topicalization in *który/kotoryj*-relative clauses (examples 105b, 106b. Left Periphery Structure taken from Rizzi 1997)

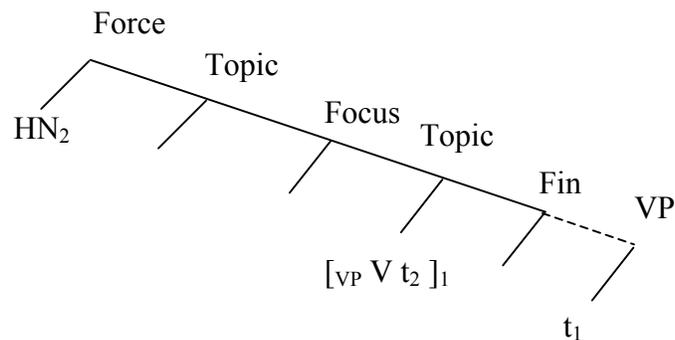


In the above construction the operator raises to the lower Spec-Topic position (Aoun and Li 2003), this is followed by VP Topicalization that raises the VP to the higher Topic position. The VP is carrying with it a copy/trace of the operator and thus the movement violates the condition on Remnant Movement.

By contrast, relative clauses that are generated via head noun movement (*co/čto*-relative clauses) can undergo bare VP ellipsis. In this case VP Topicalization does not violate conditions on Remnant Movement, because it is not preceded by operator movement. As

I have argued in the previous chapter, *co/čto*-relative clauses are generated via head noun movement.⁴⁹

111. Grammatical output of bare-VP topicalization in *co/čto*-relative clauses, no operator movement (examples 105a, 106a. Left Periphery Structure taken from Rizzi 1997):



The above account for the difference between bare-VP ellipsis in both types of relative clauses assumes that bare-VP ellipsis has to be preceded by overt VP Topicalization. I will argue that in bare VP ellipsis, VP topicalization is required since there is no other way to establish in the syntax what is Focus (material that is not to be deleted) and what is Topic (input for de-stressing and ellipsis). In contrast, non-bare VP ellipsis, which involves an auxiliary, modal or negation, does not require the VP to topicalize since the Focus/Topic distinction is established by focusing material that is not to be deleted, and overt Topicalization would be redundant. The lack of overt VP topicalization means that

⁴⁹ See the previous chapter for arguments that *co/čto*-relative clauses do not have the option of being generated via null operator movement and adjunction to the head noun. The arguments hinge on obligatory Condition C violations, and the inability of the relative clause to behave like an adjunct of the head noun (Late Insertion arguments).

restrictions imposed by conditions on remnant movement do not apply. Thus ACD type ellipsis is possible in both *który/kotoryj* and *co/čto* relative clauses.⁵⁰

In later sections, I discuss both types of VP ellipsis in relative clauses containing resumptive pronouns and in extraposed relative clauses. I will show that VP ellipsis in these constructions behaves no differently from ellipsis in non-extraposed relatives or relative clauses without adjuncts. This will provide additional support my analysis of relative clause formation, resumption, as well as extraposition outlined in Chapter 1.

Finally, I will argue that what has been considered as Antecedent Contained Deletion (ACD), a special type of VP ellipsis where the antecedent contains the elided VP, does not exist as a separate phenomenon (see also Fox 2002, Chomsky 2001). Instead, VP ellipsis in relative clauses is carried out on afterthought constructions as outlined in Chomsky (2001) without any resort to special operations like QR (Larson and May 1990).

The chapter is organized as follows. Section 2.1 contains a discussion of the mechanisms I adopt for VP ellipsis. Section 2.2 provides arguments that topicalization and focus licenses de-stressing. In section 2.3 I argue that de-stressing precedes VP ellipsis. Section 2.4 is devoted to showing that bare-VP ellipsis requires VP raising. Section 2.5 expands the arguments from 2.4 and shows that the VP movement that licenses bare-VP ellipsis has to be VP Topicalization. Section 2.6 is devoted to a summary of the discussion so far. In section 2.7 I answer the first part of the ellipsis puzzle and account for the restrictions

⁵⁰ I will argue that this also why in English ACD type ellipsis is possible with both overt wh-relative operators and in cases when head noun raising might apply.

on bare-VP ellipsis. Section 2.8 discusses cases where bare-VP ellipsis is possible in *który/kotoryj*-relative clauses. Section 2.9 provides an answer to the second part of the ellipsis puzzle by accounting for the properties of non bare-VP ellipsis. Section 2.10 explores VP ellipsis in relative clauses containing resumptive pronouns. Section 2.11 discusses VP ellipsis in extraposed relative clauses. Finally, section 2.12 discusses antecedent contained deletion.

2.2 VP Ellipsis in Polish and Russian

This section is by no means intended to be an extensive overview of ellipsis phenomena.⁵¹ I will concentrate rather on VP ellipsis and ACD. Even here, the exposition will be limited to examples relevant for the discussion. I will initially discuss the semantic and syntactic restrictions on VP ellipsis in Polish and Russian.⁵²

VP ellipsis has been observed to have a syntactic and semantic identity restriction (see Liberman and Sag 1974, Fiengo and May 1994). In the following examples, ellipsis will be exemplified via double strikethrough:

112. a. Cartman will read a book in the library but Kyle will ~~read a book~~ in the house.

⁵¹ For a sample of references see: Chao (1987), McShane (2000), Kennedy (1997), Merchant (2000), Schmitt (1997), Pesetsky (2000), Johnson (2001), Lopez (1995), Lobeck (1999), Sauerland (1998), Lappin (1996), Kehler (2002), Hardt (1992), Romero, (2000), Lopez and Winkler (2000).

⁵² See also McShane (2000).

- b. Cartman będzie czytał książkę w bibliotece ale Kyle będzie ~~czytał książkę~~
 Cartman will read book in library but Kyle will ~~read book~~
 w domu
 in house
 ‘Cartman will read a book in the library but Kyle will at home’
- c. Cartman budet čitat’ knigu v biblioteke a Kyle budet ~~čitat’ knigu~~ doma.
 Cartman will-read book in library but Kyle will ~~read book~~ home.
 ‘Cartman will read a book in the library but Kyle will at home’

In all the examples above the elided clause in the conjoined clause is elided and takes as its antecedent the VP in the matrix clause. The syntactic and semantic identity of ellipsis can be exemplified by examples like those below:

113. *a. Kyle will walk home today and Cartman will ~~drive home~~ tomorrow
- *b. Kyle będzie szedł do domu dziś a Cartman będzie ~~jechał do domu~~
 Kyle will walk to home today but Cartman will ~~drive to house~~
 jutro
 tomorrow
- *c. Kyle budet idti domoj segodnja a Cartman budet ~~jechał domoj~~ zavtra.
 Kyle will-walk home today but Cartman will ~~drive home~~ tomorrow
 ‘Kyle will go home today but Cartman will drive home tomorrow’

Fiengo and May (1994) correctly point out that syntactic identity required for rebuilding the deleted phrase is separate from semantic identity. Strict semantic parallelism is not

required. Hence, we can have ‘sloppy’ and ‘strict’ reading of constructions like those below:

114. a. Kyle_i was praised by his coach and Cartman_j was ~~praised by his_{i,j} coach~~
too
- b. Kyle_i był pochwalony przez swego_i trenera i Cartman_j był ~~pochwalony~~
Kyle was praised by his coach and Cartman was ~~praised~~
~~przez swego_{i,j} trenera~~ również
~~by his coach~~ also
‘Kyle was praised by his coach and Cartman was too’
- c. Kyla_i budet xvalit’ ego_i trener i Cartmana_j tože budet ~~hvalit ego_{i,j} trener.~~
Kyle-acc will praise his coach and Cartman-acc also will ~~praised his coach~~
‘Kyle will be praised by his coach and Cartman will be too’

Example (114) can have two readings:

- A. Kyle and Cartman were praised by Kyle’s coach
B. Kyle was praised by Kyle’s coach and Cartman was praised by Cartman’s coach.

Syntactic identity is preserved; however, pronominal, i.e. semantic identity is less stringent. Hence, we get two interpretations, one “sloppy” the other “strict”. I will not discuss the possibility of both readings here, since it is not be relevant for our discussion.⁵³ Syntactic identity, however, will be assumed to hold in VP ellipsis.⁵⁴

⁵³ I will also not discuss all sorts of possible constraints on VP ellipsis that do not directly influence the syntactic constraints on ellipsis. For example, Kehler (2002) and Hardt (1992) provide arguments that pragmatic coherence relations restrict the types of ellipsis.

Another restriction on VP ellipsis is that it is argued to be structure dependent. Hence the impossibility of structures like below:

115. *a. Kyle's mother knows that he is slim but Cartman's mother doesn't
~~know that he~~ is fat
- *b. Matka Kyla wie że on jest chudy ale matka Cartmana ~~nie wie~~
 Mother Kyle knows that he is slim but mother Cartman ~~not know~~
~~że on~~ jest gruby
 that he is fat
 'Kyle's mother that he is thin but Carman's mother (does not know that
 he) is fat'
- *c. Mama Kyla znajet čto on xudoj no mama Cartmana ~~ne~~
 Mother Kyle-gen knows that he slim but mother Cartman-gen not
~~znajet čto~~ on tolstj.
 knows that he fat.
 'Kyle's mother that he is thin but Carman's mother (does not know that
 he) is fat'

The discussion above indicates that VP ellipsis in Polish and Russian, like VP ellipsis in English, is structure dependant, it takes a VP as its antecedent, it is subject to syntactic and semantic and syntactic identity restrictions (unlike de-stressing, see Rooth 1992), but it can have a 'sloppy' and 'strict' reading.

⁵⁴ Note that I assume that VP Topicalization in the elided phrase does not destroy syntactic parallelism between the antecedent and elided VP.

I will assume that ellipsis is a process of removing phonological information from a syntactic representation (Sag 1976, Hankamer 1978, Wasow 1972, Williams 1995, Fiengo and May 1994). I assume that the act of deletion is a PF process; hence syntactic structure is not removed. I will assume following Rooth (1992), Lasnik and Chomsky (1993) and Chomsky (2001) that de-stressing precedes ellipsis. However, what can be deleted is determined by the syntactic-semantic interface. Focused elements cannot be deleted (or de-stressed). There are two ways of establishing focus and topic in the syntax: (i) XP Topicalization, or (ii) XP Focus. I will argue that what is focused and what is not has to be established in the overt syntax. Once this has been established in the syntax via identification of Focus (do not delete) or via identification of Topic (can be deleted), de-stressing takes place followed by ellipsis. I will assume that establishment of either one: Focus or Topic entails the establishment of the other in overt syntax. I will go over each step of the process providing additional support for my claims. In the following section I will start by providing evidence that de-stressing requires the establishment of Focus and Topic.

3.3 Topicalization and Focus licenses de-stressing

In this section I will argue that the establishment of Focus and Topic relations in overt syntax precedes de-stressing. I will then briefly discuss the semantics of elided structures. I will argue that the model in Rooth (1992) can be adopted as a description of what happens in the semantic component after the establishment in overt syntax of Focus and Topic, and subsequent de-stressing and ellipsis have taken place.

Rooth (1992) argues that ellipsis involves de-stressed constituents that are demarked via focus closure. This de-stressed string is part of a topic in contrast to the part that is not elided, which is focused. Consider the following example:

116. Cartman₁ read a book in the library₂ and Stanley₁ did *read a book* in the car₂

In the example above ‘Cartman’ is contrasted with ‘Stanley’ and ‘in the library’ is contrasted with ‘in the car’. The string ‘read a book’ is identical in both phrases and hence its second occurrence is de-stressed and available for ellipsis.⁵⁵

I propose the following informal definition of what can be elided:

117. De-stressing and subsequent ellipsis is possible on a string ..XP YP.. iff that string does not contain contrastive information. Contrastive information can be Contrastive Focus or Contrastive Topic.

Polish and Russian provide evidence that VP Topicalization is required in order to license de-stressing. Consider the following examples (de-stressing is indicated by italics):

118. a. Jan kupuje książki częściej niż *kupuje książki* Maria
Jan purchases books often that purchases books Mary
‘Jan purchases books more often than Mary *purchases books*’

⁵⁵ See Lopez and Winkler (2000) for a slightly different view. The semantics of ACD is also discussed in Jakobson (1998).

??b. Jan kupuje książki częściej niż Maria *kupuje książki*
 Jan purchases books often that Mary purchases books
 ‘Jan purchases books more often than Mary *purchases books*’

119. a. Vanja pokupajet knigi čašče čem *pokupajet knigi*
 Vania purchases books more-often than purchases books
 Maria.
 Maria.
 ‘Vania purchases books more often than Mary purchases books’

??b. Vanja pokupajet knigi čašče čem Maria *pokupajet*
 Vania purchases books more-often than Maria purchases
knigi.
 books.
 ‘Vania purchases books more often than Mary purchases books’

In the above examples de-stressing is possible only when the VP has topicalized above the subject.⁵⁶ VP topicalization automatically forces an interpretation where the subject is Focused. This provides support for my hypothesis that de-stressing is preceded and fed by overt syntactic operations like topicalization.

My proposal is reminiscent of Rooth (1992), where Focus plays a role in licensing ellipsis. For Rooth, VP ellipsis is only possible if a string ...XP... is de-stressed. De-stressing is only possible if we have the following conditions:

⁵⁶ The (b) examples improve if we indicate focus on the subject *Maria* by placing heavy focal stress on it.

120. Condition on de-stressing:

- XP can be de-accented iff there is an antecedent YP that entails something contained in the Focus closure of XP.

However in my proposal, Focus closure is established in overt syntax. This is carried out by VP Topicalization, or by Focusing the subject in Spec-CP. Thus, I assume that syntax provides the input for further semantic interpretation, as described in Rooth's model. The notion of Focus closure requires some discussion. Rooth (1992) proposes encoding prominence relations correlating to syntactic focus features in a semantic representation. In the so-called 'alternative semantics' framework, a Focused XP contained in an YP receives the following representation.

121. Consider an intersective representation of 'American farmer' (following Rooth 1992):

- a. $\lambda x [American(x) \wedge farmer(x)]$
- b. $\{\lambda x [P(x) \wedge farmer(x)] \mid P : E \wedge P \text{ propositions}\}$

The constituent N' in (121) has an ordinary semantic representation in (121a): it maps an individual x to the proposition that x is both American and a farmer. The focus semantic value (shown in 121b) is a set of properties: P (farmer), where P is the intersective modifier. To put it differently, an 'alternative semantics' for the string *American farmer* is a set of interpretations corresponding to *Russian farmer*, *French farmer*, etc. Hence,

focus closure returns a set where there is an element for each intersective adjective combined with the noun *farmer*.

Rooth proposes that focus prominence is interpreted by an \sim operator within minimal S domains (see Merchant 2000 for a slight modification of the applicable domains).

Consider the following utterance (focal prominence is highlighted via underlining).

122. a. Cartman is supposed to apply for a job in syntax and semantics at MIT,
but he does not know semantics
- b. Cartman is supposed to apply for a job in syntax and [semantics]₁₂ at MIT,
but he does not [know [[semantics]~12]]

The operator \sim expresses redundancy of the argument to the left, in this case *semantics*, with respect to its right argument, in this case the other instantiation of *semantics*.

Material that is non-redundant is marked by focus. If there is no focus in the overt argument, then the whole argument is redundant. In this case the second instantiation of the word *semantics* is de-stressed. De-stressing requires that the structure of the de-stressed phrase be parallel to that of its antecedent. In Rooth's model, ellipsis has to meet an additional requirement, namely, not only does the antecedent and elided material need to be parallel in structure, but it also requires focus closure (as discussed above) and the elided structure consists of lexical items identical to the antecedent. Let us consider Rooth's system when applied to VP ellipsis. Consider the following phrase:

123. a. Cartman left, and Kenny, did too
- b. [S Cartman [VP left]]₅ and [S[S Kenny_F did [VP leave]] ~ 5]

The condition on de-stressing requires that *leave* have a structurally and lexically parallel antecedent. Furthermore, ellipsis requires that the XP containing the antecedent entail something contained in the focus-closure of the YP containing the de-accented phrase. In the above example, ‘Kenny’ is focused and the VP ‘leave’ is de-stressed, and thus can be elided.

3.4 De-stressing and VP ellipsis

I have shown that either VP topicalization, or focusing the subject is a necessary prerequisite for de-stressing in Polish and Russian. In this section I will show that de-stressing and VP ellipsis share some significant properties that allow us to assume that one precedes/feeds the other.

The proposal that de-accenting is a prerequisite for VP ellipsis is further supported by data provided in Fox (1995). Fox notices that certain properties of Binding Condition C violations in antecedent contained deletion (ACD) constructions, a type of VP ellipsis, resemble those in de-accented structures. Consider the following examples from Fox (1995:116):

124. a. I introduced him_i to everyone John_i wanted me to
b. I introduced him_i to everyone John_i wanted me to *introduce him_i to*
*c. I introduced him_i to everyone John_i wanted me to meet

The same holds for Polish and Russian:

125. a. Ja przedstawiłem go_i każdej osobie co Janek_i chciał
 I introduced him each person that Janek wanted
 ‘I introduced him to each person that Janek wanted’
- b. Ja przedstawiłem go_i każdej osobie co Janek_i chciał *bym go_i przedstawił*
 I introduced him every person that Janek wanted that him introduce
 ‘I introduced him to every person that Janek wanted introduce him to’
- *c. Ja przedstawiłem go_i każdej osobie co Janek_i chciał *bym poznał*
 I introduced him every person that Janek wanted that meet
 ‘I introduced him to every person that John wanted me to meet’
126. a. Ja mogu predstaviti’ ego každomu čeloveku čto Janek xotel čtoby ja
 I can introduce him each person that Janek wanted that I
 mog
 could
 ‘I can introduce him to each person that Janek wanted that I could’
- b. Ja mogu predstaviti’ ego každomu čeloveku čto Janek xotel čtoby ja
 I can introduce him each person that Janek wanted that I
 mog ego predstaviti’
 could him introduce
 ‘I can introduce him to each person that Janek wanted that I could
 introduce him’
- *c. Ja mogu predstaviti’ ego každomu čeloveku čto Janek xotel čtoby ja
 I can introduce him each person that Janek wanted that I
 poceloval
 kiss
 ‘I can introduce him to each person that Janek wants that I kiss’

Fiengo and May (1994) first noticed that ACD obviates Condition C effects, as can be seen in examples (124a, 125a and 126a). Interestingly, a de-stressed structure patterns with the ACD one (124b, 125b and 126b) and not with a typical quantificational phrase (124c, 125c, 126c) in that it also obviates Condition C.

Furthermore, as Fox points out, in VP ellipsis it is the size of ellipsis that determines whether Condition C can be obviated, and the same holds for de-stressed constructions.

127. a. I expected him_i to buy everything that John_i thought I did
- *1. bought t
2. expected him_i to buy t
- *b. I expected him to buy everything that John thought I *bought*
- c. I expected him to buy everything that John thought that I *expected him to buy*

Again the same holds for Polish and Russian. Consider the examples below:

128. a. Ja oczekiwałem od niego że kupi wszystko co Jan myślał że ja mogę
I expected from him that bought all that Jan thought that I can
'I expected him to buy everything that Jan thought that I can'
- *1. kupić
buy
2. oczekiwać od niego że kupi
expect from him that buy

*b. Ja oczekiwałem od niego że kupi wszystko co Jan myślał że ja mogę
I expected from him that bought all that Jan thought that I can
kupić
buy
'I expected from him to buy everything that Jan thought that I can buy'

c. Ja oczekiwałem od niego że kupi wszystko co Jan myślał że ja mogę
I expected from him that buy all that Jan thought that I can
oczekiwać od niego że kupi
expect from him that buy
'I expected from him to buy everything that Jan thought that I can expect
from him to buy'

129. a. Ja poprosil ego kupit' vse što Jan dumal što ja mogu
I asked him buy everything that Jan thought that I could
'I asked him to buy everything that Jan thought that I could'

*1. kupit'
buy

2. poprosit' ego kupit'
ask him buy

*b. Ja poprosil ego kupit' vse što Jan dumal što ja mogu kupit'
I asked him buy everything that Jan thought that I could buy
'I asked him to buy everything that Jan thought that I could buy'

- c. Ja poprosil ego kupit' vse čto Jan dumal čto ja mogu poprosit' ego kupit'
I asked him buy all that Jan thought that I could ask him buy
'I asked him to buy everything that Jan thought that I could buy'

This correlation between ACD and de-stressing strongly suggests that the two processes are related. I will assume that this provides support for the claim that de-stressing feeds ellipsis.

Up until this now, I have argued that de-stressing requires the establishment of Focus and Topic in overt syntax, and that VP de-stressing shares some interesting properties with ACD (a type of VP ellipsis). This allows me to assume that VP ellipsis involves the establishment of Focus and Topic in overt syntax, followed by de-stressing of material not contained in the Focus closure, followed in turn by ellipsis. In the next section I will show bare-VP ellipsis involves the establishment of Focus and Topic via overt VP Topicalization. In non bare-VP ellipsis, it will be argued that Focus and Topic establishment does not require VP Topicalization, instead material that is not to be elided is Focused. This will lead me to argue that the establishment of Topic and Focus relations in overt syntax, necessary for de-stressing and subsequent ellipsis, can proceed with the help of two overt syntactic processes: Topicalization (bare-VP ellipsis), or Focus (non bare-VP ellipsis). However, I assume that there is no need for both to apply in overt syntax.

3.5 VP ellipsis and topicalization

In this section I will argue that bare-VP ellipsis always involves VP movement to position above the subject (which will be argued to be Topicalization), whereas non bare-VP ellipsis does not. The data comes from Polish, since it involves a certain type of auxiliary clitic that marks past tense and agreement between the verb and subject. Unfortunately, these clitics are not found in Russian.

Although they are subject-verb agreement markers, all sorts of elements can serve as phonological hosts to these Polish auxiliary clitics (see Borsley and Rivero 1984). What is of interest here is that the verb with which the clitic marks subject agreement cannot raise above the clitics host. Consider the following examples (the clitic is highlighted in bold):

130. a. Tyś poszedł do kina
you+CL went to cinema
'You went to a cinema'
- *b. [Poszedł do kina]₁ tyś t₁
went to cinema you+CL
'You went to the cinema'
- c. [Poszedłeś do kina]₁ ty t₁
went+CL to cinema you
'You went to the cinema'

- d. Częstoś dawał₁ ty t₁ prezenty matce?
 often+CL give you presents mother
 ‘Did you often gave mother presents’

In example (130a) the clitic is hosted by the subject, but example (130b) is ungrammatical because the verb phrase has raised above the clitic host. We can see from example (130c) that raising of the verb phrase above the subject is allowed provided the subject does not host the clitic. Example (130d) shows that the verb can raise above the subject and not host the clitic provided there is some host (in this case an adverb) that precedes it.

Because the verb cannot raise above the auxiliary clitic, auxiliary clitic behavior can be used as a test to establish whether a given VP has raised above a certain position, i.e. the position of the clitic host. In the constructions below the subject inside a relative clause hosts the clitic; Compare (131a), where bare-VP ellipsis has taken place with (132a,b), where non bare-VP ellipsis has taken place:

131. *a. Ja odwiedzę każde miasto **co** tyś
 I visit every city that you+CL
 ‘I will visit every city that you will’
- b. Ja odwiedzę każde miasto **co** ty
 I visit every city that you
 ‘I will visit every city that you will’
132. a. Ja mogę odwiedzić każde miasto **co** tyś mógł
 I can visit every city that you+CL could
 ‘I could visit every city that you could’

- b. Ja odwiedzę każde miasto **co** tyś nie
 I visit every city that you+CL not
 ‘I visited every city that you did not’

As can be seen, in cases of bare-VP ellipsis the construction where the subject hosts the clitic is ungrammatical (131a vs. 131b). This is not the case in non bare-VP ellipsis (132).

The same contrast holds for bare and non-bare VP ellipsis in non-relative clause environments:

133. *a. **Jam** czytał książkę i tyś po powrocie z
 I+CL read book and you+CL after returning from
 kina
 cinema
 ‘I read a book and so did you after returning from the cinema’
- b. **Jam** czytał książkę a tyś nie po powrocie z
 I+CL read book and you+CL not after returning from
 kina
 cinema
 ‘I read a book and you did not after returning from the cinema’
- c. **Jam** mógł przeczytać książkę i tyś mógł po
 I+CL could read book and you+CL could after
 powrocie z kina
 returning from cinema
 ‘I read a book and you did not after returning from the cinema’

I will argue that the ungrammaticality of (131a) and (133a) is a result of the VP raising above the subject, just as in (130b). The difference is that in (131a) and (133a) after raising above the clitic the VP is de-stressed and elided.

The behavior of clitic constructions in VP elided contexts provides support for the thesis that in cases of bare-VP ellipsis the VP undergoes movement. I argue that this movement is VP topicalization, which has been shown to be a precursor to de-stressing, which in turn has been argued to feed ellipsis. In the next section I will provide further support that VP movement in bare-VP ellipsis is to a Topic position, thus strengthening my argument that bare-VP ellipsis is preceded by VP topicalization and de-stressing.

3.6 VP movement in bare-VP ellipsis is topicalization

In this section I will show that in bare-VP ellipsis VP topicalization targets a position below the position of wh-words, but above Topics. This will lead me to conclude that in VP topicalization the VP moves to Topic position within Rizzi's (1997) Left Periphery. In cases when there is another Topic, the landing site of VP is the higher topic position.⁵⁷ I will then examine the position of relative operators and complementizer-like markers in both Polish and Russian, and I will argue that *co/čto* is located above *który/kotoryj*, with Topic and Focus positions available in between. These facts will provide further support for the hypothesis that bare-VP ellipsis involves VP Topicalization.

Let me again use the clitic test. In the examples below, VP ellipsis in Polish is possible with either a wh-word hosting a clitic, or without the clitic:

⁵⁷ I will argue that operator movement is movement to a lower Topic position.

134. a. Ja dałem książkę wysokiej dziewczynie, a jakiej wy?
 I gave book tall girl and which you?
 ‘I gave book to a tall girl and to what (type) did you?’
- b. Ja dałem książkę wysokiej dziewczynie, a jakiejście wy?
 I gave book tall girl and which+CL you
 ‘I gave book to a tall girl and to what (type) did you?’

However, the situation is different when instead of a wh-word we have a topic hosting the clitic. VP ellipsis is not possible when a contrastive Topic is present and it is hosting a clitic. The construction is fine however when there is no clitic. Compare (135a) with (135b):⁵⁸

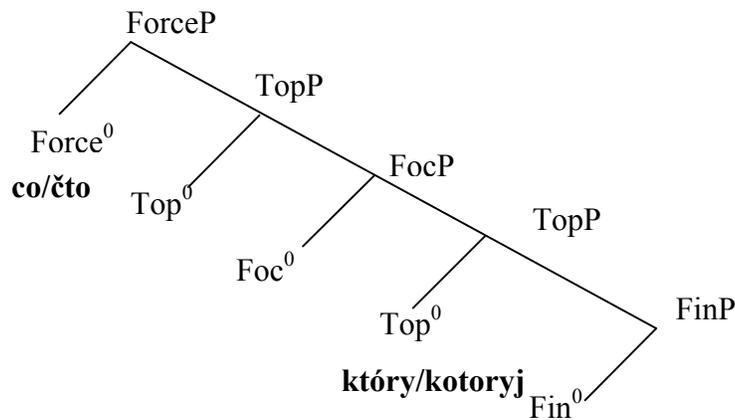
135. a. Ja dałem książkę wysokiej dziewczynie, a niskiej dziewczynie wy
 I gave book tall girl and short girl you
 ‘I gave book to a tall girl and you did to a short girl’
- ?b. Ja dałem książkę wysokiej dziewczynie, a niskiej
 I gave book tall girl and short
 dziewczynieście wy
 girl+CL you
 ‘I gave book to a tall girl and you did to a short girl’

⁵⁸ Note that in the constructions below, the Topic hosting a clitic is a contrastive Topic and that is why it is not elided (see Rooth 1992).

I propose that the ungrammaticality of bare-VP ellipsis with a contrastive Topic hosting a clitic is because in bare-VP ellipsis VP topicalization has to take place. The VP has to raise above the clitic (hosted by an XP in the lower Topic position) to a higher Topic position in the Left Periphery. Thus, example (135b) is ungrammatical for the same reason (131a) is ungrammatical.

Having established that bare-VP ellipsis involves VP raising to a position lower than the *wh*-phrase but higher than lower Topic, let me now propose a structure of the Left Periphery of relative clauses in Polish and Russian.

136. Position of *co/čto* and *który/kotoryj* markers in Left Periphery (Rizzi 1997):



Further evidence for the structure above comes from constructions involving multiple relative markers in Polish that can sandwich Focus. Polish permits both the *co* marker and the operator *który* to be present in one relative clause. These markers can sandwich XP's and are in fixed order (see Chapter 1):

137. a. Marysia zna chłopców, **co których** Ania lubi
 Mary knows boys that who Ann likes
 'Mary knows some boys who Ann likes'
- b. Marysia zna chłopców, **co** Ania **których** lubi, ale Jola nie
 Mary knows boys that Ann who likes but Jola not
 'Mary knows some boys who Ann likes, but Julie does not'
- *c. Marysia zna chłopców, **których co** Ania lubi
 Mary knows boys who that Anne likes
 'Mary knows some boys who Ann likes'

The ungrammaticality of (137c) indicates that in Polish the order of markers is fixed. In Russian you cannot have multiple markers. However, we can show that Focus can only be above the operator *kotoryj* but has to be below *čto*. Consider the following examples (underlying indicates Focus):

138. ?a. Vanja kupit knigu Maša **kotoruju** ne pročitajet
 Vania buy-future book Masha which not read-fut
 'Vania will buy a book that Mary will not read'
- *b. Vanja kupit knigu Maša **čto** ne pročitajet
 Vania buy-future book Masha that not read-fut
 'Vania will buy a book which Mary will not read'

3.7 Summary of the discussion so far

I have argued that de-stressing has to precede VP-ellipsis in Polish and Russian. Both operations exhibit similar restrictions and properties.⁵⁹ I have shown that in order to have de-stressing and subsequent ellipsis overt syntax has to establish the Focus and Topic relations within the clause in which de-stressing will take place.⁶⁰ I have argued that, in the case of bare-VP ellipsis, Focus and Topic relations are determined via overt topicalization of the VP to a position that is higher than that of the relative operator *który/kotoryj*.

The above discussion sets the necessary background required to solve the puzzle of why bare-VP ellipsis is possible only with *co/čto*-relative clauses, whereas non bare-VP ellipsis is possible with both *co/čto*-relatives and *który/kotoryj*-relatives. Consequently, I have provided support for the proposals outlined at the beginning of this thesis in (5), repeated here as (139):

139. Summary of proposals:

- a. *Co/čto*-relative clauses are generated via head noun movement.
- b. *Który/kotoryj*-relative clauses are generated via operator movement to Spec-Topic in the Left Periphery (Rizzi 1997) and adjunction to the head noun.

⁵⁹ Obviously there are differences, mainly stemming from the fact that ellipsis requires an antecedent that will allow us to recover elided material. De-stressing does not face the problem of recoverability.

⁶⁰ Interpreted later in the semantic component utilizing the mechanisms adopted in Rooth (1992).

- c. VP ellipsis in relative clauses is carried out on de-stressed structures (Rooth 1992), (Tancredi 1992).
- d. De-stressing is licensed via Focus closure (Rooth 1992).
- e. Focus closure requires Focus, or Topicalization in the syntax.

I have also provided support for the first consequence of proposal (139d), initially stated in (6) and repeated here as (140).

Two mechanisms of VP ellipsis:

- 140. a. Bare VP ellipsis (1,2), where only the subject is not elided, is carried out via Topicalization of the VP to the topmost Spec-Topic in the Left Periphery.
- b. Non-bare VP ellipsis (3,4) is carried out by Focus of non-elided material and is licensed by a \square head (Laka, 1994).
- c. Bare-VP ellipsis is only possible in languages where T is not an affix.

In the next section I will explore in detail the mechanism of bare-VP ellipsis and answer the first part of the puzzle, namely, why bare-VP ellipsis is only possible in *co/čto*-relative clauses. In later sections I will provide support for the proposals in (140b) and (140c) which will lead me to answer the second part of the puzzle, namely why non-bare VP ellipsis is possible in both *co/čto*-relative clauses and *który/kotoryj*-relative clauses.

3.8 Bare VP ellipsis – the answer to the first part of the puzzle

As I have already pointed out, bare-VP ellipsis is only possible in *co/čto*-relative clauses but not in *który/kotoryj*-relative clauses:

141. a Ja odwiedziłem każde miasto **co** ty
 I visited every city that you
 ‘I visited every city that you did’
- *b. Ja odwiedziłem każde miasto **które** ty
 I visited every city which you
 ‘I visited every city that you did’
142. a. Ja posetil každýj gorod **čto** ty
 I visited every city that you
 ‘I visited every city that you did’
- *b. Ja posetil každýj gorod **kotoryj** ty
 I visited every city which you
 ‘I visited every city that you did’

This constitutes the first part of our puzzle on VP ellipsis. I will address it now. In previous sections, I have shown that in cases where we have relative clauses derived via operator movement (*który/kotoryj*-relatives), the operator raises to the lower Topic position of the Left periphery, and afterwards VP topicalization takes place. The order of movements is a reflex of cyclicity. The operator raises because of its feature

composition.⁶¹ The VP is topicalized in order to undergo de-stressing and subsequent ellipsis. The answer to the puzzle why bare-VP ellipsis is impossible in *który/kotoryj*-relatives is that VP topicalization necessary for bare-VP ellipsis is impossible. When undergoing VP topicalization, the VP in *który/kotoryj*-relatives contains a copy/trace of the previously moved operator (*który/kotoryj*). Thus, VP topicalization violates the condition on Remnant Movement Müller (1998) and ellipsis is impossible. Let me state the condition on Remnant Movement informally below:⁶²

143. Remnant movement condition (informal)

A constituent α cannot raise above β if α contains a copy/trace of β , and α and β have undergone the same type of movement.

* $[\alpha \text{ } [\beta \text{ } \dots \alpha \text{ } \dots t_1]_2 \text{ } \dots [\beta]_1 \text{ } \dots \text{P} \text{ } \dots [t_2]]$

There is evidence that the above condition is in operation in both Polish and Russian.

Consider the following structures:

⁶¹ I am not going to discuss here what drives operator movement; this is an issue concerning the mechanism of relative clause formation across languages. I will assume following Bianchi (2000) and Aoun and Li (2003) that Topic is the phrase the operator moves to. What is crucial for my analysis is that operator movement and VP topicalization are similar enough movements to be subject to constraints on Remnant Movement.

⁶² It is not my intention to discuss remnant movement. There is a vast literature on the topic (see Thiersh 1985, Müller 2001, just to name a few references). I will not also discuss what is the underlying reason for the restriction on remnant movement; Rather I assume it can be reduced to a condition on Minimality (Müller 1998).

144. a. Ja wiem że [o Reaganie]₁ ty kupiłeś [nową książkę t₁]
 I know that about Reagan you bought new book
 ‘I know that you bought a new book about Reagan’
- ??b. [Nową książkę t₁]₂ ja wiem że [o Reaganie]₁ ty kupiłeś t₂
 New book I know that about Reagan you bought
 ‘I know that you bought a new book about Reagan’
- c. [Nową książkę o Reaganie]₁ ja wiem że ty kupiłeś t₁
 New book about Reagan I know that you bought
 ‘I know that you bought a new book about Reagan’
145. a. Ja znaju što [o Reagane]₁ ty kupil [novuju knigu t₁]
 I know that about Reagan you bought new book.
 ‘I know that you bought a new book about Reagan’
- *b. [Novuju knigu t₁]₂ ja znaju što [o Reagane]₁ ty kupil t₂
 new book I know that about Reagan you bought.
 ‘I know that you bought a new book about Reagan’
- c. [Novuju knigu o Reagane]₁ ja znaju što ty kupil t₁
 new book about Reagan I know that you bought.
 ‘I know that you bought a new book about Reagan’

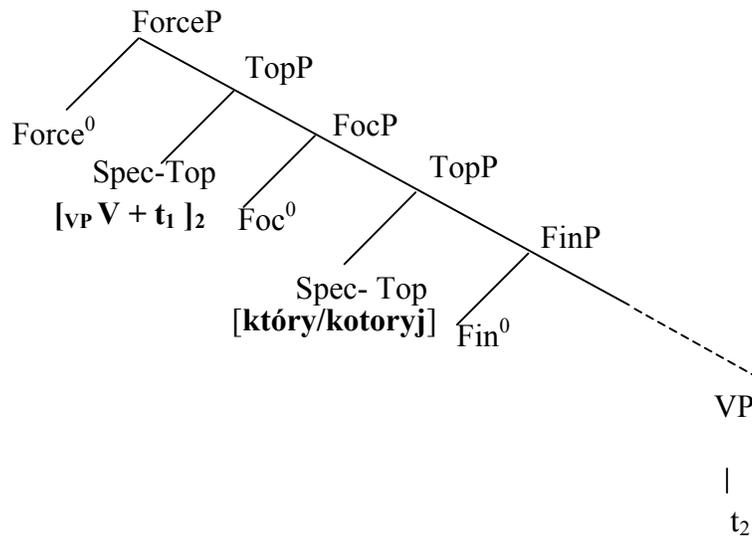
In the above examples we can see that Topicalization is sensitive to restrictions on remnant movement. Thus (144b) and (145b) are ungrammatical because the raised DP contains a trace/copy of the PP that had raised out of it initially. Note that neither

Topicalization or PP extraction is ungrammatical in itself. It is only the combination of PP Topicalization followed by DP Topicalization (containing a trace/copy of the PP) that is ungrammatical.

I will argue that (141b) and (142b) are ungrammatical for the same reason that (144b) and (145b) are. Consider a derivation of bare-VP ellipsis in *który/kotoryj*-relative clauses:

146. Derivation of bare-VP ellipsis in *który/kotoryj*-relatives.⁶³

*Ja odwiedziłem każde miasto **które** ty
 I visited every city which you
 ‘I visited every city that you did’

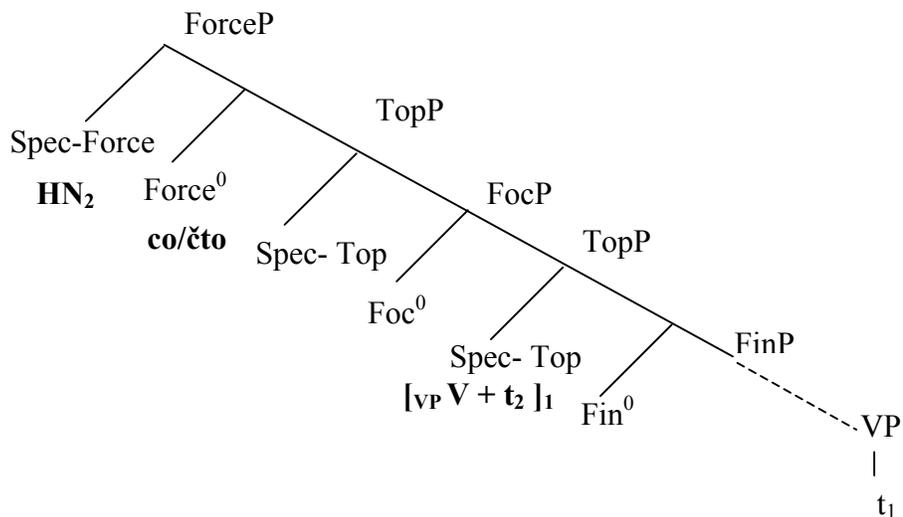


⁶³ In examples (146) and (147) below I diagram the full structure of the Left Periphery as proposed in Rizzi (1997) – even when those projections are not utilized. This is more for expositional purposes than theoretical reasons. I am not arguing that the whole of the Left Periphery is present regardless of lexical items found in it.

In the above derivation, *który/kotoryj* raises to Spec-Topic. The VP is then raised to the second Topic position. The copy of the moved operator is contained inside the VP thus violating the condition on remnant movement. In *co/čto*-relative clauses VP topicalization does not violate remnant movement. This is because there is no operator movement. This correctly predicts that bare-VP ellipsis in *co/čto*-relative clauses is allowed. Consider the derivation below:

147. Derivation of bare-VP ellipsis in *co/čto*-relative clauses.

Ja odwiedziłem każde miasto **co** ty
 I visited every city that you
 ‘I visited every city that you did’



In the above derivation, the VP raises to Spec-Topic. The head noun then raises higher out of the raised VP. The derivation does not violate restrictions imposed on remnant movement. There is no operator movement prior to VP topicalization. Note, the head

noun, unlike the operator, does not raise to the lower Spec Topic – there is no reason for to do so. Following Aoun & Li 2003, I assume only operators have to raise within the relative clause. All the head noun has to do is raise out of the relative clause. In the above derivation I assume it ‘piggybacks’ as part of the topicalized VP and then raises out of the RC. This does not violate any restrictions on movement. Thus, example (147) is grammatical for the same reasons that examples (144c) and (145c) are grammatical. In this section I have provided an account of why bare-VP ellipsis is possible in *co/čto*-relative clauses and impossible in *który/kotoryj*-relative clauses. In the next section I will address one interesting prediction involving bare-VP ellipsis in *który/kotoryj*-relatives where the operator is an adjunct of the VP.

3.9 Making bare-VP ellipsis possible in *który/kotoryj*-relatives

The discussion up until now indicates that bare VP ellipsis is not possible in relative clauses derived via operator movement and adjunction to the head noun. However, it predicts that when the operator is not part of the topicalized VP, bare-VP ellipsis should be possible in *który/kotoryj*-relative clauses. This prediction turns out to be correct. In constructions where the operator *który/kotoryj* is an adjunct (adjunct relatives) bare-VP ellipsis is possible. Consider the following examples:

148. a. Ja zagram w każdym barze **co** ty
 I play in every bar that you
 ‘I will play in every bar that you will

- b. Ja zagram w każdym barze **w którym** ty
 I play in every bar in which you
 ‘I will play in every bar in which you will’
149. a. Ja spoju v każdym bare **v którym** ty
 I sing in every bar in which you
 ‘I will sing in every bar in which you will’
- b. Ja spoju v każdym bare **što** ty
 I sing in every bar that you
 ‘I will sing in every bar in which you will’

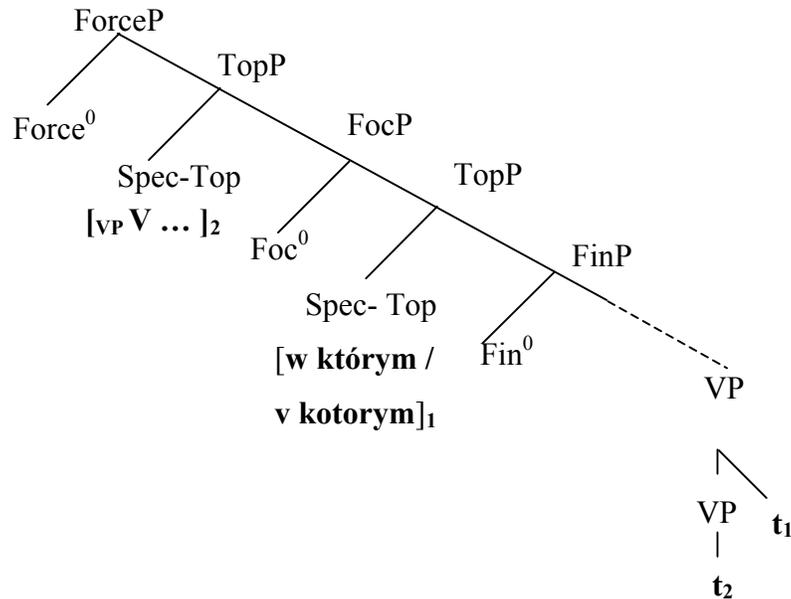
Note, that it is not the embedding of the operator inside a PP that plays a role. Polish and Russian have cases of adjuncts in instrumental case where bare-VP ellipsis is also possible:

150. a. Ja narysuję obraz każdą kredką **co/która** ty
 I draw picture every crayon(INS) that/which you
 ‘I will draw a picture with every crayon that you will’
- b. Ja narisuju kartinku každym karandašom **što/kotorym** ty
 I draw picture every crayon(INS) that/which you
 ‘I will draw a picture with every crayon that you will’

Bare-VP ellipsis in adjunct relatives is possible because the topicalized VP does not carry a copy/trace of the operator. Consider the derivation of adjunct relatives below:

151. Derivation of bare VP ellipsis when the operator *który/kotoryj* is an adjunct.

Ja zagram w każdym barze **w którym** ty
 I play in every bar in which you
 ‘I will play in every bar in which you will



In the above derivation the operator *który/kotoryj* raises to Spec-Topic. However, the operator is an adjunct, thus the lower VP has the option of topicalizing without the copy of the operator.⁶⁴ Thus, VP topicalization does not violate the condition on remnant movement.

This analysis predicts that bare-VP ellipsis in relative clauses having embedded clauses and adjunct operators should permit only a narrow scope reading. This is because the VP can raise to a lower LP in a narrow scope reading, but the operator has to always raise to the topmost LP regardless of the reading. Consider the following examples:

⁶⁴ Note that this analysis does not really depend on what analysis of adjuncts one adopts.

152. a. Ja wiem że Jurek spał pod każdym mostem **co** Marek
 I know that Jurek slept under every bridge that Marc
 ‘I know that Jurek slept under every bridge that Marc did (know that Jurek
 slept/ slept)’
- b. Ja znaju što Vania spal pod każdym mostom **što** Mark.
 I know that Vania slept under every bridge that Mark.
 ‘I know that Vania slept under every bridge that Marc did (know that
 Vania slept/ slept)’

The above construction is ambiguous between a narrow scope reading where ‘Marc also slept under every bridge’, and a broad scope reading where ‘Marc knows that Jurek/Vania slept under every bridge’

However, when we replace the relative marker *co/što* with the operator *który/kotoryj* only narrow scope in adjunct relative clauses is possible.⁶⁵

153. a. Ja wiem że Jurek spał pod każdym mostem **pod którym** Marek ~~spał~~
 I know that Jurek slept under every bridge under which Mark ~~slept~~
 ‘I know that Jurek slept under every bridge under which Marc did
 (sleep/*know that Jurek slept under every bridge)’
- b. Ja znaju što Vania spal pod każdym mostom **pod kotorym** Mark ~~spał~~.
 I know that Vania slept under every bridge under which Mark ~~slept~~.
 ‘I know that Vania slept under every bridge that Marc did (sleep/*know
 that Vania slept)’

⁶⁵ I would like to thank David Pesetsky (p.c.) for pointing out this prediction to me.

Wide scope is impossible in these constructions because topicalization of the matrix VP (giving wide scope) would have to carry a copy of the *który/kotoryj* marker and put it in a position c-commanding that marker. Thus, VP topicalization violates the condition on remnant movement. Consider the derivation below:

154. $[_{\text{Force}} [_{\text{Topic}} \text{VP}_2 [_{\text{Finiteness}} (\text{który/kotoryj})_1] \dots t_2$

Where: $t_2 = [_{\text{VP}_2} [_{\text{Force}} \dots [_{\text{VP}_1} [_{\text{VP}_1} \text{VP}_1] t_1]]]$

VP topicalization to any of the embedded LP's will not violate the condition on remnant movement since even if the operator moves through intermediate LP's this movement is not Topicalization (but probably some form of cyclic movement) and thus does not interfere with VP topicalization.

To recap, I have solved the puzzle why bare-VP ellipsis is possible in *co/čto*-relatives and not in *który/kotoryj*-relatives. The solution lies in the fact that VP topicalization, necessary for bare-VP ellipsis, interacts with operator movement. When the topicalized VP carries a copy/trace of the operator, the construction is ungrammatical because the condition on remnant movement is violated. *Co/čto*-relatives, as shown in Chapter 1, are not derived via operator movement. The target of head noun raising is not Spec-Topic but most likely a higher head like Spec-Force. Hence, head noun raising does not precede VP topicalization and the head noun can 'piggyback' with the VP undergoing topicalization. Thus, bare-VP ellipsis is possible in these constructions since there is nothing blocking VP topicalization. Bare-VP ellipsis is also possible in cases when the topicalized VP does not carry a trace/copy of the operator. This is the case with adjunct relatives. In relative

clauses where the operator is an adjunct the VP topicalization does not violate restrictions on Remnant Movement and ellipsis is possible. Note that I have shown in Chapter 1 that both adjunct *który/kotoryj*-relatives and *co/ćto*-relatives allow for head noun reconstruction. However, I have argued in this section that the reason why bare-VP ellipsis is possible in both types of constructions has nothing to do with head noun reconstruction as such.

In the next section, I will address the second part of our puzzle, namely, why non bare-VP ellipsis is possible in both types of relative clauses.

3.10 Non bare-VP ellipsis

English does not permit bare-VP ellipsis (Johnson 2001, Lobeck 1995). Consider the examples below:

155. a. I visited every city that/which/∅ you did
*b. I visited every city that/which/∅ you

As has been shown in previous sections, Polish and Russian do allow bare-VP ellipsis. I will argue that bare VP-ellipsis is impossible in languages like English because they are subject to the Stray Affix Filter (SAF) (Lasnik 1995). The premise of SAF is that T is affix-like and it cannot be stranded. I propose that Polish and Russian are not subject to SAF.⁶⁶ Hence in languages where T is not an affix bare-VP ellipsis is possible.⁶⁷ I will

⁶⁶ Independent evidence that T is not an affix for example comes from the lack of do-support. For example, in Polish you can raise a VP stranding the subject:

show that non-bare VP ellipsis involves the presence of the polarity head \bar{V} (Laka 1994, Kazenin 2004). Focus and Topic is established in overt syntax by focusing the subject in Spec- \bar{V} and there is no need for VP topicalization.⁶⁸ The polarity head \bar{V} hosts the auxiliary/modal/negation, which provides phonological support for T. This is why VP ellipsis in English requires the presence of \bar{V} that is filled by an overt lexical item and bare-VP ellipsis is impossible. Note that this implies that in Polish and Russian the presence of \bar{V} in the numeration is optional. When it is present, non bare-VP ellipsis is possible; when it is not, only bare-VP ellipsis is allowed. In English, in order to have VP ellipsis \bar{V} has to be present in the numeration, or else SAF will be violated. The existence of non bare-VP ellipsis is predicted by the assumption that what precedes ellipsis is the establishment of Focus and Topic in the syntax. There are two ways this can be achieved: by topicalizing something and assuming the rest is focused, or by focusing something and assuming the rest is Topic. Bare-VP ellipsis adopts the former strategy; non bare-VP ellipsis adopts the latter.⁶⁹

(i) [Wczoraj [_{VP} poszedł do kina]₁ ... [_{TP} Marek_[T] ...t₁...]]

Yesterday went to cinema Mark

‘Mark went yesterday to the cinema’

In the above construction, the VP can be raised above the subject stranding Tense.

⁶⁷ This has been pointed out to me by Noam Chomsky (p.c.)

⁶⁸ Note that I am not suggesting that in bare VP ellipsis Focus is not marked. It is, by virtue of not being Topic.

⁶⁹ Noam Chomsky (p.c.) has correctly pointed out that I need to assume some mechanism that would prevent \bar{V} from being deleted since technically it is not focused. I assume that \bar{V} carries [+focus] features and that is why it and the material contained in it cannot be deleted. For an outline of an alternative account of non bare-VP ellipsis proposed by David Pesetsky (p.c.) that addresses the issue of \bar{V} see Chapter 4, Conclusion.

The above proposal predicts that there is no need for VP topicalization in non bare-VP ellipsis. Let me return to the tests for VP topicalization utilized in previous sections. As I have shown, in bare-VP ellipsis a non-elided subject cannot host an auxiliary clitic. This was argued to result from the fact that the VP has raised above the clitic yielding an ungrammatical structure. I repeat the relevant ungrammatical examples of bare-VP ellipsis in clitic constructions below and contrast them with cases of grammatical non bare-VP ellipsis where the clitic is present:

156. *a. Ja odwiedzę każde miasto **co** tyś
 I visit every city that you+CL
 ‘I will visit every city that you will’
- b. Ja odwiedzę każde miasto **co** ty
 I visit every city that you
 ‘I will visit every city that you will’
- c. Ja mogę odwiedzić każde miasto **co** tyś mógł
 I can visit every city that you+CL could
 ‘I could visit every city that you could’
- d. Ja odwiedzę każde miasto **co** tyś nie
 I visit every city that you+CL not
 ‘I visited every city that you did not’
- e. Ja odwiedzę każde miasto **co** i tyś
 I visit every city that also you+CL
 ‘I visited every city that you did’

From the examples above we can see that when you add an auxiliary (156c), or negation (156d), or a focus ‘i’ marker (156e)⁷⁰, the clitic can be hosted by the subject.⁷¹

This provides strong support for the claim that in bare-VP ellipsis the VP raises over the subject, but it does not have to in non-bare VP ellipsis.

My analysis predicts that the condition on remnant movement should not apply to non bare-VP ellipsis because there is no VP topicalization. This in turn predicts that non bare-VP ellipsis should not be sensitive to the type of relative clause used. This is precisely the case. Non-bare VP ellipsis is possible in both *co/ćto*-relative clauses and *który/kotoryj*-relative clauses. Consider the examples below (where a slash indicates option):

157. a. Ja mogę odwiedzić każde miasto **co/które** ty możesz
I can visit every city that/which you can
‘I can visit every city that you can’

b. Ja mogu posetit každýj gorod **ćto/kotoryj** ty možeš
I can visit every city that/which you can
‘I can visit every city that you can’

158. a. Ja będę odwiedzać każde miasto **co/które** ty **będziesz**
I will visit every city that/which you will
‘I will visit every city that you will’

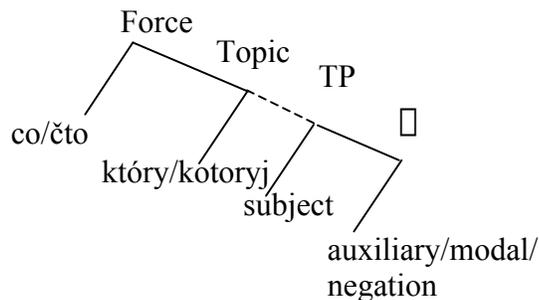
⁷⁰ I will discuss the *i* marker later on. For now let us assume it is only present in non bare-VP ellipsis.

⁷¹ Additional support for the claim that there is no VP Topicalization in non bare-VP ellipsis comes from the fact VP topicalization stranding the negation marker is usually impossible in Polish:

*(i) Odwiedzisz każde miasto ty nie
Visit each city you not
‘You will not visit each city’

- b. Ja budu posetit každýj gorod **čto/kotoryj** ty budeš
 I will visit every city that/which you will
 ‘I will visit every city that you will’
- c. Ja odwiędziłem kaęde miasto **co/które** ty nie
 I visited every city that/which you not
 ‘I visited every city that you did not’
- b. Ja posetil každýj gorod **čto/kotoryj** ty net
 I visited every city that/which you not
 ‘I visited every city that you did not’

159. Proposed structure for non-bare VP ellipsis (Full Left Periphery omitted for clarity)⁷²



In non bare-VP ellipsis the subject raises to Spec- \square , where it becomes focused. There is no VP topicalization to the Left Periphery and thus conditions on remnant movement are not violated. VP Topicalization is blocked since there is a more economical way of

⁷² In Polish, either or both relative markers can be present. In Russian either marker can be present.

establishing Focus and Topic by moving the subject to Spec- \bar{C} . This is only possible when \bar{C} is present in the numeration.

As I have shown in example (156e), Polish and Russian have another type of marker that allows non-bare VP ellipsis. The marker is *i*, which can be translated as ‘and also’. I will assume that *i* is a focus marker like other elements in \bar{C} . As with auxiliaries, modals or negation, when this marker is present, VP ellipsis is possible regardless of whether the relative clause is headed by *co/čto* or by the operator *który/kotoryj*:

160. a. Ja odwiedziłem każde miasto **co i** ty
I visited every city that also you
‘I visited every city that you did also’
- b. Ja odwiedziłem każde miasto **które i** ty
I visited every city which also you
‘I visited every city that you also did’
161. a. Ja posetil každýj gorod **čto i** ty
I visited every city that also you
‘I visited every city that you also did’
- b. Ja posetil každýj gorod **kotoryj i** ty
I visited every city which also you
‘I visited every city that you also did’

I will argue that these constructions differ from VP ellipsis with auxiliaries, modals and negation only in the nature of *i*. The particle is phonologically deficient and is prohibited

from appearing last in the clause. Hence, when we have an auxiliary and the *i* particle the subject is allowed to precede it:

162. a. Ja mogę odwiedzić każde miasto **co/które** ty **i możesz**
I can visit every city that/which you also can
'I can visit every city that you also can'
- b. Ja mogu posetit' každyj gorod **čto/kotoryj** ty **i možeš**
I can visit every city that/which you also can
'I can visit every city that you also can'

In this section I have shown that non bare-VP ellipsis does not need to be licensed by VP topicalization. Instead, the polarity head \square licenses in-situ presentational Focus that demarcates the Focus closure needed for de-stressing and subsequent ellipsis. This solves the second part of our VP ellipsis puzzle.

In the next two sections, I will discuss VP ellipsis in relative clauses with resumptive pronouns, and in extraposed relatives. In Chapter 1, I had argued that relative clauses with resumptives, and extraposed relatives clauses do not pose a problem for the analysis of relativization in Polish and Russian, where *co/čto*-relatives are derived via head noun movement and *który/kotoryj*-relatives by operator movement and adjunction of the relative to the head noun. This predicts that VP ellipsis in both types of relatives should behave identically, regardless of whether they have resumptive pronouns or not, and regardless of whether they have been extraposed or not. This will be shown to be exactly the case.

3.11 VP ellipsis and resumptive pronouns

In Chapter 1, I showed that resumptive pronouns block head noun reconstruction and are possible with both *co/ćto* markers as well as with *który/kotoryj* operators. Adjacent resumptives, on the other hand, were argued to be clitics/truncated forms of the relative operator *który/kotoryj*, and also to block reconstruction by virtue of being operators. In Polish *co plus który* constructions behave like *który* relatives. This is not surprising if we assume that it is the presence of the operator that influences reconstruction or degree of VP ellipsis freedom. Consequently, *co plus który* relatives do not allow bare-VP ellipsis, unless the operator is an adjunct:

163. *a. Ja odwiedziłem każde miasto **co które** ty
I visited every city that which you
'I visited every city that you did'
- b. Ja zagram w każdym barze **co w którym** ty
I play in every bar that in which you
'I will play in every bar in which you will'

Not surprisingly, an adjacent pronoun is also possible in bare VP ellipsis only when the operator is an adjunct:

164. *a. Ja odwiedziłem każde miasto **co je** ty
I visited every city that it you
'I visited every city that you did'

- b. Ja zagram w każdym barze **co w nim** ty
 I play in every bar that in it you
 ‘I will play in every bar in which you will

Non-adjacent resumptives are not possible in bare-VP ellipsis. Thus, a resumptive is not possible with an operator:

165. *a. Ja odwiedziłem każde miasto **które je** ty
 I visited every city that it you
 ‘I visited every city that you did’

- *b. Ja zagram w każdym barze **w którym w nim** ty
 I play in every bar in which in it you
 ‘I will play in every bar in which you will

In contrast, non bare-VP ellipsis is possible in *co plus który* constructions, regardless of the marker used and regardless of whether the operator is an adjunct or not:

166. a. Ja mogę odwiedzić każde miasto **co które** ty możesz
 I can visit every city that which you can
 ‘I can visit every city that you can’
- b. Ja mogę zagrać w każdym barze **co w którym** ty możesz
 I can play in every bar that in which you can
 ‘I can play in every bar in which you can’

Predictably, adjacent resumptives become possible in non-bare VP ellipsis in argument and adjunct position:

167. a. Ja mogę odwiedzić każde miasto **co je** ty możesz
 I can visit every city that it you can
 ‘I can visit every city that you can’
- b. Ja mogę zagrać w każdym barze **co w nim** ty możesz
 I can play in every bar that in it you can
 ‘I can play in every bar in which you can’

However, even in non-bare VP ellipsis regular resumptives are not possible:

168. *a. Ja mogę odwiedzić każde miasto **które je** ty możesz
 I visited every city that it you
 ‘I visited every city that you did’
- *b. Ja mogę zagrać w każdym barze **w którym w nim** ty możesz
 I can play in every bar in which in it you can
 ‘I can play in every bar in which you can’

This discussion of resumptive pronouns and VP ellipsis supports the analysis of resumptives in Chapter 1. Adjacent resumptives are clitics/truncated forms of the operator, whereas those which are non-adjacent are regular resumptives found in different types of A-bar movement. Thus, relative clauses with adjacent resumptives will behave like *który/kotoryj* relatives – i.e. only non bare-VP ellipsis is allowed. Regular resumptive cannot be present in elided structures since they are part of the de-stressed VP and have to undergo deletion.

3.12 Extraposition and VP ellipsis

In Chapter 1 I have argued against the need to assume that extraposed clauses necessarily involve an adjunction derivation of relative clauses. The fact that extraposed relative clauses can undergo ACD was one of the arguments supporting the proposals in Fox (2002), where relative clauses that undergo VP ellipsis, more specifically ACD, are adjuncts of the head noun. However, as I have shown, VP ellipsis is possible, and in fact much more free, in relative clauses derived via head noun movement. Instead of Fox & Nissenbaum's (1999) analysis of extraposition, I have proposed that a derivation of extraposition à la Kayne (1994), where the head noun plus relative clause are generated in the extraposed position and then the HN raises to its surface position, can capture the scope facts just as well as Fox's proposal. The lack of reconstruction, I have argued, can be a result of the island status of extraposed relatives. Furthermore, I have shown that when we have a Focus/Topic structure inside the relative, and the HN is interpreted as a topic inside the RC, constructions with extraposed relative clauses become more amenable to HN reconstruction. This indicates that the arguments for an account of ACD along the lines of (Fox 2002) are not necessary.

Let us examine the facts. Polish and Russian extraposed relatives can undergo VP ellipsis. Bare-VP ellipsis has the same restrictions with extraposed relative clauses as it does when extraposition does not take place. It is possible with *co/čto*-relative clauses and in *który/kotoryj*-relative clauses, provided the operator is an adjunct:

169. a Ja odwiedziłem każde miasto wczoraj co ty
 I visited every city yesterday that you
 'I visited every city yesterday that you did'

- *b Ja odwiedziłem każde miasto wczoraj które ty
 I visited every city yesterday which you
 ‘I visited every city yesterday that you did’

- c. Ja zagram w każdym barze jutro w którym ty
 I play in every bar tomorrow in which you
 ‘I will play in every bar tomorrow in which you will’

The same holds for Russian:

- 170. a. Ja posetil každyj gorod včera čto ty
 I visited every city yesterday that you
 ‘I visited every city yesterday that you did’

- *b. Ja posetil každyj gorod včera kotorij ty
 I visited every city yesterday which you
 ‘I visited every city yesterday that you did’

- c. Ja spoju v každom bare zavtra v ktorij ty
 I sing in every bar tomorrow in which you
 ‘I will sing in every bar tomorrow in which you will’

This shows that in extraposed relative clauses the VP still has to topicalize and is also subject to the same restrictions on Remnant Movement as VP Topicalization in non-extraposed relatives. I will argue that this is a clear indication that identical mechanisms underlie bare-VP ellipsis in extraposed and non-extraposed relative clauses.

Furthermore, non bare-VP ellipsis with extraposed relative clauses behaves exactly like ellipsis with non-extraposed relative clauses. It possible regardless of the marker used, and regardless of whether the operator is an adjunct or not:

171. a. Ja odwiedziłem każde miasto wczoraj **które i ty**
I visited every city yesterday which also you
'I visited every city yesterday that you also did'
- b. Ja odwiedziłem każde miasto wczoraj **co i ty**
I visited every city yesterday which also you
'I visited every city yesterday that you also did'
- c. Ja zagram w każdym barze jutro **w którym i ty**
I play in every bar tomorrow in which also you
'I will play in every bar tomorrow in which you will'

The same holds for Russian:

172. a. Ja posetil každyj gorod včera **kotoryj i ty**
I visited every city yesterday which also you
'I visited every city that you also did'
- b. Ja posetil každyj gorod včera **čto i ty**
I visited every city yesterday that also you
'I visited every city that you also did'
- b. Ja spoju v každom bare zavtra **v kotorym i ty**
I sing in every bar tomorrow in which also you
'I will sing in every bar tomorrow in which you will'

The above discussion indicates that resumptive pronoun constructions or extraposed relative clauses do not pose a problem for the proposed analysis of relative clauses and VP ellipsis. I will argue that extraposition blocks reconstruction of material into the relative clause, however, this is not indicative that *co/čto* and *który/kotoryj* extraposed relative clauses are derived in the same fashion (as Fox 2002 would have us believe). Otherwise it would be hard for us to explain the asymmetry between the availability of bare and non bare VP ellipsis in *który/kotoryj* extraposed and non-extraposed relative clauses.

3.13 Antecedent Contained Deletion

Following Rooth (1992), Fox (1995) and Chomsky (2001), I will assume that de-stressing is the first step in ellipsis. Ellipsis, however, has more stringent conditions than de-stressing. For example, ellipsis requires identity of lexical items, whereas de-stressing does not. Antecedent Contained Deletion differs from other forms of VP ellipsis in that the antecedent contains the elided structure. Sag (1976) initially pointed out that ellipsis of constituent that contains its antecedent poses a problem of infinite regress in recovering ellipsis. Various proposals have been made to solve the infinite regress problem, most notably a QR approach in Larson and May (1990), but also see Baltin (1987) and Fox (2002), and for an opposing view see Hornstein (1995). All the above-mentioned proposals assume that infinite regress can be resolved if the DP ‘escapes’ from the antecedent VP before interpretation of the ellipsis site takes place (with the exception of Baltin, 1987). Consider the following example of ACD below (I will indicate ellipsis with double strikethrough, trace with single strikethrough).

173. a. Cartman read [_{DP} every book [_{CP} that Kenny did ~~read that book~~]]

- b. Cartman read every book, namely, every book that Kenny did read ~~that~~
~~book~~
- c. Cartman read every book that Kenny did read every book that Kenny did
read...

Essentially the question about ACD is how to have (112a) mean (112b) and not (112c).

Note that there are in fact two issues that we are dealing with here. There is on the other hand the question of recursion, but also the fact that we cannot interpret *every book* inside the relative clause. I will not discuss the latter here; for an interesting proposal see Fox (1995) and a slightly different solution in Fox (2002). What I will concentrate on is the problem of infinite regress, which has received an enormous amount of attention. The QR approach has provided the predominant solution (Larson and May 1990). However, it runs into problems, for example, when we adopt that traces are actually copies of moved material. QR resolves infinite recursion problems only because a trace had been considered to be a marker that could be associated with a correct antecedent. Under the classical QR approach (Fiengo and May 1994) it has been proposed that movement of the quantifier out of the VP saves us from the problem of infinite regress.

174. a. Cartman [every book]_i [VP read t_i [CP that Kenny did [VP e]]]
- b. Cartman [every book]_i [VP read t_i [CP that Kenny did [VP read t_i]]]

The elided structure is replaced by the antecedent VP containing the trace of the moved quantifier. This salvages the construction from infinite regress, but only if the trace is not a copy (for a proposed solution see the discussion of Fox 2002 below).

Another problem for a QR approach to resolving ACD is that there are actually two Quantifier Raising operations, one for resolving ACD and one for quantifier scope. For example, von Stechow and Iatridou (2003) have shown that the operation QR cannot cross epistemic modals. They propose a following imagined scenario: a group of people exposed to a virus have been tested anonymously. Fifty percent turn out to be infected, but we cannot establish who these individuals are. Thus, for any given person we cannot establish whether they are infected or not. If quantifiers were allowed to have scope over epistemic modals, we would be able to report the following:

175. Half of you are healthy. #But everyone may be infected.
- a. every person x (may x be infected) consistent, *ECP
 - b. may (every person be infected) inconsistent, OKECP⁷³

However, if the *The Epistemic Containment Principle (ECP)* stating that a quantifier cannot have scope over an epistemic modal is correct, this predicts that the above sequence is inconsistent. The data support an ECP account.

This indicates that QR cannot cross an epistemic modal. However, as von Stechow and Iatridou (2003) point out, there are cases of ACD that violate the ECP (although they concede the judgments are tricky). Consider the sentence below:

176. John thinks that Sarah must have played on every piano that we had predicted he would.

⁷³ This is under the assumption that fifty percent are not infected (Noam Chomsky p.c.)

For ACD to be resolved, the QP [*every piano that we had predicted he would e*] must LF-move over the modal *must* into the higher clause. It seems that there are two types of QR: one for ACD and one for scope.

Another issue that has been raised in the literature is that ACD-QR bleeds Condition C, while Scope-QR does not (Fiengo and May 1994, Fox 1995, 2002).

177. ??a. I reported him_i to [every cop that John_i was afraid of].
 b. I reported him_i to [every cop that John_i was afraid I would].
178. ??a. Ja będę wskazywał go_i każdemu policjantowi **co** Janek_i się bał
 I will indicate him every policeman that Janek refl. scared
 ‘I will indicate him to every policeman that Janek was scared of’
 b. Ja będę wskazywał go_i każdemu policjantowi **co** Janek_i się bał że będę
 I will indicate him every policeman that Janek refl. scared that would
 ‘I will indicate him to every policeman that Janek was afraid that I would’
179. ??a. Ja budu pokazyvat’ ego_i každomu policejskomu **čto** Vanja_i bojalsja.
 I will-indicate him-acc every-dat policeman-dat that Vania feared.
 ‘I will indicate him to every policeman that Vania was scared of’
 b. Ja budu pokazyvat’ ego_i každomu policejskomu čto Vanja_i bojalsja **čto** ja
 I will-indicate him-acc every-dat policeman-dat that Vania feared that I
 budu
 will
 ‘I will indicate him to every policeman that Vania was afraid that I will’

A solution to reconciling the fact that ACD QR can obviate Condition C effects while scope QR cannot is proposed by Fox (2002). ACD is still resolved via QR; however, unlike the classical account in Fiengo & May (1994), it requires rightward QR of the head noun and then adjunction of the relative clause. Fox proposes that a relative clause can be inserted into the structure after the head noun has shifted from its base position, thus structures involving ACD can have a derivation as in (180):

180. ACD resolution (Fox 2002)

[VP John likes every boy]. –*DP movement*--->

[[VP John likes] every boy] **every boy**. – *adjunct insertion*-->

[[VP John likes every boy] every boy **that Mary does <likes boy>**].

The first step involves rightward movement of ‘every boy’ either in overt syntax or at LF. Overt movement of the head noun will entail that ACD resolution involves Heavy NP Shift. In the case of LF movement of the head noun, ACD resolution will involve QR type of extraposition. In both cases, Fox (2002) postulates Trace Conversion that would give the structure in (181) that would satisfy Parallelism:

181. [every boy λx Mary does < likes the boy x>]

λy John likes the boy y]

Fox points out that, if we assume that traces are copies, then ACD cannot be resolved just by movement. In a system proposed by Fox rightward movement provides the appropriate environment for Late Insertion of an adjunct to the head of the chain that in turn circumvents a violation of Parallelism. It also has the desired result of explaining why Condition C violations can be obviated in ACD constructions. It is not QR that resolves ACD, but Late Insertion.

There is a problem with adopting the account in Fox (2002) to Polish and Russian ACD. In chapter 1 I have shown that *co/ćto*-relative clauses are generated via head noun movement. The relative clause is not an adjunct of the head noun. This is supported by the fact that relative clauses headed by *co/ćto*, unlike those headed by *który/kotoryj*, do not have the option of ‘escaping’ Condition C violations:

182. a. [[Który obraz Janka_i] **co** Marek_j lubi]₁ Jola chce by on_{*i/*j} kupił t₁
 which picture John’s that Mark likes Jola wants that he buy
 ‘Which picture of John that Mark likes Jola wants him to buy’
- b. [Który obraz Janka_i]₁ **który** Marek_j lubi] Jola chce by on_{??i/j} kupił t₁
 which picture John’s which Mark likes Jola wants that he buy
 ‘Which picture of John that Mark likes Jola wants him to buy’
- c. [Który obraz Janka_i]₁ **co który** Marek_j lubi] Jola chce by on_{??i/j} kupił t₁
 which picture John’s that which Mark likes Jola wants that he buy
 ‘Which picture of John that Mark likes Jola wants him to buy’

183. a. [Kakuju fotografiju Ivana_i] **čto** Mark_j ljubit]₁ Yulia hočet čtoby on_{*i/*j}
 which picture Ivan's that Mark likes Julie wants that he
 kupil t₁
 buy
 'Which picture of John that Mark likes Julie wants him to buy'
- b. [Kakuju fotografiju Ivana_i] **kotoruju** Mark_j ljubit]₁ Yulia hočet čtoby on_{*i/j}
 which picture John's which Mark likes Julie wants that he
 kupil
 bought
 'Which picture of John that Mark likes Julie wants him to buy'

This is a problem for Fox (2002) since in his framework in order to undergo ACD the relative clause has to be an adjunct of the head noun. However, *co/čto*-relative clauses can undergo both ACD with an auxiliary and without one:

184. a. Ja przeczytałem każdą książkę **co** ty
 I read every book that you
 'I read every book that you did'
- b. Ja będę czytać każdą książkę **co** ty będziesz
 I will read every book that you will
 'I will read every book that you will'
185. a. Ja pročital každuju knigu **čto** ty
 I read every book that you
 'I read every book that you did'

- b. Ja budu čitat' každyju knigu **čto** ty budeš
 I will read every book that you will
 'I will read every book that you will'

The Polish and Russian data suggests that a more correct approach to ACD might be along the lines in Chomsky (2001). Chomsky (2001) proposes that ACD is actually ellipsis carried out on afterthought constructions. Example (184a) will have the following pre-ellipsis structure:

186. Ja przeczytałem každy książkę, mianowicie každy książkę **co** ty przeczytałeś
 I read every book namely every book that you read
 'I read every book, namely every book that you read'

De-stressing and subsequent ellipsis generates the correct elided structure:

187. Ja przeczytałem každy książkę, ~~mianowicie každy książkę~~ **co** ty przeczytałeś
 I read every book ~~namely every book~~ that you read
 'I read every book, namely every book that you read'

In Chomsky's model there is no deletion of a constituent that contains its own antecedent. Hence there is no issue of infinite regress. ACD is reducible to simple ellipsis. Crucially, afterthought constructions, unlike the proposals in Fox (2002), do not discriminate between adjunct and complement status of the relative clause in relation to the head noun. In Chomsky's model the requirement for distressing and subsequent deletion is that the DP be an independent constituent (this allows Chomsky 2001 to capture the adjunct

complement differences in extraposition⁷⁴). However, in Polish and Russian the head noun of a *co/čto*-relative clauses relative is an independent unit. For example, it can undergo movement:

188. a. [Którą książkę]₁ Jan chce byś ty przeczytał t₁ co Maria napisała
 Which book Jan wants that you read that Mary wrote
 ‘Which book that Mary wrote does Jan want you to read’
- b. [Kakóju knigu]₁ Vania xočet čtoby ty pročital t₁ čto Maria napisała
 Which book Jan wants that you read that Mary wrote
 ‘Which book that Mary wrote does Jan want you to read’

This correctly predicts the data in Polish and Russian where VP ellipsis can take place in *co/čto*-relative clauses, even though it has been shown that they do not have the status of adjuncts.

Furthermore, Condition C is predicted to be not be violated in afterthought constructions since there is no Condition C violation in the non-elided construction:

⁷⁴ Thus extraposition of a complement construction like below is impossible:

**(i)* We saw a picture yesterday of his father

since in the underlying afterthought construction:

(ii) We saw a picture, yesterday, that is a picture of his father

the second instance of ‘picture’ is not an independent unit and cannot delete (Chomsky 2001: 22).

189. I reported him_i to every cop, *namely, to every cop* that John_i was afraid I would
report him_i to every cop

There are other cases that are problematic for QR based approaches to ACD that can be resolved by Chomsky's afterthought constructions. For example, von Stechow and Iatridou (2003) point out other cases where QR needed to resolve ACD (they call it ACD-QR) has different properties from QR that is used for resolving scope (what they call Scope-QR). For example, ACD-QR can move a quantifier phrase out of a tensed clause, while Scope-QR cannot.

190. John said that (they wrote that) Mary played on every piano that we predicted he would.

191. A different / Some student said that Mary likes every boy. (**every _ a different/some*)

The above data is problematic if we assume that ACD scope is determined via QR. However, by adopting Chomsky's (2001) proposal that ACD is nothing more than VP ellipsis of de-stressed material carried out on afterthought constructions, we obtain the correct scope predictions.

192. John said that (they wrote that) Mary played on every piano, *namely, every piano* that we predicted he would *say that Mary played on every piano*.

Von Stechow and Iatridou also point out that ACD-QR can cross negation, while Scope-QR cannot. They paint the following scenario. Imagine John, who for years has been accusing Mary of being a racist and a sexist. Now there is an exam coming up and we predict that John will take this opportunity to make the same point; that is, we predict that he will say that Mary will fail women and minority students. In this scenario, the following sentence seems fine.

193. John said that Mary will not pass every student that we predicted he would.

In other words, the QP [*every student that we predicted he would e*] raises out of the embedded clause over sentential negation. On the other hand, Scope-QR cannot easily cross-sentential negation.

194. John didn't touch every dessert. (*?*every _ not*)

Again, Chomsky's approach gives the correct prediction:

195. John said that Mary will not pass every student, *namely every student* that we predicted he would *say that Mary will not pass ~~every student~~*.

It is clear that ACD resolution via QR that is based on the classical Fiengo & May (1994) approach cannot account for the discrepancies between ACD QR and Scope QR.

Furthermore, although Fox (2002) overcomes many of the problems of the classical approach, he cannot account for the behavior of Polish and Russian ACD type constructions. Consequently, I adopt the following mechanism of ACD type ellipsis:

196. There is no ACD and no issue of infinite regress; ACD type ellipsis is carried out on afterthought constructions (Chomsky 2001).⁷⁵

3.14 Summary

In this chapter I have provided a solution concerning the puzzle why bare-VP ellipsis is possible in *co/čto*-relatives but not *który/kotoryj*-relatives. I have also provided why this asymmetry disappears in non bare-VP ellipsis. Let me recap what I have proposed:

197. Summary of proposals:

- a. *Co/čto*-relative clauses are generated via head noun movement.
- b. *Który/kotoryj*-relative clauses are generated via operator movement to Spec-Topic in the Left Periphery (Rizzi 1997) and adjunction to the head noun.

⁷⁵ However, David Pesetsky (p.c.) has pointed out that Chomsky's afterthought constructions run into a problem when trying to account for constructions like:

- (i) Sue has made all the headway that she said she would.

Where the pre-elided afterthought form would be:

- (ii) Sue has made all the headway, namely all the headway she said she would.

I have no account for these facts.

- c. VP ellipsis in relative clauses is carried out on de-stressed structures (Rooth 1992), (Tancredi 1992).
- d. De-stressing is licensed via Focus closure (Rooth 1992).
- e. Focus closure requires Focus, or Topicalization in the syntax.

Proposal (196d) leads me to postulate two mechanisms for VP ellipsis:

- 198. a. Bare VP ellipsis (1,2), where only the subject is not elided, is carried out via Topicalization of the VP to the topmost Spec-Topic in the Left Periphery.
- b. Non-bare VP ellipsis (3,4) is carried out by Focus of non-elided material and is licensed by a \square head (Laka 1994).
- c. Bare-VP ellipsis is possible only in languages where T is not an affix.

Chapter 4

Conclusion

In this work I have shown that VP ellipsis in relative clauses in Polish and Russian is basically PF deletion of de-stressed material. De-stressing has been shown to require Focus closure (Rooth 1992). I show that this can be achieved in two different ways: by focusing something, or by topicalizing something. It is satisfying to find support that the system of VP ellipsis is simple. When focus is licensed by the polarity head \bar{c} , syntax provides information as to what is focus and not subject to de-stressing. When the VP is topicalized, the syntax provides information as to what is topic and is subject to de-stressing.

The analysis has consequences for models of ellipsis. It is incompatible with proposals where QR resolves infinite regress, mainly because there is no issue of infinite regress. Furthermore, it shows that ellipsis is a PF process that feeds off another PF process, namely de-stressing. De-stressing, however, is determined partially by syntax mapping onto semantics.

Finally, the analysis has an impact on our understanding of relative clause formation. Polish and Russian provide support that there is no unified way of deriving relative clauses (contrary to Kayne 1994). From the point of view of simplifying the grammar, this is an unwelcome result. However, the descriptive generalization seems to have solid empirical support.

There are some unresolved issues with this analysis. In the introduction I mentioned what I think is a more elegant restriction on ellipsis that seems not to be possible to formulate at this stage. Such a formulation will have to be the subject of future research.

Another issue is the proposed analysis of non bare-VP ellipsis. It has been pointed out that in my model it is unclear why the auxiliary/modal/negation is not deleted.⁷⁶ I have proposed that the subject is in Spec- \bar{X} to check [+focus] features, whereas the auxiliary/modal/negation is in \bar{X} . I assume that there are two reasons why \bar{X} and lexical material contained in it is not deleted. First, \bar{X} contains [+focus] features needed to license Focus on the subject. Second, although the auxiliary/modal/negation is not focused, it is part of the focus intonation. The subject has rising intonation and the auxiliary/modal/negation carries falling intonation. \bar{X} cannot be deleted because it carries both semantic and phonological information relevant to the non-elided subject.

Obviously, this is an additional assumption that I have to make.

A possible approach is to argue that both types of ellipsis are licensed via topicalization of the VP. It has been pointed out to me that in the case of non bare-VP ellipsis in Polish and Russian the landing site of the VP might be below the operator because the presence of \bar{X} licenses additional Topic positions below the Left Periphery.⁷⁷ The acceptability non-bare VP ellipsis in *który/kotoryj*-relatives would be due to an extra landing site for the

⁷⁶ Noam Chomsky (p.c.)

⁷⁷ David Pesetsky (p.c.)

topicalized VP.⁷⁸ Non-bare ellipsis would be similar to bare-VP ellipsis in embedded contexts, where the embedded LP provides a Topic position below the operator.

199. Jan odwiedzi każde miasto które ty chcesz
Jan visit each city which you want
'Jan will visit every city that you want (to visit)'

200 Vanja posjetil každýj gorod kotoryj ty xočeš
Vania visited each city which you want
'Vania visited every city that you wanted (to visit)'

In the above examples the VP 'to visit...' raises to the topic position of the embedded LP, below the verb 'want' and the operator. Thus, Remnant Movement is not violated.

Such an analysis of non bare-VP ellipsis predicts that there are languages where non-bare VP ellipsis has the same restrictions as bare VP ellipsis if the operator is situated below the lowest possible VP landing site. Åfarli (1994) has shown that in Norwegian there are two types of relative clauses in Norwegian. *Der*-relatives are generated via adjunction of the relative clause to the HN, whereas *som*-relatives are generated via HN raising.

Not surprisingly, *som*-relatives allow non bare-VP ellipsis. What is surprising is that *der*-relatives do not allow non bare-VP ellipsis.⁷⁹

⁷⁸ The impossibility of VP topicalization stranding the negation marker (discussed in Chapter 3) would then have to be addressed.

⁷⁹ Tor Åfarli (p.c.).

201. a. Vi opptrådde i kvar einaste ei av bøkene sine **som** Jon gjorde
 we appeared in every one of books self som Jon did
- *b. Vi opptrådde i kvar einaste ei av bøkene sine **der** Jon gjorde
 we appeared in every one of books self der Jon did

Åfarli (1994) shows that both markers can be present in the same relative clause. *Der* is argued to be above *som*. Crucially for us, Åfarli argues that both markers are situated lower than the possible site of VP topicalization. Thus, the ungrammaticality of (198b) can be accounted for if we assume that in non bare-VP ellipsis VP topicalization targets a head that is lower than the landing site of operators in Polish and Russian but higher than the position of *der* in Norwegian. This would mean that non bare-VP ellipsis is also licensed by VP topicalization. Unlike in bare-VP ellipsis however, the presence of \square allows for topicalization below the Left Periphery. This would still account for the Polish and Russian facts. It would also account for the Norwegian facts. Furthermore, it would remove the problem of why \square is not deleted in non bare-VP ellipsis. The proposal being that only topicalized material is de-stressed and subject to ellipsis. Material in \square is not topicalized and thus cannot be de-stressed or elided.

Further cross-linguistic research is required in order to explore the possibility that VP ellipsis has to be licensed in general by VP topicalization, and that differences between bare and non bare VP ellipsis result from the landing site of VP topicalization. One problem that would have to be addressed is why only VP topicalization can license de-stressing and ellipsis. In the model that I have proposed, it is either topicalization or

focusing that license de-stressing. This is a result of the fact that syntax can license Focus closure in two ways: by topicalizing something, or by focusing something. Another problem that would have to be addressed is why the operator cannot rise to a Topic position below the Left Periphery in cases when \square is present. Exploring these possibilities will be part of my future research.

References

- Áfarli, Tor. 1994. A promotion analysis of restrictive relative clauses. *Linguistic Review* 11.1:81-100.
- Aoun, Joseph, and Li, Yen-hui Audrey. 2003. *Essays on the representational and derivational nature of grammar: the diversity of Wh-constructions*: Linguistic inquiry monographs; 40. Cambridge, Mass.: MIT Press.
- Baltin, Mark R. 1987. Do Antecedent-Contained Deletions Exist? *Linguistic Inquiry* 18:579-595.
- Bianchi, Valentina. 1999. *Consequences of Antisymmetry*: Studies in Generative Grammar: Mouton De Gruyter.
- Bianchi, Valentina. 2000. The Rising Analysis of Relative Clauses: A Reply to Borsley. *Linguistic Inquiry* 31:123-140.
- Borer, Hagit. 1984. Restrictive relatives in Modern Hebrew. *Natural Language & Linguistic Theory* 2, 219-260.
- Borsley, Robert D. 1981. On Movement out of COMP. *Linguistic Inquiry* 12:655-659.
- Borsley, Robert D. 1997. Relative Clauses and the Theory of Phrase Structure. *Linguistic Inquiry* 28:629-647.
- Borsley, Robert D. and María Luisa Rivero. 1994. Clitic auxiliaries and Incorporation in Polish. *Natural Language and Linguistic Theory* 12:373-422.
- Brame, Michael K. 1968. A new analysis of the relative clause: Evidence for an interpretive theory. Ms. MIT, Cambridge, MA.
- Carlson, Greg. 1977. Amount Relatives. *Language* 53:520-542.

- Chao, Wynn. 1987. On Ellipsis. *Dissertation Abstracts International, A: The Humanities and Social Sciences* 48:380-A.
- Chierchia, Gennaro and Sally McConnell-Ginet. 1990. *Meaning and Grammar*. Cambridge, MIT: MIT Press.
- Chomsky, Noam and Howard Lasnik. 1993. The theory of principles and parameters. In *Syntax: An International Handbook of Contemporary Research*, ed. et. al. J. Jacobs, 506-569: Walter de Gruyter.
- Chomsky, Noam, and Lasnik, Howard. 1977. Filters and Control. *Linguistic Inquiry* 8:425-504.
- Chomsky, Noam. 2001. Beyond Explanatory Adequacy. *MIT Occasional Papers in Linguistics* Number 20:1-28.
- Demirdache, Hamida. 1991. Resumptive chains in restrictive relatives, appositives and dislocation structures. Linguistics and Philosophy, MIT. Doctoral Dissertation.
- Emonds, Joseph. 1979. Appositive relatives have no properties. *Linguistic Inquiry* 10. 211-243.
- Erteschik-Shir, Nomi. 1992. Resumptive pronouns in islands. In *Island Constraints*, ed. H. Goodluck and M. Rochemont, 89-108. Dordrecht: Kluwer.
- Fiengo, Robert, and May, Robert. 1994. *Indices and identity*: Linguistic inquiry monographs; 24. Cambridge, Mass.: MIT Press.
- Fox, Danny. 1995. Condition C Effects in ACD. *MIT Working Papers in Linguistics* 27:105-119.
- Fox, Danny, and Nissenbaum, Jon. 1999. Extraposition and Scope: A Case for Overt QR. *Proceedings of the West Coast Conference on Formal Linguistics* 18:132-144.

- Fox, Danny. 2002. Antecedent-Contained Deletion and the Copy Theory of Movement. *Linguistic Inquiry* 33:63-96.
- Giejgo, Joanna. 1981. Movement Rules in Polish Syntax, Linguistics, University College London.
- Gobbo, Francesca Del. 2003. Appositives at the interface, Linguistics, University of California, Irvine. Doctoral Dissertation.
- Grosu, Alexander, and Landman, Fred. 1998. Strange Relatives of the Third Kind. *Natural Language Semantics* 6:125-170.
- Hankamer, Jorge. 1978. On the Nontransformational Derivation of Some Null VP Anaphors. *Linguistic Inquiry* 9:66-74.
- Hardt, Daniel. 1992. VP Ellipsis and Semantic Identity. *Ohio State University Working Papers in Linguistics* 40:145-161.
- Heim, Irene. 1988. *The semantics of definite and indefinite noun phrases*: Outstanding dissertations in linguistics. New York: Garland Pub.
- Heim, Irene. 1997. Predicates or Formulas? Evidence from Ellipsis. *Proceedings from Semantics and Linguistic Theory* 7:197-221.
- Hornstein, Norbert. 1995. *Logical form: from GB to minimalism*: Generative syntax. Oxford, UK; Cambridge, Mass.: Blackwell.
- Huang, Cheng-Teh James. 1982. Logical relations in Chinese and the theory of grammar: Linguistics, MIT: Doctoral Dissertation.
- Hulsey, Sarah. 2001. Honors Thesis, Linguistics, Harvard.
- Hulsey, Sarah and Uli Sauerland. 2002. Sorting out relative clauses: A reply to Bhatt. Ms. MIT and Universitat at Tubigen.

- Johnson, Kyle. 2001. What VP ellipsis can do, what it can't, but not why. In *The handbook of contemporary syntactic theory*, Mark Baltin and Chris Collins (eds): 439-479: Blackwell.
- Kardela, Henryk. 1986. Target: Emphatics. A Note on Government, Binding and Case Assignment in Polish. *Folia Linguistica* 20:381-392.
- Kayne, Richard S. 1994. *The Antisymmetry of Syntax*. MIT Press.
- Kazenin, Konstantin I. 2004. *Polarity in Russian and the Typology of Predicate Ellipsis*. Ms. Univeristy of Tubigen and Moscow State University.
- Kehler, Andrew. 2002. *Coherence, reference, and the theory of grammar*. Stanford, Calif.: CSLI Publications.
- Kennedy, Christopher. 1997. Antecedent-Contained Deletion and the Syntax of Quantification. *Linguistic Inquiry* 28:662-688.
- Kuroda, S. Y. 1965. *Generative grammatical studies in the Japanese language*. Linguistics, MIT: Doctoral Dissertation.
- Laka, Itziar. 1994. *On the Syntax of Negation*. Linguistics, MIT: Doctoral Dissertation.
- Lappin, Shalom. 1996. *The Interpretation of Ellipsis*.
- Larson, Richard K., and May, Robert. 1990. Antecedent Containment or Vacuous Movement: Reply to Baltin. *Linguistic Inquiry* 21:103-122.
- Lasnik, Howard. 1995. *Verbal Morphology: Syntactic Structures Meets the Minimalist Program*.
- Lebaux, David. 1988. *Language acquisition and the form of grammar*, Linguistics, University of Massachusetts: Doctoral Dissertation.
- Lees, Robert B. 1964. *The grammar of English nominalizations*. The Hague: Mouton.

- Liberman, Mark, and Ivan Sag. 1974. Prosodic Form and Discourse Function. Papers from the Regional Meetings, Chicago Linguistic Society, 10, 416-427.
- Lobeck, Anne. 1999. VP Ellipsis and the Minimalist Program: Some Speculations and Proposals.
- Lobeck, Anne C. 1995. *Ellipsis: functional heads, licensing, and identification*. New York: Oxford University Press.
- Lopez, Luis. 1995. Polarity and Predicate Anaphora, Linguistics, Cornell: Doctoral Dissertation.
- Lopez, Luis, and Winkler, Susanne. 2000. Focus and Topic in VP-Anaphora Constructions. *Linguistics* 38:623-664.
- Masson, Michael E. J., and May, Richard B. 1985. Identification of Words and Letters during Reading: A Sentence Inferiority Effect for Letter Detection. *Canadian Journal of Psychology/Revue Canadienne de Psychologie* 39:449-459.
- May, Robert. 1988. Ambiguities of Quantification and Wh: A Reply to Williams. *Linguistic Inquiry* 19:118-135.
- McCawley, James D. 1982. *Thirty million theories of grammar*. Chicago: University of Chicago Press.
- McCloskey, James. 1978. A Fragment of a Grammar of Modern Irish. Linguistics, MIT: Doctoral Dissertation. Published as *Texas Linguistic Forum* 11.
- McShane, Marjorie J. 2000. Verbal Ellipsis in Russian, Polish and Czech. *Slavic and East European Journal* 44:195-233.

- Merchant, Jason. 2000. The Syntax of Silence: Sluicing, Islands, and Identity in Ellipsis. *Dissertation Abstracts International, A: The Humanities and Social Sciences* 60:2469-A.
- Montague, Richard. 1974. *Formal philosophy; selected papers of Richard Montague*. New Haven: Yale University Press.
- Müller, Gereon. 2001. Two types of remnant movement. Ms. IDS Manheim.
- Müller, Gereon. 1998. *Incomplete category fronting: a derivational approach to remnant movement in German*. Studies in natural language and linguistic theory; vol. 42. Dordrecht; Boston: Kluwer Academic.
- Mykowiecka, Agnieszka. 2000. Polish Relative Pronouns. Paper presented at *Proceedings of the General Linguistics in Poland Conference, Warsaw*.
- Pesetsky, David. 2000. Phrasal Movement and Its Kin. MIT Press.
- Platzack, Christer. 2000. A complement-of-N account of restrictive and non-restrictive relatives: the case of Swedish. In *The Syntax of Relative Clauses*, ed. Artemis Alexiadu, et.al. (eds): 265-309. Amsterdam: Benjamins.
- Rizzi, Luigi. 1997. The Fine Structure of the Left Periphery. In *Elements of Grammar*. Liliane Haegeman (ed): 281-337. Dordrecht: Kluwer.
- Romero, Maribel. 2000. Reduced Conditionals and Focus. *Proceedings from Semantics and Linguistic Theory* 10:149-166.
- Rooth, Mats. 1992. A Theory of Focus Interpretation. *Natural Language Semantics* 1:75-116.
- Safir, Ken. 1986. Relative Clauses in a Theory of Binding and Levels. *Linguistic Inquiry* 17:663-689.

- Sag, Ivan A. 1976. Deletion and logical form. Linguistics, MIT: Doctoral Dissertation.
- Sauerland, Ulrich. 1998. On the making and meaning of chains. Linguistics, MIT: Doctoral Dissertation.
- Sells, Peter. 1985. Restrictive and non-restrictive modification. In *CSLI Report*. Stanford, CA: Stanford University.
- Schmitt, Cristina Job. 1997. Aspect and the Syntax of Noun Phrases. *Dissertation Abstracts International, A: The Humanities and Social Sciences* 57:4350-A.
- Spencer, Daryl Paul. 1994. Aspects of the syntax of relative clauses in colloquial and standard Russian, Linguistics, University of Toronto.
- Stockwell, Robert P., Schacter, Paul, and Partee, Barbara Hall. 1973. *The major syntactic structures of English*. New York: Holt.
- Tancredi, Christopher Damian. 1992. Deletion, deaccenting, and presupposition. Linguistics, MIT: Doctoral Dissertation.
- Vergnaud, Jean-Roger. 1974. French relative clauses. Linguistics, MIT: Doctoral Dissertation.
- Vergnaud, Jean-Roger. 1975. The Reduction of the s in the Relatives and the Comparatives. *Laboratoire d'Automatique Documentaire et Linguistique Rapport de Recherches* 5:106-129.
- von Stechow, Kai, and Iatridou, Sabine. 2003. Epistemic Containment. *Linguistic Inquiry* 34:173-198.
- Wasow, T. 1972. Anaphoric relations in English. Linguistics, MIT: Doctoral Dissertation.
- Williams, Edwin. 1974. Rule ordering in syntax. Linguistics, MIT: Doctoral Dissertation.
- Williams, Edwin. 1995. Ellipsis. Ms. Princeton University.

Williams, Edwin. 1997. Blocking and Anaphora. *Linguistic Inquiry* 28:577-628.

Williams, Edwin S. 1977. Discourse & Logical Form. *Linguistic Inquiry* 8:101-139.